AGENDA

Garden Grove Sanitary District
Board of Directors

Tuesday, April 28, 2020

6:30 PM

Community Meeting Center 11300
Stanford Avenue Garden Grove
California 92840

Patrick Phat Bui
President
John R. O'Neill
Vice President
George S. Brietigam
Member
Steven R. Jones
Member
Stephanie Klopfenstein
Member
Kim B. Nguyen
Member
Diedre Thu-Ha Nguyen
Member

Meeting Assistance: Any person requiring auxiliary aids and services, due to a disability, to address the City Council, should contact the City Clerk's Office 72 hours prior to the meeting to arrange for accommodations. Phone: 714) 741-5040.

Agenda Item Descriptions: Are intended to give a brief, general description of the item. The City Council may take legislative action deemed appropriate with respect to the item and is not limited to the recommended action indicated in staff reports or the agenda.

Documents/Writings: Any revised or additional documents/writings related to an item on the agenda distributed to all or a majority of the Council Members within 72 hours of a meeting, are made available for public inspection at the same time (1) in the City Clerk's Office at 11222 Acacia Parkway, Garden Grove, CA 92840, during normal business hours; (2) on the City's website as an attachment to the City Council meeting agenda; and (3) at the Council Chamber at the time of the meeting.

Public Comments: Members of the public desiring to address the City Council are requested to complete a **pink speaker card** indicating their name and address, and identifying the subject matter they wish to address. This card should be given to the City Clerk prior to the start of the meeting. General comments are made during "Oral Communications" and should be limited to matters under consideration and/or what the City Council has jurisdiction over. Persons wishing to address the City Council regarding a Public Hearing matter will be called to the podium at the time the matter is being considered.

Manner of Addressing the City Council: After being called by the Mayor, you may approach the podium, it is requested that you state your name for the record, and proceed to address the City Council. All remarks and questions should be addressed to the City Council as a whole and not to individual Council Members or staff members. Any person making impertinent, slanderous, or profane remarks or who becomes boisterous while addressing the City Council shall be called to order by the Mayor.If such conduct continues, the Mayor may order the person barred from addressing the City Council any further during that meeting.

Time Limitation: When any group of persons wishes to address the City Council on the same subject matter, the Mayor may request a spokesperson be chosen to represent the group, so as to avoid unnecessary repetition.At the City Council's discretion, a limit on the total amount of time for public comments during Oral Communications and/or a further limit on the time allotted to each speaker during Oral Communications may be set.

PLEASE SILENCE YOUR CELL PHONES DURING THE MEETING.

AGENDA

Open Session

6:30 PM

ROLL CALL: MEMBER BRIETIGAM, MEMBER JONES, MEMBER KLOPFENSTEIN, MEMBER K. NGUYEN, MEMBER D. NGUYEN, VICE PRESIDENT O'NEILL, PRESIDENT BUI

1. ORAL COMMUNICATIONS (to be held simultaneously with other legislative bodies)

2. CONSENT ITEMS

   (Consent Items will be acted on simultaneously with one motion unless separate discussion and/or action is requested by a Sanitary District Member.)

   2.a. Approval of the Sewer System Management Plan 2020 update for the Garden Grove Sanitary District. *(Action Item)*

   2.b. Receive and file minutes from the meeting held on March 24, 2020. (*Action Item*)

   2.c. Authorization for an extension of the 60-day Surplus Land Act notification of interest deadline due to COVID-19. (*Action Item*)

3. MATTERS FROM THE PRESIDENT, BOARD MEMBERS AND GENERAL MANAGER

4. ADJOURNMENT

   The next Regular Sanitary District Meeting will be on Tuesday, May 26, 2020, at 5:30 p.m. in the Community Meeting Center, 11300 Stanford Avenue, Garden Grove, California.

City of Garden Grove

INTER-DEPARTMENT MEMORANDUM

To:	Scott C. Stiles	From:	William E. Murray
Dept.:	General Manager	Dept.:	Public Works
Subject:	Approval of the Sewer System Management Plan 2020 update for the Garden Grove Sanitary District. *(Action Item)*	Date:	4/28/2020

OBJECTIVE

To receive Garden Grove Sanitary District (GGSD) Board approval of the updated Garden Grove Sanitary District Sewer System Management Plan (SSMP) to the State Water Resources Control Board (SWRCB) and authorization for the Public Works Director to sign the document as the Legally Responsible Official.

BACKGROUND

On May 2, 2006, the SWRCB adopted the Statewide General Waste Discharge Requirements and the Monitoring and Reporting Program (WDR) by issuing Order No. 2006-0003-DWQ, which required GGSD to update the previously approved SSMP. The SSMP is an all-inclusive plan that includes all the plans and programs as ordered by the WDR. The SSMP requires the development and implementation of sewer system best management practices.

The WDR also required GGSD to provide the publicly available internet website address to the California Integrated Water Quality System Project (CIWQS) Online Sanitary Sewer Overflows (SSO) Database where a downloadable copy of GGSD's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted.

DISCUSSION

The SSMP is intended to serve as a comprehensive management plan for preventing SSO, ensuring compliance with the WDR and the regulations of the State of California and the Federal Government. Overall, the plan provides for a financially sound and sustainable infrastructure replacement and improvement program, the implementation of best management practices, an emergency spill response plan and a routine operations/preventative maintenance plan.

The completed SSMP consists of eleven district program elements as listed in the WDR. These elements are listed below:

1. Goal
2. Organization
3. Legal Authority
4. Operation and Maintenance
5. Program Design and Performance Provisions
6. Overflow Emergency Response Plan
7. FOG Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications
10. SSMP Program Audit
11. Communication Program

FINANCIAL IMPACT

There is no financial impact that will result from this action.

RECOMMENDATION

It is recommended that the Sanitary District Board:

- Approve the updated Sewer System Management Plan, subject to modification as requested by the State Water Resources Control Board and subject to periodic update by the Garden Grove Sanitary District General Manager; and

- Authorize the Public Works Director to sign the document as the Legally Responsible Official.

By: Rebecca Li
Sr. Civil Engineer

ATTACHMENTS:

Description	Upload Date	Type	File Name
2020 SSMP	4/2/2020	Backup Material	2020_SSMP_Reduced.pdf
SSMP Appendix Part 1	4/17/2020	Backup Material	2020__SSMP__Appendix_Reduced_Part1.pdf
SSMP Appendix Part 2	4/17/2020	Backup Material	2020__SSMP__Appendix_Reduced_Part2.pdf
SSMP Appendix Part 3	4/17/2020	Backup Material	2020__SSMP__Appendix_Reduced_Part3.pdf
SSMP Appendix Part 4	4/17/2020	Backup Material	2020__SSMP__Appendix_Reduced_Part4.pdf
SSMP Appendix Part 5	4/17/2020	Backup Material	2020__SSMP__Appendix_Reduced_Part5.pdf

GARDEN GROVE SANITARY DISTRICT SEWER SYSTEM MANAGEMENT PLAN

APRIL 2020

GARDEN GROVE SANITARY DISTRICT

SEWER SYSTEM MANAGEMENT PLAN

Prepared by:

Garden Grove Sanitary District
13802 Newhope Street, Garden Grove, California 92843
(714) 741-5395

April 2020

GARDEN GROVE SANITARY DISTRICT
SEWER SYSTEM MANAGEMENT PLAN

Certification

I certify under penalty of law that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____

William E. Murray Jr., PE
Public Work Director
Garden Grove Sanitary District

Date

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SECTION 1
INTRODUCTION

1-1 WASTE DISCHARGE REQUIREMENTS ORDER NO. 2006-003

Provision 11 of State Water Resources Control Board (SWRCB) Order No. 2006-0003 (Order), Statewide General Waste Discharge Requirements for Sanitary Sewer Systems sets the requirement for the preparation of a Sewer System Management Plan:

> 11. *The enrollee (Garden Grove Sanitary District) shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the District's office and/or available on the internet. This SSMP must be approved by the Garden Grove Sanitary District Board of Directors at a public meeting.*

The essential elements of the SSMP are detailed in Provision 13 of the Order No. 2006-0003, which is included in Appendix A-1 of this report.

The Garden Grove Sanitary District (District) addresses each element listed in Provision 13 of the Order, throughout this SSMP document. The following sections list each essential element of the SSMP, and describe how the District is in compliance with each.

1-2 MONITORING AND REPORTING PROGRAM ORDER NO. WQ 2013-0058-EXEC

The District shall comply with the SWRCB Monitoring and Reporting Program Order WQ 2013-0058-EXEC, which is included in Appendix A-2 of this report. Order WQ2013-0058-EXEC is an amendment to Order 2006-0003. The District shall stay educated and in compliance with all future revisions thereto, as specified by the Executive Director.

1-3 DOCUMENT AVAILABILITY

As required by the SWRCB, copies of this SSMP are maintained at the following locations:

1. Municipal Service Center: 13802 Newhope St, Garden Grove, CA 92843
2. City Clerk's Office: 11222 Acacia Parkway, Garden Grove, CA 92840

These copies are available to sanitary sewer system operating and maintenance personnel at all times.

1-4 ABOUT THIS DOCUMENT

The District has prepared this SSMP document to comply with Order 2006-0003 and Order WQ 2013-0058-EXEC. Some elements of this document have been summarized from comprehensive stand-alone reports to minimize the physical size of the SSMP document. These reports often include large maps, detailed tables, and more details to address the requirements of the SSMP.

SECTION 2
GOALS

Order 2006-0003-DWQ states that:

> *The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.*

The purpose of Order 2006-2003 is to prevent sanitary sewer overflows (SSOs). The Garden Grove Sanitary District (District) has prepared its SSMP to comply with this order.

The SSMP document will ensure that the District properly fund, manage, operate and maintain, with adequately trained staff and/or contractors possessing adequate knowledge skills and abilities as demonstrated through validated program at all times, all parts of the sanitary sewer system owned and/or operated by the District.

2-1 COMPLIANCE

The goals of the SSMP are to:

- Prevent or reduce Sanitary Sewer Overflow (SSOs)
- Provide a plan and schedule for measures to continue implementing measures to prevent or reduce SSOs
- Provide adequate sewer capacity
- Reduce the discharge of Fats, Oils, and Grease (FOG) into its sewer system
- Provide adequate sewer cleaning and maintenance
- CCTV inspect the condition of the sewer system on a regular basis
- Maintain adequate legal authority to implement all elements of the SSMP
- Implement sewer improvement projects as indicated in the District's Capital Improvement Program
- Maintain adequate funding for the operation, maintenance, and repair of its system
- Provide detailed plan to address SSOs. This shall include the procedures to respond to the SSO, notify the appropriate individuals/parties, contain the SSO, clean up the affected areas, and properly report the SSO. The time to respond to the spill shall not exceed one hour.
- Provide routine training for safety, updated equipment and technology, spill response, and all other relevant operation and maintenance topics

SECTION 3
ORGANIZATION

Order 2006-0003-DWQ requires that the SSMP identify:

(a) The name of the responsible or authorized representative as described in Section J of this Order,

(b) The names and telephone numbers of management, administrative and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and

(c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board, and other agencies as applicable (such as County Health Officer, County Environmental Health Agency, and/or State Office of Emergency Services (OES)).

3-1 COMPLIANCE

A. LEGALLY RESPONSIBLE OFFICIAL

Order 2006-0003-DWQ requires that the SSMP identify, "*The name of the responsible or authorized representative as described in Section J of this Order.*"

The District identifies Bill Murray, the Public Works Director, as the responsible representative, who shall sign and certify all reports required by Order 2006-0003-DWQ.

B. ORGANIZATION CHART

Order 2006-0003-DWQ requires that the SSMP identify, "*The names and telephone numbers of management, administrative and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation.*"

Figure 3-1 and Figure 3-2 illustrate the line of authority for the District officials and staff responsible for implementing the SSMP measures. The current contact information for the responsible officials and staff are included.

Specific Responsibilities for officials and staff are described for each position is summarized in Table 3-1.

Roles and responsibilities for District personnel are described in further detail in Appendix B-1 of this document.

C. CHAIN OF COMMUNICATION FOR SSOS

Order 2006-0003-DWQ requires that the SSMP identify, "*The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Board, and other agencies as applicable (such as County Health Officer, County Environmental Health Agency, and/or State Office of Emergency Services (OES).*"

The District has prepared a stand-alone document for the Sanitary Sewer Overflow Emergency Response Plan (SSOERP) element of the SSMP requirements. It includes a list of individuals and agencies that need to be contacted in the event of a sanitary sewer overflow (SSO). Figure 3-3 details the procedures to respond to SSOs. The Sanitation Supervisor will be the responsible staff to report the SSO to the State Water Board and other appropriate agencies.

A summary of SSO notification and reporting procedures are included in Appendix B-2 of this report.

Figure 3-1
GGSD Organization Chart

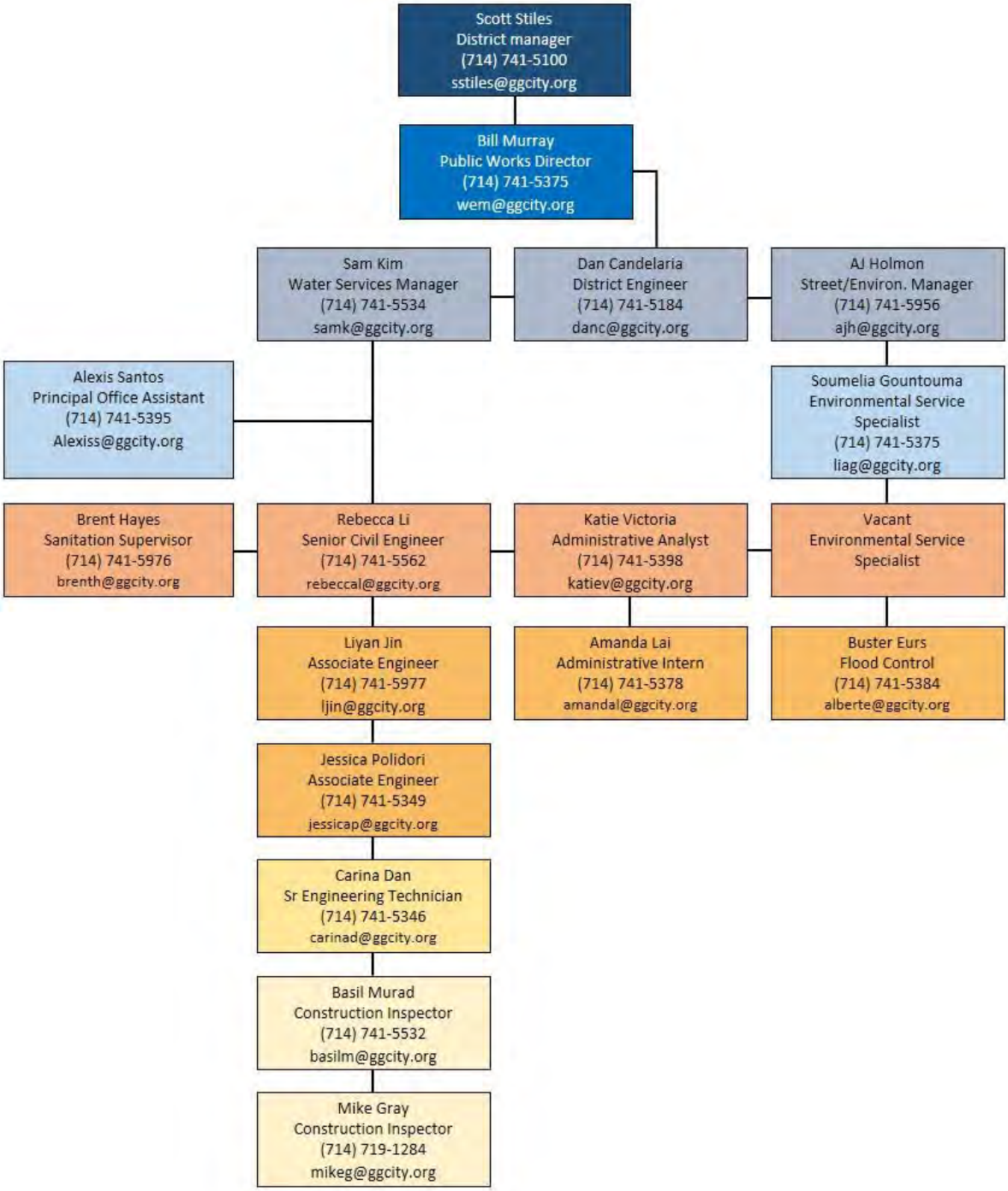


Figure 3-2
Operation and Maintenance Organization Chart

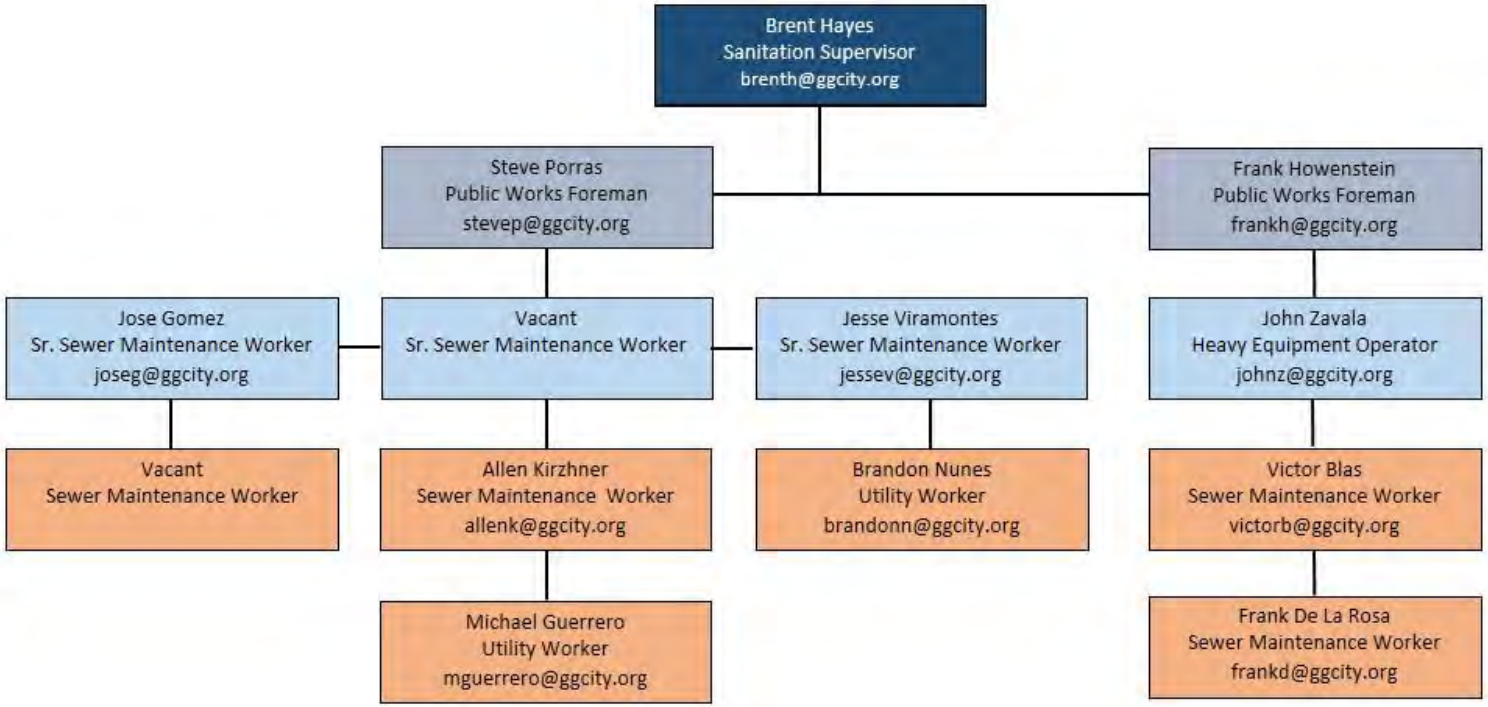
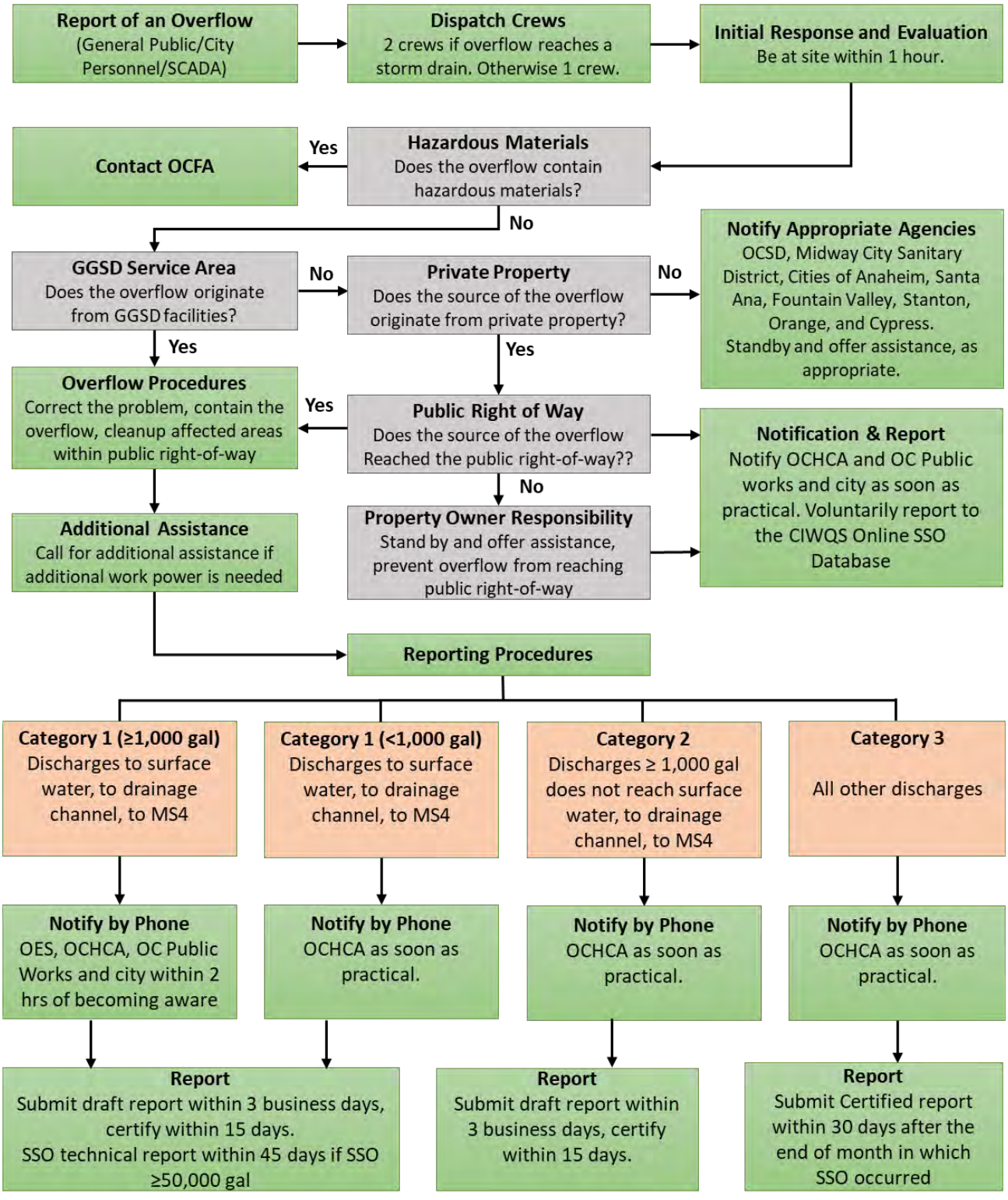


Table 3-1
SSMP Responsibilities

Task	Board of Directors/ District Manager	Water Services Manager	Sanitation Supervisor	Public Works Foreman	Field Crews
SSMP Development Plan and Schedule	Reviews, Approves				
Legal Authority	Reviews, Approves	Oversees			
Final SSMP Document	Reviews, Approves	Oversees			
Sewer Funding Plan	Reviews, Approves	Oversees			
Goals of SSMP	Implements	Oversees			
Organization of SSMP	Reviews, Approves	Oversees	Participates		
Up to Date Map of Collection System, Pumping Facilities, and Stormwater Conveyances		Oversees	Participates	Participates	
System Evaluation and Capacity Assurance Plan		Oversees	Participates		
Sewer System Rehabilitation Plan		Participates	Oversees	Participates	
FOG Outreach		Participates	Oversees	Participates	
Plan for FOG Disposal		Participates	Oversees	Participates	
FOG Source Control Measures		Participates	Oversees	Participates	
Design and Construction Standards		Oversees	Participates		
Procedures and Standards for Inspection and Testing		Oversees	Participates	Participates	
SSMP Monitoring		Participates	Participates	Participates	
SSMP Internal Audits		Oversees	Participates	Participates	
SSMP Program Updates			Participates	Participates	
SSMP Communication Program		Oversees			
Overflow Emergency Response Plan			Oversees	Participates	Implements
Operation and Maintenance Program		Participates	Oversees	Participates	Implements
CCTV Inspection and Condition Assesment			Oversees	Participates	
SSO Trend Maintenance			Oversees	Participates	
Staff Training Program			Oversees	Participates	
Equipment Inventory			Oversees	Participates	
Sanitary Sewer Overflows			Reports		
CIP Plans, Specifications, and Estimate Standards		Oversees			
Construction Management and Inspection Staff Work		Directs			

Figure 3-3
SSOERP Response Procedures



SECTION 4
LEGAL AUTHORITY

Order 2006-0003-DWQ requires that:

> *Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:*
>
> *(a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc);*
> *(b) Require that sewers and connections be properly designed and constructed;*
> *(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;*
> *(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and*
> *(e) Enforce any violation of its sewer ordinances.*

Order 2006-0003-DWQ prohibits any SSO that results in a discharge of untreated or partially treated wastewater to the waters of the United States or that creates a nuisance as defined in California Water Code Section 13050(m).

Legal Authority is a very important component of a sewage collection agency's responsibility in regulating the usage of the sanitary sewer system.

4-1 COMPLIANCE

The District possesses legal authority through the following documents:

- Code of Regulations (Appendix C-1)
- Storm Water Quality Ordinance (Appendix C-2)
- Ordinance No. 6. FOG Control Ordinance (Appendix C-3)
- Design Criteria for Sewer Facilities (Appendix E-1)
- Sewer Standard Drawings (Appendix E-2)
- Standard Specifications for Public Works Construction (Greenbook)

These documents are located in Appendix C and E of this document, and are available at the Municipal Service Center. Electronically, these documents can be found on the City of Garden Grove's website:

https://ggcity.org/pw

Table 4-1 summarizes the District's relevant ordinance sections that correlate to the requirements.

Table 4-1: District Ordinances

	Waste Discharge Requirement	Legal Document	Section
a)	Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc)	GGSD Code of Regulations	4.10.050 Discharge of objectionable materials-Regulations
			4.10.060 Discharge of corrosive harmful wastes
			4.10.070 Rain and surface water prohibited
			4.10.080 Automobile washing areas regulated
			4.10.090 Opening manhole prohibited
			4.10.100 Discharge into sewer manholes regulated
b)	Require that sewers and connections be properly designed and constructed	Design Criteria for Sewer Facilities, Sewer Standard Drawings, Greenbook	
c)	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency	GGSD Ordinance No. 6	4.30.130 Inspection and Sampling Conditions
		GGSD Code of Regulations	6.20.010 Maintenance Inspections
d)	Limit the discharge of fats, oils, and grease and other debris that may cause blockages	GGSD Ordinance No. 6	4.30 Regulations for Controlling the Discharge of Fats, Oils and grease from food service establishments
e)	Enforce any violation of its sewer ordinance	GGSD Code of Regulations	6.20 Code Enforcement
		GGSD Ordinance No. 6	4.30.150 Enforcement

The City of Anaheim, the City of Orange, the City of Stanton, the City of Santa Ana, and the Midway City Sanitary District tie into the Garden Grove Sanitary District's sewer system. The sewers within Unincorporated Orange County that are tributary to the District's sewers are currently owned and maintained by the District. Appendix C-4 to Appendix C-8 include all current agreements that the District has with these satellite agencies.

The District has updated its agreement with the City of Stanton to comply with the regulations of Order 2006-0003-DWQ. There are ongoing discussions and communications with the City of Anaheim, the City of Orange, the City of Santa Ana, and the Midway City Sanitary District to ensure that all systems tributary to the Garden Grove Sanitary District's sewer system are in compliance with the Waste Discharge Requirements.

A. ILLICIT DISCHARGES

Order 2006-0003-DWQ requires that the District have legal authority "*to prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc)"*

Illicit discharges are controlled by the Garden Grove Sanitary District's Code of Regulations. The relevant sections include: Discharge of Objectionable Materials, Discharge of Corrosive Harmful Wastes, Rain and Surface Water Prohibited, and Discharge into Sewer Manholes Regulated. The District maintains the legal authority to prohibit illicit discharges.

B. DESIGN STANDARDS

Order 2006-0003-DWQ requires that the District have legal authority to "*require that sewers and connections be properly designed and constructed."*

In 2015, the District updated the Design Criteria for Sewer Facilities (originally established and adopted in 2007), which includes the Standard Plans.

C. ACCESS TO FACILITIES

Order 2006-0003-DWQ requires that the District have legal authority to "*to ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained"* by the District.

Section 6.20.010 of the GGSD Code of Regulations states, *"The District may inspect as often as it deems necessary, every sewage pumping plant, sewage treatment plant, industrial liquid waste pretreatment plant, residential sewer, grease control device, dilution basin, neutralization basin, backwater trap or valve, or other similar appurtenance to ascertain whether such facilities are maintained and operated in accordance with the provision of this Code. All persons shall permit the District, City or their representatives, to have access to all such facilities at all reasonable times."*

Section 4.30.130 of the District's Municipal Code states, *"The owner shall allow the District access to the Food Service Establishment premises, during normal business hours, for purposes of inspecting the Food Service Establishment's grease control devices or interceptor, reviewing the manifests, receipts and invoices related to cleaning, maintenance and inspection of the grease control devices."*

These sections provide the District the legal authority to access the all sewer facilities, as well as access to Food Service Establishment (FSE) premises.

D. FATS, OILS, AND GREASE

Order 2006-0003-DWQ requires that the District have legal authority "*to limit the discharge of fats, oils, and grease and other debris that may cause blockages".*

The District has the legal authority to manage the Fats, Oils, and Grease discharges through GGSD Ordinance No. 6 FOG Control Program document.

E. ENFORCEMENT

Order 2006-0003-DWQ requires that the District have legal authority "*to enforce any violation of its sewer ordinance".*

Enforcement of sanitary sewer overflows (SSOs) is handled through Title 6 of the GGSD Code of Regulations and Section 4.30.150 of Ordinance No. 6. The District provides provisions for the issuance of administrative citations and cost recovery procedures to collect payment for resources utilized to contain and clean up areas affected by SSOs.

SECTION 5
OPERATION AND MAINTENANCE PROGRAM

Order 2006-0003-DWQ requires that:

The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

(a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities.

(b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.

(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

(d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained.

(e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

5-1 COMPLIANCE

The very low spill rate indicates that the existing Operation and Maintenance Program has formed a solid foundation for the District. The District shows compliance with the Waste Discharge Requirements (WDR) through the following stand-alone documents:

Preventative Maintenance Plan

The District prepared a stand-alone Preventative Maintenance Plan document. This comprehensive report summarizes the District's Operation and Maintenance Program, which includes but is not limited to the following:

- WDR Description

- Training
- Sanitary Sewer System Map
- Sewer Inspections
- Condition Assessment
- Sewer Cleaning
- Pump Station Maintenance
- General Corrective Maintenance
- Equipment and Replacement Part Inventories
- Roving Check Program
- SSO Contractors
- Staff Assessment Program

Sewer System Rehabilitation Plan

The District has prepared a stand-alone document, the Sewer System Rehabilitation Plan, to evaluate and report on the condition of the District's gravity sewers. The Sewer System Rehabilitation Plan has been prepared in five phases, beginning in 2005 with the latest phase completed in 2013. All updates to the previous Sewer System Rehabilitation Plan are detailed within this report.

A. SANITARY SEWER SYSTEM MAP

Order 2006-0003-DWQ requires that the District "*maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities.*"

The District keeps up-to-date GIS files of its sewer and storm water facilities. The GIS is available on the City's intranet and is maintained by the City's Information Technology Division and the Water Services Division. The Water Services Division catalogues the plans, paper records, and all the database information that needs to be inputted into the GIS. Information for the following items is included in the GIS database:

- Pipes
- Manholes
- Hot Spot Log
- Inverted Siphons
- Pump Stations
- Forcemains
- Storm Drains
- Catch Basins
- 5 foot contour data

To comply with the WDR requirements, the District has prepared the sewer and storm drain map, which is included in Appendix D-1. The map includes the street flow arrows and the drainage boundaries to each catch basin within the District's service area.

The District has produced hard copies of Appendix D-1, and they are available on the District's maintenance

trucks, along with the sewer atlas. The maps have also been included in the District's stand-alone Overflow Emergency Response Plan document.

B. ROUTINE PREVENTIVE OPERATION AND MAINTENANCE ACTIVITIES

Order 2006-0003-DWQ requires that the SSMP "*describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance program should have a system to document scheduled and conducted activities, such as work orders.*"

The Garden Grove Sanitary District maintains a Preventative Maintenance Plan (PMP). The PMP details the operation and maintenance activities implemented to minimize the risk of sanitary sewer overflows (SSOs).

The PMP states that, *"The District uses a combination of staff and/or contractors to perform the planned maintenance tasks at scheduled frequencies as part of the District's asset level of care program."*

Computer Maintenance Management System

The District manages its cleaning and maintenance activities through its Computerized Maintenance Management System (CMMS), a GIS Intranet program that tracks the maintenance activities, which includes but are not limited to the following:

- Work Orders
- Hot Spot Cleaning
- Manhole Inspections
- Pest Control
- Root Treatment
- Food Service Establishments
- Sewer Spill Locations
- Routine Cleaning
- Emergency Repairs
- CCTV Recording and Inspection Report
- Sewer Line Foaming
- Smart covers/Telog Tracking
- Grease Control Devices

The District's current CMMS program was developed by its Information Technology (IT) Department. The database associated with the CMMS was first developed using the Munsys GIS software. The database was converted to Esri-based software in 2017. The CMMS provides the following:

- Automated graphical reporting (Routine Maintenance, Hot Spot Cleaning, CCTV, etc)
- Automated summary reports (Routine Maintenance, Hot Spot Cleaning, CCTV, etc)
- Links to CCTV videos and maintenance photos
- Automatic update of CCTV inspection to GIS shapefiles
- Link between sewer repair reports to sewer ID
- Pump Station work order documentation (future improvement)
- Vehicle work order documentation (future improvement)

Sewer Cleaning

The District maintenance crews are responsible for tracking the completed cleaning tasks by inputting the completed cleaning records into the computerized maintenance management system (CMMS). The District records the following information for all cleaning inspections:

- Maintenance Staff
- Percent Completed
- Grease
- Pipe Pieces
- CCTV
- Date
- Footage
- Roots
- Egg Shells
- Comments

The cleaning procedure consists of using a combination truck to hydraulically wash the pipe walls and vacuuming all detached debris at the downstream manhole. The District owns and operates three (3) combination trucks. Sewer cleaning consists of hydraulically washing the pipe walls, which is followed by the vacuum removal of all debris at the downstream manhole.

Routine Cleaning: The District's goal is to clean all lines within 18 to 24-months. Daily routine cleaning goals have been set at 3,800 feet of sewer per day, which will adhere to the 18-24 month schedule. The cleaning history is reviewed on a monthly basis to ensure that the cleaning target goals are being met.

Hot Spot Sewer Maintenance: The Hot Spot locations are summarized in Table 5-1 and illustrated on Figure 5-1. The District records the following information at each cleaning or inspection:

- Pipe ID
- Staff performing cleaning
- Date

The District has 262 reaches on its Hot Spot list that are scheduled to be cleaned to prevent blockages and spills.

The District has an additional 76 Hot Spot reaches that are manually inspected to evaluate if additional maintenance is required. These Hot Spot locations do not have significant maintenance issues, and frequent cleaning is not required at these locations. The District performs visual inspections of these reaches on a regular basis to monitor the condition of the sewer. A thorough cleaning will be performed if maintenance crews observe grease, roots, grit, or any other obstructions. Otherwise, these reaches will be cleaned on the routine maintenance schedule.

The District provides Hot Spot cleaning on the following intervals:

- Monthly (76 Reaches)
- Quarterly (63 Reaches)
- Semiannually (48 Reaches)
- Monthly – Inspection Only (52Reaches)
- Quarterly – Inspection Only (12 Reaches)
- Semiannually – Inspection Only (11 Reaches)

Table 5-1
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPD110002	1440	7818	7825	8	VC	258	Tiffany Lift Station	Monthly
SPD110026	1940	7943	7818	8	VC	258	Tiffany Lift Station	Monthly
SPD120002	1551	7949	7950	12	VC	300	Tiffany Lift Station	Monthly
SPD120003	1552	7950	7951	12	VC	158	Tiffany Lift Station	Monthly
SPD120004	1553	7951	7952	12	VC	268	Tiffany Lift Station	Monthly
SPD120007	1584	7955	7951	8	VC	216	Tiffany Lift Station	Monthly
SPD120009	1586	7957	7958	8	VC	220	Tiffany Lift Station	Monthly
SPD120010	1587	7958	7952	8	VC	298	Tiffany Lift Station	Monthly
SPD120013	1715	7952	7820	12	VC	259	Tiffany Lift Station	Monthly
SPD120014	1942	7960	7820	8	VC	217	Tiffany Lift Station	Monthly
SPE080021	1735	8895	8896	8	VC	365	Chapman/Stonegate	Monthly
SPE080022	1736	8896	8899	8	VC	60	Chapman/Stonegate	Monthly
SPE080024	1338	8906	8907	8	VC	163	Chapman/Bailey	Monthly
SPE090017	1340	8908	8909	8	VC	320	Bailey/Laurelton	Monthly
SPE090018	1341	8909	8910	8	VC	320	Bailey/Laurelton	Monthly
SPE090019	1342	8910	7780	8	VC	122	Bailey/Laurelton	Monthly
SPE110039	1439	7817	7818	8	VC	350	Tiffany Lift Station	Monthly
SPE110044	1445	0	0	8	VC	350	Tiffany Lift Station	Monthly
SPE110045	1446	7825	7827	8	VC	127	Tiffany Lift Station	Monthly
SPE110046	1447	0	0	8	VC	318	Tiffany Lift Station	Monthly
SPE110047	1793	7827	7828	12	VC	160	Tiffany Lift Station	Monthly
SPE120026	1794	7828	7829	12	VC	296	Tiffany Lift Station	Monthly
SPE120030	2120	8670	8669	10		390	Tiffany Lift Station	Monthly
SPE120031	2119	8669	7902	10		400	Tiffany Lift Station	Monthly
SPH110013	1732	8157	8177	18	VC	370	Industry South of Lampson	Monthly
SPJ080029	2418	8593	8596	8	VC	310	8121 Filmore	Monthly
SPJ110047							Lampson West of Dale (School District)	Monthly
SPK080046	2094	8509	8510	8	VC	195	Dale/Twana	Monthly
SPK080047	1996	8510	8512	8	VC	37	Dale/Twana	Monthly
SPK130003	3217	0	0	8	VC	10	Garden Grove Blvd/Yockey	Monthly
SPK130018	3218	9360	9381	8	VC	240	Garden Grove Blvd/Yockey	Monthly
SPK130044							Central/Wilson	Monthly
SPK140029	703	7665	8608	12	XS VC	250	Newland/Trask	Monthly
SPK150020	832	7644	7666	8	VC	330	Newland/Trask	Monthly
SPL120021	3147	8486	8487	8	VC	345	Magnolia to Hazel	Monthly
SPL130024	3158	8498	9359	8	VC	349	Garden Grove Blvd/Hazel	Monthly
SPL130025	3165	9359	9360	8	VC	248	Garden Grove Blvd/Hazel	Monthly
SPM090038	5164	10378	10379	8	VC	225	Vons Complex	Monthly

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPM120005	2818	11333	11337	10	VC	300	Garden Grove/Brookhurst Way	Monthly
SPM120014	2657	11548	14484	8	VC	312	Garden Grove Blvd/Galway	Monthly
SPM130004							Garden Grove Blvd/Galway	Monthly
SPM160014	2206	0	0	8	VC	310	Westminster/Erin	Monthly
SPM200009	222	6929	6932	8	VC	263	Lexington/Donegal	Monthly
SPM200010	223	6930	6931	8	VC	257	Lexington/Donegal	Monthly
SPM200011	224	6931	6932	8	VC	264	Lexington/Donegal	Monthly
SPM200013	226	6933	6934	8	VC	371	Bolsa/Bushard Alley	Monthly
SPM200014	227	6934	6935	8	VC	86	Bolsa/Bushard Alley	Monthly
SPM200017	232	6939	6940	8	VC	208	Bolsa/Bushard Alley	Monthly
SPM200018	233	6940	6935	8	VC	376	Bolsa/Bushard Alley	Monthly
SPN130028	2896	11297	11298	8	VC	340	Flower/Central	Monthly
SPN130033	2937	11338	11337	8	VC	187	Garden Grove/Brookhurst Way	Monthly
SPN140037	3084	10708	11298	8	VC	360	Flower/Central	Monthly
SPN170002	46	6975	7264	8	VC	390	Morningside/Hope	Monthly
SPN170005	135	7296	7264	8	VC	258	Morningside/Flood Control Channel	Monthly
SPN170007	137	7264	7265	12	XS VC	151	Jennrich/DeanAnn	Monthly
SPN170016	2259	10515	10516	8	VC	90	Brookhurst/15th	Monthly
SPN170032	2019	10396	10526	8	VC	477	Brookhurst/15th	Monthly
SPN170033	3029	10526	10527	8	VC	320	Brookhurst North of 15th	Monthly
SPN170042	2468	10516	10526	8	VC	350	Brookhurst/15th	Monthly
SPN180002	139	7266	7267	8	VC	133	Jennrich/DeanAnn	Monthly
SPN190007	9245	7295	15303	10	VC	383	Hazard West of Lyndon	Monthly
SPN190007	9246	15303	6893	10	VC	383	Hazard West of Lyndon	Monthly
SPO120027	9243	12310	15302	6	VC	295	Pearl/Nelson	Monthly
SPO120027	9244	15302	12268	6	VC	290	Pearl/Nelson	Monthly
SPO130024	4927	12288	12289	8	VC	40	Century South of Garden Grove Blvd (Double Barrel Siphon)	Monthly
SPO200014	113	6780	6887	8	VC	114	Bolsa/Ward	Monthly
SPO200024	179	6887	7301	8	VC	330	Bolsa/Ward	Monthly
SPP130043	5294	11823	11738	8	VC	265	Garden Grove Blvd/Lincoln	Monthly

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPR090031	5473	0	0	6	VC	115	Buaro/Jentges/Puryear	Monthly
SPR090032	5474	11696	11697	6	VC	185	Buaro/Jentges/Puryear	Monthly
SPR090035	5479	11697	12200	6	VC	340	Buaro/Jentges/Puryear	Monthly
SPS090021	5832	12138	12139	8	VC	320	Harbor South of Chapman	Monthly
SPS090022	5833	12139	12140	8	VC	320	Harbor South of Chapman	Monthly
SPS090023	5834	12140	12116	8	VC	257	Harbor South of Chapman	Monthly
SPN180001	138	7265	7266	8	VC	95	Jennrich/DeanAnn	Monthly
COL030001							Gilbert/Pacific	Monthly
SPJ110012	1817	8697	8698	8	VC	299	Lampson/School District	Quarterly
SPJ110020	1823	8698	8701	8	VC	338	Lampson/School District	Quarterly
SPJ120020	748	7715	7719	8	VC	297	Garden Grove Blvd/Fern	Quarterly
SPJ130005	783	7718	7719	8	VC	331	Garden Grove Blvd/Fern	Quarterly
SPK080006	3882	10297	10298	8	VC	250	MacNab/MacAlpine (Double Barrel Siphon)	Quarterly
SPK080007	3883	10298	10308	8	VC	35	MacNab/MacAlpine (Double Barrel Siphon)	Quarterly
SPK090038	1803	8533	8534	8	VC	300	Dale/Amy	Quarterly
	1804	8534	8535	8	VC	307	(Double Barrel Siphon) to Amy	Quarterly
SPK090040	1805	8535	8536	8	VC	170	Dale/Chapman (Double Barrel Siphon)	Quarterly
SPK090041	7050	13569	8520	8	VC	38	Dale/Chapman (Double Barrel Siphon)	Quarterly
SPK090041	7051	8536	13570	8	VC	38	Dale/Chapman (Double Barrel Siphon)	Quarterly
SPK090041	7052	13570	13569	8	VC	38	Dale/Chapman (Double Barrel Siphon)	Quarterly
SPK110001	3346	8375	8376	8	VC	344	Josephine North of Garden Grove Blvd	Quarterly
SPK110002	3347	8376	8377	8	VC	350	Josephine North of Garden Grove Blvd	Quarterly

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPK110003	3348	8377	8378	8	VC	350	Josephine North of Garden Grove Blvd	Quarterly
SPK120003	3349	8378	8390	8	VC	348	Josephine North of Garden Grove Blvd	Quarterly
SPK120008	3364	8390	8393	8	VC	332	Josephine North of Garden Grove Blvd	Quarterly
SPK120011	3367	8393	8399	8	VC	325	Josephine North of Garden Grove Blvd	Quarterly
SPK120017	3373	8399	8400	8	VC	165	Josephine North of Garden Grove Blvd	Quarterly
SPK120018	3374	8400	8402	8	VC	317	Josephine North of Garden Grove Blvd	Quarterly
SPL070007	5190	10138	10139	8	VC	210	OCTD/Shannon (Double Barrel):	Quarterly
SPL160025	6694	13318	13319	8	VC	0	Magnolia North of Westminster (Alley)	Quarterly
SPL160026	6692	13317	13318	8	VC	0	Magnolia North of Westminster (Alley)	Quarterly
SPM090002	4989	9663	9960	8	VC	172	Brookhurst/Chapman Cleanouts	Quarterly
SPM130026	2344	11082	10777	6	VC	361	Easement North of Belfast	Quarterly
SPM130027	2345	10777	10762	6	VC	200	Belfast/Donegal	Quarterly
SPN110002	2378	11141	11142	8	VC	55	Nutwood/Kensington	Quarterly
SPN110003	2379	11142	11143	8	VC	100	Nutwood/Kensington	Quarterly
SPN110008	2540	11253	11254	8	VC	320	Nutwood/Lampson	Quarterly
SPN110020	2919	11254	11137	8	VC	310	Nutwood/Lampson	Quarterly
SPN110021	2920	11259	11143	8	VC	150	Nutwood/Kensington	Quarterly
SPN120024	2931	11325	11326	8	VC	80	Stanford/Brookhurst	Quarterly
SPN130022	2890	11071	11289	6	VC	410	Crosby/Hope	Quarterly
SPN140020	7521	11314	11315	10	XS VC	0	Trask/Hope	Quarterly
SPO100019	2386	11209	11210	8	VC	273	Lampson/McLeod	Quarterly
SPO100020	2387	11210	11147	8	VC	270	Lampson/McLeod	Quarterly
SPO110024	2372	11147	11136	8	VC	180	Nutwood/Lampson	Quarterly
SPO110025	2373	11136	11137	8	VC	300	Nutwood/Lampson	Quarterly
SPO160024	4620	11002	10983	8	VC	255	Taft/Linnell	Quarterly
SPP120024	4623	11892	11893	6	VC	321	Garden Grove Blvd/Euclid	Quarterly
SPP130027	4444	11893	11894	10	VC	65	Garden Grove Blvd/Euclid	Quarterly
SPP130029	4447	11895	11896	12	VC	20	Garden Grove Blvd/Euclid	Quarterly
SPP130045	4446	12314	11893	10	VC	200	Garden Grove Blvd/Euclid	Quarterly
SPP160034	5993	10966	10968	8	VC	306	Blake Alley	Quarterly
SPP160035	5994	10967	10968	8	VC	325	Blake Alley	Quarterly

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPP160036	5995	10968	10969	8	VC	380	Linnell/Fernwood	Quarterly
SPP160040	5999	10972	11002	8	VC	194	Taft/Linnell	Quarterly
SPR150012	592	7541	7542	12	VC	260	Harbor/Cardinal	Quarterly
SPR150013	593	7542	7543	12	VC	32	Harbor/Cardinal	Quarterly
SPR150014	847	7543	7544	12	VC	80	Harbor/Cardinal	Quarterly
SPS130015	559	6738	6739	8	VC	316	Blackbird/Pearce	Quarterly
SPS130016	560	6739	6740	8	VC	71	Blackbird/Pearce	Quarterly
SPS140031	561	6740	6743	8	VC	479	Blackbird/Pearce	Quarterly
SPS140034	595	6743	6744	8	VC	227	Clinton/Pearce	Quarterly
SPS140035	596	6744	6745	8	VC	90	Clinton/Pearce	Quarterly
SPS140036	597	6745	6746	8	VC	33	Clinton/Pearce	Quarterly
SPS140037	598	6746	6760	8	VC	184	Clinton/Pearce	Quarterly
SPS160010	456	7473	7474	8	VC	126	Roxy/Westminster	Quarterly
SPS160011	457	7474	7475	8	VC	70	Roxy/Westminster	Quarterly
SPS160012	458	7475	7477	8	VC	75	Roxy/Westminster	Quarterly
SPS160015	461	7477	7478	8	VC	134	Roxy/Westminster	Quarterly
SPT140020	7765	6674	14124	6	VC	435	Trask/Ranchero Way	Quarterly
SPT140021	7777	6675	14130	8	VC	287	Trask/Ranchero Way	Quarterly
MHR110027							West/Emrys	Quarterly
	5563	10613	10614	8	VC	350	Palma Vista	Quarterly
MHK130015							Yockey South of Oakdale	Semiannually
MHS170013							Buena/Morningside from Mar Les	Semiannually
SPE090002	1147	7854	7857	8	VC	294	Belgrave Lift Station	Semiannually
SPE090010	1741	8860	7787	8	VC	190	Valley View to Emerald	Semiannually
SPE090021	2096	8912	8913	10	VC	335	Belgrave Lift Station	Semiannually
SPE090023	1347	8652	8653	12	VC	197	Belgrave Lift Station	Semiannually
SPE090024	2098	8653	8918	12	VC	200	Belgrave Lift Station	Semiannually
SPE090029	1392	7779	7780	8	VC	141	Belgrave Lift Station	Semiannually
SPE090030	1393	7780	8652	8	VC	325	Belgrave Lift Station	Semiannually
SPE090040	1795	7856	7857	12	VC	350	Belgrave Lift Station	Semiannually
SPE090041	1796	7857	7880	12	VC	260	Belgrave Lift Station	Semiannually
SPE090047	1527	7871	7881	8	VC	328	Belgrave Lift Station	Semiannually
SPE090051	1535	0	0	8	VC	290	Belgrave Lift Station	Semiannually
SPE090052	1797	7880	7881	12	VC	258	Belgrave Lift Station	Semiannually
SPE090053	1959	8651	8652	8	VC	169	Belgrave Lift Station	Semiannually
SPE090054	1960	7881	8653	12	VC	258	Belgrave Lift Station	Semiannually
SPE100009	1746	7783	8862	10	VC	188	Belgrave Lift Station	Semiannually
SPE100010	1747	8862	8863	10	VC	90	Belgrave Lift Station	Semiannually
SPE100011	2128	8863	8864	10	VC	205	Belgrave Lift Station	Semiannually
SPE100012	2099	8864	8865	10		215	Belgrave Lift Station	Semiannually
SPE100013	2100	0	0	10		530	Belgrave Lift Station	Semiannually
SPE100014	2101	8866	8913	10	VC	210	Belgrave Lift Station	Semiannually
SPE100017	1503	8869	8862	8	VC	220	Belgrave Lift Station	Semiannually
SPE100034	1415	7796	8648	8	VC	260	Belgrave Lift Station	Semiannually

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPE100053	1954	0	0	8	VC	260	Belgrave Lift Station	Semiannually
SPF090045	1496	8857	8858	8	VC	21	Valley View to Emerald	Semiannually
SPF090049	1500	8858	8860	8	VC	268	Valley View to Emerald	Semiannually
SPF120001	1218	7406	7407	8	VC	260	Seneca from Acacia to Anthony	Semiannually
SPJ080034	2423	8598	13535	8	VC	240	Chapman/Arthur	Semiannually
SPN110029	2620	10685	10686	8	VC	322	Groveview South of Lampson	Semiannually
SPO160010	6014	10991	10992	8	VC	210	Taft/Blake	Semiannually
SPP060004	6607	12791	13157	8	VC	192	Wakefield/Euclid	Semiannually
SPP060008	6599	13167	12791	8	VC	157	Wakefield/Euclid	Semiannually
SPQ160001	3710	10926	11444	8	VC	385	Newhope/Anabel	Semiannually
SPQ160015	3851	11444	10870	8	VC	385	Newhope/Anabel	Semiannually
SPQ160020	4857	11438	10924	8	VC	100	Better Way	Semiannually
SPQ160022	4859	10925	10926	8	VC	405	Newhope/Anabel	Semiannually
SPQ160024							Better Way	Semiannually
SPT090003	5256	12628	12629	8	VC	200	Bayport Alley/Allard	Semiannually
SPT090004	5257	12629	12630	8	VC	245	Bayport Alley/Allard	Semiannually
SPT090005	5258	12630	12631	8	VC	200	Bayport Alley/Allard	Semiannually
SPT090006	5259	12631	12632	8	VC	165	Bayport Alley/Allard	Semiannually
SPT090027	4028	12674	12843	8	VC	180	Bayport Alley/Allard	Semiannually
SPT090031	4032	12846	12845	8	VC	185	Bayport Alley/Allard	Semiannually
SPT090032	4033	12845	12678	8	VC	150	Bayport Alley/Allard	Semiannually
SPT090041	6537	12843	12628	8	VC	200	Bayport Alley/Allard	Semiannually
SPT090042	6538	12844	12632	8	VC	120	Bayport Alley/Allard	Semiannually
SPT090043	6539	12632	12845	8	VC	150	Bayport Alley/Allard	Semiannually
SPI120011	1004	7151	7152	8	VC	290	Garden Grove Blvd/Village	Monthly - Inspection Only
SPI130002							Garden Grove Blvd/Village	Monthly - Inspection Only
SPI130003							Garden Grove Blvd/Village	Monthly - Inspection Only
SPI130006							Garden Grove Blvd/Hoover	Monthly - Inspection Only
SPI130012							Garden Grove Blvd/Hoover	Monthly - Inspection Only
SPJ080020	7090	13590	13554	8	VC	180	Chapman/Nearing	Monthly - Inspection Only
SPJ090002	6995	13548	13547	8	VC	175	Chapman/Nearing	Monthly - Inspection Only
SPJ090003	6991	13546	13545	8	VC	90	Chapman/Nearing	Monthly - Inspection Only
SPJ090004	6987	13544	13541	8	VC	255	Chapman/Nearing	Monthly - Inspection Only
SPJ130023	843	7105	7106	15	XS VC	333	Coast/Larson	Monthly - Inspection Only
SPJ130031	759	7058	7106	8	XS VC	270	Coast/Larson	Monthly - Inspection Only
SPK080049	7085	8512	0	8	VC	210	Dale/Augusta	Monthly - Inspection Only
SPK080050	2001	8515	8516	8	VC	365	Dale/Augusta	Monthly - Inspection Only

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPK130035	707	7669	7670	8	VC	334	Garden Grove	Monthly - Inspection Only
SPK140027	701	7663	7664	8	VC	330	Newland/Gloria	Monthly - Inspection Only
SPK140028	702	7664	7665	8	VC	25	Newland/Gloria	Monthly - Inspection Only
SPK140037							Newland/Gloria	Monthly - Inspection Only
SPL060002	4699	10103	10108	8	VC	300	Gilbert/Joyzelle	Monthly - Inspection Only
SPL060004	6854	13428	13429	10	VC	105	Gilbert/Oma	Monthly - Inspection Only
SPL060005	6856	10109	0	10	VC	100	Gilbert/Oma	Monthly - Inspection Only
SPL060006	4163	10110	10111	10	VC	75	Gilbert/Oma	Monthly - Inspection Only
SPN100045	3191	9455	9456	8	VC	170	Brookhurst/Bonser	Monthly - Inspection Only
SPN130003							Garden Grove Blvd/Rosewood	Monthly - Inspection Only
SPN160008	2188	10474	10475	8	VC	185	Westminster/Dawson	Monthly - Inspection Only
SPN160009	2189	10475	10468	8	VC	130	Westminster/Dawson	Monthly - Inspection Only
SPO110012	6845	12275	13424	8	VC	330	Stanford/Nelson	Monthly - Inspection Only
SPO120003	5395	11832	11834	8	VC	460	Stanford/Westlake	Monthly - Inspection Only
SPO120025	4432	12309	11832	8	VC	270	Stanford/Nelson	Monthly - Inspection Only
SPO130029							Garden Grove Blvd/Nelson	Monthly - Inspection Only
SPO140048							Cypress/Luders (Double Barrel)	Monthly - Inspection Only
SPP110026	4397	11742	11743	8	VC	85	Euclid/Pinehurst Apartments	Monthly - Inspection Only
SPP110032	4630	0	0	6	VC	135	Euclid/Pinehurst Apartments	Monthly - Inspection Only
SPP110033	4631	0	0	6	VC	140	Euclid/Pinehurst Apartments	Monthly - Inspection Only
SPQ100023	6164	11681	11672	8	VC	298	West/Lampson	Monthly - Inspection Only
SPR100037	5689	11671	11672	10	VC	75	West/Lampson	Monthly - Inspection Only
SPR120024	6092	11661	11665	8	VC	280	Dungan/Acacia	Monthly - Inspection Only
SPR120039	6467	12158	11661	8	VC	275	Dungan/Acacia	Monthly - Inspection Only
SPN060022	6139	9895	9896	8	VC	145	Palmwood/Parliament	Monthly - Inspection Only
SPN060023	6140	9896	9897	8	VC	90	Palmwood/Parliament	Monthly - Inspection Only
SPN060024	4865	9897	14803	8	VC	115	Palmwood/Parliament	Monthly - Inspection Only
SPN060025	8632	14823	14824	8	VC	280	Palmwood/Parliament	Monthly - Inspection Only
SPN060026	8628	14825	14826	8	VC	280	Palmwood/Parliament	Monthly - Inspection Only
SPN060030	4871	9903	9904	8	VC	265	Palmwood/Parliament	Monthly - Inspection Only
SPK120030	3404	0	0	8	VC	353	Garden Grove Blvd/Adelle	Monthly - Inspection Only

Table 5-1 (Continued)
Hot Spot Cleaning Inventory

Previous Sewer ID	Existing Pipe ID	US MH	DS MH	Pipe Size	Material	Length	Location	Hot Spot Cleaning Frequency
SPK120040	3421	8442	8443	8	XS VC	317	Garden Grove Blvd/Dale (Old Line)	Monthly - Inspection Only
SPK130022	3412	8434	8443	8	VC	325	Garden Grove Blvd/Dale (Old Line)	Monthly - Inspection Only
SPS100006	8793	12708	14928	8	XS VC	308	Twintree/Firebrand	Monthly - Inspection Only
SPS100006	8794	14928	12709	8	PVC	20	Twintree/Firebrand	Monthly - Inspection Only
SPS100030	5651	12644	12709	15	XS VC	285	Twintree/Firebrand	Monthly - Inspection Only
SPS100011	8783	12713	14922	15	XS VC	271	Twintree/Oertley	Monthly - Inspection Only
SPS100011	8784	14922	12716	16	PVC	20	Twintree/Oertley	Monthly - Inspection Only
SPS100013	8781	12715	12716	8	VC	365	Twintree/Oertley	Monthly - Inspection Only
SPJ130024	772	7106	13418	15	VC	191	Coast/Central	Quarterly - Inspection Only
SPJ130025	773	7107	7108	18	XS VC	460	Coast/Central	Quarterly - Inspection Only
SPL020001	3961	9338	9339	10	VC	375	Gilbert/Chanticleer	Quarterly - Inspection Only
SPL020006	3487	9346	9339	8	VC	290	Gilbert/Chanticleer	Quarterly - Inspection Only
SPL080002	7492	13904	13903	15	XS VC	0	Gilbert/Cellini	Quarterly - Inspection Only
SPL080003	7491	13903	13902	15	XS VC	0	Gilbert/Cellini	Quarterly - Inspection Only
SPL080003	7498	13899	13898	10	VC	270	Gilbert/Cellini	Quarterly - Inspection Only
SPL080004	7500	13897	13896	10	VC	65	Gilbert/Cellini	Quarterly - Inspection Only
SPS130004	519	6694	6695	8	VC	313	Partridge/Gloria	Quarterly - Inspection Only
SPS130005	8375	6695	14605	8	VC	313	Partridge/Gloria	Quarterly - Inspection Only
SPS130006	521	14603	6697	8	VC	193	Partridge/Gloria	Quarterly - Inspection Only
SPS130007	8392	14623	6700	8	VC	213	Partridge/Gloria	Quarterly - Inspection Only
SPN120021	2930	11322	11324	8	VC	338	Stanford/Blackthorn to Groveview	Semiannually - Inspection Only
SPO090036	2573	11154	11213	8	VC	335	Mockingbird North of Allen	Semiannually - Inspection Only
SPO130049	2489	11173	11193	8	VC	180	Cypress/Central	Semiannually - Inspection Only
SPO140033	2492	11176	11193	6	VC	320	Cypress/Central	Semiannually - Inspection Only
SPO120012							Grove South of Acacia	Semiannually - Inspection Only
SPQ000025							Edinger/Harbor to Newhope	Semiannually - Inspection Only
SPQ000026							Edinger/Harbor to Newhope	Semiannually - Inspection Only
SPQ000027							Edinger/Harbor to Newhope	Semiannually - Inspection Only
SPR000025							Edinger/Harbor to Newhope	Semiannually - Inspection Only
SPR000026							Edinger/Harbor to Newhope	Semiannually - Inspection Only
SPR000027							Edinger/Harbor to Newhope	Semiannually - Inspection Only

Knott Interceptor

Hoover Western Sub-Trunk

Magnolia Purchase

Euclid Trunk and Euclid Relief

Miller Holder Trunk

Cypress

Stanton

Anaheim

Orange

Westminster

Santa Ana

Ball Rd

Cerritos Av

Katella Av

Orangewood Av

Chapman Av

Lampson Av

Garden Grove Blvd

Trask Av

Westminster Av

Hazard Av

Bolsa Av

McFadden Av

Gilbert St

Magnolia St

Brookhurst St

Euclid St

9th St

West St

Harbor Blvd

Haster St

Lewis St

Fairview St

Dale St

Beach Blvd

Knott St

Western Av

Springdale St

Newland St

Ward St

Bushard St

Newhope St

Clinton St

GG FWY

Belgrave PS

Tiffany PS

Partridge PS

Valley View St

Legend

- Pump Stations
- OCSD Sewers
- GGSD Boundary

Cleaning Frequency

- 1 MONTH
- 1 MONTH CHECK ONLY
- 3 MONTH
- 3 MONTH CHECK ONLY
- 6 MONTH
- 6 MONTH CHECK ONLY
- GGSD Sewers
- Parcels
- Streets

N W E S

1 inch = 3,500 feet

0 1,500 3,000 6,000 Feet

Garden Grove Sanitary District
Sewer System Management Plan

Figure 5-1 Hot Spot Map

Date: April 2020

The Hot Spot list is adjusted, as necessary, based on the following historical information gathered for each sewer:

- Sanitary sewer overflow
- Blockages observed from routine maintenance
- Maintenance records of grease, roots, debris from CCTV records
- Odor complaints

CCTV inspections for the reaches listed in Table 5-2 identify the presence of sags, grease, deposits, and other defects may cause spills in the future. These locations are re-inspected within six months following an initial cleaning effort to determine if these reaches should be added to the Hot Spot list. Per the recommendations of the 2011 SSMP Audit, the District reviewed sewers that were identified with similar types of defects from CCTV inspections performed prior to the 2011 SSMP Audit. The District evaluated adding these sewers to the Hot Spot list. The District's comments are summarized in Table 5-2.

The cleaning frequency of Hot Spot reaches may be reduced when the District staff verifies that the increased hot spot cleaning frequencies are unnecessary. The District will review CCTV inspections, visual inspections, and cleaning records to determine if the potential for obstructions are no longer relevant and the cleaning frequency may be reduced.

Root Control Program: Root intrusion was the highest priority maintenance issue identified in the Sewer System Rehabilitation Plan. The District hires a state certified and insured contractor for pesticide application to perform its root control services, which consists of a root control foaming agent that is applied every two (2) years. The District has specified the foaming agent Razorooter II or equivalent. The contractor is required to re-treat a sewer or refund 100% of the payment for the services if roots reappear in the treated sewers within six months or if there is a sanitary sewer overflow that resulted from root obstructions within 2 years of treatment.

The sewers, included in the root control program, are managed by the CMMS program. There are currently 154 reaches on the root control program, which are illustrated on Figure 5-2 and detailed in Table 5-3.

Reaches identified to be evaluated as addition to the program are also included on Figure 5-2. Table 5-3 includes all reaches that were identified through CCTV inspections with root balls in the main and/or lateral. These locations will be re-inspected within one year following an initial cleaning to determine if these reaches should be added to the root treatment list.

Food Service Establishment Inspection

The District staff performs annual inspections of its food service establishments (FSEs) to ensure that they are in compliance with the District's Fats Oils and Grease (FOG) Control Program. The inspections may be conducted during normal business hours at the consent of the owner or with an administrative inspection warrant. The District evaluates the best management practices (BMP) regarding a variety of maintenance activities. In regards to proper FOG disposal, the District evaluates the eating and drinking establishment requirements, the waste handling and disposal requirements, and the spill prevention and control requirements. See Section 8 of this report for further information regarding the District's FOG Control Program.

Table 5-2
Sags, Grease, Deposits, and Obstacles

Previous Sewer ID	Sewer ID	US MH	DS MH	Sags No of Joints	Grease - No of Joints	Deposits No of Joints	Obstacles Highest Percentage	Hot Spot Duration	Existing Root Treatment Reach	Recommendation from 2011 Hot Spot Evaluation
SPE080025	1343	8915	8914		15	99	0			
SPE080033	1403	8914	7788		22	78	0			
SPE080034	1449	7839	7838	22	0	117	0			
SPE090002	1147	7854	7857		81	34	0	Semiannual		
SPE090003	1148	7852	7854		83	40	0			
SPG090032	1471	7330	7331	0	0	112	0			
SPG090052	1172	7350	7357	0	60	98	0			
SPJ080033	2422	8597	8598	18	64	60	20			
SPJ090008	6966	13533	13532	24	98	9	30			
SPJ110009	1814	8694	8695	0	140	0	0			
SPJ140007	798	7060	7059	0	0	1	90			
SPJ140037				0	1	0	50			
SPK050040	1905	8054	8053	0	0	1	50			
SPL000008	3458	9304	9283	0	99	22	0			
SPL010001	3467	9319	9287	0	94	75	0			
SPL010004	3958	0	0	0	159	2	0			
SPL010005	3959	9325	9326	0	159	2	0			
SPL010006	3960	9326	9115	0	159	2	0			
SPL020007	4059	9115	9338	0	159	2	0			
SPL020008	3493	9353	9341	0	121	66	0			
SPL030002	3653	8939	9343	0	141	0	0			
SPL030005	3659	8947	8944	0	90	21	0			
SPL030006	3665	8953	8942	0	125	48	0			
SPL040006	3674	8964	8963	0	196	45	0			
SPL050019	4066	9015	9014	0	75	70	0			
SPL050020	4067	9015	8333	0	76	73	0			
SPL050029	4071	9631	9632	0	85	33	0			
SPL050030	4072	9632	9633	0	85	33	0			
SPL050031	4073	9634	9633	0	85	49	0			
SPL080035	4725	10806	9645	5	82	44	50			
SPL080039	5942	10141	10793	0	0	32	50			
SPL090024	7455	13876	13868	0	52	57	5			
SPL090025	7444	13868	13867	0	109	109	5			
SPL990003	3680	9280	9279	0	100	0	0			
SPL990007	3444	9289	9279	0	106	6	0			
SPM000001	3455	9304	9303	8	98	26	0			
SPM000002	3459	9308	9307	0	67	70	0			
SPM000003	3460	9309	9308	0	67	70	0			
SPM000005	3462	9312	9313	0	184	103	0			
SPM000006	3463	9313	9314	0	184	103	0			
SPM000009	3466	9318	9319	0	80	45	0			
SPM000011	3469	9309	9318	0	90	38	0			
SPM000012	3470	9312	9310	0	173	111	0			
SPM000014	4523	9313	8984	0	129	156	0			
SPM000015	4524	9314	8985	0	142	48	0			
SPM000018	5029	9310	9160	0	173	111	0			
SPM000019	5416	8984	9263	0	129	156	0			
SPM000020	5417	8985	9264	0	142	48	0			
SPM010001	4389	9175	9114	0	119	15	0			
SPM010005	4393	9181	9180	0	150	85	0			
SPM010006	4394	9182	9181	0	150	85	0			
SPM010007	4396	9185	9184	0	185	24	0			
SPM010008	4490	9186	9185	0	185	24	0			

Table 5-2 (Continued)
Sags, Grease, Deposits, and Obstacles

Previous Sewer ID	Sewer ID	US MH	DS MH	Sags No of Joints	Grease - No of Joints	Deposits No of Joints	Obstacles Highest Percentage	Hot Spot Duration	Existing Root Treatment Reach	Recommendation from 2011 Hot Spot Evaluation
SPM010009	4491	9186	9187	0	96	21	0			
SPM010015	4498	9194	9195	0	91	34	0			
SPM010016	4499	9195	9188	0	98	63	0			
SPM010018	4501	9198	9197	25	150	60	0			
SPM010019	4502	9199	9198	25	150	60	0			
SPM010020	4503	9201	9200	17	124	10	0			
SPM010021	4504	9195	9201	17	124	10	0			
SPM010022	4505	9200	9199	0	105	12	0			
SPM010023	3638	9200	9139	17	124	10	0			
SPM010025	3473	9328	9327	0	102	39	0			
SPM010026	3474	9329	9328	0	145	61	0			
SPM010027	3475	9330	9331	0	98	14	0			
SPM010028	3477	9330	9329	0	145	61	0			
SPM010029	3478	9332	9116	0	61	41	0			
SPM010030	3479	9331	9332	0	61	41	0			
SPM010032	3481	9330	9334	0	98	12	0			
SPM010033	3482	9336	9337	0	130	40	0			
SPM010034	3483	9335	9336	0	130	40	0			
SPM010035	3484	9337	9328	0	87	68	0			
SPM010036	5030	9327	9173	0	102	39	0			
SPM010038	5032	9336	9176	0	126	126	0			
SPM020006	4395	9183	9182	0	175	81	0			
SPM020008	4506	9202	9267	0	141	96	0			
SPM020009	4507	9202	9189	0	114	31	0			
SPM020011	4509	9204	9205	0	97	40	0			
SPM020012	4510	9205	9206	0	147	52	0			
SPM020013	4511	9206	9207	0	147	52	0			
SPM020014	4512	9205	9183	0	175	81	0			
SPM020015	4513	9204	9189	0	97	50	0			
SPM020024	3591	9223	9222	0	95	42	0			
SPM020025	3592	9219	9223	0	97	21	0			
SPM020029	3639	9267	9140	0	141	96	0			
SPM020031	3485	9344	9345	0	78	56	0			
SPM020032	3486	9345	9346	0	120	34	0			
SPM020033	3488	9344	9347	0	119	11	0			
SPM020035	3489	9349	9345	0	120	10	0			
SPM020036	3490	9346	9350	0	133	64	0			
SPM020038	3492	9352	9353	0	121	66	0			
SPM020045	5034	9207	9344	0	147	52	0			
SPM020046	5035	9210	9776	0	105	0	0			
SPM030007	4517	9212	9213	0	198	0	0			
SPM030008	4518	9213	9214	0	198	0	0			
SPM030009	4519	9214	9215	0	198	0	0			
SPM030013	3597	9227	9228	0	92	8	0			
SPM030014	3598	9228	9229	0	106	12	0			
SPM030015	3599	9229	8343	54	96	12	0			
SPM030031	3650	8936	8937	0	115	0	0			
SPM030033	3652	8938	8939	0	141	0	0			
SPM030035	3658	8946	8947	0	116	14	0			
SPM030040	3664	8952	8953	0	125	48	0			
SPM030042	5412	8343	8945	18	99	15	0			
SPM040029	3672	8962	8961	0	130	0	0			
SPM040030	3673	8963	8962	0	130	0	0			
SPM040031	3675	8965	8964	0	196	45	0			

Table 5-2 (Continued)
Sags, Grease, Deposits, and Obstacles

Previous Sewer ID	Sewer ID	US MH	DS MH	Sags No of Joints	Grease - No of Joints	Deposits No of Joints	Obstacles Highest Percentage	Hot Spot Duration	Existing Root Treatment Reach	Recommendation from 2011 Hot Spot Evaluation
SPM040039	4413	8974	8973	0	176	0	0			
SPM040040	4414	8965	8974	0	176	0	0			
SPM040042	4416	8349	8975	0	0	197	0			
SPM040043	4417	8975	8976	0	0	197	0			
SPM040044	4418	8976	8966	0	0	197	0			
SPM120024	2742	12034	12035	0	0	1	50			
SPM990001	4373	9156	9155	0	150	53	0			
SPM990002	4374	9157	9156	0	150	53	0			
SPM990004	4376	9159	9158	0	83	47	0			
SPM990006	4378	9162	9157	0	183	42	0			
SPM990007	4379	9164	9163	0	55	61	0			
SPM990008	4380	9165	9164	0	95	66	0			
SPM990012	4384	9164	9168	0	64	50	0			
SPM990017	3637	9163	9138	0	62	67	0			
SPM990021	3441	9292	9291	0	65	60	0			
SPM990022	3442	9292	9293	0	183	42	0			
SPM990024	3446	9295	9294	0	85	46	0			
SPM990026	3448	9298	9297	0	126	56	0			
SPM990027	3449	9299	9298	0	126	56	0			
SPM990030	3452	9296	9291	0	98	47	0			
SPM990032	3454	9293	9302	0	98	11	0			
SPM990033	5028	9291	9159	0	50	72	0			
SPN110006	2382	11145	11146	0	109	0	0			
SPN180007	144	7271	7558		100	0	0			
SPO100002	5119	11787	11768	0	3	105	0			
SPO120003	5395	11832	11834	0	0	150	0	Monthly Check Only		
SPO120010	5400	11838	13491	65	82	58	0			
SPO140041	2286	11192	11067	0	0	1	50			
SPP080004	6322	12999	13000	0	131	0	0			
SPP080018	6202	12951	12953	0	77	49	5			
SPP090002	6585	12563	12539	0	0	106	25			
SPP090023	6260	12921	12922	0	6	3	70			
SPP100001	6055	12539	12540	13	76	93	40			
SPP100002	6056	12540	12541	0	25	82	20			
SPP100005	6059	12543	12531	0	66	35	5			
SPP110039	4408	11764	11765	0	115	0	0			
SPP120004	5275	11410	11411	0	0	106	5			
SPP140014	4818	11914	11915	0	17	87	5			
SPQ060016	5984	13207	13194	0	57	74	5			
SPQ070036	5897	13148	13149	0	0	111	5			
SPQ080023	6438	12225	12991	0	76	27	5			
SPQ090051	6421	12824	12825	17	78	31	10			
SPQ090052	6453	12825	12826	0	48	59	40			
SPQ100027	6337	12803	12806	0	47	71	5			
SPQ100030	6340	12806	12809	0	42	64	5			
SPQ110012	4136	12515	12516	0	0	104	5			
SPQ110013	4137	12516	12519	0	0	113	5			
SPQ120044	6212	11706	11707	0	0	0	0		Root Treatment	
SPQ130017	3820	11461	11462	0	2	0	0		Root Treatment	
SPQ130018	3821	11462	11464	0	0	0	0		Root Treatment	
SPQ140026	3847	11439	10864	0	5	96	5			
SPQ140028	3849	11441	10867	0	59	42	0			

Table 5-2 (Continued)
Sags, Grease, Deposits, and Obstacles

Previous Sewer ID	Sewer ID	US MH	DS MH	Sags No of Joints	Grease - No of Joints	Deposits No of Joints	Obstacles Highest Percentage	Hot Spot Duration	Existing Root Treatment Reach	Recommendation from 2011 Hot Spot Evaluation
SPR090010	5961	12193	12194	0	31	16	50			
SPR100004	5776	11630	11631	0	2	100	10			
SPR100009	5638	12163	12147	0	81	43	5			
SPR100022	5672	12183	12184	0	0	37	65			
SPR110017	5753	12747	12168	0	68	75	5			
SPR110029	6082	11648	11674	0	57	53	5			
SPR110035	5691	11673	11674	0	7	3	90			
SPR110038	5738	11676	11677	0	0	112	45			
SPR120030	6161	11667	11637	0	72	53	5			
SPR130017	3862	11982	11981	0	1	1	50			
SPS110010				0	0	106	5			
SPS120040	7361	13801	13821	0	0	101	35			
SPT080008	6098	13009	13004	0	76	76	5			
SPT100023	5363	12646	12647	1	0	2	50			
SPT100040	3923	12662	12663	0	0	1	55			
SPT100048	6535	12842	12648	0	69	33	5			
SPT110021	3976	12400	12401	0	89	76	5			
SPT110039	4590	12467	12421	0	90	68	5			
SPE080030	1398	8888	8889		111	6	0			Not added to HS list
SPE080031	1399	8894	8893		165	24	0			Not added to HS list
SPE080043	1520	7864	7865		84	34	0			Not added to HS list
SPE080047	1530	7875	7874		0	114	0			Not added to HS list
SPE080049	1957	8917	7859		0	109	0			Not added to HS list
SPE090036	1454	7849	7850		110	4	0			Not added to HS list
SPJ090001	6999	13550	13549	41	15	9	50			Not added to HS list
SPK090001	7428	13863	13864	0	100	74	5			Not added to HS list
SPL060043	5331	10844	10845	0	121	0	0			Not added to HS list
SPQ060005	5972	13195	13197	0	96	93	5			Not added to HS list
SPQ060007	5974	13197	13198	0	80	74	5			Not added to HS list
SPQ060008	5975	13198	13199	0	81	61	5			Not added to HS list
SPQ090010	6076	12564	12573	0	89	20	5			Not added to HS list
SPQ090019	4746	12573	12574	10	100	70	5			Not added to HS list
SPQ110004	4128	12601	12510	0	108	10	5			Not added to HS list
SPQ120007	6543	12478	12479	0	94	16	40			Not added to HS list
SPR120019	5685	11655	11658	0	72	73	5			Not added to HS list
SPR120021	5686	11658	11636	0	58	57	5		Root Treatment	Not added to HS list
SPR120037	5747	14366	11652	0	86	89	5			Not added to HS list
SPT090019	6026	12250	12251	0	80	54	5			Not added to HS list
SPT090044	6142	12251	12252	0	98	74	5			Not added to HS list
SPS100023				90	1	102	5			Was Replaced CIP Proj.in 2009
SPS100024				93	106	0	0			Was Replaced CIP Proj.in 2009
SPS100029	5650	12694	12643	0	105	1	5			Was Replaced CIP Proj.in 2009
SPS130014	558	6737	6738	24	23	6	80			Will evaluate. No Access to D/S MH

Magnolia Purchase

Euclid Trunk and Euclid Relief

Knott Interceptor

Hoover Western Sub-Trunk

Miller Holder Trunk

Bolsa Ave Trunk

Newhope Placentia Trunk

Anaheim

Stanton

Cypress

Orange

Westminster

Santa Ana

Ball Rd

Cerritos Av

Katella Av

Orangewood Av

Chapman Av

Lampson Av

Garden Grove Blvd

Trask Av

Westminster Av

Hazard Av

Bolsa Av

McFadden Av

Gilbert St

Brookhurst St

Euclid St

Magnolia St

Knott St

Western Av

Dale St

Beach Blvd

Springdale St

Valley View St

Newland St

Bushard St

Ward St

Harbor Blvd

Haster St

Lewis St

Fairview St

Clinton St

Newhope St

9th St

West St

GG FWY

Belgrave PS

Tiffany PS

Partridge PS

Legend

2016 - 2019 SSO

- 2016
- 2017
- 2018
- 2019
- Pump Stations

Root Control Program Reaches

- Reaches in Root Control Program
- Reaches to be Evaluated
- GGSD Tributary Area
- OCSD Sewers
- GGSD Sewers
- Parcels
- Streets

1 inch = 3,500 feet

0 1,550 3,100 6,200 Feet

Garden Grove Sanitary District
Sewer System Management Plan

Figure 5-2

Root Control Map

Date: April 2020

Table 5-3
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPT150006	433	7452	7453	327	0	1	Currently in Root Control Program
SPT110028	4093	12367	12420	130	2		Currently in Root Control Program
SPT110017	3972	12396	12397	198	1		Currently in Root Control Program
SPT090012	5265	12638	12639	105	0	1	Currently in Root Control Program
SPT090011	5264	12637	12639	130	0		Currently in Root Control Program
SPT090009	5262	12635	12624	395	1		Currently in Root Control Program
SPT090005	5258	12630	12631	200	0	1	Currently in Root Control Program
SPT090004	5257	12629	12630	245	0		Currently in Root Control Program
SPT090003	5256	12628	12629	200	0	1	Currently in Root Control Program
SPS160020	473	7496	7497	395	0	1	Currently in Root Control Program
SPS140043	602	6752	6753	172	2		Currently in Root Control Program
SPS140025	543	6725	6726	295	0		Currently in Root Control Program
SPS120001	4480	12428	12429	305	0		Currently in Root Control Program
SPS110014	5665	12098	12099	370	0		Currently in Root Control Program
SPS090008	6513	12734	12735	145	1		Currently in Root Control Program
SPR140004	6477	12768	12769	30	0		Currently in Root Control Program
SPR140003	6476	12767	12768	135	0		Currently in Root Control Program
SPR120021	5686	11658	11636	325	0	1	Currently in Root Control Program
SPR110034	6088	11656	11657	325	2		Currently in Root Control Program
SPR100047	5475	0	0	60	1		Currently in Root Control Program
SPR100038	6165	11684	11685	351	1		Currently in Root Control Program
SPR090014	5965	12197	12199	145	1		Currently in Root Control Program
SPQ150014	4312	11491	11492	415	0	1	Currently in Root Control Program
SPQ120045	6213	11707	11708	350	2		Currently in Root Control Program
SPQ120044	6212	11706	11707	350	4	2	Currently in Root Control Program
SPQ120043	6211	11705	11706	240	1	1	Currently in Root Control Program
SPQ120024	4118	12500	12501	90	0		Currently in Root Control Program
SPQ110015	4139	12518	12519	325	0		Currently in Root Control Program
SPP160017	5327	11959	11960	185	0		Currently in Root Control Program
SPP150028	5311	11940	11941	305	0	1	Currently in Root Control Program
SPP120013	5135	11017	11018	332	0	1	Currently in Root Control Program
SPP120005	5276	11411	11412	330	1		Currently in Root Control Program
SPP100031	4795	11775	11764	600	0	1	Currently in Root Control Program
SPP100030	4794	11774	11775	530	0	4	Currently in Root Control Program
SPO230010	17	7229	7230	406	0	1	Currently in Root Control Program
SPO210016	393	7304	7305	302	0	1	Currently in Root Control Program
SPO210010	124	6864	6865	329	0	4	Currently in Root Control Program
SPO160042	2176	10463	10464	270	0	1	Currently in Root Control Program
SPO140053	2529	11204	11205	305	0		Currently in Root Control Program
SPO140051	2295	11202	11203	332	0		Currently in Root Control Program

Table 5-3 (Continued)
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPO120017	3024	12263	11624	150	0	1	Currently in Root Control Program
SPO120015	5405	11843	11844	305	0		Currently in Root Control Program
SPO120014	6926	13496	11843	310	0		Currently in Root Control Program
SPO100022	2394	11217	11218	265	0	1	Currently in Root Control Program
SPO100009	4946	12353	12354	300	0	2	Currently in Root Control Program
SPO090016	5430	12346	12347	310	0	1	Currently in Root Control Program
SPO090013	5427	12343	12344	372	0	1	Currently in Root Control Program
SPO070018	4104	10639	10641	250	0	1	Currently in Root Control Program
SPO070007	5576	10629	10630	351	0		Currently in Root Control Program
SPO070006	5575	10628	10629	275	0		Currently in Root Control Program
SPO070005	5574	10627	10628	140	0		Currently in Root Control Program
SPO050026	5568	10618	9938	140	0		Currently in Root Control Program
SPN130022	2890	11071	11289	410	0	2	Currently in Root Control Program
SPN120028	2938	11079	11323	130	0	1	Currently in Root Control Program
SPN110031	2622	10687	10688	316	0	1	Currently in Root Control Program
SPN100050	3567	9476	9454	220	0		Currently in Root Control Program
SPN100049	3566	9475	9476	95	0		Currently in Root Control Program
SPN100048	3561	9470	9448	234	0		Currently in Root Control Program
SPN090054	3565	9474	9475	303	0		Currently in Root Control Program
SPN090030	3176	9441	9442	160	0		Currently in Root Control Program
SPN090029	3175	9440	9441	320	0	1	Currently in Root Control Program
SPN080048	4223	10189	9964	149	0		Currently in Root Control Program
SPN080041	5382	9977	9978	246	1	1	Currently in Root Control Program
SPN080037	5378	9973	9974	187	0	1	Currently in Root Control Program
SPN080036	5377	9972	9973	80	0	1	Currently in Root Control Program
SPN080011	5867	9913	9854	202	0	2	Currently in Root Control Program
SPN070021	6124	9882	9884	276	1	1	Currently in Root Control Program
SPN050048	4888	9944	9945	330	0	1	Currently in Root Control Program
SPN050018	4563	9696	9697	295	0	1	Currently in Root Control Program
SPM160009	2201	10553	10554	281	0	2	Currently in Root Control Program
SPM160003	2195	10548	10549	285	0	1	Currently in Root Control Program
SPM150013	2035	10543	10544	210	0	2	Currently in Root Control Program
SPM140020	2729	12020	12021	370	0	1	Currently in Root Control Program
SPM130014	2335	10763	10764	320	0	3	Currently in Root Control Program
SPM130005	2672	10754	10755	310	0	3	Currently in Root Control Program
SPM120004	2817	11332	11333	330	0	1	Currently in Root Control Program
SPM120003	2816	11331	11332	235	0	2	Currently in Root Control Program
SPM110055	3342	9488	9510	360	0	1	Currently in Root Control Program
SPM110049	2497	12046	12029	335	0	1	Currently in Root Control Program

Table 5-3 (Continued)
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPM110048	2496	12045	12046	135	0	1	Currently in Root Control Program
SPM110007	3254	9479	9480	330	0	1	Currently in Root Control Program
SPM100046	3283	9412	9526	80	0		Currently in Root Control Program
SPM100041	3277	9545	9547	310	0	2	Currently in Root Control Program
SPM100038	3274	9542	9543	285	0	1	Currently in Root Control Program
SPM100026	3230	9525	9526	280	0	1	Currently in Root Control Program
SPM100025	3229	9524	9525	300	0	2	Currently in Root Control Program
SPM100016	3582	9494	9495	355	0	1	Currently in Root Control Program
SPM100006	3197	0	0	50	0	1	Currently in Root Control Program
SPM090034	3292	9562	9563	280	0	1	Currently in Root Control Program
SPM090032	3290	9560	9561	322	0	2	Currently in Root Control Program
SPM080017	4651	9606	9607	250	0	1	Currently in Root Control Program
SPM080013	4647	9669	10273	130	0	1	Currently in Root Control Program
SPM070011	5045	9626	10275	255	0	1	Currently in Root Control Program
SPM070010	5044	9624	9625	304	0	1	Currently in Root Control Program
SPM050040	4086	10038	10039	329	0	2	Currently in Root Control Program
SPL130039	2957	11584	11592	218	0	1	Currently in Root Control Program
SPL120035	3163	9357	9358	303	0	1	Currently in Root Control Program
SPL120005	3116	8457	8458	323	0	1	Currently in Root Control Program
SPL120004	3115	8456	8457	333	0	4	Currently in Root Control Program
SPL120003	3114	8455	8456	333	0	1	Currently in Root Control Program
SPL110028	3312	9586	9587	340	0	1	Currently in Root Control Program
SPL110023	3308	9581	9582	160	0		Currently in Root Control Program
SPL110022	3307	9580	9581	130	0		Currently in Root Control Program
SPL110016	3301	9574	9575	250	0	1	Currently in Root Control Program
SPL110004	3227	9520	9521	270	0	2	Currently in Root Control Program
SPL100011	3319	9595	9566	334	0	1	Currently in Root Control Program
SPL070023	3721	10159	10160	300	2	1	Currently in Root Control Program
SPL060031	5226	10334	10333	287	0		Currently in Root Control Program
SPL060018	3731	10169	10170	282	2		Currently in Root Control Program
SPL050018	5073	10342	10343	145	0		Currently in Root Control Program
SPK160028	334	7004	6993	264	0	1	Currently in Root Control Program
SPK140033	763	7679	7684	330	0	2	Currently in Root Control Program
SPK140032	762	7678	7679	300	0	1	Currently in Root Control Program
SPK140005	2753	14201	11608	356	0	1	Currently in Root Control Program
SPK120013	3369	8395	8397	325	0		Currently in Root Control Program
SPK120004	3360	8386	8388	240	0		Currently in Root Control Program
SPK110013	3359	8385	8386	85	0		Currently in Root Control Program
SPK100014	3238	9091	9097	220	0		Currently in Root Control Program
SPJ140026	817	7080	7081	360	0		Currently in Root Control Program

Table 5-3 (Continued)
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPJ140014	805	7065	7066	295	0	1	Currently in Root Control Program
SPJ140012	803	7063	7064	135	0	1	Currently in Root Control Program
SPJ130029	751	7111	7105	50	0		Currently in Root Control Program
SPJ130028	846	7110	7111	310	0	1	Currently in Root Control Program
SPJ130027	6835	0	7110	315	0	1	Currently in Root Control Program
SPJ080024	2063	8714	8565	120	1		Currently in Root Control Program
SPJ070020	2080	8581	8582	300	1		Currently in Root Control Program
SPJ070016	2076	8577	8578	325	1	1	Currently in Root Control Program
SPG090054	1174	7352	7353	350	0		Currently in Root Control Program
SPG090018	1066	8278	8279	350	0		Currently in Root Control Program
SPG080041	1311	8227	8306	253	0	1	Currently in Root Control Program
SPF090013	1290	8735	8736	314	0	1	Currently in Root Control Program
SPF080016	1190	7371	7372	332	0	1	Currently in Root Control Program
SPE100041	1422	7833	7799	347	0	3	Currently in Root Control Program
SPD110015	1574	7937	8667	260	0	1	Currently in Root Control Program
SPL120021	3147	8486	8487	345	1		Added to the Program in 2016
SPN180030	190	6894	6895	350	1		Added to the Program in 2016
SPR160017	564	7535	7536	400	2		Added to the Program in 2016
SPM080045	9184	15243	10276	278	2		Added to the Program in 2016
SPP130024	4965	10876	11899	646	1		Added to the Program in 2017
SPP130025	4966	11899	11900	650	1		Added to the Program in 2017
SPO130041	2840	11166	11170	640	1		Added to the Program in 2017
SPP120015	5137	11020	11021	331	1		Added to the Program in 2017
SPQ130016	3819	11460	11461	120	1		Added to the Program in 2017
SPQ130017	3820	11461	11462	555	2		Added to the Program in 2017
SPQ130018	3821	11462	11464	570	2		Added to the Program in 2017
SPN080040	5381	9976	9977	283	2		Added to the Program in 2018
SPN080030	5371	9966	9967	290	2		Added to the Program in 2018
SPN080031	5372	9967	9968	320	2		Added to the Program in 2018
SPN080034	5375	9970	9971	345	2		Added to the Program in 2018
SPN080035	5376	9971	9973	230	2		Added to the Program in 2018
SPN080038	5379	9974	9981	155	2		Added to the Program in 2018
SPN080001	4143	9909	9848	202	1		Added to the Program in 2019
SPR130009	17163	12775	12776	399	1		Added to the Program in 2019
SPN140038	3085	10716	11316	355	1		Added to the Program in 2019
SPG090037	1476	7335	7336	213	0	1	Evaluate Addition to Root Control Program
SPJ070011	2071	8572	8573	325	0	1	Evaluate Addition to Root Control Program
SPJ070014	2074	8575	8576	325	0	1	Evaluate Addition to Root Control Program
SPJ070019	2079	8580	8581	300	0	3	Evaluate Addition to Root Control Program
SPJ080033	2422	8597	8598	250	0	1	Evaluate Addition to Root Control Program

Table 5-3 (Continued)
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPJ130012	791	7051	7052	200	0	1	Evaluate Addition to Root Control Program
SPJ130015	794	7054	7055	60	0	1	Evaluate Addition to Root Control Program
SPJ130016	795	7055	7056	60	0	1	Evaluate Addition to Root Control Program
SPK050039	1904	8052	8054	250	0	1	Evaluate Addition to Root Control Program
SPK070030	1901	8047	8513	358	0	1	Evaluate Addition to Root Control Program
SPK080028	1860	8003	8004	266	0	1	Evaluate Addition to Root Control Program
SPK080031	1906	8055	8058	300	0	1	Evaluate Addition to Root Control Program
SPK080052	2409	8005	8055	285	0	1	Evaluate Addition to Root Control Program
SPK090002	5928	10316	10317	150	0	1	Evaluate Addition to Root Control Program
SPK120024	3391	8413	8414	130	0	1	Evaluate Addition to Root Control Program
SPK130016	2750	11604	11605	60	0	1	Evaluate Addition to Root Control Program
SPK140023	2800	11578	11609	267	0	1	Evaluate Addition to Root Control Program
SPL040011	4924	8334	8335	307	0	1	Evaluate Addition to Root Control Program
SPL040012	5018	8335	8336	307	0	1	Evaluate Addition to Root Control Program
SPL040019	5518	9641	9642	254	0	1	Evaluate Addition to Root Control Program
SPL050014	5069	9742	9743	265	0	1	Evaluate Addition to Root Control Program
SPL050041	5176	10117	10121	250	0	1	Evaluate Addition to Root Control Program
SPL060009	5180	10121	10174	319	0	1	Evaluate Addition to Root Control Program
SPL060015	3728	10166	10168	279	0	1	Evaluate Addition to Root Control Program
SPL060017	3730	10168	10170	288	0	1	Evaluate Addition to Root Control Program
SPL060022	3735	10174	10178	335	0	1	Evaluate Addition to Root Control Program
SPL060024	3737	10176	10177	271	0	1	Evaluate Addition to Root Control Program
SPL060044	5946	10170	10334	289	0	1	Evaluate Addition to Root Control Program
SPL070026	4734	10813	10792	272	0	1	Evaluate Addition to Root Control Program
SPL070034	4840	10824	10825	270	0	2	Evaluate Addition to Root Control Program
SPL070035	4841	10825	10826	300	0	1	Evaluate Addition to Root Control Program
SPL080008	5182	10128	10129	190	0	1	Evaluate Addition to Root Control Program
SPL080024	4339	10796	10798	300	0	1	Evaluate Addition to Root Control Program
SPL080031	4721	10803	10806	258	0	1	Evaluate Addition to Root Control Program
SPL080036	4735	10814	10795	338	0	1	Evaluate Addition to Root Control Program
SPL110005	4242	9565	9566	310	0	1	Evaluate Addition to Root Control Program
SPL140025	3099	11564	11565	313	0	1	Evaluate Addition to Root Control Program
SPM010012	4495	9191	9192	310	0	1	Evaluate Addition to Root Control Program
SPM010035	3484	9337	9328	270	0	1	Evaluate Addition to Root Control Program
SPM030029	3642	9148	9272	180	0	1	Evaluate Addition to Root Control Program
SPM040035	3679	8969	8970	285	0	1	Evaluate Addition to Root Control Program
SPM100021	3425	9499	9500	215	0	1	Evaluate Addition to Root Control Program
SPM110031	3260	9506	9507	310	0	2	Evaluate Addition to Root Control Program
SPM130016	2337	10765	10766	340	0	1	Evaluate Addition to Root Control Program
SPM130035	2748	12040	12053	315	0	1	Evaluate Addition to Root Control Program

Table 5-3 (Continued)
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPM140002	2340	10769	10770	320	0	1	Evaluate Addition to Root Control Program
SPM140029	8279	14510	14509	345	0	1	Evaluate Addition to Root Control Program
SPN150007	2192	10478	10479	325	0	1	Evaluate Addition to Root Control Program
SPO080008	4105	10640	10641	346	0	1	Evaluate Addition to Root Control Program
SPO080017	4114	10649	10650	420	0	1	Evaluate Addition to Root Control Program
SPO100001	5118	11786	11787	535	0	3	Evaluate Addition to Root Control Program
SPO100002	5119	11787	11768	535	0	1	Evaluate Addition to Root Control Program
SPO120010	5400	11838	13491	355	0	2	Evaluate Addition to Root Control Program
SPO140052	2528	11203	11204	316	1	1	Evaluate Addition to Root Control Program
SPO170043	252	6966	6967	275	0	2	Evaluate Addition to Root Control Program
SPP080026	6245	12962	12963	346	0	1	Evaluate Addition to Root Control Program
SPP100036	4643	11780	11782	285	0	1	Evaluate Addition to Root Control Program
SPP140004	4968	11901	11903	400	0	1	Evaluate Addition to Root Control Program
SPP140007	5358	11905	11906	370	0	4	Evaluate Addition to Root Control Program
SPP140033	4910	11812	11813	300	0	1	Evaluate Addition to Root Control Program
SPP190007	64	6799	6800	356	0	1	Evaluate Addition to Root Control Program
SPQ060001	5765	13109	13110	330	0	1	Evaluate Addition to Root Control Program
SPQ060007	5974	13197	13198	310	0	1	Evaluate Addition to Root Control Program
SPQ060008	5975	13198	13199	305	0	1	Evaluate Addition to Root Control Program
SPQ070006	6324	13001	12206	370	0	1	Evaluate Addition to Root Control Program
SPQ080022	6437	12224	12225	150	0	1	Evaluate Addition to Root Control Program
SPQ090052	6453	12825	12826	385	0	1	Evaluate Addition to Root Control Program
SPQ090053	6454	12827	12830	220	0	1	Evaluate Addition to Root Control Program
SPQ090055	6456	12829	12830	245	0	1	Evaluate Addition to Root Control Program
SPQ100002	5582	12605	12606	320	0	2	Evaluate Addition to Root Control Program
SPQ100022	6163	11680	11681	298	0	1	Evaluate Addition to Root Control Program
SPQ120001	5480	12468	11706	106	0	1	Evaluate Addition to Root Control Program
SPQ130011	3814	11455	11463	290	0	1	Evaluate Addition to Root Control Program
SPQ130013	3816	11457	11458	340	0	1	Evaluate Addition to Root Control Program
SPQ150004	5354	11468	11469	320	0	1	Evaluate Addition to Root Control Program
SPR080006	6563	13035	13036	265	0	1	Evaluate Addition to Root Control Program
SPR100023	5673	12184	14370	340	0	1	Evaluate Addition to Root Control Program
SPR110020	6042	11640	11642	265	0	1	Evaluate Addition to Root Control Program
SPR120012	4585	12464	13750	310	0	2	Evaluate Addition to Root Control Program
SPR130009	6515	12775	12776	400	0	2	Evaluate Addition to Root Control Program
SPR140006	6479	12770	12771	310	0	1	Evaluate Addition to Root Control Program
SPR160022	571	7548	7549	71	0	1	Evaluate Addition to Root Control Program
SPS090004	6508	12729	12730	269	0	1	Evaluate Addition to Root Control Program
SPS090011	6547	12735	12736	388	0	2	Evaluate Addition to Root Control Program
SPS090014	5646	12739	12740	235	0	2	Evaluate Addition to Root Control Program

Table 5-3 (Continued)
Root Control Program Reaches

Previous Sewer ID	Sewer ID	US MN	DS MN	Length (ft)	No. Root Ball Main	No. Root Ball Lateral	Comment
SPS100001	6378	15086	15085	288	0	1	Evaluate Addition to Root Control Program
SPS100027	6549	12737	12710	390	0	1	Evaluate Addition to Root Control Program
SPS120033	7319	13768	13769	316	0	2	Evaluate Addition to Root Control Program
SPS130005	8375	6695	14605	313	0	1	Evaluate Addition to Root Control Program
SPS130015	559	6738	6739	316	0	3	Evaluate Addition to Root Control Program
SPT090001	5242	12612	12613	225	0	1	Evaluate Addition to Root Control Program
SPT090033	4034	12678	12659	150	0	1	Evaluate Addition to Root Control Program
SPT110018	3973	12397	12399	155	0	1	Evaluate Addition to Root Control Program
SPT110029	4094	12420	12421	350	0	1	Evaluate Addition to Root Control Program
SPT110031	4471	12368	12422	130	0	1	Evaluate Addition to Root Control Program

Pump Station Maintenance

The District owns and maintains three (3) sewer pump stations: Tiffany Pump Station, Belgrave Pump Station, and Partridge Pump Station. The District eliminated the Harbor- Edinger Pump Station by diverting the flow by gravity to the Orange County Sanitation District's Newhope-Placentia Trunk Sewer on Harbor Boulevard and Heil Avenue. The tributary sewers were annexed to the City of Fountain Valley, who now maintains the service in this area.

Pump station descriptions are included in Appendix D-2 of this report.

The District maintains its pump stations on a daily, monthly, and semiannual frequency. The District keeps maintenance logs for each pump station that include the following items:

Daily Maintenance (Belgrave, Tiffany, and Partridge)

- Atmosphere quality
- Chart review/ Change recorder
- Miltronics check
- Vault check
- Wet well check
- Pump run checks
- Sump pump check
- Amps check
- Dialer check
- Pump alternating check
- Dry well check
- Noise check
- Security and cleanliness
- Control system auto check

Bi-Weekly Generator Maintenance (Belgrave and Tiffany)

- Load Hours
- Operate 50-70% Load (30 minutes)
- Drain water from fuel filter
- Non-Load Hours
- Check engine oil and coolant
- Air cleaner dust valve restriction indicator check

- Visual walk around
- Check fuses
- Replace alternator belt
- Check electrical and wiring

Monthly Generator Maintenance (Partridge)

- Load Hours
- Fuel Used
- Elapsed Time Operated
- Fuel Delivered

Monthly Maintenance (Belgrave, Tiffany, and Partridge)

- Add Degreaser
- Check float (Quarterly)
- Clean blower filter
- Operate gate valves (Semi-annually)

The procedure for pump station inspections should be reviewed:

- After a sanitary sewer overflow event at a pump station
- If increased operational and maintenance activity is observed during the current inspection frequency
- Annually, at minimum

Corrective Maintenance

The District is prepared to provide immediate corrective maintenance during an emergency situation. When there is a failure of a critical asset, the District prioritizes the workforce for its corrective maintenance. The corrective maintenance repairs include, but are not limited to, the following:

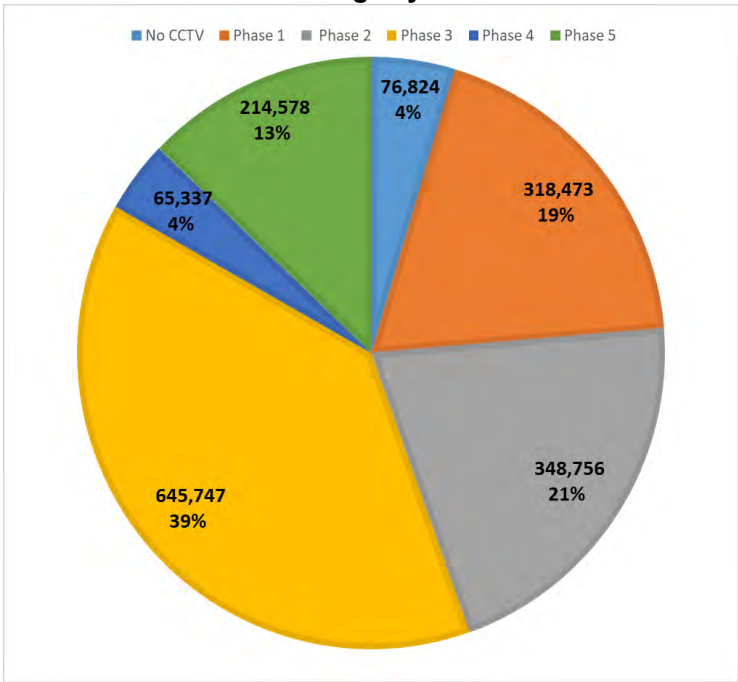
- Emergency cleaning to eliminate a pipe blockage
- Spot repair or replacement of a failed pipe
- Replacing a rattling or failed manhole cover
- Repairing or replacing a pump that has become clogged or damaged by debris
- Respond to, investigate and mitigate customer complaints
- Repair of earthquake damage
- Vandalism

C. REHABILITATION AND REPLACEMENT PLAN

Order 2006-0003-DWQ requires that the District must "*develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.*"

Closed Circuit Television Inspections

Figure 5-3
CCTV Footage by Phase



The CCTV inspections are continuously conducted for the District's Sewer System Rehabilitation Plan (SSRP), and the inspection data reviewed to assess the conditions of the sewers. The District established a program to CCTV inspect its entire gravity sewer system, consisting of 1,669,714 feet (316 miles, 6,793 reaches) of pipe ranging between 6-inch and 24-inch in diameter.

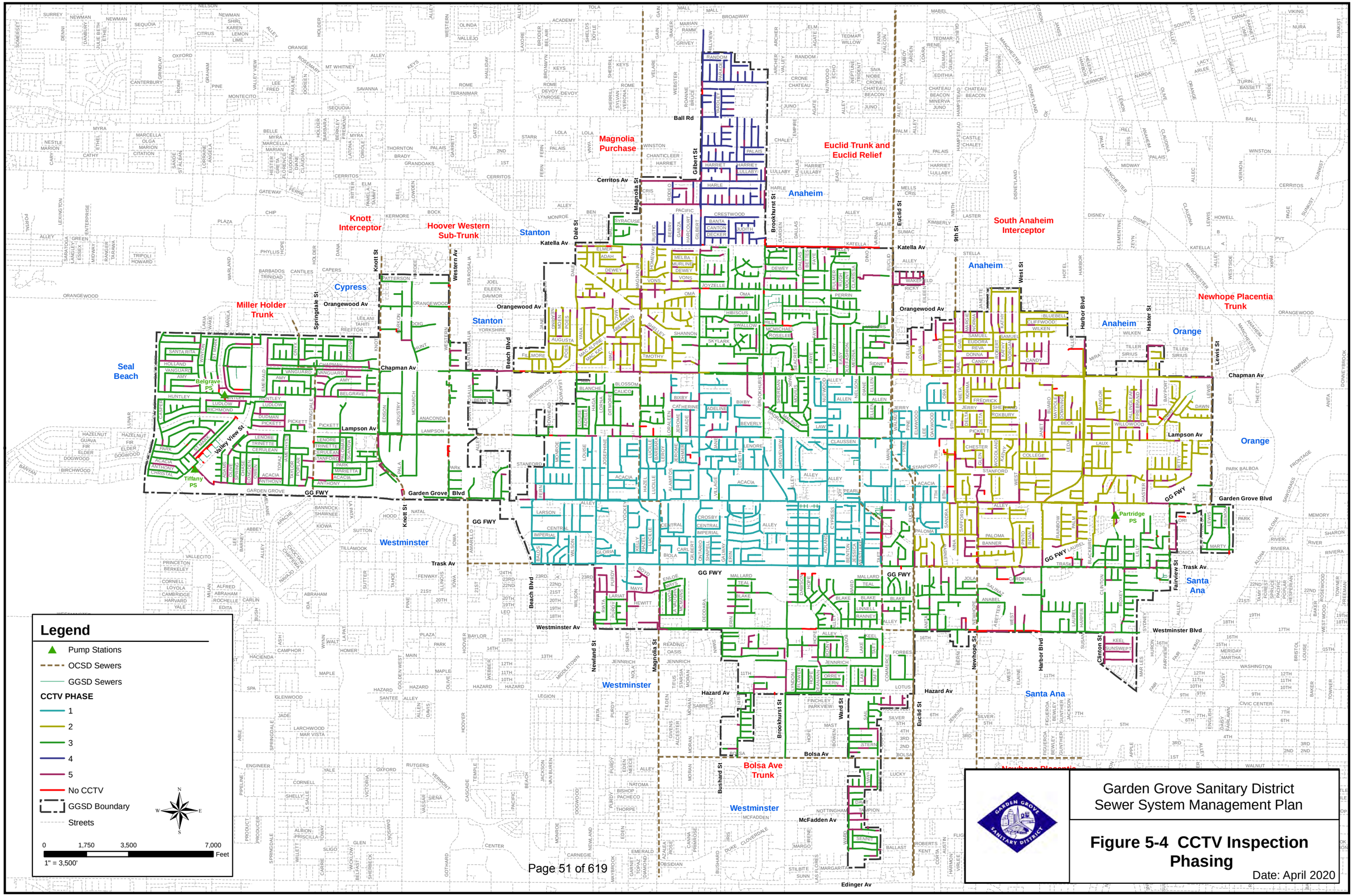
The District owns and operate a CCTV van with video recording equipment, and currently performs the closed circuit television (CCTV) inspections of its collection sewers and manholes, in house. Inspections are currently documented on hard drives, and the condition assessment is performed by contract services.

The CCTV inspections and condition assessment of the District's entire sewer system were performed in five phases by the District staff, Performance Pipeline Technologies, and Empire Pipe. The inspection took place between November 2003 and October 2012. A summary of the CCTV inspection by phase is illustrated on Figure 5-3 and Figure 5-4. A summary of the CCTV inspections is included in Appendix D-3.

Phase 1 of this program was completed in 2004 generally in the central area of the service area. Condition of the CCTV inspected system was evaluated through review of all the written reports developed by the CCTV contractor, and viewing of recordings for 297 reaches of pipe (25 percent of the inspected sewers). Condition assessment of the inspections performed in Phase 1 was documented in the District's Sewer System Rehabilitation Plan (dated September 2005).

Phase 2 of this program was completed in 2006, generally in the northeast and north central area of the service area. Condition of the CCTV inspected system was evaluated through review of all the written reports developed by the CCTV contractor, and viewing for 548 reaches (37 percent of the inspected sewers). Condition assessment of the inspections performed in Phase 2 was documented in the District's Sewer System Rehabilitation Plan, Phase 2 (dated June 2006).

Phase 3 of the CCTV inspection and condition assessment program includes inspections covering the west area, the south area, and the north central area of the service area. Condition of the CCTV inspected system was evaluated through review of all the written reports developed by the CCTV contractor, and viewing for 332 reaches (13 percent of the inspected sewers). Condition assessment of the inspections performed in Phase 3 was documented in the District's Sewer System Rehabilitation Plan, Phase 3 (dated May 2008).


Knott Interceptor
Hoover Western Sub-Trunk
Magnolia Purchase
Euclid Trunk and Euclid Relief
South Anaheim Interceptor
Newhope Placentia Trunk
Miller Holder Trunk
Cypress
Stanton
Anaheim
Orange
Seal Beach
Westminster
Santa Ana
Bolsa Ave Trunk
Ball Rd
Cerritos Av
Orangewood Av
Chapman Av
Lampson Av
Garden Grove Blvd
Westminster Av
Trask Av
Hazard Av
Bolsa Av
McFadden Av
Edinger Av
Katella Av
Gilbert St
Magnolia St
Brookhurst St
Euclid St
Dale St
Knott St
Western Av
Springdale St
Beach Blvd
Newland St
Ward St
Harbor Blvd
Haster St
Lewis St
Fairview St
Clinton St
Newhope St
9th St
West St
Valley View St
GG FWY
Belgrave PS
Tiffany PS
Partridge PS
Legend
Pump Stations
OCSD Sewers
GGSD Sewers
CCTV PHASE
1
2
3
4
5
No CCTV
GGSD Boundary
Streets
N
W
E
S
0
1,750
3,500
7,000
Feet
1" = 3,500'
Garden Grove Sanitary District
Sewer System Management Plan
Figure 5-4 CCTV Inspection Phasing
Date: April 2020

Phase 4 of the CCTV inspection was completed in 2008 to evaluate the condition of the District's sewers that are located within the unincorporated Orange County areas, generally north of Katella Avenue, between Magnolia Street and Brookhurst Street.

Phase 5 of the CCTV inspection was completed in 2012 with the intent to complete the condition assessment of the District's gravity sewers and to reevaluate the sewers that were identified to have condition deficiencies from the previous four (4) phases.

As identified on Figure 5-3 and Figure 5-4, the District has not CCTV inspected approximately 4% of its system. Reasons for no condition assessment include, but are not limited to the following:

- Replacement sewers were constructed to address capacity or condition deficiencies addressed in the District's Capital Improvement Program. These reaches should be CCTV inspected and added to the next phase of the District's comprehensive condition assessment program.
- There are access issues, which make inspecting the reach unfeasible. Some reaches could not be inspected due to heavy calcium.
- The GIS sewer shapefile should be updated to account for all abandoned pipes, which do not require CCTV inspection.

Inspection Report Database Summary

Initially, an Inspection Report Database Summary was developed utilizing the CCTV inspection written reports. Over the years, there have been updates to the District's sewer naming system, as well as updates to the Inspection Report Database Summary. The attributes from the tables for each phase was compiled into one comprehensive database. This Database Summary contained a tabulation of the deficiencies identified in the written reports, including but not limited to the following information:

- DVD Number/ Tape No.
- Inspection (Run) Number
- Reversal DVD Number
- Reversal Inspection (Run) Number
- Location (Street Name)
- CCTV Date
- Sewer Identification Number (Existing and Previous)
- Upstream Manhole and Downstream Identification Numbers (Existing and Previous)
- Direction of Camera
- Pipe Size and Material
- GIS Length and CCTV Inspected Length of Pipe
- Deficiency Tabulation from Written Reports using PACP codes

The Inspection Report Database Summary was used in selecting the recordings to be reviewed in detail. The pipe reaches selected for detailed review were those that showed the most severe structural problems and multiple deficiencies, as well as severe operation and maintenance issues.

The pipe condition assessment was incorporated into the original Inspection Report Database Summary. This combined summary, (Appendix D-3) includes a total of 6,352 reaches (1,597,525 feet GIS length). 102 reverse inspections were conducted and are included in the combined summary.

Rehabilitation/Replacement Priorities

The PACP condition grading system was used to assign a condition rating for structural defects and operation and maintenance defects for each reach of pipe. The rating provides the ability to quantitatively measure the difference in pipe condition between one inspection and subsequent inspections, and to prioritize among different pipe segments. A grade of 1 to 5 is assigned to each defect based on potential for further deterioration or pipe failure. Pipe failure is defined as when it can no longer convey the design capacity. The grades are as follows:

5 – Immediate Attention	Defects requiring immediate attention
4 – Poor	Severe defects that will become Grade 5 defects within the foreseeable future
3 – Fair	Moderate defects that will continue to deteriorate
2 – Good	Defects that have not begun to deteriorate
1 – Excellent	Minor defects

The grade values for the most common defects are shown in Table 5-4. For defects with variable grade values dependent on the degree of deficiency of the defect, an estimated average value was used.

Figure 5-5 shows the number of reaches where an identified deficiency was found at least once within the reach. It provides a general sense of the magnitude of the problems that were found in the portion of the District's collection system that was CCTV inspected. The problems identified most were cracks (2,091 reaches, 30% of Total), fine roots (1,291 reaches, 18% of total), and fractures (1,115 reaches, 15% of total).

The purpose of CCTV inspections is to determine the condition of the GGSD existing gravity sewers, and formulate a rehabilitation plan for the defective sewers. The rankings provide a good indication as to which pipes are in poor condition, but cannot be relied upon solely to prioritize improvement projects. The priorities are selected primarily with consideration of the health and safety of the public and protection of the environment by minimizing the possibility of sanitary sewer overflows and leakage. The pipe capacity, location of particular defects, and the tributary areas/wastewater flow rates are other considerations used in formulating the final capital improvement project priorities.

The initial priorities for improvements to the sewers are based on the severity of the pipe defects. The seven (7) categories utilized in this report are as follows:

a. Severe Condition – This category primarily includes structural defects of deformed pipe, hole in pipe, broken pipe, and large joint offsets.
b. Major Condition – This category primarily includes structural defects of multiple fractures, medium joint offsets and major sags. Pipes with a large number of cracks are also included.
c. Moderate Condition – Pipes in this category have fractures, cracks, small and medium joint offsets, and sags.
d. Minor Condition – Pipes in this category have slight sags, cracks, and small joint offsets.

Table 5-4
Defect Codes and Condition Grades

Structural Defects		Grade
Crack - circumferential	CC	1
Crack - longitudinal	CL	2
Crack - multiple	CM	3
Crack - spiral	CS	2
Crack - Hinge	CH	4
Fracture - circumferential	FC	2
Fracture - longitudinal	FL	3
Fracture - multiple	FM	4
Fracture - spiral	FS	3
Fracture - Hinge	FH	4
Broken - soil visible	BSV	5
Broken - void visible	BVV	5
Hole - soil visible	HSV	5
Hole - void visible	HVV	5
Deformed - horizontal	DH	5
Deformed - vertical	DV	5
Collapsed	XP	5
Joint Offset - medium	JOM	3[a]
Joint Offset - large	JOL	5[b]
Joint Separated - small	JSS	1[c]
Joint Separated - medium	JSM	1
Joint Separated - large	JSL	2
Surface Damage	S	2
Lining Failure	LF	3
Point Repair - defective	RPPD	4
Sags	MWLS	2

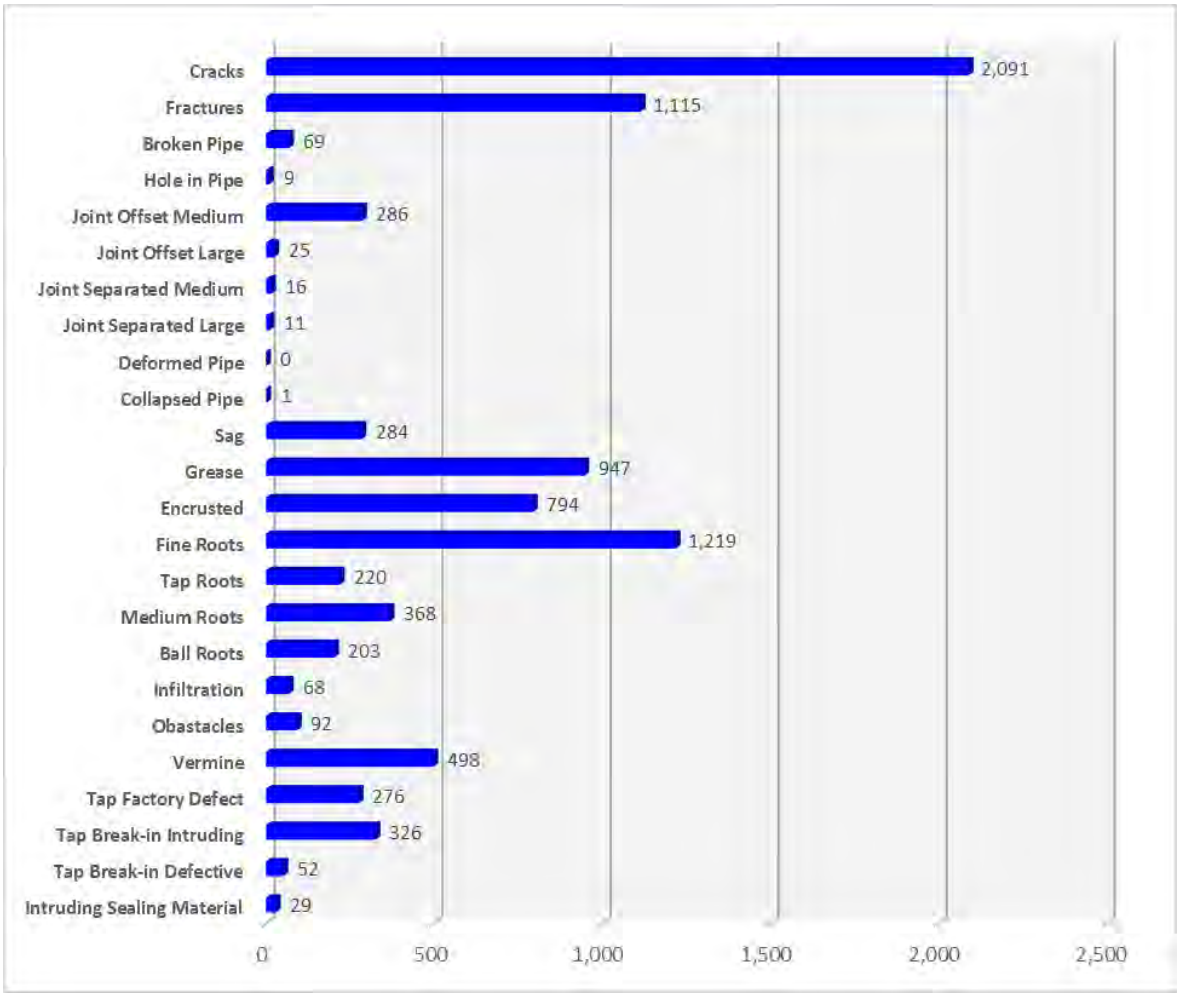
[a]PACP grade is 1. Grade is increased for this report.

[b]PACP grade is 2. Grade is increased for this report.

[c]PACP does not have coding for small separated joints. This coding is developed for this report

Operational & Maintenance /Construction Feature Defects		Grade
Deposits Attached - encrustation barrel	DAE	2
Deposits Attached - grease	DAGS	2
Deposits Attached - other	DAZ	3
Deposits Settled	DS	2
Deposits Ingress	DN	2
Roots Fine - barrel	RFB	2
Roots Fine - lateral	RFL	1
Roots Fine - joint	RFJ	1
Roots Fine - connection	RFC	1
Roots Tap - barrel	RTB	3
Roots Tap - lateral	RTL	2
Roots Tap - joint	RTJ	2
Roots Tap - connection	RTC	2
Roots Medium - barrel	RMB	4
Roots Medium - lateral	RML	3
Roots Medium - joint	RMJ	3
Roots Medium - connection	RMC	3
Roots Ball - barrel	RBB	5
Roots Ball - lateral	RBL	4
Roots Ball - joint	RBJ	4
Roots Ball - connection	RBC	4
Infiltration - weeper	IW	2
Infiltration - dripper	ID	3
Infiltration - runner	IR	4
Infiltration - gusher	IG	5
Obstacles	OB	4
Vermin	V	1
Tap (Lateral) factory made - defective	TFD	2
Tap (Lateral) break in - intruding	TBI	3
Tap (Lateral) break in - defective	TBD	3
Line	L	2
Intruding Sealing Material - ring hanging	ISSRH	4
Intruding Sealing Material - ring	ISSR	4
Miscellaneous - camera underwater	MCU	4
Miscellaneous - camera blocked	MSA	0

Figure 5-5
Sewer Reaches with Identified Deficiencies

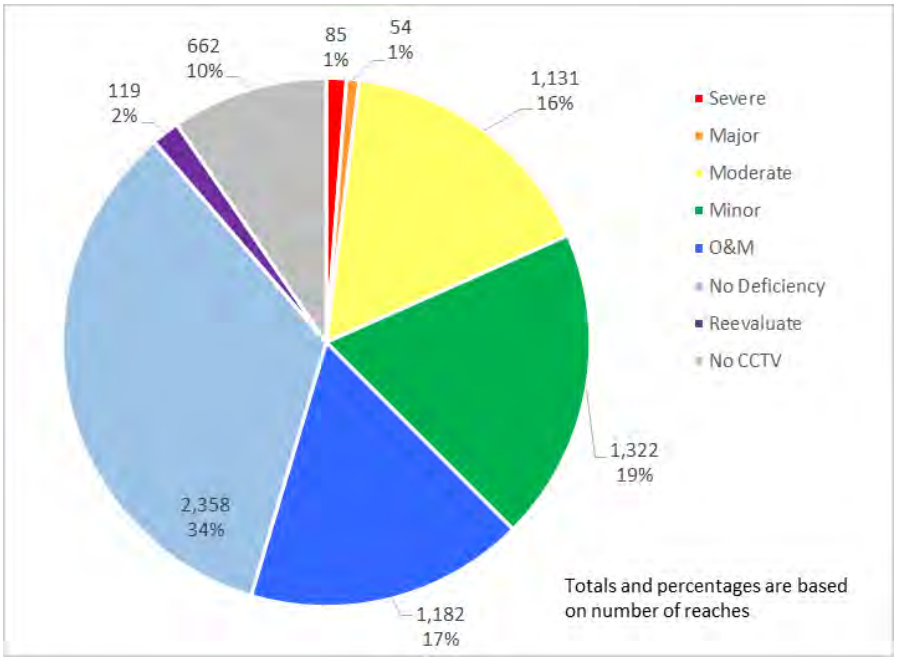


e. O&M – This condition is for operational and maintenance problems and construction feature defects. There are no structural defects.
f. No Deficiency – This condition is for the pipe with no structural, operation and maintenance or construction feature defects.
g. Reevaluate – This condition is for the pipes that have been rehabilitated since the initial condition assessment. CCTV inspection will be performed and a new condition assessment will be conducted to provide these reaches an appropriate categorization.

Appendix D-3 lists the CCTV locations by initial replacement/rehabilitation priorities, from most to least severe, based on the structural condition of the pipes. Pipes that have been repaired since the CCTV inspection have been updated with the repair date and description. Pipes that have been abandoned since its inspection are included for record keeping purposes. Appendix D-4 shows the CCTV locations color coded by rehabilitation/replacement priority.

Figure 5-6 illustrates the distribution of the comprehensive sewer priorities for the District's gravity sewer system.

Figure 5-6
CCTV Inspection Priority Ratings



Rehabilitation and Replacement Capital Improvement Program

The Garden Grove Sanitary District will address the "Severe" and "Major" collection system deficiencies. Table 5-5 lists the project priorities assigned to the 139-reaches of collection system identified as in "Severe" or "Major" condition, as well as planning level implementation costs based upon average 2019 dollars (Engineering News Record Index of 12,034.19 for the Los Angeles area). Implementation cost is determined by adding 35 percent of construction cost to cover engineering, inspection, and administration. The total estimated cost of upgrading the "Severe" or "Major" condition priorities is $21.3M.

The District generally addresses the rehabilitation projects by the priorities included in Table 5-5.

The District has been proactive in implementing rehabilitation projects, by rehabilitating the reaches identified as "severe", "major", and "moderate". The District generally provides improvements at sewers that can be completed by its staff. The sewers listed on the SSRP improvement list are marked as completed and highlighted, once the District has performed the rehabilitation, which generally consists of spot repairs. These pipes will be recommended to be included in the District's subsequent Condition Assessment and Rehabilitation/Replacement Plan.

Table 5-5
Structural Replacement/Rehabilitation

Phase	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	Location Street Name	CCTV Date	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID.	Direction of Camera	Size (in)	Material	Length (ft)	CCTV Length (ft)	Priority	Ranking	Comments	Construct Costs ($)	Total Cost (Const, Engin, Inspection, & Admin) ($)	Completed
2		R030	12				8TH ST	9/21/2005	5269	SPP110017	U/S	6	VCP	120	18.7	1_Severe	1	18.7' BROKEN PIPE (SV). 18.7' MSA = BROKEN PIPE. SOIL & ROOTS IN BROKEN PIPE, POSSIBLY ABANDONED	$35,483	$47,902	
3		53	22				LEWIS	1/10/2008	369	SPU130017	U/S	8	VCP	271	272	1_Severe	1	Repeat inspection, DVD 19 - Section 6 Spot repair at 120.40 ft BSV, 162.0 ft JOM	$106,698	$144,042	
5		MAP 3-B3-3	30				TAFT STREET	8/21/2012	4333	SPO140030	U/S	6	VCP	350	46.4	1_Severe	1	46.4' MSA (JOM). 46.4' BVV & after BVV Possible Collapsed Pipe(Pipe plugged with broken pipe materials). Severe Defect. No Reversal Video Replace Pipe 46.4' to end of the Collapsed Pipe	$103,492	$139,714	
1	21		12				10760 Garden Grove Blvd.	3/15/2004		SPO130006	DS	6	VCP	63	63	1_Severe	2	Replace pipe	$18,628	$25,148	
2		G003	3				WASCO DR	7/14/2005	1887	SPK060027	U/S	8	VCP	160	174.8	1_Severe	2	152.5' JOL (D/SH) JOL	$63,081	$85,159	
3		28	33				EASY	7/27/2007	5209	SPO080043	D/S	8	VCP	325	314	1_Severe	2	Replace from 260 ft to 314 ft	$127,951	$172,734	
5		MAP 3-3	3				EUCLID STREET	7/27/2012	5119	SPO100002	D/S	8	VCP	535	537.9	1_Severe	2	336.4' & 506' BSV, 508.1 BVV, 510.9' JOL (D/SL), 160' to 166' Deformed Pipe Horizontal. Too many Cracks & Fractures.0' to 234' & 340' to 420' DSZ. Severe Defect Replace All Pipe or Replace Pipe 160 to 166' & 506' to 510.9', Patch Repair @ 336.4 . Reline Pipe	$210,926	$284,749	
1	45		11				10242 Garden Grove Blvd.	4/30/2004		SPN130004	DS	8	VCP	381	381	1_Severe	3	Replace pipe	$150,211	$202,784	
2		G058	7		G058	8	VOLKWOOD ST	12/13/2005		SPS110006	D/S	8	VCP	92	91.5	1_Severe	3	3' & 26.5' MSA =DAGS, HEAVY GREASE AT 26.5', NO INSPECTION 3' TO 26.5'	$36,074	$48,700	
5		MAP 1-2	7				LAMPLIGHTER STREET	7/19/2012	1126	SPG100014	D/S	8	Clay Tile	177	173.4	1_Severe	3	173.4' MSA (DAE). End of the Sewer Line. 157.2' DH. Severe Defect Replace Pipe 155' to 161' and Clean Deposits	$69,948	$94,430	
5		MAP 2 July-4	5		MAP 2 July-4	4	LAMPSON AVENUE	6/28/2012	1994	SPK110041	D/S	8	Clay Tile	240	201.7	1_Severe	4	103.2' BVV & 106.8' BSV & Deformed Horizontal Pipe 103.8'to.106.8' .MSA (BVV). Severe Defect Inspection Completed Replace Pipe 103.2' to 109.8'	$94,621	$127,738	
1	45		12				Garden Grove Bl./Rosewood Dr.	4/30/2004		SPN130005	DS	8	VCP	193	193	1_Severe	5	Replace pipe	$76,091	$102,723	
5		MAP 2-1-3	5				FLETCHER DR	7/12/2012	2627	SPN110036	D/S	8	VCP	330	355.5	1_Severe	5	346.4' & 350.6 BVV, 346.6' BSV, 347' Deformed Horizontal Pipe. Severe Defect Replace Pipe 185' to 188'(FM) & 338' to 354'	$130,104	$175,640	
5		MAP 4-B1-2	4				NOTTINGHAM AVE	9/10/2012	158	SPO220027	D/S	8	VCP	269	349	1_Severe	6	313' & 315.7' BVV, 313.9' Deformed Pipe. Severe Defect. Inspection Report shows 16.9' JOL. It was JOM & we changed it. Replace Pipe 311' to 317'	$105,875	$142,932	YES
5		June Map 2 B1	7				D ESTE DR	6/4/2012	4255	SPM020034	U/S	8	VCP	147	151.5	1_Severe	7	148' Deformed Vertical Pipe. Severe Defect. U/S MH is CO. Replace Pipe 148' to 152'	$57,955	$78,240	
2		S006	5				VOLKWOOD ST	10/18/2005		SPS110011	D/S	8	VCP	291	290.5	1_Severe	8	3.3' JOL (D/SL)	$114,531	$154,616	
5		Map 1 May	2				BELGRAVE AVENUE	5/15/2012	1170	SPG090050	D/S	8	VCP	284	286.1	1_Severe	8	140.3' BVV & 269.8' BSV. Continuous Fractures & Cracks. Severe Defect Replace Or Reline Pipe	$111,889	$151,050	
5		MAP 1	14				CHAPMAN AVENUE	5/11/2012	1065	SPG090017	D/S	8	VCP	325	326	1_Severe	9	24.4' HVV, 127' & 213' BVV. Continuous FM. Severe Defect Replace Pipe 21' to 27', 124' to 130' , 210' to 216' & Reline all pipe.	$128,282	$173,181	YES
5		MAP 3-B5	10				HAVENWOOD DRIVE	9/13/2012	4815	SPP140011	D/S	8	VCP	295	292	1_Severe	10	93.1' & 93.5' BSV, 244.2' BVV. Severe Defect Replace Pipe 92.8' to 96' & 240' to 246'	$116,305	$157,011	
5		June Map 2 B1	15				HEDLUND DR	6/7/2012	3610	SPM030026	D/S	8	VCP	330	332.3	1_Severe	11	303.3' HSV & 306.4' BVV. Severe Defect Replace Pipe 300' to 309'	$130,104	$175,640	
5		MAP 3-B3-1	20				LAMPSON AVENUE	8/2/2012	4408	SPP110039	D/S	8	Clay Tile	230	413.8	1_Severe	12	27.2' BSV & 358' JOL (D/SL) at Material Change Point. Severe Defect Replace Pipe 27' t0 30'to BSV. Fix or Replace JOL @ 358'	$90,678	$122,416	

Table 5-5 (Continued)
Structural Replacement/Rehabilitation

Phase	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	Location	CCTV Date	Pipe		Direction of Camera	Size (in)	Material	Length (ft)	CCTV Length (ft)	Priority	Ranking	Comments	Construct Costs ($)	Total Cost (Const, Engin, Inspection, & Admin) ($)	Completed
							Street Name		Existing Sewer ID	Previous Sewer ID.											
5		MAP 4-B2-3	9				WESTMINSTER BOULEVARD	9/28/2012	5320	SPP170005	D/S	10	VCP	320	319.8	1_Severe	13	61.8' BVV & 163' JOL (D/SL). Severe Defect. Laterals at 188.6',192.9' and 235.5 plugged with over 50% Deposits. Replace Pipe 61.8' to 65' & 163' to 166' and Clean Laterals by Home Owner	$157,701	$212,897	
5		MAP 3-5	15				GARY STREET	7/23/2012	5110	SPO080039	D/S	8	Clay Tile	277	270.9	1_Severe	14	253' JOL (D/SL) at Material Change Point. 267.3' BVV . Severe Defect Replace Pipe 253 to 271	$109,279	$147,527	
5		MAP 3-6	1				9TH STREET	7/31/2012	6053	SPP110004	D/S	8	Clay Tile	312	312.4	1_Severe	15	46.7' BVV, 216.6' BSV. Severe Defect. @ 107.7' Unmapped MH Replace Pipe 42' to 47' & 215.9' to 221"	$123,165	$166,272	
5		MAP 3-B3-3	22				NUTWOOD STREET	8/22/2012	2378	SPN110002	D/S	8	VCP	55	94.9	1_Severe	16	94.9' MSA (HIGH WATER LEVEL,POSSIBLE OFFSET).76.1' JOL (D/SL) 72.4' Small BVV. Severe Defect. No Reversal Video No Connection 11241 to 11143. Pipe ID is not correct. Ask City, Patch Repair BVV & Replace Pipe @76.1' at Material Changing Point	$21,684	$29,273	
5		MAP 3-B3-3	22				NUTWOOD STREET	8/22/2012	2379	SPN110003	D/S	8	VCP	100	94.9	1_Severe	17	Multiple reaches were evaluated with one inspection. 94.9' MSA (HIGH WATER LEVEL,POSSIBLE OFFSET).76.1' JOL (D/SL) 72.4' Small BVV. Severe Defect. No Reversal Video No Connection 11241 to 11143. Pipe ID is not correct. Ask City, Patch Repair BVV & Replace Pipe @76.1' at Material Changing Point	$39,425	$53,224	
5		MAP 3-6	14				WESTLAKE STREET	7/27/2012	4932	SPO110014	U/S	8	Clay Tile	360	243.4	1_Severe	18	Multiple reaches were evaluated with one inspection. 9.7' JOL (D/SH) at Material Change Point & 241.7' BVV. 3 Times SAG. Severe Defect. No Reversal Video Replace Pipe 9.7' to 24.8' & 239' to 242'	$141,931	$191,607	
5		MAP 3-B3-2	7				TAFT STREET	8/20/2012	3836	SPO130010	D/S	8	VCP	140	134.8	1_Severe	19	21.7' & 112' Small BVV. Severe Defect Replace Pipe19' to 24' & Patch Repair @ 112'	$55,195	$74,514	
5		MAP 3-3	4				EUCLID STREET	7/27/2012	5118	SPO100001	U/S	8	VCP	535	539	1_Severe	20	173.3' JOL (D/SH). Alignments & Sags. Severe Defect. After 462', Looks Like Abandoned pipe Replace Pipe 173.3' to 176.3'. Also Should Replace All Pipe	$210,926	$284,749	
5		MAP 4-B1-3	12				BALLAST AVE	9/11/2012	161	SPO230020	D/S	8	VCP	170	169.1	1_Severe	21	167.4' JOL (D/SH). Severe Defect Replace Pipe 163' to 168'	$67,035	$90,497	
5		MAP 3-5	9				STANFORD AVENUE	7/26/2012	5395	SPO120003	D/S	8	Clay Tile	460	473.5	1_Severe	22	2' JOL (D/SL) at Material Changing Point. Too Many Cracks & Fractures also Deposits. Severe Defect Replace Pipe 2' to 15.4' , Reline Pipe and Clean Deposits	$181,357	$244,831	
5		MAP 2 July-4	13				COVEY	6/26/2012	5042	SPM080033	D/S	8	Clay Tile	312	310.7	1_Severe	23	243.4 JOL (D/SL). Too many Fractures & Cracks. Severe Defect Replace Pipe 234.4' to 246.4, Also Reline Pipe	$123,007	$166,060	
5		June Map 2 B1	64				HOMEWAY DRIVE	6/13/2012	5230	SPL060035	D/S	8	VCP	330	323.4	1_Severe	24	317' JOL (D/SL). Severe Defect Replace Pipe 317' to 321.5'	$130,104	$175,640	
5		MAP 3-B3-3	29				TAFT STREET	8/21/2012	3941	SPO140006	U/S	8	VCP	145	217.9	1_Severe	25	60.7' JOL (D/SL). Severe Defect. Unmarked MH @139.2'. Inspection Report Camera Direction was U/S, but it was D/S & we changed it. Replace Pipe 60.7' to 68.3'	$57,167	$77,175	
5		MAP 3-B5	15				NUTWOOD STREET	9/7/2012	2382	SPN110006	D/S	8	VCP	330	328.4	1_Severe	26	90.8' JOL (D/SL) @ Material Changing Point . Severe Defect Replace Pipe 90.8' to 112'	$130,104	$175,640	

Table 5-5 (Continued)
Structural Replacement/Rehabilitation

Phase	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	Location Street Name	CCTV Date	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID.	Direction of Camera	Size (in)	Material	Length (ft)	CCTV Length (ft)	Priority	Ranking	Comments	Construct Costs ($)	Total Cost (Const, Engin, Inspection, & Admin) ($)	Completed
5		MAP 3-5	6				ACACIA AVENUE	7/25/2012	2806	SPO120022	D/S	8	Clay Tile	330	328.6	1_Severe	27	73.1' JOL (D/SL) at Material change point. Too Much Fractures & Cracks. 4 Lateral (73',102.6', 199.1' & 232.2') have 50 % Grease. Severe Defect Replace Pipe 73.1' to 78.6'. Reline Pipe & clean Laterals.	$130,104	$175,640	
5		MAP 2-1-1	4				BROOKHURST STREET	7/6/2012	5368	SPM090005	D/S	8	VCP	260	265.6	1_Severe	28	263.3' JOL (D/SL) & Cracks. Severe Defect Replace Pipe 263.3' to 265.6' & Reline all Line	$102,506	$138,383	
5		MAP 3-B2-4	15				FREDRICK DRIVE	8/24/2012	4757	SPP090026	D/S	8	VCP	330	313.9	1_Severe	29	Same Inspection Map 3-B3-3 # 18. Use this one & delete other. Replace Pipe @ 311.4 to next joint	$130,104	$175,640	
5		MAP 2-1-4	13				SEACREST DRIVE	7/17/2012	5880	SPN080024	D/S	8	VCP	245	247.8	1_Severe	30	5' JOL (D/SL). Severe Defect Replace Pipe 5' to 7'	$96,592	$130,399	
5		MAP 4-B1-6	4				TRASK AVE	10/3/2012	421	SPR140021	D/S	10	VCP	46	70.5	1_Severe	31	18.4' JOL (D/SL). Severe Defect Replace Pipe 16.2' to 18.4'	$22,423	$30,271	
5		MAP 1	13				CHAPMAN AVENUE	5/11/2012	1066	SPG090018	D/S	8	VCP	350	348	1_Severe	32	294.1' BSV. Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$137,989	$186,285	
5		MAP 1	12				CHAPMAN AVENUE	5/11/2012	1321	SPG090058	D/S	8	VCP	350	348.1	1_Severe	33	98.7' BVV. Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$137,989	$186,285	YES
5		MAP 1	11				CHAPMAN AVENUE	5/11/2012	1173	SPG090053	D/S	8	VCP	303	300.6	1_Severe	34	43.3' BVV. Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$119,317	$161,078	
5		Map 1 May	5				VANGUARD AVENUE	5/16/2012	1475	SPG090036	D/S	8	VCP	213	211.2	1_Severe	35	83.1' BSV. Continuous Fractures & Cracks. Severe Defect. Pipe ID w asn"t exist Reline Pipe	$83,858	$113,208	
5		Map 1 May	6				VANGUARD AVENUE	5/16/2012	1476	SPG090037	D/S	8	VCP	213	213.3	1_Severe	36	169.1' BVV. Continuous Fractures & Cracks. Severe Defect Reline Pipe	$83,862	$113,213	
5		Map 1 May	3				BELGRAVE AVENUE	5/15/2012	1171	SPG090051	D/S	8	VCP	300	279.5	1_Severe	37	25.4' BVV. Severe Defect Replace Pipe 23' to 29'	$118,276	$159,673	
5		MAP 3-5	14				WAKEFIEID AVENUE	7/23/2012	6604	SPP060007	D/S	8	Clay Tile	300	293.7	1_Severe	38	273.3' BSV, Fractures & Cracks. Severe Defect Replace Pipe 273.3' to 276' & Reline Pipe	$118,276	$159,673	YES
5		MAP 3-B3-4	31				STUART DRIVE	8/28/2012	3709	SPQ130002	D/S	8	VCP	305	298.2	1_Severe	39	174.2' Small BVV, Fractures. Severe Defect Patch Repair BVV & Reline Pipe	$120,247	$162,334	
5		MAP 3-B2-5	8				FALLINGLEAF STREET	8/28/2012	6547	SPS090011	D/S	8	VCP	388	392.3	1_Severe	40	387.6' BVV, Close to Ending MH. Severe Defect Replace Pipe 387.6' to 391' & Reline Pipe	$153,018	$206,574	
5		MAP 3-B3-3	28				TAFT STREET	8/21/2012	3942	SPO140007	D/S	8	VCP	340	252.6	1_Severe	41	50.2' Small BVV. Cracks & fractures. Severe Defect. @ 181' Unmarked MH Patch Repair 50.2' & Reline Pipe	$134,046	$180,962	
5		MAP 3-6	11				STANFORD AVENUE	7/27/2012	4403	SPP120037	U/S	8	Clay Tile	407	406	1_Severe	42	221.4' BVV (Missing Pipe) Severe Defect Replace Pipe221.4' to 224'	$160,619	$216,835	
5		MAP 2-2-2	9				GARDEN GROVE	7/20/2012	3375	SPK130004	U/S	8	Clay Tile	50	149.6	1_Severe	43	2.8' BVV. Severe Defect. Ending MH w as 8386. We checked GIS & Changed it. Replace Pipe 0' to6'	$19,713	$26,612	
5		June Map 2 B1	91				MAGNOLIA STREET	6/15/2012	4240	SPL050054	D/S	8	VCP	247	258.3	1_Severe	44	257.5' HVV. Severe Defect Replace Pipe 254.5' to 257.5'	$97,381	$131,464	
5		June Map 2 B1	8				CHANTICLEER RD	6/4/2012	3487	SPL020006	D/S	8	VCP	290	287.3	1_Severe	45	234.5' HSV. Severe Defect Replace Pipe 234.5' to 237.5'	$114,333	$154,350	
5		MAP 3-B3-1	14				ALLEY E/OF MAIN STREET	8/3/2012	6763	SPP120027	D/S	6	Clay Tile	663	82.8	1_Severe	46	82.8' MSA (DAZ). 14.8' BVV. Severe Defect No Reversal Video) Replace Pipe 14' to 17'	$196,042	$264,657	
5		May Folder 2	7		May Folder 2	8	OWEN STREET	5/29/2012	1622	SPF120031	D/S	8	VCP	258	261.3	1_Severe	48	Lateral @ 81.5 plugged 50 % .Inspection Completed Replace pipe 19' to 24' & Clean lateral @ 81.5'	$101,717	$137,318	
5		MAP 3-B3-5	11				BONSER AVE	8/31/2012	3191	SPN100045	U/S	8	VCP	170	183	1_Severe	49	19.5' BSV. Severe Defect Replace Pipe 19.5' to 22.5'	$67,023	$90,481	
5		MAP 3-B3-1	5				GEORGE STREET	8/6/2012	4129	SPQ110005	D/S	8	VCP	340	346.5	1_Severe	50	19' BSV , Missing Pipe. There is an another utility pipe inside the broken part. Severe Defect Replace Pipe 17' to 20'	$134,046	$180,962	

Table 5-5 (Continued)
Structural Replacement/Rehabilitation

Phase	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	Location	CCTV Date	Pipe		Direction of Camera	Size (in)	Material	Length (ft)	CCTV Length (ft)	Priority	Ranking	Comments	Construct Costs ($)	Total Cost (Const, Engin, Inspection, & Admin) ($)	Completed
							Street Name		Existing Sewer ID	Previous Sewer ID.											
5		June Map 2 B1	59				BROOKHURST STREET	6/13/2012	5014	SPM050017	D/S	10	VCP	282	237.4	1_Severe	52	55.4' BVV & JOM 55.4' & 58.5. Severe Defect Replace pipe 55.4' to 58.5'	$138,974	$187,615	
5		MAP 4-B1-5	1				HARBOR BLVD	9/26/2012	573	SPR160024	D/S	8	VCP	252	288.8	1_Severe	53	235.7' BVV. Severe Defect Replace Pipe 235.7' to 241'	$99,353	$134,127	
5		MAP 4-B2-1	29				RANCHERO WY	9/4/2012			D/S	6	VCP	277	277.1	1_Severe	54	274.5' BVV. Severe Defect. End of the Sever Lane Replace Pipe 270' to 277'	$81,936	$110,613	
5		MAP 4-B2-1	18				BARNETT WY	9/7/2012	4825	SPP150009	U/S	8	VCP	380	382	1_Severe	55	2.12' BVV. Severe Defect. Laterals at 186.7', 228.04', 288.10', 352.5', 373.3' over 50 % deposits. Replace Pipe 0 to 3' laterals should be cleaned by Home ow ners	$149,816	$202,252	
5		MAP 3-B2-1	9				9th STREET	8/7/2012	6323	SPP080005	D/S	8	VCP	380	378.7	1_Severe	56	Too Many Fractures & Cracks. Severe Defect. Laterals at 199.6', 272' & 340.8' have over 50% Grease. Reline Pipe & Clean Grease by Home Ow ner	$149,816	$202,252	
5		MAP 3-B2-1	10				9th STREET	8/7/2012	6322	SPP080004	D/S	8	VCP	395	395.6	1_Severe	57	Too Many Fractures & Cracks. Severe Defect. Laterals at 115.9', 184.5' , 244.7', 313.2' & 385.3' have over 50% Grease. Reline Pipe & Clean Grease by Home Ow ner	$155,730	$210,236	
5		MAP 1	5				LAURELTON AVENUE	5/11/2012	1061	SPG090013	D/S	8	VCP	371	369.8	1_Severe	58	Continuous Cracks & Fractures. Severe Defect Replace Pipe or Reline	$146,268	$197,462	
5		MAP 1	10				CHAPMAN AVENUE	5/11/2012	1174	SPG090054	D/S	8	VCP	350	346.3	1_Severe	59	Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$137,989	$186,285	
5		MAP 2 July-1	2				CHAPMAN AVE	6/19/2012	5936	SPK090023	D/S	8	VCP	275	279.8	1_Severe	60	Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$108,420	$146,367	
5		MAP 2 July-1	1				CHAPMAN AVE	6/19/2012	5929	SPK090003	D/S	8	VCP	275	274.5	1_Severe	61	Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$108,420	$146,367	
5		MAP 2 July-1	5				MACNAB STREET	6/19/2012	5927	SPK080024	D/S	8	VCP	295	291.5	1_Severe	62	Cracks & too many Fractures . Severe Defect Replace Pipe or Reline	$116,305	$157,011	
5		Map 1 May	9				LAURELTON AVENUE	5/16/2012	1483	SPG090044	D/S	8	VCP	307	304.5	1_Severe	63	Continuous Fractures & Cracks. Severe Defect Reline Pipe	$120,985	$163,329	
5		MAP 3-B3-4	33				ALLEY	8/28/2012	4460	SPQ130025	U/S	8	VCP	395	389.5	1_Severe	64	Continuous Fractures & Cracks. Severe Defect Reline Pipe	$155,730	$210,236	
5		MAP 3-B3-7	2				LAMPSON AVE	8/31/2012	6536	SPT100049	D/S	8	VCP	250	243.3	1_Severe	65	Continuous Fractures & Cracks. Severe Defect Should Reline	$98,563	$133,061	
5		Map 1 May	1				LAURELTON AVENUE	5/15/2012	1471	SPG090032	D/S	8	VCP	350	348	1_Severe	66	Continuous Fractures & Cracks. All Joints have DAE. Severe Defect Clean Deposits & Reline Pipe	$137,989	$186,285	
5		MAP 3-1	2				ALLEN DR	7/19/2012	2923	SPN100034	D/S	8	VCP	272	272.8	1_Severe	67	Cracks & Fractures. Severe Defect. Reline Pipe	$107,237	$144,770	
5		MAP 3-2	14				WAKEFIELD AVE	7/24/2012	6605	SPP060006	D/S	8	VCP	327	328.5	1_Severe	68	Cracks & Fractures. Severe Defect Reline Pipe	$128,921	$174,043	
5		Map 1 May	4				BELGRAVE AVENUE	5/15/2012	1172	SPG090052	D/S	8	VCP	368	369	1_Severe	69	Continuous Fractures & Cracks. Severe Defect Reline Pipe	$145,085	$195,865	
5		MAP 3-2	7				EUCLID STREET	7/24/2012	6602	SPO060001	D/S	8	VCP	350	352.9	1_Severe	70	Cracks & Fractures. Severe Defect. Also 152' Tap Break Defective, Broken Pipe piece in the Lateral Reline Pipe. TBD should be fixed by Home ow ner	$137,989	$186,285	
5		MAP 4-B1-4	14				READING AVE	9/13/2012	2023	SPN170038	D/S	8	VCP	307	311.2	1_Severe	72	Too Many Crack & Fracture. Severe Defect Reline Pipe	$121,036	$163,398	
5		MAP 3-6	16				WESTLAKE STREET	7/26/2012	5398	SPO120007	D/S	8	Clay Tile	314	324.4	1_Severe	73	Cracks & Fractures. Severe Defect Should Reline	$123,796	$167,124	
5		MAP 4-B1-4	12				READING AVE	9/13/2012	2588	SPM170026	D/S	8	VCP	176	176.9	1_Severe	75	Too Many Crack & Fracture. Severe Defect Reline Pipe	$69,231	$93,462	
5		MAP 1	9				LAMPLIGHTER STREET	5/11/2012	2434	SPG090019	D/S	8	VCP	273	271.9	1_Severe	76	Cracks & Fractures . Severer Defect Reline Pipe	$107,513	$145,142	
5		MAP 3-1	3				HACKAMORE RD	7/19/2012	2881	SPN090021	D/S	8	VCP	330	330.8	1_Severe	77	Cracks & Fractures. Severe Defect Reline Pipe	$130,104	$175,640	

Table 5-5 (Continued)
Structural Replacement/Rehabilitation

Phase	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	Location	CCTV Date	Pipe		Direction of Camera	Size (in)	Material	Length (ft)	CCTV Length (ft)	Priority	Ranking	Comments	Construct Costs ($)	Total Cost (Const, Engin, Inspection, & Admin) ($)	Completed
							Street Name		Existing Sewer ID	Previous Sewer ID.											
5		MAP 3-1	4				HACKAMORE RD	7/19/2012	2882	SPN090022	D/S	8	VCP	330	332.4	1_Severe	78	Cracks & Fractures. Severe Defect Reline Pipe	$130,104	$175,640	
5		Map 1 May	7				VANGUARD AVENUE	5/16/2012	1480	SPG090041	D/S	8	VCP	152	148.4	1_Severe	80	Continuous Fractures & Cracks. Severe Defect Reline Pipe	$59,769	$80,688	
5		MAP 3-1	1				ALLEN DR	7/19/2012	2879	SPN100031	D/S	8	VCP	280	242.7	1_Severe	81	Cracks & Fractures. Severe Defect Reline Pipe	$110,391	$149,028	
3		6	6				HAZARD	4/12/2007	316	SPN190001	D/S	10	VCP	362	359	2_Major	4	Spot repair at 14.30 ft FM and 245.60 ft FM. Clean pipe.	$178,425	$240,874	
1	17		3				10930 Grove St.	3/5/2004		SPO120012	DS	8	VCP	500	500	2_Major	6	Replace pipe	$197,127	$266,121	
1	44		21				13121 Coast St.	4/27/2004	772	SPJ130024	DS	10	VCP	191	658	2_Major	7	Replace pipe	$94,369	$127,399	
1	45		26				9820 Garden Grove Blvd.	5/4/2004	2342	SPM130024	DS	6	VCP	299	299	2_Major	8	Replace pipe	$88,411	$119,355	
1	45		23	45		33	11262 Garden Grove Blvd.	5/4/2004		SPP130002-B	US	10	VCP	332	332	2_Major	9	Replace pipe	$163,615	$220,880	
2		M011	6				ROBERT LN	8/25/2005	5856	SPQ080056	D/S	8	VCP	157	152.4	2_Major	9	98.1' MINOR BROKEN PIPE (VV)	$61,898	$83,562	
1	45		18				9916 Garden Grove Blvd.	4/30/2004		SPM130001	DS	10	VCP	331	331	2_Major	10	Replace pipe	$163,122	$220,215	
1	14		18	14		19	10222 Russell	3/2/2004	2907	SPN140015	DS	6	VCP	365	367	2_Major	11	Replace pipe	$107,927	$145,701	
2		G046	10				VOLKWOOD ST	10/10/2005		SPS100024	D/S	8	VCP	321	320.8	2_Major	11	2 SAGS, HIGH FLOW	$126,476	$170,743	
1	43		11				8062 Garden Grove Blvd./Motel	4/22/2004	6835	SPJ130027	DS	8	VCP	315	313	2_Major	12	Replace pipe	$124,068	$167,491	
2		G046	9				VOLKWOOD ST	10/10/2005		SPS100023	D/S	8	VCP	342	341.8	2_Major	12	3 SAGS, 6' (D/SL) JOM, HIGH FLOW	$134,756	$181,920	
1	11		27	12		1	13115 Pleasant St.	2/26/2004	2351	SPO130019	DS	6	VCP	360	371	2_Major	13	Replace pipe	$106,448	$143,705	
1	32		10				10000 Garden Grove Blvd.	4/1/2004		SPM130029	DS	10	VCP	314	314	2_Major	14	Replace pipe	$154,744	$208,905	
1	46		6				13371 Cypress St.	5/6/2004		SPO140048	DS	8	VCP	5	5	2_Major	16	Replace pipe	$1,971	$2,661	
1	8		20				12635 Main St.	2/18/2004	4791	SPO110004	DS	8	VCP	307	195	2_Major	19	Reline	$120,878	$163,185	
2		G030	5				CHAPMAN AV	8/29/2005	6274	SPQ090059	D/S	12	VCP	265	258.5	2_Major	20	OBZ= OBS, BUILT INTO STRUCTURE POSITION.	$156,716	$211,566	
2		R064	5				EASEMENT	12/5/2005	558	SPS130014	D/S	8	VCP	382	383.0	2_Major	22		$150,607	$203,320	
2		R052	1				CHAPMAN AV	11/3/2005	6279	SPQ090008	D/S	18	VCP	400	405.1	2_Major	23		$354,828	$479,018	
2		G027	8				TIMMY LN	8/23/2005	5643	SPR080018	D/S	8	VCP	241	242.1	2_Major	24	CONTINUOUS FRACTURE MULTIPLE	$95,015	$128,270	
2		G048	6				VOLKWOOD ST	10/17/2005		SPS110009	D/S	8	VCP	335	334.7	2_Major	27	SAG	$131,957	$178,141	
5		MAP 3-B3-2	13				CENTRAL AVENUE	8/10/2012	2492	SPO140033	D/S	6	VCP	320	328.4	2_Major	82	56.4' Small BVV. Major Defect Patch Repair	$94,621	$127,738	
5		MAP 3-5	19				ACACIA PARKWAY/ALLEY	7/27/2012	6926	SPO120014	U/S	8	Clay Tile	310	306	2_Major	83	198.1' BVV. Major Defect. Also Laterals @ 61.7' & 139.4' 75% full of Grease Patch Repair BVV & clean Laterals	$122,219	$164,995	
5		MAP 3-B3-5	29				PARTRIDGE ST	8/29/2012	524	SPS130009	U/S	8	VCP	128	128.4	2_Major	84	60.3' BVV. 128.4' MSA (RBJ). No Reversal Video. Major Defect. Patch Repair 184.3' , Cut & Clean RBJ	$50,622	$68,340	
5		MAP 3-B3-1	30				8TH STREET	8/1/2012	5273	SPP110021	D/S	6	Clay Tile	325	325.2	2_Major	85	80.7' BVV. Major Defect. Ending MH was 11420. We checked GIS & changed it. Patch Repair	$96,099	$129,734	
5		MAP 2-2-2	3				MOEN STREET	7/2/2012	2068	SPJ070008	D/S	8	Clay Tile	111	108.7	2_Major	86	0' Small BVV. Major Defect Patch Repair	$43,762	$59,079	
5		MAP 3-B3-1	11				STANFORD AVENUE	8/3/2012	5140	SPP120018	D/S	8	VCP	334	329.5	2_Major	87	316' Small BVV. Major Defect Patch Repair	$131,799	$177,929	
5		June Map 1	5				KNOTT STREET	6/7/2012	1682	SPG090002	D/S	10	VCP	408	412.8	2_Major	88	327.6' BVV. Major Defect Patch Repair	$201,069	$271,443	
5		June Map 1	22				KNOTT STREET	6/27/2012	918	SPH120008	D/S	8	Clay Tile	427	424.8	2_Major	89	336.9' BSV. Major Defect Patch Repair	$168,346	$227,267	
5		MAP 4-B1-5	17				11th STREET	9/19/2012	527	SPM180005	D/S	8	VCP	283	282.6	2_Major	90	176.7' Small BVV. Major Defect. Inspection Report shows JOL @ 176.7'. It was JOM & we changed it Patch Repair	$111,416	$150,412	
5		MAP 3-B2-6	10				CHAPMAN AVE	8/30/2012	6027	SPT090020	U/S	10	VCP	320	296.8	2_Major	92	286.1' Small BSV. Major Defect Patch Repair	$157,701	$212,897	
5		Map 1 May	16				FAIRCHILD STREET	5/17/2012	986	SPE080004	D/S	8	VCP	260	257.1	2_Major	93	254.3' BVV. End of the Sewer Lane. Major Defect Patch Repair	$102,506	$138,383	
5		MAP 4-B1-5	2				HARBOR BLVD	9/26/2012	571	SPR160022	D/S	8	VCP	71	228	2_Major	94	7' Small BVV. Moderate Defect Patch Repair	$28,136	$37,984	
5		June Map 1	20				BELGRAVE AVE	6/27/2012	1409	SPE090035	D/S	8	VCP	350	353.3	2_Major	95	253.7' BSV. Major Defect Patch Repair	$137,989	$186,285	
5		Map 1 May	8				VANGUARD AVENUE	5/16/2012	1481	SPG090042	D/S	8	VCP	227	225.7	2_Major	96	Continuous Fractures & Cracks. Major Defect Reline Pipe	$89,503	$120,830	

Table 5-5 (Continued)
Structural Replacement/Rehabilitation

Phase	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	Location	CCTV Date	Pipe		Direction of Camera	Size (in)	Material	Length (ft)	CCTV Length (ft)	Priority	Ranking	Comments	Construct Costs ($)	Total Cost (Const, Engin, Inspection, & Admin) ($)	Completed
							Street Name		Existing Sewer ID	Previous Sewer ID.											
5		MAP 3-B2-2	3				HOLYOAK LANE	8/16/2012	6562	SPR080005	D/S	8	VCP	345	353.8	2_Major	97	Cracks & Fractures. Major Defect Reline Pipe	$136,200	$183,871	
5		MAP 3-B2-2	1				HOLYOAK LANE	8/16/2012	6561	SPR080004	U/S	8	VCP	325	343.9	2_Major	98	Cracks & Fractures. Major Defect Reline Pipe	$128,147	$172,998	
5		MAP 3-6	17				WESTLAKE STREET	7/26/2012	5397	SPO120006	D/S	8	Clay Tile	336	336.1	2_Major	101	Inspection Report shows 11' BVV. This is RPP (Patch Repair). Too Many Fractures & Cracks. Major Defect Should Reline	$132,647	$179,074	
5		MAP 1	8				VANGUARD AVENUE	5/11/2012	1067	SPG090020	D/S	8	VCP	246	245	2_Major	102	Cracks & Fractures . Major Defect Reline Pipe	$97,117	$131,108	
5		MAP 3-B3-4	32				LEMONWOOD LANE	8/28/2012	4461	SPQ130026	D/S	8	VCP	205	201.1	2_Major	103	Inspection Report shows 77.3' & 115.6' BVV. Those are FM and we changed them. Cracks & Fractures, Major Defect Reline Pipe	$80,931	$109,256	
5		MAP 3-5	13				LAW DRIVE	7/24/2012	2922	SPN100033	D/S	8	Clay Tile	280	271.6	2_Major	104	Major Reline Pipe	$110,540	$149,228	
5		MAP 3-B3-1	24				LAMPSON AVENUE	8/2/2012	5087	SPP110012	D/S	6	Clay Tile	130	124.6	2_Major	105	Major Reline Pipe	$38,491	$51,963	
5		MAP 3-B2-5	11				FIREBRAND STREET	8/27/2012	6508	SPS090004	D/S	8	VCP	269	273.5	2_Major	106	Cracks & Fractures. Major Defect Reline Pipe	$106,197	$143,366	
5		MAP 3-B2-2	2				HOLYOAK LANE	8/16/2012	6563	SPR080006	D/S	8	VCP	265	256.5	2_Major	107	Cracks & Fractures. Major Defect Should Reline	$104,618	$141,234	
5		MAP 3-B2-5	10				FIREBRAND STREET	8/27/2012	6509	SPS090005	D/S	8	VCP	270	271.3	2_Major	108	Cracks & Fractures. Major Defect Reline Pipe	$106,592	$143,899	
5		MAP 2 July-1	14				DALE STREET	6/21/2012	1901	SPK070030	D/S	8	VCP	358	367	2_Major	111	Cracks & Fractures. Major Defect Reline Pipe	$141,502	$191,028	
5		MAP 3-1	5				HACKAMORE RD	7/20/2012	2880	SPN090020	D/S	8	VCP	350	355.4	2_Major	112	Cracks & Fractures. Major Defect Reline Pipe	$138,174	$186,535	
5		June Map 2 B1	68				KATELLA AVE	6/14/2012	1839	SPK050026	D/S	8	VCP	225	228.4	2_Major	113	Too many Cracks . Major Defect Should Reline	$88,826	$119,916	
5		MAP 4-B2-2	22				ALLEY	9/12/2012	334	SPK160028	D/S	8	VCP	264	262.5	2_Major	114	Fractures & Cracks. Major Defects. Should Reline	$104,226	$140,704	YES
5		MAP 3-B5	22				NELSON STREET	9/6/2012	3024	SPO120017	D/S	6	VCP	150	200	2_Major	115	Too Many Crack. Major Defect Reline Pipe	$44,413	$59,958	
5		MAP 2-1-2	7				LANAKILA LN	7/10/2012	2670	SPM110026	D/S	8	VCP	240	241.6	2_Major	116	Cracks & Fractures. Major Defect Reline Pipe	$94,748	$127,910	
5		MAP 2-1-4	17				FAYE AVE	7/18/2012	2876	SPN090017	D/S	8	VCP	270	272.3	2_Major	117	Cracks & Fractures. Major Defect Reline Pipe	$106,592	$143,899	
5		MAP 3-B3-1	26				8TH STREET	8/2/2012	5278	SPP120007	D/S	8	Clay Tile	331	328	2_Major	118	Cracks & Fractures. Major Defect Should Reline	$130,516	$176,196	
5		MAP 3-B5	29				GARDEN GROVE	9/5/2012	4449	SPP130031	D/S	10	VCP	50	330.1	2_Major	119	Too Many Crack. Major Defect Reline Pipe	$24,674	$33,310	
5		June Map 2 B1	2				PARADE STREET	6/4/2012	3447	SPM990025	D/S	8	VCP	300	303.2	2_Major	120	300.7' Small BVV, end of the Sewer Lane. Major Defect Patch Repair	$118,435	$159,888	
							Totals							**39,468**	**39,560**				**$15,785,171**	**$21,309,980**	

Reaches that require extensive improvements that cannot be completed by the District (such as removal and replacement and/or lining) will be addressed by the District after the sewer capacity improvement projects have been implemented.

The District has implemented the capacity improvement projects at approximately $4 million per year, and the rehabilitation/replacement projects at approximately $1 million per year since 2005. District completed 85% of the capacity improvement projects by the year 2019. Most of the remaining capacity improvement projects needs coordination with neighboring cities. The District will implement the rehabilitation/replacement projects at approximately $4 million per year, and the remaining capacity improvement projects at approximately $1 million per year from the year 2020.

Follow-up CCTV Inspection and Condition Assessment Program

As structural deficiency mitigation projects are implemented, their condition will be reclassified, and they will be included in the appropriate category for follow up CCTV inspection and condition assessment work.

- Portions of the system rated as Severe will be inspected annually and evaluated to determine if immediate corrective action is needed.
- Portions of the system rated to be as **Major** will be CCTV inspected and evaluated once every three (3) years
- Portions of the system rated to be as **Moderate** will be CCTV inspected and evaluated once every five (5) years
- Portions of the system rated to be as **Minor** will be CCTV inspected and evaluated once every ten (10) years
- Portions of the system with no deficiencies will be CCTV inspected and evaluated once every ten (10) years
- Hot Spots, except siphons, will be CCTV inspected and evaluated before and after each maintenance activity and cleaning for one year to establish the appropriateness of the method, and then annually.

Following the system assessment program herein, the District has performed a Follow-up CCTV inspection and developed a rehabilitation plan for Phase I in 2018. Findings and newly identified rehabilitation/replacement projects can be found in the 2018 report.

D. STAFF TRAINING

Order 2006-0003-DWQ requires that the District "*provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained.*"

The District's Preventative Maintenance Program details the training program and the certification requirements.

The District requires its staff members to obtain/maintain California Water Environment Association's (CWEA) certification, which is the current industry standard for training and certifying sewer collection system

maintenance staff. Failure to meet these requirements may ultimately be a cause for termination or reassignment. Currently, the District staff members hold the following CWEA certification (shown in Table 5-6).

The District utilizes the following options to meet the requirements of its validated training program:

- Bi-weekly all hands safety training
- Annual confined space training
- Attendance of training sessions for new equipment and on the latest technologies
- Attendance of seminars and conferences on areas concerning sanitary sewer systems
- Attendance of classes on sanitary sewer systems

Table 5-6
District CWEA Certification

Sanitation Staff	Title	Email	CWEA Grade	CWEA Certification No.
Brent Hayes	Sanitation Supervisor	brenth@ci.garden-grove.ca.us	4	60124009
Frank Howenstein	Repair/Construction Foreman	frankh@ci.garden	3	90623004
Stephen Porras	Sanitation Foreman	Stevepoci.garden-grove.ca.us	3	60723037
Jose Gomez	Senior Sewer Maintenance Worker	joseg@ci.garden-grove.ca.us	2	80722112
Allen Kirzhner	Sewer Maintenance Worker	allenk@ci.garden-grove.ca.us	2	100522003
Jesse Viramontes	Senior Sewer Maintenance Worker	jessev@ci.garden-grove.ca.us	2	80122007
John Zavala	Heavy Equipment Operator	johnz@ci.garden-grove.ca.us	1	80721004
Victor Blas	Sewer Maintenance Worker	victorb@ci.garden-grove.ca.us	1	80721005
Frank De La Rosa	Sewer Maintenance Worker	frankd@ci.garden-grove.ca.us	1	100121007
Brandon Nunez	Utility Worker	brandonn@ci.garden-grove.ca.us	1	1308216493
Michael Guerrero	Utility Worker	mguerrero@ci.garden-grove.ca.us	1	1308220071

Training documentation includes date and time of training, agenda, the instructor, and the list of attendees.

The District bi-weekly internal training program includes topics that range from sanitary sewer overflow response to general health and safety to proper maintenance techniques.

The District requires its contractors who will perform flow monitoring, CCTV inspection, maintenance, repair, or replacement on the gravity system, as well as pump stations and force mains to possess the level of training and certifications appropriate for their duties. Determination of the appropriate training certification may be the responsibility of the contractor; however the District staff may require additional certification.

E. EQUIPMENT INVENTORY

Order 2006-0003-DWQ requires that the District must, "*provide equipment and replacement part inventories, including identification of critical replacement parts.*"

The current equipment inventory is included in the Preventative Maintenance Program and detailed in Appendix D-5. The equipment inventory is updated as equipment and materials are added or removed.

SECTION 6
DESIGN AND PERFORMANCE PROVISIONS

The Order requires that the District:

(a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for rehabilitation and repair of existing sewer systems; and

(b) Procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances and for rehabilitation and repair projects.

6-1 COMPLIANCE:

The documents used for design and performance evaluations include the following:

- Design Criteria for Sewer Facilities (Appendix E-1)
- Sewer Standard Drawings (Appendix E-2)
- Standards Specifications for Public Works Construction (Green Book)

The Design Criteria for Sewer Facilities document and standard plans that are on file at the Municipal Service Center and can be downloaded from the City of Garden Grove's official website:

https://ggcity.org/pdf/pw/landdev/Sewer%20Standard%20Specs.pdf

The Sewer Standard Drawings are on file at the Municipal Service Center and can be downloaded from the City of Garden Grove's official website:

https://ggcity.org/pdf/pw/landdev/Series%20S.pdf

A. STANDARDS FOR INSTALLATION, REHABILITATION, AND REPAIR

Order 2006-0003-DWQ requires that the District possess, "*Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for rehabilitation and repair of existing sewer systems.*"

Design Criteria for Sewer Facilities

Standards for design and construction of sewer facilities are included in the District's Design Criteria for Sewer Facilities document. Topics covered in this document include, but are not limited to the following:

Minimum Pipe Size	Minimum Velocity
Pipe Depth to Diameter Ratio	Minimum and Maximum Slope
Design Flow Criteria	Standard Location and Alignment
Stationing Procedure	Minimum Depth
Sewer Pipe Material	Manhole Design Requirements
Clean-Outs	Separation Requirements between Utilities

House Laterals	Private Sewer System
Sewer Pump Station Design Requirements	Standard Sewer Notes

Sewer Standard Drawings

The District's Sewer Standard Drawings include details for manholes, laterals, joints, cleanouts, bedding, concrete encasements, concrete slope anchors, steel casing pipes, wye connections, PVC liner, gas flap installation, grease interceptors, and criteria for separation of water and sewer mains.

As part of this SSMP update, the District has updated its Sewer Standard Drawings.

B. STANDARDS FOR INSPECTION AND TESTING OF NEW, REHABILITATED AND REPAIRED FACILITIES

Order 2006-0003-DWQ requires that the District possess, "*Procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances and for rehabilitation and repair projects."*

Standards for the inspection and testing of the District's sewer facilities are included in the Design Criteria for Sewer Facilities document and the American Public Works Association Standard Specification and Drawings for Public Works Construction ("The Greenbook"). The inspection and testing procedures shall adhere to the following:

- CCTV Inspection (Greenbook 306-1.4.1)
- Water Exfiltration Testing (Greenbook 306-1.4.2)
- Water Infiltration Testing (Greenbook 306-1.4.3)
- Air Pressure Test (Greenbook 306-1.4.4)
- Water Pressure Test (Greenbook 306-1.4.5)
- Equipment Installation and Testing (Design Criteria for Sewer Facilities 17.28)

SECTION 7
OVERFLOW EMERGENCY RESPONSE PLAN

The Order requires that at a minimum Overflow Response Plan must include:

(a) *Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;*
(b) *A program to ensure appropriate response to all overflows;*
(c) *Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially effected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP (Monitoring and Reporting Program). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;*
(d) *Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;*
(e) *Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and*
(f) *A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewaters to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and the impact of the discharge.*

7-1 COMPLIANCE

The District has developed a stand-alone Overflow Emergency Response Plan (OERP) to comply with the aforementioned Waste Discharge Requirements. The District's Overflow Emergency Response Plan was updated in December 2019 and included in Appendix E-3.

A. INITIAL NOTIFICATION PROCEDURES

Order 2006-0003-DWQ requires that at a minimum, the OERP must include "*proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;"* An overflow may be detected by District employees or by others. To report a spill the public can call the following:

Garden Grove Municipal Services Center	**(714) 741 – 5395 (Business hours)**
Police Dispatch	**9 – 1 – 1 (After Hours)**

The City of Garden Grove's website include the telephone number to call in the event of a sewer overflow:

https://ggcity.org/sewers

B. SSO RESPONSE

Order 2006-0003-DWQ requires that at a minimum, the SSOERP must include, "*A program to ensure appropriate response to all overflows."*

The Overflow Emergency Response Plan document includes a step-by-step procedure to respond to all types of sanitary sewer overflows. The report details the response procedure for the following spill events:

- Gravity sewer spills
- Pump station failure
- Force main leak
- Spills from District's sewer system that terminate in Orange County Public Works storm drain facilities
- Private Spill
- Spills originating from OCSD sewers
- Spills originating from the Cities of Anaheim, Orange, Stanton, Westminster, Santa Ana, and Midway Sanitary District sewers

C. NOTIFYING THE APPROPRIATE REGULATORY AGENCIES

Order 2006-0003-DWQ requires that at a minimum, the OERP must include "*procedures to ensure prompt notification to appropriate regulatory agencies and other potentially effected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP (Monitoring and Reporting Program). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;"*

Spill report receipts from the public during business hours are directed to the City's Water Services Division main office and then forwarded to the Sanitation Supervisor, Foreman, and other key staff. The District's Overflow Emergency Response Plan includes a comprehensive contact list, including the telephone numbers of individuals that may need to be reached in the event of a sanitary sewer spill. This list includes, but is not limited to the following:

- State Office of Emergency Services (Current SSOERP identifies the agency as California Emergency Management Agency)
- Orange County Public Works (Orange County Flood Control District)
- Regional Water Quality Control Board
- Orange County Health Care Agency
- Nearby Sewer Agencies
- On-Call Contractors
- Orange County Sanitation District
- Garden Grove Fire Department
- Garden Grove Police Department
- Environmental Consultant

The Overflow Emergency Response Plan includes procedures for reporting all spills electronically, to the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS) website, (**http://ciwqs.waterboards.ca.gov/)**. In doing so, District's spills are automatically added to the Statewide Sanitary Sewer Overflow Database. The Water Services Manager, Sanitation Supervisor, and Sanitation Foreman are registered to submit draft and certified reports on the CIWQS website.

D. TRAINING

Order 2006-0003-DWQ requires that at a minimum, the OERP must include "*procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained."*

The District's Overflow Emergency Response Plan includes the requirement to ensure its staff is properly trained on the overflow emergency response procedures. Training consists of annual office and annual in-the field training.

E. ADDITIONAL RESPONSE ACTIVITIES

Order 2006-0003-DWQ requires that at a minimum, the OERP must include "*procedures to address emergency operations, such as traffic and crowd control and other necessary response activities."*

The Overflow Emergency Response Plan document includes the procedures to address emergency operations which include traffic control, crowd control, and public notification:

F. PREVENTION OF DISCHARGE OF WASTEWATERS TO SURFACE WATERS AND IMPACT ON ENVIRONMENT

Order 2006-0003-DWQ requires that at a minimum, the OERP must include "*a program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewaters to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and the impact of the discharge."*

The SSOERP includes the procedures to minimize the impact of a sanitary sewer overflow. In the event that a sewer overflow reaches waters of the State, the District shall adhere to the monitoring requirements of Orange County Health Care Agency. The District's Environmental Consultant will also be contacted to assess the sewer overflow.

SECTION 8
FATS, OILS, AND GREASE CONTROL PROGRAM

The Order requires:

The District shall evaluate its service area to determine whether a FOG control program is needed. If the District determines that a FOG program is not needed, the District must provide justification for why it is not needed. If FOG is found to be a problem, the District must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

(a) An implementation program and schedule for a public education outreach program that promotes proper disposal of FOG;
(b) A plan and a schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
(d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, Best Management Practices (BMP) requirements, record keeping and reporting requirements;
(e) Authority to inspect grease producing facilities, enforcement authorities, and whether the enrollee has sufficient staff to inspect and enforce the FOG ordinance;
(f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section ; and
(g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (F) above.

8-1 COMPLIANCE

The District initially completed and certified its FOG Control Program on May 1, 2009. As part of this SSMP report document, the District has provided an updated and expanded FOG Control Program that complies with the aforementioned Waste Discharge Requirements.

A. EDUCATION AND OUTREACH

Order 2006-0003-DWQ requires the District to manage "*an implementation program and schedule for a public education outreach program that promotes proper disposal of FOG".*

The District's public education and outreach program includes topics such as proper Fats, Oils, and Grease (FOG) disposal procedures, kitchen best management practices, grease control device maintenance, etc. The District's outreach consists of the following:

- FOG Control Program for FSEs document provided to Food Service Establishments (FSEs) (Appendix F-1)

- FOG control and Sanitary Sewer Overflow (SSO) prevention brochures (Appendix F-2)
- Water utility bill inserts
- Grease lids and information for proper disposal for residents that have had a FOG induced spill.
- Public awareness at school outreach events and municipal events
- Outreach media – i.e. rulers, notepads, bracelets, pens and pencils
- Sewer saver display
- Knock the Grease Goblin out of the Sewer game

The public informational material regarding proper FOG disposal is provided in the following languages: English, Spanish, Korean, and Vietnamese. The District also posts educational information on the City of Garden Grove's website:

https://ggcity.org/environmental-compliance/environmental-compliance-businesses

B. FOG DISPOSAL

Order 2006-0003-DWQ requires the District to implement "*a plan and a schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area.*

A list of liquid waste haulers that are registered with the County of Orange Health Care Agency is provided to the FSEs, and included in Appendix F-3. The list details waste haulers that are capable of servicing grease interceptors and grease traps.

Orange County Sanitation District (OCSD) treatment facilities are the approved locations for disposal of FOG and wash water disposal.

C. LEGAL AUTHORITY

Order 2006-0003-DWQ requires the District to possess "*the legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG"*

The District's Code of Regulations (Appendix C-1) and Ordinance No. 6 (Appendix C-3), FOG Control Regulations Applicable to FSEs, provide the legal authority to regulate the FOG discharges and identify measures to prevent SSOs and blockages caused by FOG. It prohibits FSEs from the following activities:

- Disposing wastewater with FOG concentrations of more than 200 ppm, into the sewer collection system **(Code of Regulations, Section 4.10.050)**
- Using food grinders **(Ordinance No. 6, Section 4.30.030A)**
- Adding FOG emulsifying agents or biological additives to the system **(Ordinance No. 6, Section 4.30.030B)**
- Discharging cooking wastes to the system **(Ordinance No. 6, Section 4.30.030C)**
- Discharging wastewater from dishwashers to grease control devices **(Ordinance No. 6, Section 4.30.030D)**
- Discharging wastewater with temperatures greater than 140°F into a grease control device (GCD).

(Ordinance No. 6, Section 4.30.030E)

- Introducing biological additives for grease remediation, without FOG Control Program Manager's approval **(Ordinance No. 6, Section 4.30.030F)**
- Discharging waste from toilets, urinals, washbasins, and other fixtures that handle fecal material to the sewer system that is attached to the GCD **(Ordinance No. 6, Section 4.30.030G)**
- Discharging wastes from Grease Control Devices (GCD) into the sewer system **(Ordinance No. 6, Section 4.30.030H)**

Ordinance No. 6 also provides the District the authority for the following:

- The District may require the installation of a grease interceptor **(Ordinance No. 6, Section 4.30.050A&B).**
- The District requires the food service establishments to comply with Best Management Practices including the removal of food grinders, proper employee training, installation of grease traps, use of grease rendering containers, and proper documentation **(Ordinance No. 6, Section 4.30.050C)**
- Commercial property owners are responsible for the installation of grease interceptors when multiple food service establishments are located on a single parcel. **(Ordinance No. 6, Section 4.30.070)**
- If the District must respond to a sanitary sewer overflow that originates from FSEs, the property owner will be responsible to pay the cost for the District's containment and clean up effort. **(Ordinance No. 6, Section 4.30.080)**
- FSEs are required to submit two (2) copies of site, mechanical, and plumbing plans regarding new or existing grease interceptors, grease traps, monitoring facility, and/or metering facility. These drawings may require signature by a civil, chemical, mechanical, or electrical engineer. **(Ordinance No. 6, Section 4.30.090A&B)**
- FSEs with grease interceptors must comply with the District's requirements for sizing, installation, access, and maintenance. **(Ordinance No. 6, Section 4.30.100)**
- Grease traps may be required when excess grease may be introduced into the District's sewer system. FSEs must comply will the District's requirements which include but are not limited to permitting, equipment sizing, maintenance, inspection, and prohibitions. **(Ordinance No. 6, Section 4.30.110)**
- As necessary, the District may require FSEs to construct any monitoring and sampling facilities to inspect the efficiency of the FSEs' grease interceptors or grease traps. **(Ordinance No. 6, Section 4.30.120)**
- The District has the legal authority to inspect all FSEs to ensure that they are in compliance with the District's Code of Regulations and Ordinance 6. **(Ordinance No. 6, Section 4.30.130)**
- The District requires FSEs to report the discharge of any material, including FOG, to the sewer system since it may lead to sewer blockages and/or spills. FSEs are required to contact the appropriate local Health Department, City, District, and the FOG Control Program Manager. **(Ordinance No. 6, Section 4.30.140)**
- The District has the legal authority to enforce the requirements included in the District's Code of Regulations and Ordinance 6. **(Ordinance No. 6, Section 4.30.150)**

The terms used throughout Ordinance No. 6 and throughout this document have been defined as the following:

Best Management Practices(Structural and Non-Structural)	Schedules of activities, prohibitions of practices, maintenance procedures, installation of equipment, and other management practices to control and limit the introduction of FOG to sewer facilities.
Board	The Board of Directors of the District.
Change in Operations	Any change in the ownership, food types, or operational procedures that have the potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively causes or creates a potential for SSOs to occur.
Composite Sample	A collection of individual samples obtained at selected intervals based on an increment of either flow or time. The resulting mixture (composite sample) forms a representative sample of the waste stream discharged during the sample period. Samples will be collected when a wastewater discharge occurs.
Discharger	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer and/or stormwater drain system. Discharger shall mean the same as User.
District	The Garden Grove Sanitary District.
Sewer Facility or System	Any property belonging to the District used in the treatment, reclamation, reuse, transportation, or disposal of wastewater.
Effluent	Any liquid outflow from the Food Service Establishment that is discharged.
Fats, Oils, and Grease ("FOG")	Any substance such as a vegetable or animal product that is used in, or is a byproduct of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.
FOG Control Program	The FOG Control Program required by and developed pursuant to RWQCB Order No. RS- 2002-0014, Section (c)(12)(viii).
FOG Control Program Manager	The individual designated by the District to administer the FOG Control Program. The FOG Control Program Manager is responsible for all determinations of compliance with the program.
Food Service Establishment	Facilities defined in California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785, and any commercial entity within the boundaries of the District, operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to

	be removed by a Type I or Type II hood, as defined in CURFFL Section 113785. A limited food preparation establishment is not considered a Food Service Establishment when engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.
Food Grinder	Any device installed in the plumbing or sewage system for the purpose of grinding food waste or food preparation by-products for the purpose of discharging it into the sanitary sewer collection system
Grease Control Device	Any grease interceptor, grease trap or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap or collect or treat FOG prior to it being discharged into the sewer system. "Grease control device" may also include any other proven method to reduce FOG subject to the approval of the District.
Grease Interceptor	A multi-compartment device that is constructed in different sizes and is generally required to be located, according to the California Plumbing Code, underground between a Food Service Establishment and the connection to the sewer system. These devices primarily use gravity to separate FOG from the wastewater as it moves from one compartment to the next. These devices must be cleaned, maintained, and have the FOG removed and disposed of in a proper manner on regular intervals to be effective.
Grease Trap	A grease control device that is used to serve individual fixtures and have limited effect and should only be used in those cases where the use of a grease interceptor or other grease control device is determined to be impossible or impracticable.
General Manager	The individual duly designated by the Board of Directors of the District to administer this Ordinance.
Grab Sample	A sample taken from a waste stream on a onetime basis without regard to the flow in the waste stream and without consideration of time.
Hot Spots	Areas in sewer lines that have experienced sanitary sewer overflows resulting in the need for frequent maintenance and cleaning.
Inflow	Water entering a sewer system through a direct stormwater runoff connection to the sanitary sewer, which may cause an almost immediate increase in wastewater flows.
Infiltration	Water entering a sewer system, including sewer service connections, from the ground through such means as defective pipes, pipe joints, connections, or manhole walls.

Inspector	A person authorized by the District to inspect any existing or proposed wastewater generation, conveyance, processing, and disposal facilities
Interceptor	A grease interceptor.
Interference	Any discharge which, alone or in conjunction with discharges from other sources, inhibits or disrupts the District's sewer system, treatment processes or operations; or is a cause of violation of the District's NPDES or Waste Discharge Requirements or prevents lawful sludge use or disposal.
Local Sewering Agency	Any public agency or private entity responsible for the collection and disposal of wastewater to the District's sewer facilities duly authorized under the laws of the State of California to construct and/or maintain public sewers.
NPDES	The National Pollutant Discharge Elimination System; the permit issued to control the discharge of liquids or other substances or solids to surface waters of the United States as detailed in Public Law 92-500, Section 402.
New Construction	Any structure planned or under construction for which a sewer connection permit has not been issued.
Person	Any individual, partnership, firm, association, corporation or public agency, including the State of California and the United States of America.
Prohibited Discharge	Any discharge which contains any pollutant, from public or private property to (i) the stormwater drainage system; (II) any upstream flow, which is tributary to the stormwater drain system; (III) any groundwater, river, stream, creek, wash or dry weather arroyo, wetlands area, march, coastal slough, or (iv) any coastal harbor, bay or the pacific Ocean.
Public Agency	The State of California and/or any city, county, special district, other local governmental authority or public body of or within this State.
Public Sewer	A sewer owned and operated by the District, or other local Public Agency, which is tributary to the District's sewer facilities.
Regulatory Agencies	Regulatory Agencies shall mean those agencies having regulatory jurisdiction over the operations of the District, including, but not limited to: a) United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA). b) California State Water Resources Control Board (SWRCB). c) California Regional Water Quality Control Board, Santa Ana Region (RWQCB). d) South Coast Air Quality Management District (SCAQMD). e) California Department of Health Services (DOHS).

Remodeling	A physical change or operational change causing generation of the amount of FOG that exceed the current amount of FOG discharge to the sewer system by the Food Service Establishment in an amount that alone or collectively causes or create a potential for SSOs to occur; or exceeding a cost of $50,000 to a Food Service Establishment that requires a building permit, and involves anyone or combination of the following: (1) Under slab plumbing in the food processing area, (2) a 30% increase in the net public seating area, (3) a 30% increase in the size of the kitchen area, or (4) any change in the size or type of food preparation equipment.
Sample Point	A location approved by the District, from which wastewater can be collected that is representative in content and consistency of the entire flow of wastewater being sampled.
Sampling Facilities	Structure(s) provided at the user's expense for the District or user to measure and record wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.
Sewer System Overflow (SSO)	A sanitary sewer system overflow (SSO), or sewage spill, is each instance of a discharge of sewage from a sanitary sewer system.
Sewage	Wastewater
Sewer Facilities or System	Any and **all** facilities used for collecting, conveying, pumping, treating, and disposing of wastewater and sludge.
Sewer Lateral	A building sewer as defined in the latest edition of the California Plumbing Code. It is the wastewater connection between the building's wastewater facilities and a public sewer system.
Sludge	Any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or pretreatment facility.
Stormwater Drainage System	Street gutter, channel, storm drain, constructed drain, lined diversion structure, wash area, inlet, outlet or other facility, which is part of or tributary to the county-wide stormwater runoff system and owned, operated, maintained or controlled by County of Orange, the Orange County Flood Control District or any city, and used for the purpose of collecting, storing, transporting or disposing of stormwater.
User	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer system. User shall mean the same as Discharger.
Waste	Sewage and any and all other waste substances, liquid, solid, gaseous or radioactive, associated with human habitation or of human or animal nature, including such wastes placed within containers of whatever nature prior to and for the purpose of disposal.
Manifest	That receipt which is retained by the generator of wastes for disposing recyclable wastes or liquid wastes as required by the District.

Waste Minimization Practices	Plans or programs intended to reduce or eliminate discharges to the sewer system or to conserve water, including, but not limited to, product substitutions, housekeeping practices, inventory control, employee education, and other steps as necessary to minimize wastewater produced.
Waste hauler	Any person carrying on or engaging in vehicular transport of waste as part of, or incidental to, any business for that purpose.
Wastewater	The liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.
Wastewater Constituents and Characteristics	The individual chemical, physical, bacteriological, and other parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of wastewater.

D. GREASE REMOVAL DEVICES

Order 2006-0003-DWQ requires the District to possess "*requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, Best Management Practices (BMP) requirements, record keeping and reporting requirements."*

Ordinance No. 6, FOG Control Regulations Applicable to FSEs, describe the FOG control regulations and requirements regarding installation, maintenance, best management practices, record keeping, and reporting for grease removal devices.

Grease Interceptors

Installation Requirement – Grease interceptors are required during the construction of new FSEs. The FOG Program Manager also has the authority to require the installation of grease control devices at FSEs that are responsible or that have contributed to an SSO.

Design Standards– Ordinance No.6, states that "*Grease interceptor sizing shall conform to the current edition of the California Plumbing code. Grease interceptors shall be constructed in accordance with the design approved by the FOG Control Program Manager and shall have a minimum of two compartments with fittings designed for grease retention."*

The District has prepared a standard plan for grease interceptors, which is included in Appendix E-2. All new grease interceptors shall be designed and constructed to these standards.

Maintenance Requirements – FSE's are required to fully pump out and clean their grease interceptors on a schedule approved by the District's FOG Control Manager. Generally the grease interceptor cleaning should be performed before the FOG and solids exceed 25% of the interceptor capacity. Historical data regarding the grease accumulation time and solids level are used to create the inspection schedule. Interceptors are required to be cleaned every six (6) months, at minimum. Currently, the District monitors the FSE's cleaning logs to verify that the cleaning is performed as scheduled and to make any changes to the cleaning frequency

as the District determines is necessary.

If at any time the FOG and solid accumulation within a grease interceptor is greater than 25%, FSEs shall fully pump out and clean the grease interceptor.

Grease Traps

Installation Requirement – Where FOG may be introduced into a system, FSEs may be required to install grease traps on fixtures prior to receiving a Garden Grove Plumber's permit.

Design Standards– Ordinance No.6, states that "*Sizing and installation of grease traps shall conform to the current edition of the California Plumbing Code."*

Maintenance Requirements – FSEs are required to maintain their grease traps per a schedule approved by the District's FOG Control Program Manager. Accumulated grease will be removed as part of the maintenance procedures.

Grease Removal Device Requirements

Best Management Practices - Best Management Practices (BMPs) must be implemented to limit the discharge of FOG to the sewer collection system. Kitchen BMPs are detailed in the FOG Control Program for FSEs document, which is included in Appendix F-1. The kitchen BMPs include the requirements regarding drain screens, grease containers, dishwashing, spill prevention, usage of absorbent materials and towels, and food waste disposal.

Record Keeping and Reporting – The District requires all documents be retained for a minimum of 5 years. This includes training records, grease control device maintenance and cleaning records, private spill records, plumbing maintenance records, grease hauling records, and any other information regarding the District's FOG Control Program.

FSEs are required to keep records of all maintenance inspections. At minimum, the District requires the FSE's to log the following information on its maintenance logs:

- Date of Inspection
- Company and Person performing inspection
- Type of Service (Pumping/hauling, repairs, etc)
- Disposal Site
- Estimated Volume Pumped
- Service Comments
- For grease interceptors, the FOG and solid accumulation level shall also be tracked.

E. FSE INSPECTIONS

Order 2006-0003-DWQ requires the District to possess the "*authority to inspect grease producing facilities, enforcement authorities, and whether the enrollee has sufficient staff to inspect and enforce the FOG ordinance."*

For new FSEs, the District performs a one-time comprehensive inspection, consisting of an evaluation of the FSE's operations, wastes produced, process conducted, FOG sources, kitchen equipment, grease control devices, waste hauling activities, BMPs, and lateral maintenance.

In addition to the comprehensive initial inspection, the District conducts annual inspections at each FSE. The inspections may be conducted during normal business hours at the consent of the owner or with an administrative inspection warrant. Ordinance No. 6 provides the District the necessary legal authority to inspect FSEs and to enforce any non-compliance to the District's FOG Control Program. FSEs shall provide the District access to all grease control devices, monitoring or metering facilities, and the local stormwater system. The FOG Control Program Manager may require FSEs to construct monitoring or metering facilities, as needed for proper maintenance and inspection.

Authorized inspectors also have complete access to all training records, grease hauler manifests, maintenance records, and any other information relating to the FOG Control Program. The authorized inspector may sample and test any area runoff, groundwater, process discharge, and/or treatment system discharge. The authorized inspector may perform smoke and dye tests or require closed circuit television inspections of the private sewers. Photographs and videos may also be taken during the inspection.

During each annual inspection, the authorized inspector will review all maintenance records, conduct visual inspections, and perform any other tests as needed to evaluate the FSEs compliance with the requirements of Ordinance No. 6 and any permits issued to the FSEs. The requirements include but are not limited to:

- Product waste produced by the FSEs meet the current permitting requirements
- Processes conducted by the FSEs meet the current permitting requirements
- Chemicals used and stored on the property meet the current permitting requirements
- Illicit connections to the sewer system and/or grease control devices are prohibited
- Restriction of wastewater with FOG concentrations of more than 200 ppm, into the sewer collection system. Prohibition of cooking waste or wastes from grease control devices to be discharged to the sewer system.
- Prohibition of food grinders
- Restrictions of adding FOG emulsifying agents or biological additives to the system. Prohibition of biological additives added to system for grease remediation, without FOG Control Program Manager's approval.
- Prohibiting the discharge of wastewater from dishwashers to grease control devices and restrictions of wastewaters with temperatures greater than 140°F
- Prohibition of discharging waste from toilets, urinals, washbasins, and other fixtures that handle fecal material to the sewer system that is attached to the grease control devices.
- FSEs do not meet the minimum requirements for proper Kitchen Best Management Practices, as detailed in the FOG Control Program for FSEs (Appendix F-1)

Follow-up inspections may be required when a violation has the potential of resulting in a SSO, such as when a FSE has a history of multiple spills or if a grease control device is in urgent need of cleaning and/or maintenance. The District will notify the FSE in writing, of any violation to Ordinance No. 6 or any permit, and it will include the corrective action to bring the FSE into compliance. Corrective actions typically consist of repairing broken facilities or installing grease control devices. For lesser infractions, such as incomplete maintenance records and logs, the FSEs may be required to fax additional information to the District.

The District performs annual inspections at the FSEs to ensure that they are complying with the regulations of Ordinance No. 6. The District has the power to enforce fines or imprisonment for violations of severe nature.

F. FOG CLEANING AND MAINTENANCE SCHEDULE

Order 2006-0003-DWQ requires the District to plan "*an identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section.*"

Reaches that require additional cleaning have been identified from CCTV inspections, cleaning records, manhole inspections, spill history. Additional cleaning may be necessary to prevent spills caused by FOG, roots, clogged siphons, and undersized pipes.

The District provides additional cleaning for the hot spot reaches on the following interval:

- Monthly (76 Reaches)
- Quarterly (63 Reaches)
- Semiannually (48 Reaches)
- Monthly – Inspection Only (52 Reaches)
- Quarterly – Inspection Only (12 Reaches)
- Semiannually – Inspection Only (11 Reaches)

The District evaluates the inspection reports and SSO history annually to determine if additional FSEs need to install grease control devices, if the Hot Spot cleaning list needs to be updated, or if additional requirements need to be added to the District's FOG Control Program.

G. SOURCE CONTROL MEASURES

Order 2006-0003-DWQ requires the District's plan to include "*development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.*"

The District has complied with this requirement by:

- Providing public education and outreach programs with regards to FOG control
- Adopting Ordinance No. 6
- Developing and distributing a FOG Control for FSEs document
- Requiring grease interceptors at FSEs
- Inspecting FSEs – BMPs and grease interceptors

- Identifying sewer Hot Spots, including those due to FOG
- Providing frequent cleaning of sewer Hot Spots related to FOG

SECTION 9
SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

The Order requires:

The District shall prepare and implement a CIP that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

- ***(a)*** ***Evaluation****: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from the SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;*
- ***(b)*** ***Design Criteria:*** *Where design criteria do not exist or are deficient, under take the evaluation identified in (a) above to establish appropriate design criteria; and*
- ***(c)*** ***Capacity Enhancement Measures:*** *The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.*
- ***(d)*** ***Schedule:*** *The enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (A)-(C) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14.*

9-1 COMPLIANCE

The SECAP was initially developed in 2005. A hydraulic model of the District's sewer system was developed utilizing the information contained in the District's wastewater collection system GIS, "As constructed" plans, and field surveying.

The District updated its SECAP in July 2006, November 2007, April 2009, and April 2012. As part of this SSMP report, the District has updated its hydraulic model to include all completed improvement projects. All updates since the previous 2012 SECAP was completed are detailed within this report.

A. EVALUATION

Order 2006-03-DWQ requires the SECAP to include *"Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from the SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;*

The System Evaluation and Capacity Assurance Plan (SECAP) document was developed and is kept up-to-date using a calibrated hydraulic model of the District's sewer system.

Model Geometry

All pipes are included in the model except for laterals and private sewer lines. Pipe diameters, lengths, slopes, and roughness coefficients are entered in the model. "As Constructed" plans were used to update the existing model geometry.

Unit Flow Factors

Initially, the system-wide unit flow factors developed for the District's 2001 Sewer Master Plan were used to estimate the average dry weather flows. They were then refined with the extensive flow monitoring data developed by the District staff. The existing development unit flow factors used in the current hydraulic model are illustrated in Table 9-1. For future developments with detailed planning information, the factors provided in Table 9-2 were implemented.

Table 9-1
Unit Wastewater Flow Factors

Land Use Designation	Land Uses	Unit Flow Factor	Units
R-1	Low Density Residential	1,450	GPD/AC
R-2	Medium Density Residential	2,750	GPD/AC
R-3	High Density Residential	3,000	GPD/AC
C-1	Neighborhood Commercial	1,500	GPD/AC
C-2	Community Commercial	1,500	GPD/AC
M-1	Light Industrial	2,000	GPD/AC
O-P	Office/Professional	1,500	GPD/AC
O-S	Open Space	10	GPD/AC
PUD	Planned Unit Development	1,000	GPD/AC
BCSP, CCSP, HCSP	Specific Plans	1,000	GPD/AC

Table 9-2
Unit Wastewater Flow Factors – Future Developments

Land Uses	Unit Flow Factor	Units
Low Density Residential	300	GPD/DU
Medium Density Residential	275	GPD/DU
High Density Residential	225	GPD/DU
General Commercial or Retail	125	GPD/TSF
Office	100	GPD/TSF
Hotel	150	GPD/Room
Restaurant	1,000	GPD/TSF
Medical Facility	1,000	GPD/TSF

Neighboring Agencies

Wastewater flows from several neighboring jurisdictional agency territories enter the Garden Grove Sanitary District's collection system. The average dry weather flows for these agencies were estimated based upon the tributary area land uses and the unit flow factors listed in Table 9-1, and input into the model.

Future Developments

Since the District's service area is mostly developed, the hydraulic analyses were conducted utilizing fully developed and occupied tributary areas with peak dry weather flows. This included future flows from identified projects, which will increase the wastewater flows above the levels estimated by the unit flow factors. Future Development loads are included in Table 9-3.

Peaking Dry Weather Flow Factor

Peak dry weather flow is calculated from average dry weather flow utilizing the following formula:

$$Qpdw = 2.0 \times Qadw^{0.92} \text{ (cfs) or}$$
$$Qpdw = 1.9313 \times Qadw^{0.92} \text{ (mgd)}$$

Qadw = average dry weather flow
Qpdw = peak dry weather flow

This formula was developed from an extensive flow monitoring effort throughout the District's service area. It may be modified in the future for specific large single land use areas, such as resort hotels and industrial, based upon additional flow monitoring results.

Peak Wet Weather Flow Factor

Peak wet weather flow (Qpww) is calculated from peak dry weather flow utilizing the following formula:

$$Qpww = 1.4 \times Qpdw$$

This relationship was developed from the data collected in 2003 during the preparation of Garden Grove Sanitary District's Inflow and Infiltration Reduction Plan.

B. DESIGN CRITERIA

Order 2006-0003-DWQ requires that the SECAP include "Design Criteria: where design criteria do not exist or are deficient, under take the evaluation identified in (a) above to establish appropriate design criteria."

The District maintains design criteria in the Garden Grove Sanitary District Design Criteria and Standards for Sewer Facilities document which meet the requirements of Order 2006-0003-DWQ. The standards can be found on the City of Garden Grove's website listed below and at the Municipal Service Center.

https://ggcity.org/pdf/pw/landdev/Sewer%20Standard%20Specs.pdf

Table 9-3
Future Developments

Area	Location	Land Use	No. Units	Unit Type	Area (ac)	Density (du/ac)	Unit Flow Factor (gpd/unit)	Total Ave Load (gpd)
1	**Construction Completed**							
2	***Eliminated***							
3	SE corner of Chapman Ave and Brookhurst St	High Density Residential	250	DU	8.3	30.1	225	56,250
4	NW corner of Brookhurst and Garden Grove Blvd (Brookhurst Traingle)	High Density Residential	550-750	DU	16.6	33-45	225	168,750
		General Commercial/Retail	200	TSF			125	25,000
							Subtotal for Area 4	**193,750**
5	***Eliminated***							
6	***Eliminated***							
7	***Construction Completed***							
8	***Eliminated***							
9	South of Garden Grove Blvd at West St (Olson II)	Low Density Residential	10-30	DU	0.4	25-75	300	9,000
10	NE corner of Garden Grove Blvd and West St	High Density Residential	200	DU	2.3	86.2	225	45,000
11	***Eliminated***							
12	***Construction Completed***							
13	***Construction Completed***							
14	Northwest corner of Harbor Blvd and Twintree Ln	Hotel	800	Rooms	3.9		150	120,000
		Restaurant	10	TSF			1000	10,000
		Indoor/Outdoor Water Park[1]	100	TSF				10,600
							Subtotal for Area 14	**140,600**
15	North of Chapman Ave and west of Harbor Blvd (Langsdon Pit)	Hotel	238	Rooms	9.4		150	35,700
		Restaurant	5	TSF			1,000	5,000
							Subtotal for Area 15	**40,700**
16	Northeast corner of Harbor Blvd and Twintree Ln	Hotel	700	Rooms	5.2		150	105,000
		Restaurant	15	TSF			1,000	15,000
							Subtotal for Area 16	**120,000**
17	***Construction Completed***							
18	***Eliminated***							
19	***Eliminated***							
20	***Eliminated***							
21	***Construction Completed***							
22	***Construction Completed***							
23	***Construction Completed***							
24	***Construction Completed***							
25	SE corner of Adelle St and Stanford Ave	Low Density Residential	12	DU	0.8	15.5	300	3,600
26	***Construction Completed***							
27	***Construction Completed***							
28	***Construction Completed***							

Table 9-3 (Continued)
Future Developments

Area	Location	Land Use	No. Units	Unit Type	Area (ac)	Density (du/ac)	Unit Flow Factor (gpd/unit)	Total Ave Load (gpd)
29	South side of Garden Grove Blvd, west of Brookhurst St (Galleria Project)	High Density Residential	400	DU	2.2	184.0	225	90,000
		General Commercial/Retail	17	TSF			125	2,125
							Subtotal for Area 29	**92,125**
30	8218-8242 Garden Grove Blvd	High Density Residential	46	DU	1.51	30.5	225	10,350
31	***Construction Completed***							
32	***Construction Completed***							
33	SW Corner of Chapman Ave and Brookhurst St	Restaurant	11	TSF	25.9		1000	11,000
34	North side of Garden Grove Blvd, east of Galway St	General Commercial/Retail	30	TSF	1.0		125	3,750
35	South side of Garden Grove Blvd at Village Rd	General Commercial/Retail	60	TSF	3.1		125	7,500
36	West side of Nelson St, north of Stanford Ave	Low Density Residential	12	DU	1.3	9.4	300	3,600
37	SW corner of Garden Grove Blvd and Euclid St	General Commercial/Retail	15	TSF	0.5		125	1,875
38	North side of Hazard Ave, west of Euclid St	High Density Residential	90	DU	6.0	15.0	225	20,250
39	Between Harbor Blvd and Buaro St	General Commercial/Retail	12	TSF	0.6		125	1,500
40	Southwest corner of Harbor Blvd and Twintree Ln	Hotel	400	Rooms	3.74		150	60,000
41	South side of Garden Grove Blvd, east of Euclid St, at 11222 Garden Grove Boulevard	High Density Residential	16	DU	0.65	24.6	225	5,538
42	West side of Buaro St, south of Chapman Ave, at 12111 Buaro Street	Medium Density Residential	17	DU	1	17.0	275	4,675
43	Northwest corner of Lewis St and Garden Grove Blvd, at 12901 Lewis Street.	Low Density Residential	70	DU	9	7.8	300	2,333
44	9861 11th Street, Garden Grove,	Medium Density Residential	31	DU	1.76	17.6	275	4,844
45	9841 11th Street, Garden Grove	Medium Density Residential	10	DU	0.44	22.7	275	6,250

[1] *It is estimated that a maximum of 10,000 gpd of the carry off will enter the sewer system. Each filtration system will use 600 gpd per backwash and the backwash of the systems will be time staggered to flush only one of the systems per day. The indoor/outdoor water park load is not peaked in the model.*

Existing Collection System

The existing collection system pipes are considered capacity deficient when the calculated peak dry weather depth to diameter ratio is above 0.62. The capacity available between depth to diameter ratios of 0.62 and 0.82 is reserved for wet weather flows.

New Collection System Pipes

All collection system pipes 15 inches in diameter and smaller will be designed to flow at or below a depth to diameter ratio of 0.50 with peak dry weather flows. The capacity available between depth to diameter ratios of 0.50 and 0.82 is reserved for wet weather flows.

New pipes 18 inches in diameter and larger will be designed to flow at or below a depth to diameter ratio of 0.62. The capacity available between depth to diameter ratios of 0.62 and 0.82 is reserved for wet weather flows.

Where possible, a minimum velocity of 2.0 feet per second will be provided with average dry weather flows.

C. CAPACITY ENHANCEMENT MEASURES

Order 2006-0003-DWQ requires that the SECAP include "Capacity Enhancement Measures: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding."

Model Results

The capacity deficiencies identified through hydraulic analysis are illustrated on Figure 9-1. Summary of the results for the model calculated capacity deficient reaches is provided in Table 9-4.

Deficiency Verification

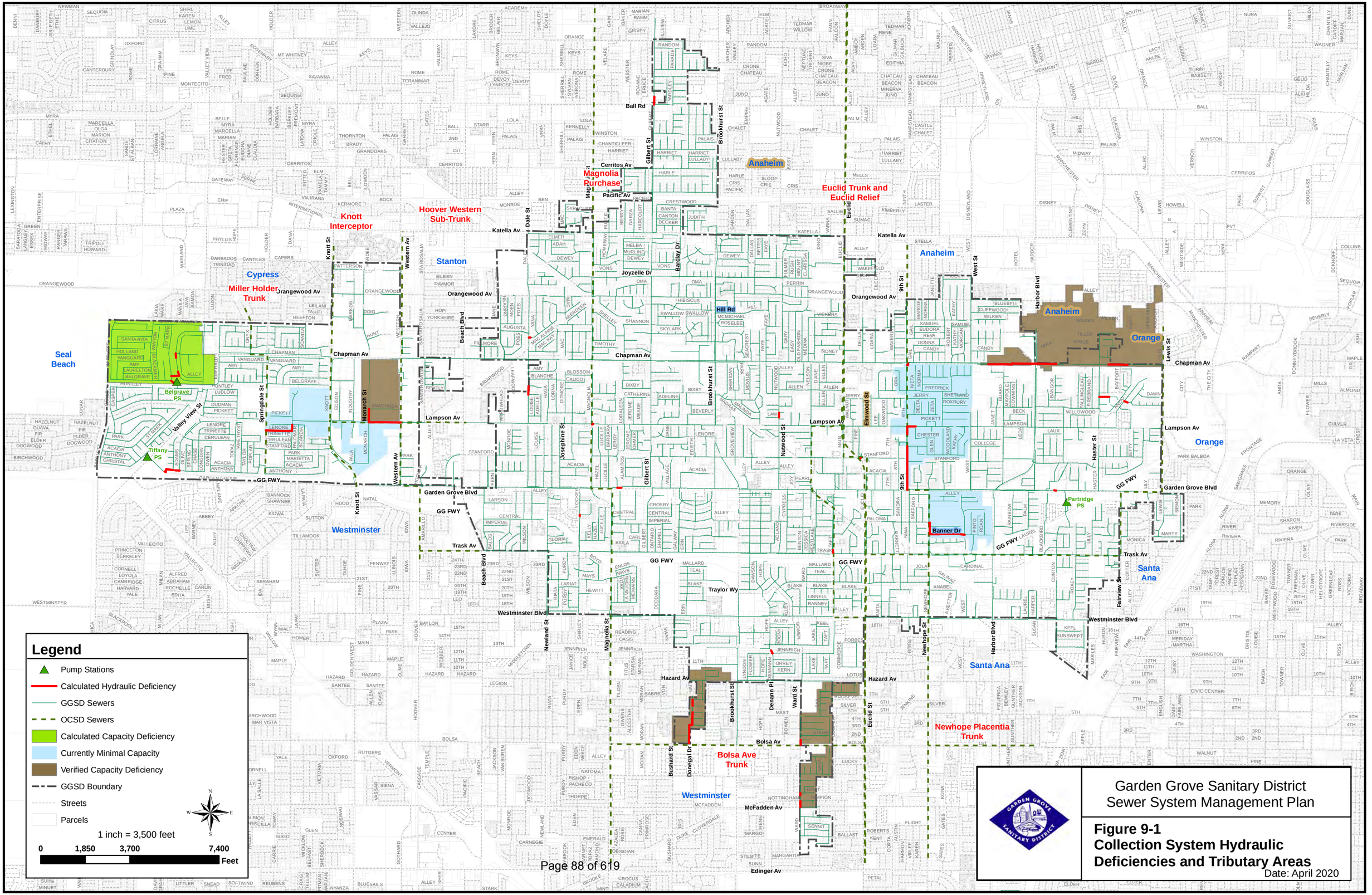
Most of the sewers identified as deficient by the model were flow monitored to determine the level of deficiency since the model average and peak dry weather flows are typically higher than the actual flows.

Based on the flow monitoring results, the sewers identified as deficient per the hydraulic model were categorized into three categories: verified deficiency (PDWF d/D >0.62), minimal capacity (PDWF d/D between 0.50 and 0.62), calculated deficiency (PDWF d/D <0.50). The associated tributary areas are colored accordingly in Figure 9-1. The category for the associated recommended improvement project is noted in Table 9-5, Recommended Capacity Improvement Projects, under the "Comments" column.

The sewers categorized as "calculated deficiency" are possible future deficiencies, and will be monitored as new development that may increase the wastewater flows are proposed within their tributary areas. Additionally, some of the sewers will be flow monitored again following the implementation of the diversion projects in order to verify the adequacy of the relief provided.

Capital Improvement Program

The Capital Improvement Program for capacity improvements is formulated to eliminate the deficiencies in accordance with Garden Grove Sanitary District's criteria. It consists of replacement with larger pipes, diversions to adjacent or nearby Orange County Sanitation District facilities, diversions to Garden Grove Sanitary District facilities with adequate capacity, or combinations of these.



Garden Grove Sanitary District
Sewer System Management Plan

Figure 9-1
Collection System Hydraulic Deficiencies and Tributary Areas
Date: April 2020

Table 9-4
Pipes with Model Calculated Capacity Deficiencies

Pipe ID	U/S MH	D/S MH	Dia (in)	Length (ft)	Slope	PDWF (mgd)	ADWF (mgd)	PDWF Vel (ft/s)	PDWF d/D	PDWF Depth (ft)	Full Flow (mgd)
159	7316	7318	8	262	0.0020	0.3503	0.1563	1.55	1.00	0.67	0.3491
222	6929	6932	8	262	0.0028	0.3122	0.1379	2.01	0.65	0.43	0.4133
225	6932	6933	8	130	0.0021	0.3722	0.1670	1.65	1.00	0.67	0.3569
226	6933	6934	8	380	0.0020	0.3890	0.1752	1.72	1.00	0.67	0.3502
227	6934	6935	8	90	0.0020	0.4203	0.1906	1.86	1.00	0.67	0.3502
228	6935	6936	8	300	0.0022	0.4922	0.2263	2.18	1.00	0.67	0.3701
230	6938	6929	8	266	0.0016	0.3008	0.1325	1.59	0.78	0.52	0.3148
391	7301	7302	8	200	0.0026	0.3203	0.1419	1.97	0.68	0.45	0.3993
401	7312	7313	8	194	0.0014	0.3385	0.1507	1.50	1.00	0.67	0.2918
890	8104	8098	8	540	0.0022	0.3619	0.1620	1.85	0.81	0.54	0.3661
1132	7729	7732	8	258	0.0020	0.2780	0.1216	1.73	0.67	0.45	0.3516
1133	7731	7730	8	362	0.0020	0.2878	0.1263	1.73	0.69	0.46	0.3494
1134	7732	7731	8	362	0.0020	0.2818	0.1234	1.72	0.68	0.45	0.3494
1202	7384	7386	8	253	0.0026	0.3344	0.1487	2.00	0.70	0.46	0.4030
1306	7730	7405	8	367	0.0020	0.2953	0.1299	1.74	0.71	0.47	0.3494
1393	7780	8652	8	325	0.0020	0.3431	0.1529	1.77	0.80	0.53	0.3502
1770	8098	8099	12	660	0.0015	0.6420	0.3021	1.92	0.63	0.63	0.8942
1772	8099	7189	12	660	0.0011	0.6820	0.3225	1.68	0.75	0.75	0.7519
1815	8695	8696	8	250	0.0016	0.2538	0.1101	1.55	0.68	0.46	0.3132
1816	8696	8697	8	167	0.0016	0.2538	0.1101	1.55	0.68	0.45	0.3149
1817	8697	8698	8	299	0.0024	0.3390	0.1509	1.92	0.73	0.49	0.3843
1821	8701	8702	8	360	0.0020	0.5148	0.2376	2.28	1.00	0.67	0.3502
1822	8702	8703	8	361	0.0020	0.5148	0.2376	2.28	1.00	0.67	0.3499
1823	8698	8701	8	338	0.0021	0.3917	0.1766	1.74	1.00	0.67	0.3614
2097	8918	BELGRAVE1	12	90	0.0004	0.8337	0.4013	1.64	1.00	1.00	0.4867
2098	8653	8918	12	200	0.0012	0.8309	0.3998	1.64	1.00	1.00	0.8114
2564	11229	11231	8	69	0.0019	0.2637	0.1148	1.67	0.66	0.44	0.3406
2788	11612	11613	8	250	0.0020	0.3009	0.1325	1.75	0.71	0.48	0.3502
2789	11613	11614	8	296	0.0020	0.3068	0.1354	1.75	0.73	0.48	0.3496
2790	11614	11615	8	226	0.0020	0.3068	0.1354	1.75	0.73	0.48	0.3494
2791	11615	11611	8	241	0.0020	0.3096	0.1367	1.77	0.73	0.48	0.3531
3374	8400	8402	8	317	0.0017	0.2606	0.1134	1.59	0.68	0.45	0.3232
3706	10895	11440	8	345	0.0020	0.3368	0.1498	1.76	0.79	0.53	0.3477
3848	11440	10866	8	340	0.0020	0.3428	0.1527	1.77	0.80	0.53	0.3502
4360	10893	10894	8	260	0.0020	0.3236	0.1434	1.76	0.76	0.51	0.3502
4361	10894	10895	8	240	0.0021	0.3288	0.1460	1.80	0.76	0.50	0.3574
4804	10866	10867	8	330	0.0022	0.3434	0.1530	1.83	0.77	0.52	0.3632
4805	10867	13176	8	175	0.0030	0.3737	0.1678	2.15	0.72	0.48	0.4309
5624	13176	13175	8	12	0.0100	0.5934	0.2773	3.82	0.65	0.43	0.7831
6028	12252	12253	10	155	0.0011	0.5010	0.2307	1.42	1.00	0.83	0.4702

Table 9-4 (Continued)
Pipes with Model Calculated Capacity Deficiencies

Pipe ID	U/S MH	D/S MH	Dia (in)	Length (ft)	Slope	PDWF (mgd)	ADWF (mgd)	PDWF Vel (ft/s)	PDWF d/D	PDWF Depth (ft)	Full Flow (mgd)
6029	12253	12254	10	240	0.0011	0.5023	0.2314	1.43	1.00	0.83	0.4762
6050	12526	12533	8	360	0.0021	0.2609	0.1135	1.72	0.64	0.42	0.3549
6154	13023	13054	12	225	0.0022	1.2801	0.6395	2.52	1.00	1.00	1.0884
6219	13025	13026	12	180	0.0020	0.7997	0.3835	2.25	0.66	0.66	1.0325
6220	13026	13027	12	300	0.0022	0.8201	0.3941	2.35	0.65	0.65	1.0829
6221	13028	13023	12	30	0.0017	0.8333	0.4010	2.10	0.73	0.73	0.9426
6225	13031	13032	15	268	0.0017	1.3219	0.6623	2.39	0.66	0.82	1.7160
6226	13050	13051	12	320	0.0022	1.2943	0.6473	2.55	1.00	1.00	1.0798
6227	13051	13052	12	320	0.0022	1.3082	0.6548	2.58	1.00	1.00	1.0798
6230	13054	13050	12	150	0.0023	1.2801	0.6395	2.52	1.00	1.00	1.0992
6276	13032	13057	15	353	0.0019	1.3219	0.6623	2.51	0.63	0.79	1.8235
6541	12476	12477	10	258	0.0043	0.7896	0.3783	2.98	0.70	0.59	0.9355
6542	12477	12478	10	260	0.0044	0.8014	0.3844	3.01	0.71	0.59	0.9443
6543	12478	12479	10	316	0.0042	0.8044	0.3859	2.95	0.72	0.60	0.9246
6544	12479	12480	10	348	0.0039	0.8103	0.3890	2.84	0.76	0.63	0.8816
6545	12533	12534	10	325	0.0013	0.4188	0.1899	1.60	0.70	0.58	0.5043
6560	13027	13028	12	325	0.0018	0.8333	0.4010	2.14	0.72	0.72	0.9669
6579	12536	12537	10	165	0.0040	0.7677	0.3668	2.86	0.71	0.59	0.8980
6580	12537	12476	10	472	0.0042	0.7766	0.3715	2.94	0.70	0.58	0.9242

In prioritizing the capacity improvement projects, the highest ranking was given to the verified deficiencies with the larger tributary areas and flows. Pipes with calculated deficiencies from the hydraulic model but flow monitoring depth to diameter ratios lower than 0.62 were ranked based upon the flow monitoring depth to diameter ratios. When the depth to diameter ratios were the same, the pipes with the larger flows were ranked higher. These pipes will be monitored in the future as additional development proposals are made in their tributary areas. When the actual peak dry weather depth to diameter ratio exceed the District criteria, these improvements will be implemented.

Sometimes when segments of sewers with lower priorities are located in the same vicinity as a higher priority project, an exception is made to include these lower priority sewers in that project to provide a more economically feasible Capital Improvement Program.

The recommended capacity improvement projects are included in Appendix G-1. Table 9-5 provides a prioritized listing of the recommended projects, as well as their implementation costs. The cost estimates provided in Table 9-5 are based upon 2019 dollars (average Engineering News Record Index of 12050.39 for the Los Angeles Area). Implementation cost is determined by adding 35 percent of construction cost to cover engineering, inspection, and administration. Future costs will have to be adjusted based upon changes in the engineering and construction costs. The total cost of the remaining capacity improvement projects is $12.5M ($10.2M for Future projects and $2.3M for In Design Projects).

The collection system capacity improvement projects recommended are based upon the best information currently available. Detailed studies will be necessary to formulate the precise scope of each project.

Budget

The District's Sewer CIP budget is set at: approximately $5 million annually. The rate ordinance has built in escalation for annual adjustments for increases in construction costs. The District maintains a CIP for both the system capacity improvements and rehabilitation and replacement projects.

The District implements the capacity improvement projects at approximately $4 million per year, and the rehabilitation/replacement projects at approximately $1 million per year. Once the system capacity improvements have been completed, the District will implement rehabilitation and replacement projects at approximately $5 million per year."

Project Descriptions

The following includes brief descriptions of the recommended capacity improvement projects, along with an implementation schedule and estimated costs based upon planning level information available at the present. It is pointed out again that the estimated costs are based on 2019 dollars reflecting Engineering News Record Index for the Los Angeles Area (ENRLA) of 12057.54. Future budgeting will have to consider increases in construction costs.

Each project will have to be re-evaluated during the design stage for determining the appropriate sizes based upon detailed utility investigations. The Garden Grove Sanitary District will review the proposed schedule annually, and revise it as necessary based upon the more detailed information available to provide the most efficient service to its customers.

Priority No. 1 (Project No. 1) Garden Grove Boulevard, Coast Street and Trask Avenue

Project No. 1 was completed in Fiscal Year 2006-2007. The project started at Fern Street and Garden Grove Boulevard; extended west to Coast Street, south to Trask Avenue, and west to Beach Boulevard where it terminated at the Orange County Sanitation District's 15-inch Trask Branch of the Hoover-Western Sub-Trunk.

The depths of flow in the sewers involved were previously determined to exceed the District's criterion. The project included replacement of existing sewers and construction of 488 feet of 12-inch diameter sewer in Garden Grove Boulevard between Fern Street and Coast Street, 830 feet of 15-inch diameter sewer in Coast Street north of Garden Grove Freeway, and 1928 feet of 18-inch diameter sewers in the rest of Coast Street and in Trask Avenue.

Some of the flow tributary to this project is from the City of Stanton territories at Sycamore Street and Garden Grove Boulevard. The City of Stanton paid its fair share in the new facility based upon the ratio of average flow contributed by each agency. The total cost of the project was $2.29 Million.

Priority No. 2 (Project No. 2) Brookhurst Street and Garden Grove Boulevard

Project No. 2 was completed in Fiscal Year 2006-2007. The project started at Brookhurst Street and Stanford Avenue; extended south to Garden Grove Boulevard, and east to Century Boulevard, where it terminated at Orange County Sanitation District's 54-inch Euclid Relief Trunk Sewer.

Project No. 2 diverts all the wastewater flow south at Brookhurst Street and Stanford Avenue, and intercepts the flows from the area north of Garden Grove Boulevard between Brookhurst Street and Century Boulevard. It eliminated the previously identified capacity deficiencies in:

- Garden Grove Boulevard between Nutwood Street and Galway Street
- Cypress Street south of Imperial Avenue
- Flower Street between Garden Grove Boulevard and Trask Avenue
- Galway Street between Garden Grove Boulevard and Central Avenue
- Stanford Avenue between Brookhurst Street and Brookhurst Way
- Brookhurst Way between Stanford Avenue and Garden Grove Boulevard
- Trask Avenue between Flower Street and Gilbert Street

It also provided capacity for the following proposed development projects:

- Brookhurst Triangle Development north of Garden Grove Boulevard and west of Brookhurst Street
- Meredith Development south of Garden Grove Boulevard and west of Brookhurst Street

This project included 602 feet of 15-inch sewer and 936 feet of 18-inch sewer in Brookhurst Street, 1640 feet of 18-inch sewer in Garden Grove Boulevard between Brookhurst Street and Nutwood Street, and 1403 feet of 21-inch sewer between Nutwood Street and Century Boulevard.

The total cost of the project was $4.89 Million.

Table 9-5
Recommended Capacity Improvement Projects

Priority No.	Project No.	Location	Description	U/S MH	D/S MH	Existing Size (in)	Proposed Size (in)	Length (ft)	Estimated Construction Cost ($) 2019	Total Cost (Cons, Engin, Inspect, &Admin) ($)	Comments	Completed Project Cost ($)	Plan No.	Year Scheduled for Construction
1	1	Garden Grove Boulevard	Fern Street to Coast Street	7719	7104	8	12	488	-		Cost includes Project No. 4	2,290,000	W-485	2007
			Garden Grove Boulevard to north of Route 22	7104	7107	10	15	830	-					
		Coast Street	North of Route 22 to Trask Avenue	7107	7115	10	18	1,796	-					
		Trask Avenue	Coast Street to Beach Boulevard	7115	7121	10	18	132	-					
2	2	Brookhurst Street	Stanford Avenue to south of Stanford Avenue	13323	11371	-	15	602	-			4,890,000	W-486	2007
		Brookhurst Street	South of Stanford Avenue to Garden Grove Boulevard	11371	11342	-	18	936	-					
		Garden Grove Boulevard	Brookhurst Street to Nutwood Street	11342	11379	-	18	1,640	-					
		Garden Grove Boulevard	Nutwood Street to Century Boulevard	11379	11623	-	21	1,403	-					
3	4	Newland Street	Gloria Avenue to Trask Avenue	7665	8608	8	12	246	-		Cost included in Project No. 1	See Project No. 1	W-485	2007
4	77	Joyzelle Street	Gilbert Street to Magnolia Avenue	10108	10387	8	15	2,487	-			1,030,000	W-492	2007
5	5	Chapman Avenue	Nearing Drive to Beach Boulevard	13526	8363	10	18	1,590	-			606,000	W-500	2008
		Nearing Drive	Augusta Drive to Fillmore Street	8540	13572	8	15	686	-					
		Nearing Drive	Fillmore Street to Chapman Avenue	13572	13526	8	15	489	-					
6	14	Augusta Drive	Dale Street to Nearing Drive	13585	8540	8	12	1,165	-			415,000	W-500	2008
7	15	Chapman Avenue	Dale Street to Nearing Drive	8520	13526	8	12	985	-			869,000	W-500	2008
8	7	Volkwood Street	Twintree Lane to Lampson Avenue	13807	13806	8	15	822	-			2,532,000	W-505	2008
		Volkwood Street	Lampson Avenue to Aspenwood Avenue	13806	13805	8	18	1,454	-					
		Aspenwood Avenue	Volkwood Street to Harbor Boulevard	13805	13753	8-10	18	1,132	-					
		Palm Street	Aspenwood Avenue to Garden Grove Boulevard	13753	13721	-	21	1,126	-					
		Garden Grove Boulevard	Palm Street to east of Harbor Boulevard	13721	13668	-	21	1,379	-					
9	9	Garden Grove Boulevard	East of Harbor Boulevard to West Street	13668	12897	10	24	1,184	-			845,000	W-505	2008
10	6	Gilbert Street	North of Shannon Avenue to Chapman Avenue	10090	13884	10	15	1,737	-			665,000	W-506	2009
11	101	Tiffany Pump Station	1560 gpm firm capacity						-			2,493,000	W-512	2010
12	8	Buaro Street	Hoggan Avenue to Lampson Avenue	14370	12147	10	12	274	-			686,800	W-517	2009
		Buaro Street	Lampson Avenue to Harbor Boulevard	12147	14361	10	15	2,320	-					
13	102	Belgrave Pump Station	1560 gpm firm capacity						-			2,469,056	W-538	2013
14	3	Garden Grove Boulevard	East of Village Center Drive	7140	7142	8	12	373	-			272,100	Stanton (S-1001-L thru S-1007-L)	2009
		Garden Grove Boulevard	Village Center Drive to Hoover Street	7142	7174	8	15	1,115						

Table 9-5 (Continued)
Recommended Capacity Improvement Projects

Priority No.	Project No.	Location	Description	U/S MH	D/S MH	Existing Size (in)	Proposed Size (in)	Length (ft)	Estimated Construction Cost ($) 2019	Total Cost (Cons, Engin, Inspect, &Admin) ($)	Comments	Completed Project Cost ($)	Plan No.	Year Scheduled for Construction
15	20	Lampson Avenue	Haster Street to Volkwood Street	12643	13806	8	15	1,453	-					
16	21	Lampson Avenue	Easement to Haster Street	12627	12643	8	15	1,350	-			1,471,623	W-533	2012
17	10	Lampson Avenue at Euclid Street	Divert to Euclid Trunk Sewer (OCSD)	12790	-	-	-	-	-			27,800	Sewer Diversion	2007
18	11	Trask Avenue west of Clinton Street	Divert to Newhope Placentia Trunk (OCSD) east of East Garden Grove Wintersburg Channel	6754	-	-	-	-	-			154,600	W-529	2010
19	12	Brookhurst Street	Hill Road to Chapman Avenue	14748	14744	10	18	1,952	-			1,702,600	W-525	2010
20	13	Brookhurst Street	Parliament Ave to Hill Road (includes double barrel 10" & 12" siphon under Anaheim Barber Channel)	14762	14748	10	15	1,463	-		Cost included in Project No. 12	See Project No. 12	W-525	2010
21	16	Parliament Avenue	Palmwood Drive to Dallas Drive	9832	14803	8	12	1,096	-		Cost included in Project No. 12	See Project No. 12	W-525	2010
22	17	Parliament Avenue	Dallas Drive to Brookhurst Street	14803	14762	8	12	1,603	-		Cost included in Project No. 12	See Project No. 12	W-525	2010
23	19	Galway Street	Central Avenue to Trask Avenue	12052	14517	12	18	1,358	-			1,478,900	W-516 & W508	2009
		Garden Grove Boulevard	Brookhurst Way to Galway Street	11337	14483	8	12	1,449	-					
		Garden Grove Boulevard	East of Brookhurst Way	11335	11337	8	10	297	-					
24	22	Easement	Twintree Circle to Lampson Avenue	12625	12627	8	New Alignment and diversion.	730	-			See Projects 20 & 21	W-533	2012
25	23	Twintree Circle	East of Anzio Circle	12647	12625	8	New Alignment and diversion.	495	-					
26	24	TwIntree Lane	Haster Street to Volkwood Street	12644	13807	8	15	1,463	-					
27	25	Haster Street	Allard Avenue to Twintree Lane	12656	12644	8	10	500	-			970,000	W-537	2012
28	26	Haster Street	Blue Spruce Avenue to Garden Grove Boulevard	12427	13228	8	12	1,426	-					
29	27	Cerritos Avenue	Brookhurst Street to Perdido Street (89% Anaheim)	9144	9215	8	15	1,185	-			633,855	Anaheim Plan No. 2991	2014
30	28	Cerritos Avenue	Perdido Street to Gilbert Street (89% Anaheim)	9215	9343	8	15	1,464	-					
31	32	Lampson Avenue	Walnut Street to Euclid Street	11766	11768	8	12	405	-			963,782	W-542	2013
		Euclid Street	Lampson Avenue to OCSD Euclid Trunk Sewer	11768	12790	8	12	518	-					
32	35	Trask Avenue	Gilbert Street to Magnolia Street	11525	11594	18	21	1,473	-		Cost included in Project No. 19	See Project No. 19	W-516	2009

Table 9-5 (Continued)
Recommended Capacity Improvement Projects

Priority No.	Project No.	Location	Description	U/S MH	D/S MH	Existing Size (in)	Proposed Size (in)	Length (ft)	Estimated Construction Cost ($) 2019	Total Cost (Cons, Engin, Inspect, &Admin) ($)	Comments	Completed Project Cost ($)	Plan No.	Year Scheduled for Construction
33	45	Gilbert Street	Crosby Avenue to Trask Avenue	12087	11525	8	12	1,824	-		Cost included in Project No. 19	See Project No. 19	W-516	2009
34	90	Newland Street	North of Westminster Avenue	14541	14544	8	Parallel 8"	190	-			23,800	A-1790	2010
35	56	Yockey Street	Divert flow to the parallel line-same elevation	11607	11612	-	8	133	-			61,100	Yockey Sewer Improvements	2008
36	80	Stanford Avenue at Nelson	Divert flow to OCSD in Nelson	13424	-	-	-	-	-			215,700	W-510	2008
37	57	Grove Street	Acacia Avenue to Garden Grove Boulevard	11842	12260	8	12	648	-			350,000	W-509	2008
38	60	Elmwood Street	Jerry Lane to Lampson Avenue	12316	11763	6	8	1,155	-			See Project 32	W-542	2013
		Lampson Avenue	Elmwood Street to Walnut Avenue	11763	11766	8	12	740	-					
39	61	Garden Grove Boulevard	East of Palm Street	12457	13721	10	15	212	-		Cost included in Project No. 7	See Project No. 7	W-505	2008
40	70	Chapman Avenue	Loraleen Street to Magnolia Street	13877	10846	18	24	1,307	-			953,000	W-506	2008
		Chapman Avenue	West of Magnolia Street	10325	10846	8	10	256	-					
41	71	Chapman Avenue	Gilbert Street to Loraleen Street	13884	13877	18	24	1,079	-			853,000	W-506	2008
42	72	Chapman Avenue	East of Gilbert Street	10043	10047	10	15	385	-			2,496,000	W-541	2013
		Chapman Avenue	Brookhurst Street to east of Gilbert Street	14744	10047	15	18	1,913	-					
		Chapman Avenue	East of Gilbert Street to Gilbert Street	10047	13884	15	24	753	-					
53	54	Lampson Avenue	Brookhurst Street to Spruce Street	9445	9481	8	12	565	-		Verified Deficiency	2,129,000	W-555	2014
54	55	Brookhurst Street	Bonser Avenue to Lampson Avenue	9456	9445	8	12	1,355	-		Minimal Capacity			
55	74	Lampson Avenue	Spruce Street to Gilbert Street	9481	9521	10	12	2,023	-		Minimal Capacity			
56	36	Lampson Avenue	Gilbert Street to Leroy Avenue	9521	9111	12	18	1,325	-		Minimal Capacity			
57	64	Joyzelle Street	Barkley Drive to Gilbert Street	10100	10108	8	10	1,255	-		Verified Deficiency	657,854	W-560	2015
81	82	Hill Road	Garden Drive to Brookhurst Street	10203	14748	8	10	774	-		Calculated Deficiency	See Project 64	W-560	2015
72	33	Westminster Avenue	Roxey Drive to Clinton Street	7482	7508	10	15	689	-		Minimal Capacity		SS-089	2013
73	34	Westminster Avenue	Clinton Street to Harbor Boulevard	7508	7556	12	18	2,666	-		Minimal Capacity		SS-089	2013
47	59	Traylor Way	Dawson Street to Brookhurst Street	10507	11369	8	12	917	-		Verified Deficiency	768,000	W-552	2013
48	65	Hope Street	Morningside Drive to Westminster Channel	7264	7265	8	12	193	-		Verified Deficiency; Does not include siphon at Westminster Channel	See Project 59	W-552	2013
		Deanann Place	Jennrich Avenue to Hazard Avenue	7267	7558	8	12	1,134	-					

Table 9-5 (Continued)
Recommended Capacity Improvement Projects

Priority No.	Project No.	Location	Description	U/S MH	D/S MH	Existing Size (in)	Proposed Size (in)	Length (ft)	Estimated Construction Cost ($) 2019	Total Cost (Cons, Engin, Inspect, &Admin) ($)	Comments	Completed Project Cost ($)	Plan No.	Year Scheduled for Construction
58	53	Nutwood Street	Molama Circle to Lampson Avenue	11229	11137	8	10	334	222,510	300,389	Verified Deficiency	1,269,000	W-568	2017
		Nutwood Street	Lampson Avenue to Stanford Avenue	11137	11120	8	12	1,327	1,060,854	1,432,153				
		Nutwood Street	Park Avenue to Garden Grove Boulevard	11122	13361	10	15	966	965,321	1,303,183				
74	44	Imperial Avenue	East of Magnolia Street to Magnolia Trunk (OCSD)	11545	11587	8	10	541	360,413	486,558	Minimal Capacity	See Project 53	W-568	2017
61	91	Trask Avenue	Jackson Street to Coast Street	7076	7115	10	15	525	524,631	708,252	Verified Deficiency	1,471,818	W-586	2017-2018
65	51	Stanford Avenue	Blackthorn Street to Brookhurst Street	11322	13323	8	12	914	730,686	986,426	Minimal Capacity	See Project 91	W-586	2017-2018
77	76	Josephine Street	Acacia to Garden Grove Boulevard	8393	9394	8	10	852	567,601	766,261	Minimal Capacity	See Project 91	W-586	2017-2018
75	63	Newland Street	Route 22 to Gloria Avenue	7660	7665	8	12	1,010	807,432	1,090,033	Minimal Capacity	See Project 91	W-586	2017-2018
45	68	Onyx Street	North of Chapman Avenue	7384	7386	8	10	253	168,548	227,540	Verified Deficiency	See Project 91	W-555	2017-2018
76	93	Westminster Avenue	Anita Place to Euclid Street	11967	11974	12	15	620	619,564	836,412	Minimal Capacity	753,000	W-585	2018-2019
51	99	Ward Street	Davit Avenue to McFadden Avenue	7312	7318	8	12	652	544,399	734,939	Verified Deficiency	719,809	W-581	2020
52	96	Ward Street	North of Bolsa Avenue	7301	7302	8	10	200	139,161	187,868	Verified Deficiency	see Project 99	W-581	2020
62	92	Donegal Drive	Madison Circle to Bolsa Avenue	6938	6937	8	12	1,478	1,234,083	1,666,012	Verified Deficiency			In Design
71	31	Lampson Avenue at 9th Street	Divert to South Anaheim Interceptor (OCSD)	12526	12533	8	10	360	486,647	656,973	Minimal Capacity			In Design
43	46	Monarch Street	Anaconda Avenue to Lampson Avenue	8104	8098	8	12	540	450,883	608,692	Verified Deficiency			2020-2025
44	75	Lampson Avenue	Monarch Street to Western Avenue	8098	7189	12	15	1,320	1,377,698	1,859,892	Minimal Capacity			2020-2025
46	43	Lamplighter Street	Killarney Avenue to Lenore Ave	7729	7732	8	12	258	206,255	278,444	Minimal Capacity			2020-2025
		Lenore Avenue	Lamplighter Street to Springdale Street	7732	7404	8	12	1,204	1,005,302	1,357,157				2020-2025
50	56A	Yockey Street	Reestablish 8" connection to easterly sewer and split flow	11607	14201	-	8	51	28,389	38,325	Verified Deficiency			2020-2025
59	79	Chapman Avenue	West of Harbor Boulevard (for Anaheim/Orange Flows)	13028	13052	12	18	1,045	1,308,813	1,766,897	Verified Deficiency; Anheim / Orange Funded			2020-2025
60	67	Chapman Avenue	East of Harbor Boulevard (80% Anaheim and Orange)	13025	13028	12	15	805	168,037	226,850	Minimal Capacity			2020-2025
63	47	Banner Drive	East of Newhope Street	10893	10866	8	12	1,185	989,437	1,335,740	Minimal Capacity			2020-2025
64	48	Newhope Street	Banner Drive to Paloma Avenue	10866	13175	8	12	517	413,309	557,968	Minimal Capacity			2020-2025
66	85	Chapman Avenue	East of Haster Street (for Orange flows)	12252	13004	10	12	763	637,081	860,059	Minimal Capacity; Orange Funded			2020-2025
78	37	Belgrave Avenue	St. Mark Street to Belgrave Pump Station	8653	8913	12	18	290	363,211	490,335	Calculated Deficiency			2020-2025
79	38	Laurelton Avenue	Bailey Street to St. Mark Street	7780	8652	8	12	325	259,817	350,753	Calculated Deficiency			2020-2025
80	39	Bailey Street	South of Chapman Avenue to Laurelton Avenue	8909	7780	8	12	442	369,056	498,226	Calculated Deficiency			2020-2025

Table 9-5 (Continued)
Recommended Capacity Improvement Projects

Priority No.	Project No.	Location	Description	U/S MH	D/S MH	Existing Size (in)	Proposed Size (in)	Length (ft)	Estimated Construction Cost ($) 2019	Total Cost (Cons, Engin, Inspect, &Admin) ($)	Comments	Completed Project Cost ($)	Plan No.	Year Scheduled for Construction
					Total Constructed			80,904		40,187,197				
					Total in Design or Under Construction			2,690	2,404,290	2,322,985				
					Total Future Projects			8,745	7,577,288	10,229,338				
					Grand Total			92,339		52,739,520				

Priority No. 3 (Project No. 4) Newland Street Sewer, Gloria Avenue to Trask Avenue

The hydraulic model of the system showed this 246 foot section of 8-inch pipe to flow full with peak dry weather flows. It was replaced with a 12-inch pipe between Manholes 7665 and 8608.

Project No. 4 was completed in Fiscal Year 2006-2007. The design and construction was packaged in with Project No. 1. The total cost of the project was $2.29M.

Priority No. 4 (Project No. 77) Joyzelle Street Sewer, Gilbert Street to Magnolia Avenue

Project No. 77 was completed in Fiscal Year 2006-2007. The system hydraulic model showed the 584 feet of 8-inch sewer between Manholes 10841 and 10843 (Homeway Drive to Magnolia Avenue) to flow at a depth to diameter ratio of 0.64 with peak dry weather flows.

The system hydraulic model also showed 2,245 feet of 10-inch sewer in Gilbert Street, between Orangewood Avenue and Chapman Avenue, to flow at a depth to diameter ratio of 0.63 to 1.00 with peak dry weather flows.

To alleviate the deficiency in Gilbert Street as wells as to take care of the condition and capacity deficiencies in Joyzelle Street, the flow was diverted to the west at the intersection of Joyzelle Street and Gilbert Street at Manhole 10108. Approximately 2,487 feet of 15-inch pipe was constructed in Joyzelle Street from Gilbert Street (10108) to Magnolia Avenue (10387). The new sewer ties into the OCSD's existing Magnolia Purchase Trunk Sewer at the intersection of Joyzelle Street and Magnolia Avenue.

The total cost of the project was $1.03 Million.

Priority No. 5 (Project No. 5) Chapman Avenue and Nearing Drive

The system hydraulic model determined that the 10-inch diameter sewer in Chapman Avenue from Nearing Drive to Beach Boulevard, and the 8-inch diameter sewer in Nearing Drive between Augusta Drive and Chapman Avenue would flow full with peak dry weather flows. Flow monitoring conducted in March 2005 confirmed this. The pipes were replaced with larger pipes as follows:

- 1590 feet of 10-inch sewer replaced with 18-inch sewer in Chapman Avenue between Nearing Drive and Beach Boulevard (13526 to 8363)
- 1175 feet of 8-inch sewer replaced with 15-inch sewer in Nearing Drive between Augusta Drive and Chapman Avenue (8540 to 13526)

Project No. 5 was completed in 2008. The cost of the project was $606,000.

Priority No. 6 (Project No. 14) Augusta Drive, Dale Street to Nearing Drive

This is 1165 feet of 8-inch line extending from Manhole 13585 in Dale Street to Manhole 8540 in Nearing Drive. The system hydraulic model showed it to be flowing full with peak dry weather flows. It was replaced with a 12-inch line.

Project No. 14 was completed in 2008. The cost of the project was $415,000

Priority No. 7 (Project No. 15) Chapman Avenue, Dale Street to Nearing Drive

Project No. 15 replaced 985 feet of 8-inch line between Manhole 8520 at Dale Street and Chapman Avenue and Manhole 13526 at Nearing Drive and Chapman Avenue with a 12-inch line. The system hydraulic model previously showed this reach to have peak dry weather flow depth to diameter ratios of 0.74 to 1.00.

Project No. 15 was completed in 2008. The cost of the project cost was $869,000

Priority No. 8 (Project No. 7) Volkwood Street, Aspenwood Avenue, Palm Street, and Garden Grove Boulevard

The purpose of this project was to provide relief to the sewers in:

- Lampson Avenue between Volkwood Street and Buaro Street
- Twintree Lane between Volkwood Street and Harbor Boulevard
- Harbor Boulevard between Twintree Lane and Lampson Avenue
- Blue Spruce Avenue between Volkwood Street and Choisser Road
- Choisser Road between Blue Spruce Avenue and Aspenwood Avenue
- Easement between Harbor Boulevard and Buaro Street

All these lines were previously identified by the system hydraulic model to be capacity deficient.

This project consisted of:

- 822 feet of 15-inch pipe in Volkwood Street between Twintree Lane (13807) and Lampson Avenue (13806), diverting all the flow south in Volkwood Street
- 1454 feet of 18-inch sewer in Volkwood Street between Lampson Avenue (13806) and Aspenwood Avenue (13805), diverting all the flow south in Volkwood Street
- 1132 feet of 18-inch sewer in Aspenwood Avenue between Volkwood Street (13805) and Harbor Boulevard (13753)
- 1126 feet of 21-inch sewer in Palm Street between Aspenwood Avenue (13753) and Garden Grove Boulevard (13721)
- 1379 feet of 21-inch sewer in Garden Grove Boulevard between Palm Street (13721) and Harbor Boulevard (13668)

The 21-inch pipe ties into the 24-inch sewer of Project No. 9 at the intersection of Garden Grove Boulevard and Harbor Boulevard. The flow is conveyed to the west and discharges into OCSD's South Anaheim Interceptor at the intersection of Newhope Street and Garden Grove Boulevard.

Project No. 7 was completed in 2009. It was packaged with Project No. 61 and the total cost was $2,532,000.

Priority No. 9 (Project No. 9) Garden Grove Boulevard, Harbor Boulevard to West Street

There were two parallel sewers in Garden Grove Boulevard between Harbor Boulevard and West Street. The

northerly sewer is 18-inches in diameter. The southerly sewer is 10-inches in diameter. The hydraulic model showed that the flows in the 18-inch sewer would exceed the District's depth to diameter criterion due to the many anticipated development projects tributary to this line. One reach of the 10-inch sewer would also become deficient due to the Partridge Pump Station and forcemain that now diverts the flows generated at the mobile home park at the south end of Partridge Street, north to Garden Grove Boulevard.

Project No. 9 replaced the 10-inch sewer with 1184 feet of 24-inch diameter pipe. Flows have been diverted from the existing northerly sewer (15-inches east of Harbor Boulevard, 18-inches west of Harbor Boulevard) on Garden Grove Boulevard to the 24-inch sewer.

Project No. 9 was completed in 2008. Its cost was $845,000.

Priority No. 10 (Project No. 6) Gilbert Street, north of Shannon Avenue to Chapman Avenue

The system hydraulic model showed a portion of this 10-inch sewer to flow at depth to diameter ratios of 0.78 to 1.00 with peak dry weather flows, even after Diversion Project No. 77. Although the field flow monitoring did not show greater than 0.57 depth to diameter ratio at the location monitored, with upcoming development in the tributary area, this sewer was recommended to be replaced with a 15-inch pipe between Manholes 10090 and 13884. The total length was 1737 feet.

Project No. 6 was completed in 2009. The project cost was $665,000

Priority No. 11 (Project No. 101) Tiffany Pump Station Replacement

The construction of a replacement facility with a firm capacity of 1,560 gpm was completed in Fiscal Year 2010-2011. The new pump station was placed in service in 2011. The project cost was $2,493,000.

Priority No. 12 (Project No. 8) Buaro Street, Hoggan Avenue to Harbor Boulevard

The purpose of this project was to provide relief to the sewers in:

- Lampson Avenue between Buaro Street and West Street
- West Street between Lampson Avenue and Stanford Avenue

This project was completed in 2009. It consisted of the following:

- 274 feet of 12-inch sewer in Buaro Street between Hoggan Avenue (14370) and Lampson Avenue (12147)
- Approximately 2320 feet of 15-inch sewer in Buaro Street between Lampson Avenue (12147) and Harbor Boulevard (14361).

Project No. 8 was completed in 2009. The project cost was $686,800.

Priority No. 13 (Project No. 102) Belgrave Pump Station Replacement

The District has completed construction of the replacement project in 2013 with a firm capacity of 1,560 gpm,

which. The project cost was $2,469,000.

Priority No. 14 (Project No. 3) Garden Grove Boulevard, Village Center Drive to Hoover Street

The system hydraulic model showed this sewer to be full with peak dry weather flows. Flow monitoring conducted in April 2005 showed a peak depth to diameter ratio of 0.80, indicating that the pipe may be flowing full. The project replaced 1488 feet of 8-inch pipe with 12-inch pipe between Manholes 7140 and 7174. It was combined with a City of Stanton project that diverted some of the Coast Sewer tributary area west to this facility.

Project No. 102 was completed in 2009. The District's share of this project is $272,100.

Priority No. 15 (Project No. 20) Lampson Avenue, Haster Street to Volkwood Street

The system hydraulic model showed the 1453 feet of 8-inch pipe between Manholes 12643 and 13806 to be full with peak dry weather flows. It was replaced in 2012 with a 15-inch pipe.

Project No. 20, 21, 22, and 23 were packaged together. The total project cost was $1,472,000.

Priority No. 16 (Project No. 21) Lampson Avenue, Easement to Haster Street

The system hydraulic model showed the 1350 feet of 8-inch pipe between Manholes 12627 and 12643 to be full with peak dry weather flows. It was replaced in 2012 with a 15-inch pipe.

Project No. 20, 21, 22, and 23 were packaged together. The total project cost was $1,472,000.

Priority No. 17 (Project No. 10) Diversion to OCSD Euclid Trunk Sewer, Lampson Avenue at Euclid Street

Project No. 10 was completed in 2007. It has relieved sewers with calculated capacity deficiencies in Main Street between Lampson Avenue and Garden Grove Boulevard, by diverting the flow at Manhole 12790 to Euclid Trunk Sewer.

The project cost was $27,800

Priority No. 18 (Project No. 11) Diversion to OCSD Newhope-Placentia Trunk Sewer, Trask Avenue West of Clinton Street

Project No. 11 was completed in 2010. It has relieved the capacity deficiencies in Trask Avenue between East Garden Grove Wintersburg Channel and Harbor Boulevard, by diverting the flows to OCSD's Newhope-Placentia Trunk Sewer at Manhole 6754. This project also eliminated the inverted siphon under the channel just west of the proposed diversion.

The project cost was $154,600.

Priority No. 19 (Project No. 12) Brookhurst Street, Hill Road to Chapman Avenue

Project No. 12 was completed in 2010. The system hydraulic model showed this sewer to be full with peak dry weather flows. Flow monitoring conducted in September 2004 showed a peak depth to diameter ratio of 0.82, indicating that the pipe may be flowing full. This project replaced 1952 feet of 10-inch pipe with 18-inch pipe between Manholes 14748 and 14744.

Project No. 12, 13, 16, and 17 were packaged together. The total project cost was $1,702,600.

Priority No. 20 (Project No. 13) Brookhurst Street, Parliament Avenue to Hill Road

Project No. 13 was completed in 2010. The system hydraulic model showed the existing 10-inch diameter pipe between Manholes 14762 and 14748 to be full with peak dry weather flows. This project replaced 1463 feet of 10-inch pipe with 15-inch pipe.

Project No. 12, 13, 16, and 17 were packaged together. The total project cost was $1,702,600.

Priority No. 21 (Project No. 16) Parliament Avenue, Palmwood Drive to Dallas Drive

Project No. 16 was constructed in 2010. The system hydraulic model showed this 1096 feet of 8-inch line with depth to diameter ratios of 0.68 to 1.00 at peak dry weather flows. Project No. 16 replaced the existing sewer with a 12-inch line between Manholes 9832 and 14803.

Project No. 12, 13, 16, and 17 were packaged together. The total project cost was $1,702,600.

Priority No. 22 (Project No. 17) Parliament Avenue, Dallas Drive to Brookhurst Street

Project No. 17 was constructed in 2010. This line is shown by the hydraulic model to flow full with peak dry weather flows between Manholes 14803 and 14762. Flow monitoring conducted at 14762 in September 2004 verified this. Project No. 17 replaced the existing sewer with 1603 feet of 12-inch pipe.

Project No. 12, 13, 16, and 17 were packaged together. The total project cost was $1,702,600.

Priority No. 23 (Project No. 19) Galway Street, Central Avenue to Trask Avenue

Project No. 19 was completed in 2009. It involved the replacement of 1358 feet of 12-inch diameter pipe with milder slope than the rest of the system in Galway Street. The model showed this reach to be deficient even after significant flow diversion with Project No. 2. It was replaced with an 18-inch pipe between Manholes 12052 and 14517. It also included replacement of 1746 feet of 8-inch pipe with 10-inch pipe and 12-inch pipe in Garden Grove Boulevard between Brookhurst Way and Galway Street (MH 11335 to 14483).

Project No. 19, 35, and 45 were packaged together. The total project cost was $1,478,900.

Priority No. 24 (Project No. 22) Easement, Twintree Circle to Lampson Avenue

Project No. 22 was completed in 2012. The system hydraulic model showed the depth to diameter ratios in

730 feet of 8-inch pipe between Manholes 12625 and 12627 to be 0.80 to 1.00 with peak dry weather flows. Along with Project #23, a 12-inch diversion sewer was constructed to the south west to Manhole 15024 on Lampson Avenue, east of Haster Street.

Project No. 20, 21, 22, and 23 were packaged together. The total project cost was $1,472,000.

Priority No. 25 (Project No. 23) Twintree Circle, East of Anzio Circle

Project No. 23 was completed in 2012. The system hydraulic model showed the depth to diameter ratios in 495 feet of 8-inch pipe between Manholes 12647 and 12625 to be 0.69 to 1.00 with peak dry weather flows. Along with Project #23, a 12-inch diversion sewer was constructed to the south west to Manhole 15024 on Lampson Avenue, east of Haster Street.

Project No. 20, 21, 22, and 23 were packaged together. The total project cost was $1,472,000.

Priority No. 26 (Project No. 24) Twintree Lane, Haster Street to Volkwood Street

Project No. 24 was completed in 2012. The system hydraulic model showed the 1463 feet of 8-inch pipe between Manholes 12644 and 13807 to flow full with peak dry weather flows. It was replaced with a 15-inch pipe.

Project No. 24, 25, and 26 were packaged together. The total project cost was $970,000.

Priority No. 27 (Project No. 25) Haster Street, Allard Avenue to Twintree Lane

Project No. 25 was completed in 2012. The system hydraulic model showed this line between Manholes 12656 and 12644 to have peak dry weather flow depth to diameter ratios from 0.67 to 0.71. The existing 500 feet of 8-inch pipe was replaced with a 10-inch pipe.

Project No. 24, 25, and 26 were packaged together. The total project cost was $970,000.

Priority No. 28 (Project No. 26) Haster Street, Blue Spruce Avenue to Garden Grove Boulevard

Project No. 26 was completed in 2012. The system hydraulic model showed this line between Manholes 12427 and 13228 to have peak dry weather flow depth to diameter ratios from 0.66 to 1.00. The existing 1426 feet of 8-inch pipe was replaced with a 10-inch pipe.

Project No. 24, 25, and 26 were packaged together. The total project cost was $970,000.

Priority No. 29 (Project No. 27) Cerritos Avenue, Brookhurst Street to Perdido Street

The system hydraulic model showed the 1185 feet of 8-inch pipe between Manholes 9144 and 9215 to flow full with peak dry weather flows. Flow monitoring conducted in 2005 showed a depth to diameter ratio of 0.86 with peak dry weather flows, verifying the deficiency. It is estimated that 89 percent of the flow tributary to this line is contributed by the City of Anaheim territories. It was replaced with a 15-inch pipe.

Project No. 27 and 28 were packaged together. The total project cost was $633,900.

Priority No. 30 (Project No. 28) Cerritos Avenue, Perdido Street to Gilbert Street

The system hydraulic model showed the 1464 feet of 8-inch pipe between Manholes 9215 and 9343 to flow full with peak dry weather flows. Flow monitoring conducted in 2005 showed a depth to diameter ratio of 0.86 with peak dry weather flows, verifying the deficiency. It is estimated that 89 percent of the flow tributary to this line is contributed by the City of Anaheim territories. It was replaced with a 15-inch pipe.

Project No. 27 and 28 were packaged together. The total project cost was $633,900.

Priority No. 31 (Project No. 32) Lampson Avenue and Euclid Street

Project No. 32 was completed in 2013. The system hydraulic model showed the 923 feet of 8-inch pipe between Manholes 11766 and 12790 to flow full with peak dry weather flows. It was replaced with a 12-inch pipe.

Project No. 32 was constructed with a project cost is $964,000.

Priority No. 32 (Project No. 35) Trask Avenue, Gilbert Street to Magnolia Street

Project No. 32 was completed in 2009. The system hydraulic model showed the 1473 feet of 18-inch pipe between Manholes 11525 and 11594 to flow at depth to diameter ratios of 0.66 to 1.00 full with peak dry weather flows, even after the diversion with Project No. 2. Following the completion of Project No. 2, the peak d/D of this reach was measured at about 0.61. Project No. 35 replaced the existing pipe with a 21-inch pipe.

Project No. 19, 35, and 45 were packaged together. The total project cost was $1,478,900.

Priority No. 33 (Project No. 45) Gilbert Street, Crosby Avenue to Trask Avenue

Project No. 45 was completed in 2009. The system hydraulic model showed the 1824 feet of 8-inch sewer between Manholes 12087 and 11525 to flow at depth to diameter ratios of 0.64 to 0.79 with peak dry weather flows. Project No. 45 replaced the existing pipe with a 12-inch sewer.

Project No. 19, 35, and 45 were packaged together. The total project cost was $1,478,900.

Priority No. 34 (Project No. 90) Newland Street, north of Westminster Avenue

The system hydraulic model showed the 190 feet of 8-inch sewer between Manholes 6995 and 7006 to flow at depth to diameter ratios of 1.00 with peak dry weather flows. It was paralleled with an 8-inch sewer (Manhole 14541 to 14544), eliminating the deficiency.

Project No. 90 was completed in 2010. The project cost is $23,800.

Priority No. 35 (Project No. 56) Diversion to Parallel GGSD Sewer at Yockey Street north of Trask Avenue

This project diverted flows from Manhole 11607 to 11612.

Project No. 56 was completed in 2008. The project cost was $61,100.

Priority No. 36 (Project No. 80) Diversion to OCSD Trunk Sewer at Stanford Avenue and Nelson Street

Project 80 was for the purpose of relieving sewers with calculated capacity deficiencies on Stanford Avenue, Acacia Parkway, and Grove Street, by diverting the flow at Manhole 13424 to the OCSD trunk sewer in Nelson Street.

Project No. 80 was completed in 2008. The project cost was $215,700.

Priority No. 37 (Project No. 57) Grove Street, Acacia Avenue to Garden Grove Boulevard

The system hydraulic model showed the 648 feet of 8-inch sewer between Manholes 11842 and 12260 to flow at a depth to diameter ratios of 0.78 with peak dry weather flows after Project No. 80 was implemented. Project No. 57 was completed in 2008 by constructing a new sewer on Grove Avenue. The project cost was $350,000.

Priority No. 38 (Project No. 60) Elmwood Street and Lampson Avenue

The system hydraulic model showed the 1895 feet of 6-inch and 8-inch sewer between Manholes 12316 and 11766 to flow at a depth to diameter ratios of 0.70 to 0.82 with peak dry weather flows. It was replaced with 1155 feet of 8-inch sewer in Elmwood Street and 740 feet of 12-inch sewer in Lampson Avenue.

Project No. 60 was completed with Project #32 in 2013. The estimated project cost is $964,000.

Priority No. 39 (Project No. 61) Garden Grove Boulevard, east of Palm Street

The system hydraulic model showed that 212 feet of 10-inch sewer between Manholes 12457 and 13721 will flow at a depth to diameter ratios of 0.66 with peak dry weather flows. This reach was replaced with 15-inch pipe.

Project No. 61 was completed in 2008 in conjunction with Project No. 7 which had a total cost of $2,532,000.

Priority No. 40 (Project No. 70) Chapman Avenue, Loraleen Street to Magnolia Street

The system hydraulic model showed the 1307 feet of 18-inch sewer between Manholes 13877 and 10846 to flow at depth to diameter ratios of 0.68 to 1.00 with peak dry weather flows. The system hydraulic model showed the 256 feet of 8-inch sewer between Manholes 10325 and 10846 to flow at a depth to diameter ration of 0.68 with peak dry weather flows.

Project No. 70 was replaced with a 24-inch sewer in 2008. The project cost was $953,000.

Priority No. 41 (Project No. 71) Chapman Avenue, Gilbert Street to Loraleen Street

The system hydraulic model showed the 1079 feet of 18-inch sewer between Manholes 13884 and 13877 to flow at depth to diameter ratios of 0.75 to 0.80 with peak dry weather flows.

This line was replaced with a 24-inch sewer in 2008. The project cost was $853,000

Priority No. 42 (Project No. 72) Chapman Avenue, Brookhurst Street to Gilbert Street

The system hydraulic model shows the 2666 feet of 15-inch sewer between Manholes 14744 and 14281 to flow at depth to diameter ratios of 0.68 to 1.00 with peak dry weather flows. Flow monitoring conducted along the mildest reach of this pipe had a peak dry weather depth to diameter ratio of 0.59. Although the field flow monitoring did not show greater than 0.59 depth to diameter ratio at the location monitored, with upcoming development in the tributary area, this sewer was replaced with a 18-inch and 24-inch.

The hydraulic model also shows 385 feet of 10-inch sewer between manholes 10043 and 10047 to flow at d/D of 0.65 to 0.76 with peak dry weather flows. These pipes were replaced with 15-inch pipe.

Project No. 72 was completed in 2013. The project cost was $2,497,000.

Priority No. 53 (Project No. 54) Lampson Avenue, West of Brookhurst Street

The system hydraulic model showed the 565 feet of 8-inch sewer between Manholes 9445 and 9481 to flow at a depth to diameter ratio of 0.71 to 1.00 with peak dry weather flows. Flow monitoring conducted in July 2007 confirmed the deficiency. It was replaced with a 12-inch sewer.

Project No. 54, 55, 74, and 36 were packaged together. The project was completed in 2014, with a total project cost was $2,129,900.

Priority No. 54 (Project No. 55) Brookhurst Street, Bonser Avenue to Lampson Avenue

The system hydraulic model showed the 1355 feet of 8-inch sewer between Manholes 9455 and 9445 to flow at a depth to diameter ratios of 0.65 to 0.76 with peak dry weather flows. It was replaced with a 12-inch sewer.

Project No. 54, 55, 74, and 36 were packaged together. The project was completed in 2014, with a total project cost was $2,129,900.

Priority No. 55 (Project No. 74) Lampson Avenue, Spruce Street to Gilbert Street

The system hydraulic model showed the 2023 feet of 10-inch sewer between Manholes 9481 and 9521 to flow at depth to diameter ratios of 0.65 to 1.00 with peak dry weather flows. It was replaced with a 12-inch sewer.

Project No. 54, 55, 74, and 36 were packaged together. The project was completed in 2014, with a total project cost was $2,129,900.

Priority No. 56 (Project No. 36) Lampson Avenue, Gilbert Street to Leroy Avenue

The system hydraulic model showed the 1325 feet of 10-inch and 12-inch sewer between Manholes 9521 and 9111 to flow at depth to diameter ratios of 0.65 to 1.00 with peak dry weather flows. It was replaced with an 18-inch pipe.

Project No. 54, 55, 74, and 36 were packaged together. The project was completed in 2014, with a total project cost was $2,129,900.

Priority No. 57 (Project No. 64) Joyzelle Street, Barkley Drive to Gilbert Street

The system hydraulic model showed that the 1255 feet of 8-inch sewer between Manholes 10100 and 10108 has depth to diameter ratios of 0.70 to 0.73 with peak dry weather flows. Flow monitoring conducted in March 2006 confirmed the deficiency. It was replaced with a 10-inch sewer.

Project Nos. 64 and 82 were packaged together and were constructed in 2015, with a total project cost of $658,000.

Priority No. 72 (Project No. 33) Westminster Avenue, Roxey Drive to Clinton Street

The system hydraulic model showed the 689 feet of 10-inch pipe between Manholes 7482 and 7508 to flow at depth to diameter ratios of 0.82 to 1.00 full with peak dry weather flows. Flow monitoring conducted in December 2011 resulted in peak dry weather depth to diameter ratios up to 0.32. It was replaced with a 15-inch pipe.

Project No. 33 was constructed in 2013.

Priority No. 73 (Project No. 34) Westminster Avenue, Clinton Street to Harbor Boulevard

The system hydraulic model showed the 2666 feet of 12-inch pipe between Manholes 7508 and 7556 to flow at depth to diameter ratios of 0.64 to 1.00 full with peak dry weather flows. Minimal capacity available was verified in the field by City staff observation. It was replaced with an 18-inch pipe.

Project No. 34 was constructed in 2013.

Priority No. 81 (Project No. 82) Hill Road, West of Garden Drive

The system hydraulic model shows the 774 feet of 8-inch sewer between Manholes 10203 and 14748 to flow at a depth to diameter ratio of 0.65 with peak dry weather flows. Flow monitoring conducted in December 2011 resulted in peak dry weather depth to diameter ratios up to 0.38. It was replaced with a 10-inch sewer.

Project Nos. 64 and 82 were packaged together and were constructed in 2015, with a total project cost of $658,000.

Priority No. 47 (Project No. 59) Traylor Way, Dawson Street to Brookhurst Street

The system hydraulic model showed the 917 feet of 8-inch sewer between Manholes 10507 and 11369 to

flow at a depth to diameter ratios of 0.64 to 0.75 with peak dry weather flows. Flow monitoring conducted in February 2006 resulted in peak dry weather depth to diameter ratios up to 0.64. It will need to be replaced with a 12-inch sewer.

Project No. 59 and 65 were packaged together and were constructed in 2012. The total project cost was $768,672.

Priority No. 48 (Project No. 65) Deanann Street, Morningside Drive to Hazard Avenue

The system hydraulic model shows the 8-inch sewer between Manholes 7264 and 7558 to flow at a depth to diameter ratios of 0.79 to full with peak dry weather flows. The deficiency was verified in the field in Morningside Drive north of Hazard Avenue by City staff observation. The siphon crossing beneath the Westminster channel (manhole 7265 to 7266) and the portion of sewer underneath private property (manhole 7266 to 7267) was observed to flow at depth of 2.5 inches to 3 inches during peak flow. These sections are not included in the project. The total project includes the replacement of 1327 feet of 8-inch sewer with a 12-inch sewer.

Project No. 59 and 65 were packaged together and were constructed in 2012. The total project cost was $768,672.

Priority No. 58 (Project No. 53) Nutwood Street, Molama Circle to Garden Grove Boulevard

The system hydraulic model showed the 334 feet of 8-inch and 10-inch sewer between Manholes 11229 and 13361 to flow at depth to diameter ratios of 0.66 to full with peak dry weather flows. Flow monitoring conducted in Manhole 13361 in February 2005 showed a depth to diameter ratio of 0.50 with peak dry weather flows, which is below the District's criterion. Development in the tributary area was monitored and this line was replaced with 1331 feet of 12-inch pipe and 1649 feet of 15-inch pipe.

Project No. 53 and No. 44 were constructed in 2017, with a total construction cost of $1,269,000.

Priority No. 74 (Project No. 44) Imperial Avenue, East of Magnolia Street to OCSD's Magnolia Trunk Sewer

The system hydraulic model showed the 541 feet of 8-inch sewer in Imperial Avenue between Manholes 11545 and 11587 to flow at depth to diameter ratios of 0.66 to 0.67 with peak dry weather flows. The sewer in Magnolia Avenue between Manhole 11588 and 11590 are estimated to be flowing full. Minimal capacity available was verified in the field by City staff observation. It is recommended to replace the 541 feet of sewer in Imperial Avenue with a 10-inch sewer that ties into the existing OCSD trunk Sewer in Magnolia, alleviating the existing GGSD sewer in Magnolia which will then not have to be upsized.

Project No. 44 and 53 were constructed in 2017. The total project cost was $1,269,000.

Priority No. 61 (Project No. 91) Trask Avenue, Jackson Street to Coast Street

The system hydraulic model showed the 525 feet of 10-inch sewer between Manholes 7076 and 7115 to flow at depth to diameter ratios of 0.79 to1.00 with peak dry weather flows. Flow monitoring conducted in

November 2011 resulted in peak dry weather depth to diameter ratios up to 0.68. This line was replaced with a 15-inch sewer.

Project No. 91, 51, 76, 63, and 68 were constructed together in Fiscal year 2017-2018, with a total construction cost of is $1,620,000.

Priority No. 65 (Project No. 51) Stanford Avenue, Blackthorn Street to Brookhurst Street

The system hydraulic model showed the 914 feet of 8-inch sewer between Manholes 11322 and 13323 to flow at depth to diameter ratios of 0.66 to 1.00 with peak dry weather flows. Flow monitoring conducted in August 2011 resulted in peak dry weather depth to diameter ratios up to 0.53. This line was replaced with a 12-inch sewer.

Project No. 51 was constructed in Fiscal year 2017-2018. See Project No. 91 for the project cost.

Priority No. 77 (Project No. 76) Josephine Street, North of Acacia Avenue to Garden Grove Boulevard

The system hydraulic model showed the 852 feet of 8-inch sewer between Manholes 8393 and 9394 to flow at a depth to diameter ratios of 0.64 to 0.68 with peak dry weather flows. Flow monitoring conducted in December 2011 resulted in peak dry weather depth to diameter ratios up to 0.47. This line was replaced with a 10-inch sewer.

Project No. 76 was constructed in Fiscal year 2017-2018. See Project No. 91 for the project cost.

Priority No. 75 (Project No. 63) Newland Street, Garden Grove Freeway to Gloria Avenue

The system hydraulic model showed the 1010 feet of 8-inch sewer between Manholes 7660 and 7665 to flow at a depth to diameter ratios of 0.66 to 0.74 with peak dry weather flows. Flow monitoring conducted in August 2011 resulted in peak dry weather depth to diameter ratios up to 0.46. This line was replaced with a 12-inch sewer.

Project No. 63 was constructed in Fiscal year 2017-2018. See Project No. 91 for the project cost.

Priority No. 45 (Project No. 68) Onyx Street, north of Chapman Avenue

The system hydraulic model shows the 253 feet of 8-inch sewer between Manholes 7384 and 7386 to flow at a depth to diameter ratio of 0.70 with peak dry weather flows. Flow monitoring conducted in November 2011 resulted in peak dry weather depth to diameter ratios up to 0.87. This line was replaced with a 10-inch sewer.

Project No. 68 was constructed in Fiscal year 2017-2018. See Project No. 91 for the project cost.

Priority No. 76 (Project No. 93) Westminster Avenue, Anita Place to Euclid Street

The system hydraulic model showed the 620 feet of 12-inch sewer between Manholes 11967 and 11974 to flow at depth to diameter ratios of 0.71 with peak dry weather flows. Flow monitoring conducted in November 2011 resulted in peak dry weather depth to diameter ratios up to 0.43. This line was replaced with a 15-inch sewer.

Project No. 93 was constructed in 2019 with a total project cost of $753,000.

Priority No. 51 (Project No. 99) Ward Street, Davit Avenue to McFadden Avenue

The system hydraulic model showed the 8-inch sewer between Manholes 7312 and 7318 to flow full with peak dry weather flows. Flow monitoring conducted in September 2011 confirmed the deficiency.

Project No. 99 is is in design and construction stages. The estimated project cost is $680,000. The tributary area to this sewer in Ward Street includes areas within the Cities of Santa Ana and Westminster (Midway City Sanitary District service area). If a replacement sewer is needed, the appropriate agencies will share in the cost of the construction.

Priority No. 52 (Project No. 96) Ward Street, north of Bolsa Avenue

The system hydraulic model showed the 200 feet of 8-inch sewer between Manholes 7301 and 7302 to flow at depth to diameter ratios of 0.65 with peak dry weather flows. Flow monitoring conducted in September 2011 resulted in peak dry weather depth to diameter ratios up to 0.83. It will need to be replaced with a 10-inch sewer.

Project No. 96 is in design and construction stages. The estimated project cost is $174,000.

Priority No. 62 (Project No. 92) Donegal Drive, Madison Circle to Bolsa Avenue

The system hydraulic model showed the 1478 feet of 8-inch sewer between Manholes 6938 and 6937 to flow at depth to diameter ratios of 0.64 to 1.00 with peak dry weather flows. Flow monitoring conducted in August 2011 resulted in peak dry weather depth to diameter ratios up to 0.66. It will need to be replaced with a 12-inch sewer.

Project No. 92 is in design and construction stages. The estimated project cost is $1,541,000.

Priority No. 71 (Project No. 31) Diversion to OCSD's South Anaheim Interceptor Sewer at Lampson Avenue and 9th Street

Project No. 31 will relieve the sewers in 9th Street south of Lampson Avenue by diverting the flow from the area tributary to the intersection of 9th Street and Lampson Avenue into OCSD's South Anaheim Interceptor Sewer at Manhole 12533. Flow monitoring conducted in July 2009 in 9th Street downstream of the diversion location, resulted in peak dry weather depth to diameter ratios up to 0.42. Also included with this project is 360 feet of 10-inch pipe located in Lampson Avenue just east of 9th Street. The hydraulic model shows the existing 8-inch pipe from between Manholes 12526 and 12533 to flow at a depth to diameter ratio of 0.64 with

peak dry weather flows.

Project No. 31 is in design and construction stages. The estimated project cost is $632,000.

Future Projects

Priority No. 43 (Project No. 46) Monarch Street, Anaconda Avenue to Lampson Avenue

The system hydraulic model shows the 540 feet of 8-inch sewer between Manholes 8104 and 8098 to flow at depth to diameter ratio of 0.81 with peak dry weather flows. This deficiency was verified in the field by City staff observation. It will need to be replaced with a 12-inch sewer.

Project No. 46 is scheduled for year 2020-2025. The estimated project cost is $563,000.

Priority No. 44 (Project No. 75) Lampson Avenue, Monarch Street to Western Avenue

The system hydraulic model shows the 1320 feet of 12-inch sewer between Manholes 8098 and 7189 to flow at depth to diameter ratios of 0.64 to 0.76 with peak dry weather flows. It will need to be replaced with a 15-inch sewer.

Project No. 75 is scheduled for year 2020-2025. The estimated project cost is $1,721,000.

Priority No. 46 (Project No. 43) Lamplighter Street and Lenore Avenue

The system hydraulic model shows the 1462 feet of 8-inch sewer between Manholes 7729 and 7404 to flow at depth to diameter ratios of 0.68 to 0.71 with peak dry weather flows. Minimal capacity available was verified in the field by City staff observation. It will need to be replaced with a 12-inch sewer.

Project No. 43 is currently scheduled for year 2020-2025. The estimated project cost is $1,513,000.

Priority No. 50 (Project No. 56A) Reestablish flow to Parallel GGSD Sewer in Yockey Street (east side of street) north of Trask Avenue

The system hydraulic model shows the 8-inch sewer in Yockey Street north of Trask Avenue to flow with depth to diameter ratios of about 0.71 with peak dry weather flows. Field depth checks performed in March 2012 resulted in 5 inches of flow or a depth to diameter ratio of 0.63. This project will reestablish the 8” sewer from Manhole 11607 to 14201. The flow will ultimately be split between the two parallel 8” sewers in Yockey Street north of Trask Avenue.

Project No. 56A is currently scheduled for year 2020-2025. The estimated project cost is $35,000

Priority No. 59 (Project No. 79) Chapman Avenue, west of Harbor Boulevard

The system hydraulic model shows the 1045 feet of 12-inch sewer between Manholes 13028 and 13052 to flow at depth to diameter ratios of 0.66 to 0.69 with peak dry weather flows. Flow monitoring conducted in November 2011 confirmed the deficiency. It will need to be replaced with an 18-inch sewer.

The flow tributary to 13028 at the intersection of Harbor Boulevard and Chapman Avenue is currently channeled to the west except for emergency overflow conditions, when it can flow south into the "Hotel Line" in Harbor Boulevard.

West of Harbor Boulevard, the flow tributary to 13052 must be allowed to split to the west and the south to prevent peak dry weather depth to diameter ratios exceeding 0.62 in the existing 15-inch sewer (south side of Chapman Avenue). Currently, the flow at 13052 is normally channeled to the south and prevented from flowing to the west.

All flow tributary to this line is generated by the City of Anaheim and Orange territories.

Project No. 79 is scheduled for year 2020-2025. The project cost should be paid by the City of **Anaheim and Orange.**

Priority No. 60 (Project No. 67) Chapman Avenue, east of Harbor Boulevard

The system hydraulic model shows the 805 feet of 12-inch sewer between Manholes 13025 and 13028 to flow at a depth to diameter ratios of 0.65 to 0.71 with peak dry weather flows. Flow monitoring conducted in November 2011 resulted in peak dry weather depth to diameter ratios up to 0.56. It will be replaced with a 15-inch line.

Approximately 80 percent of the flow in this line is generated by the City of Anaheim and Orange territories. Project No. 67 is scheduled for year 2020-2025. The District's share of the estimated project cost is $210,000.

Priority No. 63 (Project No. 47) Banner Drive, east of Newhope Street

The system hydraulic model shows the 1185 feet of 8-inch between Manholes 10893 and 10866 to flow at depth to diameter ratios of 0.77 to 0.82 with peak dry weather flows. Flow monitoring conducted in August 2011 resulted in peak dry weather depth to diameter ratios up to 0.62. It will need to be replaced with a 12-inch sewer.

Project No. 47 is scheduled for Fiscal year 2020-2025. The estimated project cost is $1,236,000.

Priority No. 64 (Project No. 48) Newhope Street, Banner Drive to Paloma Avenue

The system hydraulic model shows the 517 feet of 8-inch sewer between Manholes 10866 and 13175 to flow at depth to diameter ratios of 0.73 to 0.79 with peak dry weather flows. It will need to be replaced with a 12-inch sewer.

Project No. 48 is scheduled for year 2020-2025. The estimated project cost is $516,000.

Priority No. 66 (Project No. 85) Chapman Avenue, east of Haster Street (Orange Flows)

The system hydraulic model shows the 763 feet of 10-inch sewer between Manholes 12252 and 13004 to

flow full with peak dry weather flows. Flow monitoring conducted in November 2011 resulted in peak dry weather depth to diameter ratios up to 0.51. It will need to be replaced with a 12-inch sewer.

The flows in this line are generated by the City of Orange territories.

Project No. 85 is scheduled for year 2020-2025. The project cost should be paid for by the City of Orange.

Priority No. 78 (Project No. 37) Belgrave Avenue, St. Mark Street to Belgrave Pump Station

The system hydraulic model shows the 290 feet of 12-inch sewer between Manholes 8653 and 8913 to flow full with peak dry weather flows. It will need to be replaced with an 18-inch sewer.

Project No. 37 is scheduled for year 2020-2025. The estimated project cost is $454,000.

Priority No. 79 (Project No. 38) Laurelton Avenue, Bailey Street to St. Mark Street

The system hydraulic model shows the 325 feet of 8-inch sewer between Manholes 7780 and 8652 to flow at full with peak dry weather flows. It will need to be replaced with a 12-inch sewer.

Project No. 38 is scheduled for year 2020-2025. The estimated project cost is $324,000.

Priority No. 80 (Project No. 39) Bailey Street, south of Chapman Avenue to Laurelton Avenue

The system hydraulic model shows the 442 feet of 8-inch between Manholes 8909 and 7780 to flow full with peak dry weather flows. It will need to be replaced with a 12-inch sewer.

Project No. 39 is scheduled for year 2020-2025. The estimated project cost is $461,000.

Eliminated Projects

Project No. 18 (Eliminated) Gilbert Street, Orangewood Avenue to Skylark Boulevard

Project No. 18 has been eliminated as a result of Project No. 77 in Joyzelle Street, which will divert flows to the west and alleviate the capacity problems in Gilbert Street.

Project No. 29 (Eliminated) Diversion to OCSD's Newhope-Placentia Trunk Sewer at Newhope Street and Woodbury Road

Project No. 29 was recommended to relieve the sewers in Woodbury Road, Libby Lane, Shirley Street and Westminster Avenue east of Euclid Street by diverting the flow from the area tributary to Newhope Street and Paloma Avenue into OCSD's Newhope-Placentia Trunk Sewer. After further investigation, the connection to OCSD's trunk was found to already exist. Therefore, Project No. 29 is eliminated.

Project No. 30 (Eliminated) Diversion to OCSD's Newhope Placentia Interceptor Sewer at Newhope Street and Woodbury Road

Project No. 30 was eliminated due to a correction made in the hydraulic model.

Project No. 40 (Eliminated) Acacia Avenue, Cantor Street to Seneca Street

Project No. 40 was eliminated due to a correction made in the hydraulic model.

Project No. 41 (Eliminated) Cantor Street, Stanford Avenue to Acacia Avenue

Project No. 41 was eliminated due to a correction made in the hydraulic model.

Project No. 42 (Eliminated) Stanford Avenue, Lamplighter Street to Cantor Street

Project No. 42 was eliminated due to a correction made in the hydraulic model.

Project No. 49 (Eliminated) Decker Avenue, Jean Street to Endry Street

The system hydraulic model showed the 1018 feet of 10-inch sewer between Manholes 8351 and 8966 to flow full with peak dry weather flows. Flow monitoring conducted at Manhole 8976 in 2002 showed a depth to diameter ratio of 0.64 with peak dry weather flows. However, the City of Anaheim constructed a project on Katella Avenue east of Gilbert Street, which diverted Anaheim flows from this reach, eliminating the capacity deficiency.

Therefore, Project No. 49 is removed from the deficiency list.

Project No. 50 (Eliminated) Endry Street, South of Decker Avenue

The system hydraulic model showed the 301 feet of 10-inch sewer to flow full with peak dry weather flows. Because of the diversion of Anaheim flows described for Project 49, this deficiency has also been eliminated.

Therefore, Project No. 50 has been removed from the deficiency list.

Project No. 52 (Eliminated) Lampson Avenue, Monroe Street to Beach Boulevard

Project No. 52 was eliminated due to a correction made in the hydraulic model.

Project No. 58 (Eliminated) Blackbird Street, Pearce Street, Clinton Street, and Trask Avenue

Project No. 58 is eliminated due to the assumption that the proposed Bahia Development (500-600 du) on Blackbird Street south of Garden Grove Boulevard will consist of a new pump station and forcemain that will divert the tributary flows to Garden Grove Boulevard. The existing sewer that crosses the Garden Grove Freeway (SR-22) will be abandoned. The sewers in Clinton Street will no longer be capacity deficient at that time and will not need to be upgraded.

Project No. 62 (Eliminated) Pacific Avenue, Chamberlin Drive to Gilbert Street (Mostly Anaheim Flows)

Project No. 62 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Project No. 66 (Eliminated) Ward Street, North of Hazard Avenue

Project No. 66 was eliminated due to a correction made in the hydraulic model.

Project No. 69 (Eliminated) Valley View Street, north of Chapman Avenue

Project No. 69 was eliminated due to a correction made in the hydraulic model and field review of water depth which did not verify a capacity deficiency.

Project No. 73 (Eliminated) Dale Street, Orangewood Avenue to Augusta Drive

Project No. 73 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Project No. 78 (Eliminated) Gilbert Street, Joyzelle Drive to Orangewood Avenue

Project No. 78 has been eliminated as a result of Project No. 77 in Joyzelle Street, which will divert flows to the west and alleviate the capacity problems in Gilbert Street.

Project No. 81 (Eliminated) Medina Drive, Ramona Way to Chapman Avenue

Project No. 81 was eliminated due to a correction made in the hydraulic model.

Project No. 83 (Eliminated) Garden Drive, North of Geraldine Road

Project No. 83 was eliminated due to a correction made in the hydraulic model.

Project No. 84 (Eliminated) Harbor Boulevard, Wilken Way to Chapman Avenue (Anaheim Flows)

All the flow in this line is from the City of Anaheim territories. This line has been upsized by the City of Anaheim to 15-inches in diameter. This should be sufficient to handle the peak flows of the tributary area. Project No. 84 is therefore eliminated.

Project No. 86 (Eliminated) Chapman Avenue, west of Grant Place (Anaheim and Orange Flows)

Project No. 86 was eliminated due to a correction made in the hydraulic model.

Project No. 87 (Eliminated) Katella Avenue, Berry Avenue to Magnolia Street (Partly Anaheim Flows)

Project No. 87 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Project No. 88 (Eliminated) Katella Avenue, Gilbert Street to Berry Avenue (Partly Anaheim Flows)

Project No. 88 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Project No. 89 (Eliminated) Aspenwood Avenue, East of Harbor Boulevard

Project No. 89 has been incorporated into Project No. 7.

Project No. 94 (Eliminated) Sycamore Street, Acacia Avenue to Garden Grove Boulevard

A parallel 10-inch line was found to exist in in Sycamore Street from Acacia Avenue to Garden Grove Boulevard (Manhole 7099 to 7103). It was apparently constructed by the City of Stanton. Design plans could not be located. The inverts were surveyed and the information was added to the hydraulic model. The previously identified deficiency was eliminated and therefore Project No. 94 was also eliminated.

Project No. 95 (Eliminated) Brookhurst Street, south of Chapman Avenue

Project No. 95 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Project No. 97 (Eliminated) Hope Street, north of Westminster Avenue

Project No. 97 was eliminated due to a correction made in the hydraulic model and field review of water depth which did not verify a capacity deficiency.

Project No. 98 (Eliminated) Chanticleer Road, Deste Drive to Gilbert Street

The system hydraulic model shows the 585 feet of 8-inch sewer between Manholes 9345 and 9339 to flow at depth to diameter ratios of 0.64 with peak dry weather flows. Flow monitoring conducted in 2009 showed this sewer to flow at a depth to diameter ratio of 0.57. Therefore, this project was removed from the deficiency list.

Project No. 100 (Eliminated) Anthony Avenue, Adams Street to east of Alonzo Cook Street

Project No. 100 was eliminated due to a correction made in the hydraulic model.

Project No. 103 (Eliminated) Cypress Street, Imperial Avenue to Russell Avenue

Project No. 103 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Project No. 104 (Eliminated) Easement, west of Ditmore Drive to Lorna Street

Project No. 104 was eliminated due to a correction made in the hydraulic model and field review of water depth which did not verify a capacity deficiency.

Project No. 105 (Eliminated) Gilbert Street, Pacific Avenue to Katella Avenue (Partly Anaheim Flows)

Project No. 105 was eliminated due to field review of water depth which did not verify a capacity deficiency.

Funding Plan

The requirements of the District's System Evaluation and Capacity Assurance Plan and Sewer System Rehabilitation Plan (Section 5 of this report), as well as the operational and maintenance needs of the system were incorporated into a financial plan with recommended annual expenditures.

The sewer rate structure prior to September 2005 had flat monthly charges for the two classes of customers-residential and non-residential. The residential charge was $4.64 per month and the non-residential was $5.70 per month. Revenues derived from the existing rate structure could not support the projects that will improve the system's capacity and condition within the recommended schedule.

A pay-as-you-go alternative and a combination pay-as-you-go/pay-as-you use alternative was developed and evaluated to generate the needed revenues. Both alternatives were evaluated with a new rate structure that has a fixed base charge for the various customer classes and a use charge applied to estimated flow to the collection system. The Board of Directors of the Garden Grove Sanitary District considered the new rates, held two public hearings, and adopted the recommendations with minor refinements. The rate structure is capable of implementing approximately $5 million worth of capacity and condition Improvement projects annually. The rates have been adjusted annually to keep up with increases in the construction industry. Appendix G-2 includes Ordinance 10, which details the District's authority to manage and regulate its sewer user fees.

D. SCHEDULE

Order 2006-0003-DWQ requires that "the Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements".

A list of the completed and scheduled projects (as of November 2019) is included in Table 9-5. The District has completed approximately 80,000 feet of capacity improvements since 2005 when the first SECAP was prepared. Partridge Pump Station was constructed in 2010. Tiffany Pump Station was reconstructed in 2010. The Belgrave Pump Station was reconstructed in 2013.

SECTION 10
MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

The Order requires:

The Enrollee shall:

(a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
(b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
(c) Assess the success of the preventative maintenance program;
(d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
(e) Identify and illustrate SSO trends, Including: frequency, location, and volume.

10-1 COMPLIANCE

The District will monitor the effectiveness of its program continuously in order to minimize the possibility of SSOs.

A. RELEVANT INFORMATION

The District keeps updated records of all sewer related documents which include but are not restricted to the following:

- GIS Shapefiles
- CCTV Records
- Maintenance Records
- Hotspot List
- Root Control Program Information
- Equipment Inventory List
- FSE Inspections Information
- Sanitary Sewer Overflow Reports
- Sewer Capital Improvement Program

GIS Shapefiles - The City of Garden Grove's Information Technology division and the Water Services division maintain the GIS shapefiles, which are stored on the City's Intranet.

CCTV Records –Currently, the Information Technology Department joins the CCTV recordings to the Computerized Maintenance Management System (CMMS).

The District maintains a summary database of the CCTV records and recommendations, which were updated as part of this Sewer System Management Plan report.

Maintenance Records - The District's maintenance records are continually updated through its CMMS. This program allows the District to input, retrieve, and track all maintenance activities regarding routine cleaning, Hot Spot cleaning, emergency repairs, manhole inspections, CCTV inspections, pest control, sewer line foaming, and root control.

Hot Spot List - The District evaluates its Hot Spot locations after the following occurrences:

- Sanitary sewer overflow
- Blockages observed from routine maintenance
- Maintenance records of grease, roots, debris from CCTV records
- Odor complaints

Root Control Program - The District hires a certified and insured contractor to perform its root control services every two years. Reaches are added to the root control program as root obstructions are verified from CCTV inspections, cleaning history, or sewer overflow events.

Equipment Inventory – The District maintains an updated and detailed equipment and materials inventory, as detailed in Appendix D-4.

FSE Inspections – Annual FSE inspection data is maintained electronically by the District.

Sanitary Sewer Overflow Reports – SSO report information is maintained on the California Integrated Water Quality System (CIWQS) website.

Sewer Capital Improvement Program – The 2012 SSMP describes the District's Sewer CIP budget set at: "*approximately $5 million annually (2005 dollars). The rate ordinance has built in escalation for annual adjustments for increases in construction costs."* The District maintains a CIP for both the system capacity improvements and rehabilitation and replacement projects.

B. SSMP MONITORING

Order 2006-0003-DWQ requires the District to "*monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP."*

Table 10-1 is a summary of the SSMP monitoring performance indicators and response actions the District takes to monitor the implementation and effectiveness of the SSMP elements.

C. SUCCESS OF PREVENTATIVE MAINTENANCE PROGRAM

Order 2006-0003-DWQ requires the City to "a*ssess the success of the preventative maintenance program."*

A sewer collection system with less than three (3) spills from the publically owned system (excluding private property spills that do not result from a blockage in the public system) per 100 miles per year is considered an adequate system.

For the District's sewer system (321 miles), this is an average of about 9.6 (3 x 3.2) spills per year, not including private spills. The District annually evaluates the spills from its sewer system to determine the efficiency of its preventative maintenance plan. The District will make changes as necessary to minimize the number and volume of spills.

D. UPDATE PROGRAM ELEMENTS

Order 2006-0003-DWQ requires the District to "U*pdate program elements, as appropriate, based on monitoring or performance evaluations."*

Biennial audits of the SSMP are conducted to measure program effectiveness. The audit itself is a formal methodology for measuring program effectiveness. Based on the findings of the SSMP audit, the District modifies its SSMP elements accordingly.

At a minimum, the District reviews and updates its SSMP document every five (5) years, as required by the Waste Discharge Requirements.

The Change Log is included in Section 13 of this report. Recommendations to the District's SSMP will be tracked in the Change Log. The items in the Change Log will be incorporated into the SSMP documents, when the District conducts its next SSMP update.

E. SSO TRENDS

Order 2006-0003-DWQ requires the City, "*Identify and illustrate SSO trends, including: frequency, location, and volume."*

The SSO trends are detailed on Figure 10-1 and Table 10-2. Table 10-3 summarizes all SSOs since 2011. A map of the SSO locations is included on Figure 10-2. The number of SSO from 2016 to 2019 maintained below threshold level of 9.6 spills.

Table 10-1

SSMP Monitoring Performance Indicators and Recommended Actions

SSMP Element	Summary of Element Purpose	Performance Indicators for Tracking Effectiveness	Possible Response Actions
1. Goals	Establish priorities of District and provide focus for staff	Annual review of goals based upon results of performance evaluations	Update as necessary.
2. Organization	Document organization of District staff and chain of command / communication for SSO response	Annual review of organization chart and all contact information.	Update and distribute a copy to all parties so they are informed of their responsibilitiies related to the SSMP elements.
3. Legal Authority	Ensure the District has sufficient legal authority to properly maintain and protect the integrity of the system	Annual review Municipal Code sections and ordinances related to the sewer system annually. Consult District staff to determine if any problems occurred due to inadequate legal authority in relation to the sewer system, SSOs, FOG.	Update as necessary.
4. Operations and Maintenance Program	Minimize blockages and SSOs by properly operating and maintaining the system	Monthly review routine and hot spot cleaning records to ensure the preventative maintenance goals are being met.	Review staffing levels if goals are not being met. Consider use of private contractors.
		Annual review of pump station maintenance logs to ensure preventative maintenance goals are being met.	
		Annual review of CCTV inspections to ensure reinspections are being performed as scheduled based on date of inspection and the existing priority.	
		Annual review of training schedules/records annually to ensure maintenance staff has the appropriate training in all areas related to sewer system maintenance and SSOs.	Revise training schedules as necessary.
		Annual review of SSO statistics: ➢ Total number and volume of SSOs ➢ Number of repeat SSOs at same location ➢ Number of lateral SSOs ➢ Number of mainline SSOs ➢ Total volume spilled ➢ Total amount recovered ➢ Total amount estimated to reach surface waters ➢ Percent reaching surface waters ➢ Number of pipe failures ➢ Total length of pipe cleaned ➢ Total length of hot spots cleaned	

Table 10-1 (Continued)

SSMP Monitoring Performance Indicators and Recommended Actions

SSMP Element	Summary of Element Purpose	Performance Indicators for Tracking Effectiveness	Possible Response Actions
5. Design and Construction Standards	Ensure new facilities are properly designed and constructed	Annual review of existing design and construction standards. New technologies and materials for collection system assets should also be evaluated annually.	Update design and construction standards, as necessary.
6. Overflow Emergency Response Plan (OERP)	Provide timely and effective response to SSO emergencies and comply with regulatory reporting requirements	Annual review of SSOERP document.	Consult maintenance staff for recommendations of improvement based on experiences in field and in reporting SSOs when they occurred. Update as necessary.
		Annual review of SSO statististics: ➢ Average response time from call to arrival ➢ Average response time from arrival to SSO stoppage and cleanup ➢ Percent of total SSO volume contained or returned to the sewer	
7. Fats, Oils & Grease (FOG) Control	Minimize blockages and overflows due to FOG	Annual review of FOG Control Program documents	Consult FSE inspector for recommendations of improvements. Update as FOG Control Program, as necessary.
		Annual review of FSE inspection data to ensure goals are being met	
		Annual review of SSO and FOG statististics: ➢ Number of blockages due to FOG ➢ Number of SSOs due to FOG ➢ Numnber of FOG producting facitilities inspected	Map and correlate SSOs with FSE locations and determine what corrective actions are needed, such as adding portions of system to the frequent cleaning list or further education at upstream FSE locations. This task should be done anytime an SSO occurs.
8. System Evaluation and Capacity Assurance Plan (SECAP)	Provide adequate hydraulic capacity to convey dry and peak wet weather flows through system	Annual review of hydraulic model and capacity improvement program projects.	Update as necessary.
9. Monitoring, Measurement, & Program Modifications	Evaluate effectiveness of SSMP, keep SSMP up-to-date, and identify necessary changes to SSMP Elements	Annual review of performance indicators described in Element 4, 6, & 7.	
10. Program Audits	Formally identify SSMP effectiveness, limitations, and necessary changes.	Perform bi-annual SSMP audit	Keep audits reports on file for a minimum of five (5) years per the SWRCB Monitoring and Reporting Program requirements
11. Communication Plan	Communicate with public and satellite agencies	Annual review of communications program.	Place sewer system related documents on City website.

Figure 10-1

Sanitary Sewer Overflows by Year

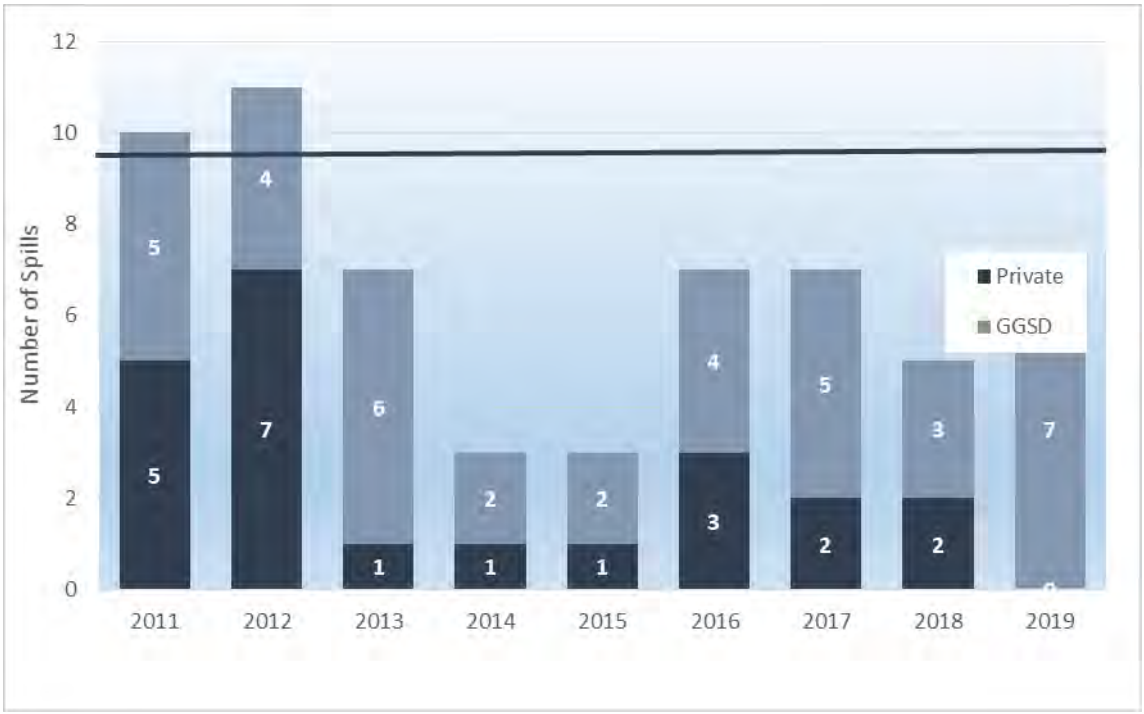


Table 10-2

SSOs by Cause

	Public	Private	Debris/Rags	Grease	Roots	Structural	NA	Totals
2011	5	5	2	7		1		**10**
2012	4	7		10		1		**11**
2013	6	1	3	1	1		2	**7**
2014	2	1		3				**3**
2015	2	1		2	1			**3**
2016	4	3	2	4	1			**7**
2017	5	2	2	4	1			**7**
2018	3	2		3	2			**5**
2019	7	0	2	3	1	1		**7**
Totals	**38**	**22**	**11**	**37**	**7**	**3**	**2**	**60**

Table 10-3

Sewer System Overflow Summary

Year	Date	Public/ Private	Location	Spill Volume (gal)	Recovered Volume (gal)	Likely Cause	Comments
	3/22/2011	GGSD	Flower and Crosby	22	22	Debris/rags	
	4/26/2011	Private	13436 Magnolia	30	30	Debris/rags	
	6/7/2011	GGSD	Kern Avenue and Bowen	32	32	Grease	
	6/14/2011	Private	13991 Brookhurst St (Lee's Sandwiches)	18	18	Grease	
	6/21/2011	Private	13011 Brookhurst St	52	52	Structural	
	7/13/2011	Private	12051 Valley View (McDonalds)	62	62	Grease	
	7/17/2011	GGSD	Magnolia at Larson	61	61	Grease	
	8/20/2011	Private	12188 Brookhurst	37	37	Grease	
	10/6/2011	GGSD	Josephine and Anthony	767	767	Grease	
2011	10/15/2011	GGSD	Brookhurst and Bonser	294	294	Grease	
	2/19/2012	Private	8939 Hewitt Pl.	53	53	Grease	
	4/3/2012	Private	12781 Josephine St.	16	16	Grease	
	5/1/2012	Private	9731 Garden Grove Blvd.	16	5	Grease	
	6/25/2012	Private	7725 Garden Grove Blvd.	15	15	Structural	
	7/14/2012	GGSD	12891 9th Street	326	326	Grease	
	8/1/2012	Private	12591 Westminster	69	69	Grease	
	9/4/2012	Private	13436 Magnolia St.	31	31	Grease	
	10/16/2012	Private	13871 Shady Ln.	210	210	Grease	
	11/7/2012	GGSD	13052 Cypress St.	138	138	Grease	
	11/26/2012	GGSD	Adland and Central	531	531	Grease	
2012	12/7/2012	GGSD	Magnolia and Trask	765	765	Grease	
	3/14/2013	GGSD	11028 Cynthia Cir.	857	857	Debris/rags	
	9/5/2013	GGSD	13361 Magnolia	NA	NA	NA	Not Reported on CIWQS
	9/6/2013	GGSD	13371 Magnolia	NA	NA	NA	Not Reported on CIWQS
	10/23/2013	GGSD	9670 Trask	203	203	Grease	
	12/11/2013	Private	9691 Hazard Ave.	6	6	Debris/rags	
	12/15/2013	GGSD	Clinton north of Westminster	115	115	Roots	
2013	12/31/2013	GGSD	13271 Magnolia	812	812	Debris/rags	
	3/13/2014	Private	10145 Westminster	NA	NA	Grease	Not Reported on CIWQS
	3/15/2014	GGSD	9031 Imperial Ave.	878	878	Grease	
2014	6/29/2014	GGSD	Hazard and Brookhurst	496	496	Grease	
	1/19/2015	GGSD	11701 Flamingo	31	31	Roots	
	6/12/2015	Private	10120 Westminster	NA	NA	Grease	Not Reported on CIWQS
	7/8/2015	GGSD	9820 Garden Grove Blvd.	10	10	Grease	
	11/8/2015	GGSD	9062 Central Ave.	569	569	Debris/Grease	
2015	12/14/2015	GGSD	Nutwood and Lampson	378	378	Debris/Grease	

Table 10-3 (Continued)

Sewer System Overflow Summary

Year	Date	Public/ Private	Location	Spill Volume (gal)	Recovered Volume (gal)	Likely Cause	Comments
	1/2/2016	GGSD	Seacrest and Style	17	17	Grease	
	2/12/2016	Private	13861 Brookhurst St.	NA	NA	Grease	
	3/16/2016	GGSD	6851 Lampson Ave.	112	112	Debris/Rags	
	6/7/2016	Private	9619 Bolsa Ave.	191	191	Grease	
	7/10/2016	GGSD	Benton and Bonnie	102	102	Roots/Grease	
	10/6/2016	GGSD	10181 Morningside Dr.	496	496	Grease	
2016	11/30/2016	GGSD	Bolsa and Ward	378	378	Debris/Grease	
	2/5/2017	GGSD	Magnolia and Lampson	372	372	Grease	
	4/14/2017	Private	8903 Hewitt Pl.	65	65	Grease	
	6/6/2017	GGSD	10181 Morningside	496	496	Debris	
	6/28/2017	GGSD	8205 Larson	121	121	Grease	
	9/30/2017	GGSD	Dale and Amy	162	162	Debris/Grease	
	11/22/2017	Private	12632 Dale St.	36	36	Grease	
2017	12/28/2017	GGSD	11961 Melody Park Dr.	168	168	Roots	
	1/24/2018	GGSD	Hazard and Sheffield	135	135	Grease	
	1/28/2018	Private	13861 Brookhurst St.	34	34	Grease	
	2/18/2018	Private	10191 Lampson St.	75	75	Roots	
	6/18/2018	GGSD	12691 Jerome Ln.	238	238	Roots/Grease	
2018	8/22/2018	GGSD	10772 Palma Vista	762	762	Grease	
	1/6/2019	GGSD	13261 Brookhurst St.	25	25	Debris/Grease	
	1/24/2019	GGSD	6502 Trinette Ave.	45	45	Calcium Blockage	
	4/5/2019	GGSD	Fern north of Garden Grove Blvd	73	73	Debris/rags	
	5/7/2019	GGSD	12513 Knott St.	3	3	Grease	
2019	7/7/2019	GGSD	Newland and Westminster	630	630	Grease	

Knott Interceptor

Hoover Western Sub-Trunk

Magnolia Purchase

Euclid Trunk and Euclid Relief

Miller Holder Trunk

Cypress

Stanton

Anaheim

Orange

Westminster

Santa Ana

Garden Grove Blvd

Chapman Av

Orangewood Av

Lampson Av

Katella Av

Ball Rd

Cerritos Av

Westminster Av

Hazard Av

Bolsa Av

McFadden Av

Garden Grove Blvd

Knott St

Western Av

Springdale St

Beach Blvd

Gilbert St

Magnolia St

Brookhurst St

Euclid St

Harbor Blvd

Haster St

Lewis St

West St

9th St

Dale St

Newland St

Ward St

Bushard St

Fairview St

Clinton St

Newhope St

GG FWY

Belgrave PS

Tiffany PS

Partridge PS

Valley View St

Legend

2016 - 2019 SSO

- 2016
- 2017
- 2018
- 2019
- Pump Stations
- GGSD Boundary
- OCSD Sewers
- GGSD Sewers
- Parcels
- Streets

1 inch = 3,500 feet

0 1,550 3,100 6,200 Feet

N W E S

Garden Grove Sanitary District
Sewer System Management Plan

Figure 10-2

Sanitary Sewer Overflow Locations

Date: April 2020

SECTION 11
SSMP PROGRAM AUDITS

The Order requires:

As part of the SSMP, the District shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file.

This audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

11-1 COMPLIANCE

The District performs audits of its SSMP documents and update the SSMP program based on the major SSO events annually. The District completed its last SSMP in August 2016. The district has added 3 reaches to the hot spot management program and 20 reaches to the root control program from year 2016 to 2019. The district removed 2 reaches from the hot spot management program during this period through CIP improvements.

SSMP audits for the past five years, at minimum, are kept on file per the State Water Resources Control Board (SWRCB) Monitoring and Reporting Program Requirements.

SECTION 12
COMMUNICATION

The Order requires that:

> *The District shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the District as the program is developed and implemented.*
>
> *The District shall also create a plan of communication with systems that are tributary and/or satellite to the District's sanitary sewer system.*

12-1 COMPLIANCE

The District provides communication to its customers through informational brochures, door hangers information, grease lids and discussions at public events such as the Public Works Open House, Garden Grove Pride, and the Coast Keeper Outreach Program. The District also provides other innovative means of public outreach, which include a sewer saver display that demonstrates the effect of tree roots and solids on the District's sewers. A hands-on "Knock the Grease Goblin out of the Sewer Game" was also created as part of the District's public outreach program.

The District maintains the SSMP documents at the Municipal Service Center located at 13802 Newhope St., Garden Grove, CA 92840.

The District has placed its current SSMP document on the City of Garden Grove's (City) website:

http://www.ci.garden-grove.ca.us/pw/sewersystemmanagementplan

SECTION 13
CHANGE LOG

13-1 Compliance

The Section D.14 of Order 2006-0003 require that, *"The SSMP must be updated every five (5) years, and must include any significant program changes."*

The District performs annual reviews to evaluate the efficiency of its sewer system and its Sewer System Management Plan. Per Order 2006-0003, the District also performs detailed bi-annual SSMP audits. Table 13-1 includes the SSMP Change Log, which provide the District a means to track the necessary changes to the SSMP document. These items will be incorporated into the SSMP document when the District conducts its next update.

Table 13-1
SSMP Change Log

Section	Action Item	Status

Section	Action Item	Status

Garden Grove Sanitary District
13802 Newhope Street
Garden Grove, CA 92843

GARDEN GROVE SANITARY DISTRICT SEWER SYSTEM MANAGEMENT PLAN APPENDICES APRIL 2020

APPENDICES

Appendix A – Introduction

- A-1 State Water Resources Control Board Order No. 2006-0003-DWQ
- A-2 State Water Resources Control Board Order No. WQ 2013-0058-EXEC

Appendix B – Organization

- B-1 Roles and Responsibilities
- B-2 Reporting Guidelines

Appendix C – Legal Authority

- C-1 Code of Regulations (2010)
- C-2 Stormwater Quality
- C-3 Ordinance No. 6 (FOG Requirements)
- C-4 City of Anaheim Agreement
- C-5 City of Orange Agreement
- C-6 City of Stanton Agreement
- C-7 City of Midway Agreement
- C-8 City of Santa Ana Agreement

Appendix D – O&M

- D-1 Sewer and Storm Drain Map
- D-2 Pump Station Description
- D-3 CCTV Database
- D-4 Condition Assessment Priorities
- D-5 Equipment Inventory

Appendix E – Design and Performance and Overflow Emergency Response Plan

- E-1 Design Criteria for Sewer Facilities
- E-2 Standard Drawings
- E-3 Overflow Emergency Response Plan

Appendix F – FOG Control Program

- F-1 FOG Control Program for Food Service Establishments
- F-2 FOG Informational Handouts
- F-3 Certified Liquid Wastehauler Vehicles

Appendix G – SECAP

- G-1 Recommended Capacity Improvement Projects
- G-2 Ordinance No. 10

Appendix A-1

State Water Resources Control Board Order No. 2006-0003-DWQ

STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2006-0003-DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

The State Water Resources Control Board, hereinafter referred to as "State Water Board", finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as "Enrollees".

2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.

4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

SEWER SYSTEM MANAGEMENT PLANS

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.

6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.

7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.

8. It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.

9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).

10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.

11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more

prescriptive WDRs for sanitary sewer systems. Upon issuance or reissuance of a Regional Water Board's WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

REGULATORY CONSIDERATIONS

12. California Water Code section 13263 provides that the State Water Board may prescribe general WDRs for a category of discharges if the State Water Board finds or determines that:

    - The discharges are produced by the same or similar operations;
    - The discharges involve the same or similar types of waste;
    - The discharges require the same or similar treatment standards; and
    - The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

    This Order establishes requirements for a class of operations, facilities, and discharges that are similar throughout the state.

13. The issuance of general WDRs to the Enrollees will:
    a) Reduce the administrative burden of issuing individual WDRs to each Enrollee;
    b) Provide for a unified statewide approach for the reporting and database tracking of SSOs;
    c) Establish consistent and uniform requirements for SSMP development and implementation;
    d) Provide statewide consistency in reporting; and
    e) Facilitate consistent enforcement for violations.

14. The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to, aquatic life, drinking water supply, body contact and non-contact recreation, and aesthetics. The beneficial uses of ground water that can be impaired include, but are not limited to, drinking water and agricultural supply. Surface and ground waters throughout the state support these uses to varying degrees.

15. The implementation of requirements set forth in this Order will ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each region and take into account the environmental characteristics of hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect

water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.

17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.

18. California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
    a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
    b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
    c. Occurs during, or as a result of, the treatment or disposal of wastes.

19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.

20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt

this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.

22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.

23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

IT IS HEREBY ORDERED, that pursuant to California Water Code section 13263, the Enrollees, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

A. DEFINITIONS

1. **Sanitary sewer overflow (SSO)** - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:
   (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
   (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
   (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.

4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is http://ciwqs.waterboards.ca.gov. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

6. **Satellite collection system** – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.

7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
    a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
    b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
    c. Occurs during, or as a result of, the treatment or disposal of wastes.

B. APPLICATION REQUIREMENTS

1. Deadlines for Application – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.

2. Applications under the general WDRs – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the general WDRs, State Water Board staff will send specific instructions on how to

apply for coverage under the general WDRs to all known public agencies that own sanitary sewer systems. Agencies that do not receive notice may obtain applications and instructions online on the Water Board's website.

3. Coverage under the general WDRs – Permit coverage will be in effect once a complete application package has been submitted and approved by the State Water Board's Division of Water Quality.

C. PROHIBITIONS

1. Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

2. Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

D. PROVISIONS

1. The Enrollee must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for enforcement action.

2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDRs. Nothing in the general WDRs shall be:

   (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
   (ii) Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
   (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
   (iv) Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issued by a Regional Water Board.

3. The Enrollee shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the Enrollee shall take all feasible steps to contain and mitigate the impacts of an SSO.

4. In the event of an SSO, the Enrollee shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into

flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. All SSOs must be reported in accordance with Section G of the general WDRs.

6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:

   (i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;

   (ii) The Enrollee can identify the cause or likely cause of the discharge event;

   (iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.

   (iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;

   (v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
   - Proper management, operation and maintenance;
   - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
   - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
   - Installation of adequate backup equipment; and
   - Inflow and infiltration prevention and control to the extent practicable.

   (vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.

(vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

7. When a sanitary sewer overflow occurs, the Enrollee shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

   The Enrollee shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

   (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
   (ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
   (iii) Cleanup of debris at the overflow site;
   (iv) System modifications to prevent another SSO at the same location;
   (v) Adequate sampling to determine the nature and impact of the release; and
   (vi) Adequate public notification to protect the public from exposure to the SSO.

8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.

9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.

10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.

11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.

13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

Sewer System Management Plan (SSMP)

(i) **Goal**: The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.

(ii) **Organization**: The SSMP must identify:

(a) The name of the responsible or authorized representative as described in Section J of this Order.

(b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and

(c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

(iii) **Legal Authority:** Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

(a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);

(b) Require that sewers and connections be properly designed and constructed;

(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;

(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and

(e) Enforce any violation of its sewer ordinances.

(iv) **Operation and Maintenance Program**. The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

(a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;

(b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;

(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

(d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and

(e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

(v) **Design and Performance Provisions**:

(a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

(b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

(vi) **Overflow Emergency Response Plan -** Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

(a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;

(b) A program to ensure an appropriate response to all overflows;

(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;

(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

(e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

(f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

(vii) **FOG Control Program:** Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

(a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

(b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

(d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;

(e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and

(g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

(viii) **System Evaluation and Capacity Assurance Plan**: The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

(a) **Evaluation**: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs

that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

(b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and

(c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

(d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

(ix) **Monitoring, Measurement, and Program Modifications:** The Enrollee shall:

(a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;

(b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;

(c) Assess the success of the preventative maintenance program;

(d) Update program elements, as appropriate, based on monitoring or performance evaluations; and

(e) Identify and illustrate SSO trends, including: frequency, location, and volume.

(x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the

Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

(xi) **Communication Program** – The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

14. Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15, below.

    In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

    State Water Resources Control Board
    Division of Water Quality
    Attn: SSO Program Manager
    P.O. Box 100
    Sacramento, CA 95812

    The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.

Sewer System Management Plan Time Schedule

Task and Associated Section	**Completion Date**			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage ***Section C***	6 months after WDRs Adoption			
Reporting Program ***Section G***	6 months after WDRs Adoption[1]			
SSMP Development Plan and Schedule ***No specific Section***	9 months after WDRs Adoption[2]	12 months after WDRs Adoption[2]	15 months after WDRs Adoption[2]	18 months after WDRs Adoption[2]
Goals and Organization Structure ***Section D 13 (i) & (ii)***	12 months after WDRs Adoption[2]		18 months after WDRs Adoption[2]	
Overflow Emergency Response Program ***Section D 13 (vi)***	24 months after WDRs Adoption[2]	30 months after WDRs Adoption[2]	36 months after WDRs Adoption[2]	39 months after WDRs Adoption[2]
Legal Authority ***Section D 13 (iii)***				
Operation and Maintenance Program ***Section D 13 (iv)***				
Grease Control Program ***Section D 13 (vii)***				
Design and Performance ***Section D 13 (v)***	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
System Evaluation and Capacity Assurance Plan ***Section D 13 (viii)***				
Final SSMP, incorporating all of the SSMP requirements ***Section D 13***				

1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

Reporting Program ***Section G***	
Regional Boards 4, 8, and 9	8 months after WDRs Adoption
Regional Boards 1, 2, and 3	12 months after WDRs Adoption
Regional Boards 5, 6, and 7	16 months after WDRs Adoption

If this MOU is not executed by July 1, 2006, the reporting program time schedule will remain six (6) months for all regions and agency size categories.

2. In the event that the Executive Director executes the MOA identified in note 1 by July 1, 2006, then the deadline for this task shall be extended by six (6) months. The time schedule identified in the MOA must be consistent with the extended time schedule provided by this note. If the MOA is not executed by July 1, 2006, the six (6) month time extension will not be granted.

E. WDRs and SSMP AVAILABILITY

1. A copy of the general WDRs and the certified SSMP shall be maintained at appropriate locations (such as the Enrollee's offices, facilities, and/or Internet homepage) and shall be available to sanitary sewer system operating and maintenance personnel at all times.

F. ENTRY AND INSPECTION

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:

    a. Enter upon the Enrollee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

G. GENERAL MONITORING AND REPORTING REQUIREMENTS

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.

2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.

3. All Enrollees must obtain SSO Database accounts and receive a “Username” and “Password” by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the “Collection System Questionnaire”, which collects pertinent information regarding a Enrollee’s collection system. The “Collection System Questionnaire” must be updated at least every 12 months.

4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

   Any SSO greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the Office of Emergency Services pursuant to California Water Code section 13271.

H. CHANGE IN OWNERSHIP

1. This Order is not transferable to any person or party, except after notice to the Executive Director. The Enrollee shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Enrollee containing a specific date for the transfer of this Order's responsibility and coverage between the existing Enrollee and the new Enrollee. This agreement shall include an acknowledgement that the existing Enrollee is liable for violations up to the transfer date and that the new Enrollee is liable from the transfer date forward.

I. INCOMPLETE REPORTS

1. If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

J. REPORT DECLARATION

1. All applications, reports, or information shall be signed and certified as follows:

    (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)

    (ii) An individual is a duly authorized representative only if:

        (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and

        (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.

2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or

falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

L. SEVERABILITY

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

CERTIFICATION

The undersigned Clerk to the State Water Board does hereby certify that the foregoing is a full, true, and correct copy of general WDRs duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 2, 2006.

AYE: Tam M. Doduc
Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None

Song Her
Clerk to the Board

Appendix A-2

State Water Resources Control Board Order No. WQ 2013-0058-EXEC

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).

2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.

3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.

4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"[1] (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.

5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.

6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.

7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information[2] to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

[1] Available for download at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

[2] Cal OES Hazardous Materials Spill Reports available Online at:
http://w3.calema.ca.gov/operational/malhaz.nsf/$defaultview and http://w3.calema.ca.gov/operational/malhaz.nsf

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS[3] Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.

9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.

10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program[4] objectives, assess compliance, and enforce the requirements of the SSS WDRs.

IT IS HEREBY ORDERED THAT:

Pursuant to the authority delegated by Water Code section 13267(f), Resolution 2002-0104, and Order 2006-0003-DWQ, the MRP for the SSS WDRs (Order 2006-0003-DWQ) is hereby amended as shown in Attachment A and shall be effective on September 9, 2013.

8/6/13
Date

Thomas Howard
Executive Director

[3] California Integrated Water Quality System (CIWQS) publicly available at http://www.waterboards.ca.gov/ciwqs/publicreports.shtml

[4] Statewide Sanitary Sewer Overflow Reduction Program information is available at: http://www.waterboards.ca.gov/water_issues/programs/sso/

ATTACHMENT A

STATE WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order 2006-0003-DWQ, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. The Executive Director may make revisions to this MRP at any time. These revisions may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and this MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with this MRP may subject an enrollee to civil liabilities of up to $5,000 a day per violation pursuant to Water Code section 13350; up to $1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board (State Water Board) reserves the right to take any further enforcement action authorized by law.

A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee's sanitary sewer system failure or flow condition that: • Reach surface water and/or reach a drainage channel tributary to a surface water; or • Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
CATEGORY 2	Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee's sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems **within a privately owned sewer lateral** connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION **(see section B of MRP)**	• Within two hours of becoming aware of any Category 1 SSO **greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water**, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.	Call Cal OES at: **(800) 852-7550**
REPORTING **(see section C of MRP)**	• Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • "No Spill" Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: Update and certify every 12 months.	Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee's Legally Responsible Official(s).
WATER QUALITY MONITORING **(see section D of MRP)**	• Conduct water quality sampling **within 48 hours** after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING **(see section E of MRP)**	• SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume.	Self-maintained records shall be available during inspections or upon request.

B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.

2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:

    i. Name of person notifying Cal OES and direct return phone number.
    ii. Estimated SSO volume discharged (gallons).
    iii. If ongoing, estimated SSO discharge rate (gallons per minute).
    iv. SSO Incident Description:
        a. Brief narrative.
        b. On-scene point of contact for additional information (name and cell phone number).
        c. Date and time enrollee became aware of the SSO.
        d. Name of sanitary sewer system agency causing the SSO.
        e. SSO cause (if known).
    v. Indication of whether the SSO has been contained.
    vi. Indication of whether surface water is impacted.
    vii. Name of surface water impacted by the SSO, if applicable.
    viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
    ix. Any other known SSO impacts.
    x. SSO incident location (address, city, state, and zip code).

3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).

4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

C. REPORTING REQUIREMENTS

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.

2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

3. **SSO Categories**

   i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that:

      a. Reach surface water and/or reach a drainage channel tributary to a surface water; or

      b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).

   ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee's sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

   iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**

   i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:

      a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.

      b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.

iii. **"No Spill" Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a "No Spill" certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, "No Spill" certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.

If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a "No Spill" certification statement for that month.

iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. **SSO Technical Report**

The enrollee shall submit an SSO Technical Report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

i. **Causes and Circumstances of the SSO:**

a. Complete and detailed explanation of how and when the SSO was discovered.

b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).

c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.

d. Detailed description of the cause(s) of the SSO.

e. Copies of original field crew records used to document the SSO.

f. Historical maintenance records for the failure location.

ii. **Enrollee's Response to SSO:**

a. Chronological narrative description of all actions taken by enrollee to terminate the spill.

b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.

c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**

a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.

b. Detailed location map illustrating all water quality sampling points.

6. **PLSDs**

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.

ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

In the event that the CIWQS Online SSO Database is not available, the enrollee must fax or e-mail all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in CIWQS Online SSO Reporting**

All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS Online SSO Database. Additionally, within thirty (30) days of initial enrollment and prior to recording SSOs into the CIWQS Online SSO Database, all enrollees must complete a Collection System Questionnaire (Questionnaire). The Questionnaire shall be updated at least once every 12 months.

i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

a. **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:

1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
2. SSO Location Name.
3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
5. Whether or not the SSO reached a municipal separate storm drain system.
6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
7. Estimate of the SSO volume, inclusive of all discharge point(s).
8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
9. Estimate of the SSO volume recovered (if applicable).
10. Number of SSO appearance point(s).
11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
12. SSO start date and time.
13. Date and time the enrollee was notified of, or self-discovered, the SSO.
14. Estimated operator arrival time.
15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.

b. **Certified Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :

1. Description of SSO destination(s).
2. SSO end date and time.
3. SSO causes (mainline blockage, roots, etc.).
4. SSO failure point (main, lateral, etc.).
5. Whether or not the spill was associated with a storm event.
6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
7. Description of spill response activities.
8. Spill response completion date.
9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
11. Whether or not health warnings were posted as a result of the SSO.
12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
13. Name of surface water(s) impacted.
14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.

c. **Draft Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:

1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.

d. **Certified Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:

1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.

e. **Certified Category 3 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:

1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

ii. **Reporting SSOs to Other Regulatory Agencies**

These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

iii. **Collection System Questionnaire**

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee's sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
1001 I Street, 15th Floor, Sacramento, CA 95814

D. WATER QUALITY MONITORING REQUIREMENTS:

To comply with subsection D.7(v) of the SSS WDRs, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

1. Contain protocols for water quality monitoring.

2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).

3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.

4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.

5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
   i. Ammonia
   ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

E. RECORD KEEPING REQUIREMENTS:

The following records shall be maintained by the enrollee for a minimum of five (5) years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).

2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
   i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not

result in SSOs. Each complaint record shall, at a minimum, include the following information:

a. Date, time, and method of notification.

b. Date and time the complainant or informant first noticed the SSO.

c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.

d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.

e. Final resolution of the complaint.

ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.

iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.

3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.

4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:

i. Supervisory Control and Data Acquisition (SCADA) systems

ii. Alarm system(s)

iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

F. CERTIFICATION

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.

2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.

3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.

4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order amended by the Executive Director of the State Water Resources Control Board.

7/30/13
Date

Jeanine Townsend
Clerk to the Board

Appendix B-1

Roles and Responsibilities

GARDEN GROVE SANITARY DISTRICT
ROLES AND RESPONSIBILITIES

A. RESPONSIBLE OFFICIAL

The Legally Responsible Official (LRO) who shall sign and certify the SSMP is the Water Services Manager, William E. Murray.

B. RESPONSIBILITIES FOR THE GGSD SSMP

City Manager:

- Establishes policy
- Allocates resources
- Delegates responsibility
- Oversees the preparation of the Sewer Enterprise Funding Plan for proper operation and maintenance of the collection system, and implementing the capital improvement plan

Director of Public Works:

- Provides adequate operation and maintenance of facilities and equipment through Water Services Manager
- Oversees the preparation and maintenance of an up to date map of the collection system, including the stormwater conveyance facilities
- Maintains relative information to establish and prioritize appropriate SSMP activities
- Oversees the system capacity evaluation, including urban runoff diversion to the sewer system during dry weather periods and control of infiltration and intrusion during both wet weather events and dry weather periods
- Oversees the preparation of Capacity Assurance Plan
- Oversees the inspection and condition assessment of the system to identify and prioritize structural deficiencies
- Participates in the preparation of the Sewer Enterprise Funding Plan
- Oversees the preparation of plans, specifications and estimates for the capital improvement projects, including rehabilitation and repair projects
- Reviews the Sanitary Sewer Overflow Report Form completed at the conclusion of a response to an SSO

Water Services Manager:

- Legally Responsible Official (LRO)
- Provides adequate operation and maintenance of facilities and equipment through Water Services Manager

- Oversees the preparation and maintenance of an up to date map of the collection system, including the stormwater conveyance facilities
- Maintains relative information to establish and prioritize appropriate SSMP activities
- Oversees the system capacity evaluation, including urban runoff diversion to the sewer system during dry weather periods and control of infiltration and intrusion during both wet weather events and dry weather periods
- Oversees the preparation of Capacity Assurance Plan
- Oversees the inspection and condition assessment of the system to identify and prioritize structural deficiencies
- Prepares and monitors the Sewer Enterprise budget and capital and replacement funds
- Oversees the preparation of plans, specifications and estimates for the capital improvement projects, including rehabilitation and repair projects
- Reviews the Sanitary Sewer Overflow Report Form completed at the conclusion of a response to an SSO
- Directs sewer operational guidelines
- Plan and direct short term and long term system improvements

District Engineer:

- Prepares the Capacity Assurance Plan
- Oversees the inspection and condition assessment of the system to identify and prioritize structural deficiencies
- Oversees the preparation of plans, specifications and estimates for the capital improvement projects, including rehabilitation and repair projects
- Assists in planning and directing short term and long term system improvements
- Oversees the system capacity evaluation, including urban runoff diversion to the sewer system during dry weather periods and control of infiltration and intrusion during both wet weather events and dry weather periods

GARDEN GROVE SANITARY DISTRICT
ROLES AND RESPONSIBILITIES

Supervisor:

- Direct sewer operational guidelines
- Prepare and monitor Sewer budget
- Prepare and monitor Sewer five year Capital and Replacement plan
- Control expenditures of Sewer funds
- Work on special projects as assigned
- Maintain records and documentation of incidents relating to safety
- Plan and direct short and long term personnel development and training by implementing goals, objectives, and performance standards
- Establish goals and objectives that coordinate with the mission/vision of the Division
- Coordinate with other staff to order materials and equipment
- Direct Sanitation Section operational guidelines
- Support and direct aspects and activities of Sanitation Section
- Oversee, supervise and provide managerial assistance in support of field crews in specific work sections
- Inspect emergency situation and informs personnel of problem
- Respond to situations reported by residents and City departments
- Perform necessary procedures to restore situations and request adequate assistance when necessary to restore situation
- Plan and conduct safety meetings
- Maintain records and documentation of incidents relating to safety
- Review files and train on Material Safety Data Sheets (MSDS)
- Oversee all new Sanitation projects
- Attend committee meetings
- Plan and organize all operational strategies
- Perform customer service activities in the field
- Review projects for utility input
- Review and update standards
- Attends developmental related meetings
- Coordinate and supervise construction of Sewer projects
- Review Capital projects for utility input

- Assists in the preparation of special events
- Oversee, supervise and provide managerial assistance in support of field crews in specific work sections
- Plan and implement goals, objectives, and performance standards for divisional sections; act on behalf of Public Works Division Manager during absence; and make presentations to City officials, public groups and staff
- Interview, select, train and evaluate the performance of employees
- Direct and plan the work of employees, including determining the techniques to be used by employees
- Set job performance standards for employees and ensure that standards are met
- Responsible for employee discipline when necessary
- Plan, review, and evaluate the work of crews engaged in a wide variety of maintenance activities; provide staff training and development; maintain a variety of records related to employee work activities
- Interpret and enforce safety provisions in accordance with City procedures, County, State, Federal, OSHA and related guidelines and regulations; and oversee field safety and/or hazardous materials programs
- Identify problems, obtain and analyze information to evaluate, determine and make recommendations for alternate courses of action to resolve problems
- Plan and implement maintenance schedules; estimate personnel, materials, and equipment requirements for section planning and budgeting
- Keep detailed manual and computerized records; gather and compile data; write a variety of technical, administrative, operational and maintenance reports; perform special projects; and procure supplies, equipment and facilities
- Provide on-site field tasks that include performing skilled labor as needed, making field computations, investigating and troubleshooting problems, inspecting contractual work to insure compliance, and reading and interpreting blue prints, maps and GIS system related information

Foreman:

- Plan and direct short and long term personnel development and training by implementing goals, objectives, and performance standards
- Coordinate with other staff to order materials and equipment
- Direct Sanitation Section operational guidelines
- Respond to situations reported by residents and City departments
- Perform necessary procedures to restore situations and request adequate assistance when necessary to restore situation
- Plan and conduct safety meetings
- Establish safety standards per OSHA guidelines
- Review files and Material Safety Data Sheets (MSDS)
- Maintain records and documentation of incidents relating to safety
- Attend committee meetings
- Supervise and direct personnel
- Support and direct aspects and activities of Sanitation Section
- Perform customer service activities in the field
- Fills in when crews are absent
- Work with other departments to complete public works projects
- Oversee, direct, and implement sewer operational guidelines
- Inspect lines to maintain proper conditions for sewer flow
- Inspect lift station pumps for proper operation
- Monitor and supervise progress and direction of the Roving Check Program and prepare data for presentation to other departments
- Supervise all aspects of lift station maintenance and reporting
- Perform maintenance and monitoring of the lift stations, filling in for crew when necessary
- Supervise and monitor the line cleaning, hot spot, and CCTV programs
- Log progress and prepare reports for section programs and responsibilities
- Write and prepare various reports to regulators per the WDR reporting guidelines
- Conduct physical examinations of manholes
- Supervise special projects such as manhole rehabilitation, lateral and main sewer line repairs, and other agencies' construction activities near City lines

- Coordinate with other agencies and contractors for marking sewer lines
- Provide hands-on supervisory assistance in support of field crews in specific work sections.
- Implement goals, objectives, and performance standards for deSignated work section
- Handle work orders by directing, assigning, supervIsing, overseeing, inspecting, evaluating and performing the work of assigned crew; participate in the selection of new employees; fill in for supervisor during absence
- Train personnel in use of equipment and methods of maintenance; provide input on evaluations; recommend and assist with follow-through of disciplinary actions when appropriate
- Interpret and enforce safety provisions in accordance with City procedures, County, State, Federal, OSHA and related guidelines and regulations.
- Operate a variety of light, medium and heavy construction and maintenance equipment and vehicles; operate a two-way radio; clean and maintain mechanical equipment, basic tools used on the job; perform minor maintenance on assigned equipment; respond to special requests and emergency calls during regular 'and off-hours as needed
- Drive, operate and inspect cars, trucks and a variety of power and automotive equipment
- Identify, research, obtain and analyze necessary information; determine and evaluate alternative approaches and courses of action; make recommendations to resolve problems both verbally and in writing
- Keep detailed manual and computerized daily records and logs; prepare operational and maintenance reports; assist with special projects as needed; order supplies and equipment
- Gather data and compile records, make field computations, and investigate and troubleshoot related problems; inspect contractual work performed to ensure compliance; read and interpret blue prints, maps and GIS system related information
- Work on special projects as assigned

Senior Sewer Maintenance Worker:

- Supervise and direct specific Sanitary District crews (Hot Spots, Line Cleaning, and CCTV)
- Maintain accurate data entry records of work performed by District crews
- Handle work orders by directing, assigning, supervising, overseeing, inspecting, evaluating, performing and reporting the work of assigned crews
- Obtain and maintain a Grade II Wastewater Collection System Maintenance Certification; obtain and maintain a California Class B commercial drivers license with airbrake and tanker endorsements
- Supervise the activities of a small crew or work independently without supervision
- Meet all roles and responsibilities of a Sewer Maintenance Worker
- Operate and maintain a combination "Vactor" truck and a "Hydroflusher" truck
- Install, operate, and repair sewer systems, laterals, flow meters, manholes, lift station equipment and mechanical and electrical equipment associated with sewer lift stations
- Troubleshoot sewer blockages and lift station problems
- Dig ditches and holes using power and manual equipment
- Erect various types of barricades around excavations
- Measure, cut and fit pipe
- Clean and repair various pumps
- Drive a truck to transport tools, department personnel and equipment
- Clean and maintain vehicles, shops and the maintenance yard
- Operate and maintain hand and power tools along with light and heavy equipment
- Secure necessary tools and equipment for trucks
- Assist with minor repairs to sewer collection systems and lift station equipment
- Spray pesticide and clean in and around manhole covers, pumps and equipment
- Work on special projects as needed

Ability to:

Supervise the activities of a small crew or work independently without supervision; perform the physical actions necessary to maintain sewer collection systems and job sites, including working in confined spaces and lifting up to 90 pounds; safely operate motorized vehicles including cars and trucks, and related equipment and tools, such as a forklift, hydraulic crane, jack hammer, air ratchet, shovel, hose, and a variety of basic power and manual hand tools; safely operate a CCTV video camera and equipment; work both independently and as part of a team; follow safe working practices and safety procedures to maintain safe working conditions; read maps, blueprints and other related diagrams; understand a carry out verbal and written instructions; work cooperatively with others; operate devices and read a variety of gauges and meters; operate personal and handheld computers; complete handwritten or computerized paperwork; perform arithmetical calculations using standard and metric conversions; communicate with the general public, contractors and co-workers in a courteous, effective, and professional manner and commit to providing quality customer service.

Sewer Maintenance Worker:

- Operate and maintain a combination "Vactor" truck
- Operate and maintain a "Hydroflusher" truck
- Install, operate and repair sewer collection systems, laterals, flow meters, manholes, lift station equipment and mechanical and electrical equipment associated with sewer lift stations
- Troubleshoot sewer blockages and lift station problems
- Read and interpret collection system maps, blueprints and diagrams
- Dig ditches and holes using power and manual equipment
- Erect various types of barricades around excavations
- Measure, cut and fit pipe
- Clean and repair various pumps
- Drive a truck to transport tools, department personnel and equipment
- Clean and maintain vehicles, shops and the maintenance yard
- Operate a two-way radio
- Read and record readings of various meters and gauges
- Use a personal computer to input data and retrieve work orders
- Operate CCTV video cameras
- Assist with minor repairs to sewer collection systems and lift station equipment
- Spray pesticide and clean in and around manhole covers, pumps and equipment
- Maintain equipment and tools
- Operate hand and power tools along with light and heavy equipment
- Secure necessary tools and equipment for trucks
- Conduct special projects as needed

Ability to:

Perform the physical actions necessary to maintain sewer collection systems and job sites, including working in confined spaces and lifting up to 90 pounds; safely operate motorized vehicles including cars and trucks, and related equipment and tools, such as a forklift, hydraulic crane, jack hammer, air ratchet, solder torch, tap machine, shovel, hose, and a variety of basic power and manual hand tools; safely operate a CCTV video camera and equipment; work both independently and as part of a team; follow safe working practices and safety procedures to maintain safe working conditions; read maps, blueprints and other related

diagrams; understand and carry out verbal and written instructions; work cooperatively with others; operate devices and read a variety of gauges and meters; operate personal and computers; complete handwritten or computerized paperwork; perform arithmetical calculations using standard and metric conversions; communicate with the general public, contractors and co-workers in a courteous, effective, and professional manner and commit to providing quality customer service.

Senior Administrative Analyst / Aide:

- Prepares written correspondence, such as letters and memos, presentations, staff reports, resolutions, grant applications, and environmental reports
- Reviews written materials prepared in the Water Services Division, including Sanitation Section
- Supervises Administrative Intern
- Organizes and assists in creating and completing projects, such as the Sewer System Management Plan (SSMP)
- Analyzes documents, proposed legislation, and regulations, to determine impacts to Water Services Division, including Sanitation Section
- Attend City committee meetings
- Attends meetings representing water and sewer services throughout Southern California
- Maintains records of studies previously conducted
- Manages submission of all section budget documents, insuring all deadlines are met
- Coordinates with section heads regarding supplemental requests
- Organizes meetings with section heads
- Prepares annual report documenting Best Management Practices
- Prepares Urban Water Management Plan
- Prepares benchmark studies on various topics
- Manages cooperative projects (grants) with Orange County Sanitation District
- Administers Operator State Certification Program
- Responds to various local, state and federal surveys
- Updates Emergency Response Plan
- Attends meetings regarding legislation, conservation, current events and projects occurring throughout Southern California
- Prepares Monthly Sanitary District Reports for Sewer Section
- Coordinates with supervisors to update Public Works Quarterly Newsletter for Water Service's Division, including Sanitation Section
- Updates Division web pages
- Presents information and attends the Sanitary District Citizen Advisory

Committee meetings

- Attends industry-related meetings representing the Sanitary District.
- Assists the Water Services Manager in preparing analysis and administrative reports to local, state, and federal regulatory agencies
- Represents Water Division, including Sanitation Section at public events such as: Garden Grove Pride, school assemblies, Public Works Open House, Children's Drinking Water Festival, and service group meetings

Associate Engineer:

- Reviews of details for equipment submittals
- Coordination of payments
- Utilizes requisitions for form of payments
- Attends developmental related meetings
- Manages and directs operations for Engineering Section
- Conducts project administration
- Reviews projects for impacts to water and sewer system
- Reviews and updates standards
- Administers AQMD (Air Quality Management District) mandates

Foreman:

- Conducts inspections of City water and sewer projects
- Attends developmental related meetings
- Administers customer service contacts for water and sewer projects

Sr. Engineering Technician:

- Assists in project administration
- Inputs GIS record system for Water and Sewer System layers
- Converts existing file drawings to computer format with Access program
- Maintains and updates AutoCad & other computer programs used in the Division
- Installs hardware related to SCADA system
- Installs upgrades and new programming for various reservoir and well sites. All programming related to MMI, PLC's, and SCADA
- Troubleshoot any problems related to programming in PLC's
- Install PLC's and related hardware
- Consults with Water Production staff for programming needs of the City's water system
- Makes recommendations on hardware and software upgrades
- Provides record information for public and developers
- Updates gate valve location book, (approximately 10,000 system

valves)

- Maintains Water and Sewer Atlas Records
- Maintains filing system for all record plans
- Updates and maintains Water Division Standard Plans
- Participates in consultant selection
- Provides consultant design review
- Facilitates inter-department interactions with sections for projects involved
- Reviews capital projects for utility input
- Maintains records for Capital Improvement Projects (CIP)
- Reviews and comments on each land use case
- Reviews development plans
- Coordinates and supervises construction of Water and Sewer projects
- Answers capacity letters and preliminary inquires
- Conducts fire flow testing and fire flow inquiries for new development
- Performs fire hydrant water pressure tests
- Attends developmental related meetings
- Administers customer service contacts for water and sewer projects
- Performs bi-monthly radio system checks with the Water Emergency Response Organization of Orange County

Environmental Service Coordinator:

- Coordinates City and District Environmental Compliance programs such as the National Pollutant Discharge Elimination System (NPDES) permit, Waste Discharge Requirements (WDRs) for Sanitary Sewer Collection Agencies, Air Quality Management District (AQMD) and hazardous materials/waste programs
- Coordinates City and District Environmental Public Outreach and Education Programs
- Coordinates and conducts enforcement actions
- Represents District at sub-committee meetings and General permittee meetings
- Reviews and coordinates the updating of District environmental compliance documents
- Performs duties as District's Fats, Oils, and Grease (FOG) Program Manager
- Responds to hazardous waste spills
- Coordinates environmental crimes investigations
- Reviews and approves development and construction plans to include conditional use documents

Senior Environmental Service Specialist:

- Conducts NPDES, AQMD and WDR compliance inspections at industrial facilities, food service establishments and other commercial facilities to include residential properties
- Responds to sanitary sewer overflows, that are FOG related
- Responds to hazardous waste spills
- Performs environmental crimes investigations
- Conducts Environmental Public Outreach and Education activities for the City and District
- Performs enforcement actions for the City and District
- Assists in the review of development and construction plans
- Attends regional NPDES meetings

Environmental Service Specialist:

- Conducts NPDES, and WDR compliance inspections at industrial facilities, food service establishments and other commercial facilities to

include residential properties

- Responds to sanitary sewer overflows, that are FOG related
- Responds to hazardous waste spills
- Performs environmental crimes investigations
- Conducts Environmental Public Outreach and Education activities for the City and District
- Performs enforcement actions for the City and District
- Attends regional NPDES meetings

Appendix B-2

Reporting Guidelines

Type of Spill	Initial Notification Timeframe	Agency to Notify by Phone	Report Timeframe
Category 1 – Discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition that: A. Reach surface water and/or reach a drainage channel tributary to a surface water; or B. Reach a municipal separate storm sewer system (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond). **Greater than or equal to 1,000 gallons**, notify the OES and obtain a notification control number.	As soon as practical within 2 hours of becoming aware	Cal OES OCHCA OCPW	- Submit Draft report within 3 business days of becoming aware of the SSO. - Certify within 15 calendar days of SSO end date. SSO Technical Report: - Certify within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater is spilled to surface waters.
Category 1 – any volume < 1000 gallons	N.A.		
Category 2 – Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee's sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.	N.A.		- Submit Draft report within 3 business days of becoming aware of the SSO. - Certify within 15 calendar days of SSO end date.
Category 3 – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.	N.A.		- Submit Certified report within 30 calendar days after the end of month in which SSO occurred.
Private lateral – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets.	As soon as practical.	Cal OES	- PLSDs that the enrollee becomes aware of may be voluntarily reported to the CIWQS Online SSO Database.
SSO Notification Contacts			
OES (Office of Emergency Services)	(800) 852 - 7550		

Appendix C-1

Code of Regulations (2010)

GARDEN GROVE SANITARY DISTRICT

CODE OF REGULATIONS

2010

A Codification of the Ordinances
and Regulations of the
Garden Grove Sanitary District,
11222 Acacia Parkway, PO Box 3070
Garden Grove, California, 92842

TITLE 1

GENERAL PROVISIONS

Chapters:

1.10 Code Adoption
1.20 Definitions and Rules of Construction

CHAPTER 1.10
CODE ADOPTION

Sections:

1.10.010 **Short Title, Reference to Code.**
1.10.020 **Codification Authority.**
1.10.030 **Effective Date.**
1.10.040 **Severability and Validity of Code.**
1.10.050 **Distribution of Code.**
1.10.060 **Notation of Amendments.**
1.10.070 **Amendments.**
1.10.080 **Prior Ordinances and Regulations.**
1.10.090 **District Fee Resolution.**

1.10.010 Short Title, Reference to Code. This Code shall be known as the "Garden Grove Sanitary District Code of Regulations" and it shall be sufficient to refer to said Code as the "Garden Grove Sanitary District Code" in any prosecution for the violation of any provisions thereof. It shall also be sufficient to designate any ordinance or resolution adding to, amending, or repealing, said Code, or portions thereof, as an addition or amendment to, or a repeal of, the "Garden Grove Sanitary District Code," or a portion thereof.

1.10.020 Codification Authority. This Code consists of the General Regulations of the Garden Grove Sanitary District as described under Section 6490 *et. seq*. of the Health and Safety Code of the State of California.

1.10.030 Effective Date. This Code takes effect upon the effective date of the Ordinance of the Board of Directors of the Garden Grove Sanitary District whereby this Code is adopted.

1.10.040 Severability and Validity of Code. If any section, subsection, sentence, clause, phrase or portion of this Code is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Code. The Board hereby declares that it would have adopted this Code and each section, subsection, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections, subsections, phrases, or portions be declared invalid or unconstitutional.

1.10.050 Distribution of Code. At least one (1) copy of this Code shall be filed for use and examination by the public in the office of the District Secretary or his or her designee. At least one (1) copy duly certified to by the District Secretary shall be maintained on file in the District Secretary's office. Additional copies shall be prepared in loose-leaf form and mounted to withstand heavy usage in such binders as the District Secretary may prescribe. Copies thereof shall be distributed as determined by the District Secretary.

1.10.060 Notation of Amendments. Upon the adoption of any amendment or addition to this Code, or upon the repeal of any of its provisions, the District Secretary shall certify thereto and shall make an appropriate notation in the volumes of said Code of the taking of such

action, noting thereon the number of the ordinances pursuant to which such action is taken. Duly certified copies of every ordinance making changes in such Code shall be filed in the office of the District Secretary in books for such purpose, duly indexed for ready reference.

1.10.070 Amendments. The District Secretary or his or her designee shall prepare copies of such changes in the Code for insertion in the loose-leaf copies thereof. Every section of the code so changed shall have printed thereon a notation of the ordinance number pursuant to which such change is adopted. All amendments shall be published in the Orange County Evening News, a newspaper published in this District and shall take effect upon the expiration of the week of publication pursuant to California Health and Safety Code § 6490.

1.10.080 Prior Ordinances and Regulations. This Code of Regulations is intended to be a comprehensive and complete statement of the District's ordinances and regulations. This Code therefore supersedes all ordinances, resolutions, and regulations of the District in effect on the effective date of this Code of Regulations and all such prior ordinances, resolutions, and regulations shall be deemed amended to read as provided in this Code of Regulations, with the exception of the following Ordinances and Resolutions that shall remain in full force and effect until amended as provided in this Code or under Law.

1.10.090 District Fee Resolution. Except as expressly provided in this Code, all fees, penalties, refunds, reimbursements, and charges of any kind levied, assessed, or collected by the District shall be designated in the District Fee Resolution, as amended by the District Board from time to time. Whenever applicable throughout the Code, reference may be made to the District Fee Resolution in lieu of any reference to specific fee amounts.

CHAPTER 1.20
DEFINITIONS AND RULES OF CONSTRUCTION

Sections:

1.20.010 **Construction.**
1.20.020 **Effect of Headings.**
1.20.030 **Reference to Acts or Omissions Within The District.**
1.20.040 **Prohibited Acts, Including Causing, Permitting or Suffering.**
1.20.050 **Reference Applies to Amendments.**
1.20.060 **Service of Notices.**
1.20.070 **Proof of Notice.**
1.20.080 **Tenses.**
1.20.090 **Gender.**
1.20.100 **Number.**
1.20.110 **Shall and May**.
1.20.120 **Acts by Deputy.**
1.20.130 **Definitions.**

1.20.010 Construction. Unless the provisions or the context otherwise require, these general provisions, rules of construction and definitions shall govern the construction of this Code. The provisions of this Code and all proceedings under it are to be construed with a view to effect its objects and to promote justice.

1.20.020 Effect of Headings. Title, chapter, section, and subsection headings contained herein shall not be deemed to govern, limit, modify or in any manner affect the scope, meaning or intent of the provisions of any title, chapter, section or subsection hereof.

1.20.030 Reference to Acts or Omissions Within The District. This Code shall refer only to the omission or commission of acts within the territorial limits of the District and to that territory over which the District has jurisdiction or control by virtue of any law, or by reason of ownership or control of property.

1.20.040 Prohibited Acts, Including Causing, Permitting or Suffering. Whenever in this Code any act or omission is made unlawful, it shall include causing, permitting, aiding, abetting, suffering or concealing such act or omission.

1.20.050 Reference Applies to Amendments. Whenever a reference is made to any portion of this Code, or to any ordinance or resolution of the District, the reference applies to all amendments and additions now or hereafter made.

1.20.060 Service of Notices. Whenever a notice is required to be given under this Code, unless different provisions herein are otherwise specifically made, such notice may be given either by personal delivery thereof to the person to be notified or by deposit in the United States mail in a sealed envelope, postage prepaid, addressed to such person to be notified, at his or her last known business or residence address as the same appears in the public records of the County or other

records pertaining to the matter to which such notice is directed. Service by mail shall be deemed to have been completed at the time of deposit in the post office.

1.20.070 Proof of Notice. Proof of giving any notice may be made by the certificate of any officer or employee of the District or of the City of Garden Grove, or by affidavit or declaration under penalty of perjury as provided by the California Code of Civil Procedure § 2015.5 of any person over the age of eighteen years, which shows service in conformity with this Code, or other provisions of law applicable to the subject matter concerned.

1.20.080 Tenses. The present tense includes the past and future tenses, and the future, the present.

1.20.090 Gender. The masculine gender includes the feminine and neuter.

1.20.100 Number. The singular number includes the plural, and the plural, the singular.

1.20.110 Shall and May. "Shall" is mandatory and "may" is permissive unless the context requires otherwise.

1.20.120 Acts by Deputy. Whenever a power is granted to or is duly imposed upon a public officer or employee, the power may be exercised or the duty may be performed by a deputy of such officer or employee, or by a person otherwise duly authorized, pursuant to law or ordinance or regulation or by an officer of the county or city, or by a deputy or employee of such officer when by contract with the District such officer is obligated and has agreed to perform certain duties on behalf of the District, unless this Code expressly provides otherwise.

1.20.130 Definitions. The following terms and phrases as used in this Code or in any ordinance, resolution, or code adopted hereby shall have the following meanings:

TERM	**DEFINITION**
AB 939	That State legislation commonly known as the California Integrated Waste Management Act (Stats 1989, Chapter 1095, as amended) as codified in Public Resources Code Section 40000, et seq., as it may be amended from time to time.
Bin	A metal container, commonly referred to as a dumpster, including a compactor and any such similar device, with a capacity of under ten cubic yards.
Board	The Board of Directors of the Garden Grove Sanitary District.
Bulky Items	Solid waste that cannot and/or would not typically be accommodated within a cart including specifically: furniture (including chairs, sofas, mattresses, and rugs); appliances (including refrigerators with and without Freon, ranges, washers, dryers, water heaters, dishwashers, plumbing, small household appliances and other similar items, commonly known as "white goods"); residential waste (including wood waste, tree branches, scrap wood, in the aggregate not exceeding one cubic yard per

TERM	DEFINITION
	collection); and clothing. Notwithstanding any provision hereof to the contrary, bulky items shall specifically include items commonly known in the waste industry as "brown goods," "e-waste" and "universal waste" (including, without limitation all types of electronic waste, stereos, televisions, computers and monitors, cellular phones, VCRs, microwaves and other similar type of equipment and products). Bulky items do not include car bodies, construction and demolition debris or (with the exception of appliances/white goods described above) items that cannot reasonably be moved with equipment of the type which, pursuant to industry standards, would normally be carried in a truck collecting bulky items.
Cart	A plastic container provided by a franchisee for collection, with a hinged lid and wheels serviced by an automated or semi-automated process, as opposed to a manual process of lifting and dumping.
Change in Operations	Any modification in the operational procedures of a commercial kitchen which has the potential to significantly increase the amount of grease generated by food preparation, including, without limitation, any substantial increase in the net public area, any substantial increase in the hours of operation, any significant increase in the size of the kitchen or the number of food service or food preparation employees, or any significant change in the size or type of food preparation equipment.
City	City of Garden Grove.
Collect or Collection or Collecting	To take physical possession of, transport, and remove solid waste from a premises.
Commercial Kitchen	Any business operating in the District as a full service or take-out restaurant, catering kitchen, employee cafeteria, or any other facility engaged in preparing and heat-processing food for consumption by the public or employees and which uses any equipment that produces grease vapors, steam fumes, smoke or odors that are required to by removed by a Type I or Type II hood. Establishments engaged only in assembling or serving food that is prepared entirely off site, and whose kitchen equipment consists only of beverage warmers and microwaves are not considered commercial kitchens.
Commercial Premises	Premises upon which business activity is conducted, including but not limited to retail sales, services, wholesale operations, manufacturing and industrial operations and MFRFs, but excluding residential premises upon which business activities are conducted when such activities are permitted under applicable zoning regulations and are not the primary use of the property. Notwithstanding any provision to the contrary herein, premises upon which MFRFs, hotels and motels are operated, shall be deemed to be commercial premises.
Commercial	Solid waste generated, produced or discarded by or at commercial premises.

TERM	DEFINITION
Waste	Includes any and all liquid or solid waste substance not sewage from any producing, manufacturing or processing operation of whatever nature. Notwithstanding the foregoing, it shall include sewage mixed with commercial or industrial waste; however, it shall not include domestic sewage from residences, business buildings and institutions containing only waste from waterclosets, wash water, baths and kitchens.
Construction and Demolition Waste	Solid waste generated, produced or discarded in connection with construction, demolition, landscaping, or general clean-up activities of premises, including, without limitation, concrete, plaster, drywall, wood scraps, metals, dirt, rock and rubble.
Container	Any type of solid waste receptacle, including a cart, bin, and rolloff box.
County	County of Orange.
District	Garden Grove Sanitary District.
Dwelling Unit	A residential structure containing one or more habitable rooms, having one and only one kitchen, and arranged for or occupied by one or more persons living as a household unit with common access to all living, eating and food preparation areas.
Engage in	To carry on, keep, conduct, maintain, or cause to be kept or maintained.
Ex-officio	By virtue of office.
Franchisee	Any person, persons, firm or corporation to whom a franchise has been granted by the District for the collection, processing, recycling and disposal of solid waste.
Garbage	All animal and vegetable refuse resulting from the preparation, handling or dispensing of food, including every accumulation of animal and vegetable matter that attends the preparation, consumption, decay, dealings in or storage of meats, fish, fruits, vegetables, tallow, bones or meat trimmings that are rejected as useless by the owner or producer thereof.
General Manager	The City Manager of the City of Garden Grove, or his or her designee.
Generator	Any person who generates, produces or discards solid waste.
Grease	Any oil, fat, or oily, fatty substance such as vegetable or animal fat that runs or may turn viscous or solidifies with a change in temperature or other conditions.
Green Waste	Organic waste generated from any landscape, including but not limited to, grass clippings, leaves, prunings, tree trimmings, weeds, branches and brush in sizes that can be placed in containers designated for green waste.

TERM	DEFINITION
Hazardous Waste	All substances defined as "hazardous waste," "acutely hazardous waste," or "extremely hazardous waste" by the State of California in Health and Safety Code, Division 20, Chapter 6.5, including but not limited to Sections 25110.02, 25115, and 25117, or in the future amendments to or recodifications of such statutes or identified and listed as Hazardous Waste by the US Environmental Protection Agency (EPA), pursuant to the Federal Resource Conservation and Recovery Act (42 USC §6901 et seq.) (RCRA), all future amendments thereto, and all rules and regulations promulgated thereunder.
Law	Denotes applicable federal law, the constitution and statutes of the state of California, the ordinances of the City of Garden Grove, California, and any and all rules and regulations which may be promulgated hereunder.
Medical Waste	All wastes defined as "medical waste," "sharps waste," or "home-generated sharps waste" by the State of California in the Medical Waste Management Act, as codified in Part 14 of Division 104 of the Health and Safety Code (commencing with Section 117600), including but not limited to Sections 117671, 117690-117700, and 117755, or in the future amendments to or recodifications of such statutes.
Multi-Family Dwelling	A building or lot containing more than one dwelling unit at which the District and/or a franchisee determines that each dwelling unit can receive solid waste handling services through the use of carts.
Multi-Family Residential Facility or MFRF	Any building or lot containing more than one dwelling unit at which the District and/or a franchisee determines the dwelling units must receive solid waste handling service through the use of shared bins, as they are not reasonably able to store carts or otherwise receive individualized solid waste handling service through the use of the automated collection system utilizing carts.
Nuisance	Anything which is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property, or other condition specified in Section 3479 of the Civil Code of the State of California.
Occupant	As used in reference to a building or land shall include any person who occupies the whole or part of such building or land, whether alone or with others.
Office	The use of the title of any officer, employee, or official shall mean such officer, employee, or official of the Garden Grove Sanitary District, or his/her duly authorized representative.
Operate	To carry on, keep, conduct, maintain, or cause to be kept or maintained.
Parcel	A parcel as designated by the County Assessor.

TERM	DEFINITION
Person	Any person, firm, association, organization, partnership, business trust, company or corporation, and any municipal, political or governmental corporation, district, body or agency, other than the Garden Grove Sanitary District and City of Garden Grove.
Premises	Any land, building and/or structure within the District where solid waste is generated or accumulated.
Public sewer	The main sewer or trunk sewer, constructed in a street, highway, alley, place or right-of-way dedicated to public use.
Recyclable Materials	That solid waste capable of being recycled, including but not limited to glass, newsprint, paper, aluminum, cardboard, certain plastics or metal.
Recycle Or Recycling	The process of collecting, sorting, cleansing, treating, and reconstituting or otherwise processing materials that are or would otherwise become solid waste and returning them to the economic mainstream in the form of raw material for new, reused or reconstituted products which meet the quality standards necessary to be used in the marketplace.
Refuse	All non-recyclable solid waste, trash, garbage, rubbish, offal, animal waste, and any other non-recyclable matter rejected as useless by the owner or producer thereof, whether combustible or non-combustible, except said term shall not include hazardous waste or medical waste as defined herein.
Remodeling	Any physical change to a building that requires a building permit.
Residential Premises	Premises within the District upon which single family and multi-family dwelling units exist; except, notwithstanding any provision to the contrary herein, for purposes of Title 5, premises upon which MFRFs, hotels, and motels are operated shall be deemed commercial premises.
Residential Waste	Solid waste, including recyclable materials, originating from residential premises.
Rolloff Box	A container of ten cubic yards or larger, including compactors.
Self-Hauler	Any person not engaged commercially in waste haulage who, pursuant to Title 5, provides for the collection, transportation and disposal of solid waste generated at his/her/its own premises.
Sewage	The water borne wastes from dwellings, kitchens, restaurants, institutions, stables, dairies, commercial or industrial buildings and other similar structures, but excluding any stormwater, rainwater, surface water, ground water, roof or yard drainage.
Single Family	A building or lot containing one dwelling unit and/or each dwelling unit within a

TERM	DEFINITION
Dwelling	multi-family dwelling.
Solid Waste	All discarded putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, rubbish, construction and demolition waste, industrial waste, commercial solid waste, bulky items (other than those bulky items defined as special wastes), and any other discarded solid, semisolid, and liquid waste permitted to be disposed of at a Class III landfill and which are included within the definition of "Nonhazardous Solid Waste" set forth in the California Code of Regulations, as they may be amended from time to time. Solid Waste does not include hazardous (Class I) waste, low-level radioactive waste, untreated medical waste, or Special Wastes as defined herein.
Solid Waste Handling Services	The collection, transfer, transport, recycling, processing, and/or disposal of solid waste.
Special Wastes	Wastes other than solid waste, including sewage sludge (biosolids), industrial sludge, asbestos, auto bodies, tires, used motor oil, hazardous waste, animal body parts, explosive substances, radioactive materials, and other materials which may not be disposed of at a Class III landfill or which require special handling. It shall also mean and include universal waste (or U-Waste), which are those wastes listed in Section 66261.9 of Division 4.5, Title 22, California Code of Regulations.
State	The State of California.
Street	Any street, highway, avenue, lane, alley, court, place, square, sidewalk, parkway, curb, or other public way in the District that has been or may hereafter be dedicated and open to public use and accepted by the city in which it is located, or such other public property designated as a street pursuant to any law of this State. For purposes of Title 5, the term street shall also include any privately owned and/or maintained right of way.
Tenant	As used in reference to a building or land shall include any person who occupies the whole or part of such building or land, whether alone or with others.

TITLE 2

ADMINISTRATION

Chapters:

2.10 District Board
2.20 Officers and Employees
2.30 Conflict of Interest Code

CHAPTER 2.10
DISTRICT BOARD

Sections:

2.10.010 Subsidiary District.
2.10.020 Officers.
2.10.030 Meetings.
2.10.040 Compensation.
2.10.050 Appeals.

2.10.010 Subsidiary District. The District is a subsidiary district of the City of Garden Grove, California, formed in 1997 upon the filing of a certificate of completion, dated May 29, 1997, by the Local Agency Formation Commission. The District is a result of the approval of a change of organization by the Local Agency Formation Commission pursuant to LAFCO Resolution No. 96-14 (Garden Grove Reorganization No. 141) and Government Code Sections 56833 et seq. Pursuant to the change of reorganization approval, the City Council of the City of Garden Grove, California, shall be the governing Board of Directors of the District.

2.10.020 Officers. The Board shall appoint a President and Vice-President from among its members. The President shall preside over all meetings unless absent in which case the Vice-President shall preside.

2.10.030 Meetings. The place and time of regular meetings shall coincide with the regular meetings of the City's City Council. Special meetings shall be held at a place and time noticed according to the Ralph M. Brown Act, which shall be observed for all Board business.

2.10.040 Compensation. Subject to the limitations of Health and safety Code Section 6489, Board Members shall receive compensation of $100 per day for each day's attendance at meetings, or for each day's service rendered as a Director, but not exceeding six (6) days in any calendar month, plus his/her reasonable expenses incurred incident thereto.

2.10.050 Appeals. Any action, determination, or decision of the General Manager may be appealed to the District Board pursuant to the provisions of this Section by any property owner affected by such action, determination, or decision, in writing, specifically stating the grounds for the appeal, and filed with the Secretary within five business days of the action, determination, or decision. The fee for such appeal shall be as established by the District Board in the District Fee Resolution and no appeal shall be deemed filed unless such payment is made. Upon the Secretary's receipt of a timely and otherwise proper appeal of an action, determination, or decision of the General Manager, the appeal shall be set for a public hearing before the District Board no less than ten business days nor more than forty-five business days after receipt of the appeal. Notice of the hearing shall be mailed to the appellant. Upon the hearing of the appeal, the District Board shall review the matter and may uphold, reverse, wholly or partly, or may modify any appealed action, determination, or decision of the General Manager. A reversal or modification shall only be approved by the District Board upon the adoption of a resolution which sets forth in writing the findings relied on to conclude that the appealed action, determination, or

decision was in error. A majority vote of the District Board shall be required to adopt a resolution reversing an action, determination, or decision of the General Manager.

CHAPTER 2.20
OFFICERS AND EMPLOYEES

Sections:

2.20.010 General Manager.
2.20.020 District Counsel.
2.20.030 Secretary.
2.20.040 Treasurer.
2.20.050 Employees.

2.20.010 General Manager. The General Manager of the District shall be the City Manager of the City of Garden Grove, California. The duties of the General Manager shall be to implement the policy decisions of the Board and to perform those other duties as required by the Board and to adopt such rules and procedures appropriate for and consistent with the provisions of this Code.

2.20.020 District Counsel. The District Counsel of the District shall be the City Attorney of the City of Garden Grove, California. The District Counsel shall provide all legal advice to the Board and perform all litigation services as needed.

2.20.030 Secretary. The Secretary of the District shall be the City Clerk of the City of Garden Grove, California. The Secretary shall perform all duties as prescribed by the General Manager.

2.20.040 Treasurer. The Treasurer of the District shall be the Treasurer of the City of Garden Grove, California. The Treasurer is responsible for the safekeeping, investment and payment of District monies, and shall perform such further duties as prescribed by the General Manager.

2.20.050 Employees. The General Manager is authorized to employ such employees as the District may need from time to time.

CHAPTER 2.30
CONFLICT OF INTEREST CODE

Sections:

2.30.010 City's Conflict of Interest Code Adopted by Reference.

2.30.010 City's Conflict of Interest Code Adopted by Reference. The District hereby adopts the City of Garden Grove's Conflict of Interest Code and any amendments thereto, pursuant to Health and Safety Code § 6491.2.

TITLE 3

REVENUE AND FINANCE

Chapters:

3.10 Annexation Charges
3.20 Sewer Connection Charges

CHAPTER 3.10
ANNEXATION CHARGES

Sections:

3.10.010 **Standard Charge.**
3.10.020 **Joint Tenancies.**
3.10.030 **Additional Charges.**
3.10.040 **Laterals and Wyes.**
3.10.050 **Separate Property.**
3.10.060 **Exclusion of Public Street.**
3.10.070 **Benefit Adjustments.**
3.10.080 **Existing Charges.**
3.10.090 **Property in Assessment Districts.**
3.10.100 **Mitigation of Development Impacts.**

3.10.010 Standard Charge. Property owners who wish to annex to the District shall pay charges in the amount specified by the Board in the District Fee Resolution.

3.10.020 Joint Tenancies. Each petitioner (or petitioners where title is held under joint tenancy, or as tenants in common or as community property) shall pay a minimum annexation charge in the amount specified by the Board in the District Fee Resolution for each separate lot or parcel of land up to one-half acre owned by him or them. In the event more than one petitioner (except where title is held in joint tenancy or as tenants in common or as community property) wishes to join in the same petition for annexation of the property which is contiguous to each other, they shall be considered as separate petitioners for the purpose of arriving at the cost of annexation under this Chapter.

3.10.030 Additional Charges. In addition to all other charges set forth above, each petitioner shall pay to the District any additional cost and expense incurred by the District which is of an unusual nature not normally incurred in the course of annexation; or any additional cost or expense incurred by the District to correct any error or misrepresentation, made by any petitioner to the District regarding any proposed annexation.

3.10.040 Laterals and Wyes. In addition to all other charges set forth above, each petitioner shall pay the cost of any laterals and wyes installed by the District for use by petitioners' property. The charges paid shall be the actual cost paid for the laterals or wyes by the District.

3.10.050 Separate Property. The annexation charge shall be for each separate parcel of property which the petitioner wishes to annex. Any parcel or group of parcels of property, which are contiguous to each other and which are included in one request or petition for annexation to the District, shall be considered as separate parcels. A separate piece of property for the purpose of this chapter is a piece of property which carries a separate and distinct legal description.

3.10.060 Exclusion of Public Street. For the purpose of determining acreage to establish the costs referred to herein, it is further provided that no existing public street or area

required by a City or County to be dedicated for widening any such street shall be included in the acreage computation for the purpose of arriving at the amount to be paid by such petitioner.

3.10.070 Benefit Adjustments.

A. In addition to the charges for annexation and other charges provided in this Code, any person desiring to have property annexed to the District shall be charged such additional amount as the Board finds equitable, fair and just in cases where:

1. The land proposed to be annexed would receive a direct benefit from lines or facilities which are being or have been installed by the District or others in the immediate area of the property proposed to be annexed whether by virtue of a special assessment district or otherwise; or

2. In any area within the District where the lines are being or have been installed by a person having a reimbursement program or agreement with the District and where the property of the person desiring to annex would receive a benefit by using the lines of said person who has a reimbursement program or agreement with the District.

B. The provisions of this section shall not take effect in any instance unless and until the Board shall, after considering the situation, make a finding that facts exist which bring said situation within the provisions of this section.

3.10.080 Existing Charges. Nothing in this chapter shall affect the obligation of any person to the District for annexation charges which are due or unpaid to the District upon the effective date of this chapter or thereafter resulting from the provisions of the general regulation ordinances and minute orders that are otherwise incorporated in this Code. All of said obligations shall remain in full force and effect and shall be due to the District in accordance with the provisions of said prior regulations and orders.

3.10.090 Property in Assessment Districts. The District hereby incorporates the provisions of Sections 5464 and 5474, as amended from time to time, of the State Health and Safety Code pertaining to connection of property to the District sewer lines for owners participating in special assessment districts.

3.10.100 Mitigation of Development Impacts. In addition to the fees set forth in this Chapter 3.10 and in Chapter 3.20 below, when a new sewer line or relief sewer line has to be constructed in any drainage basin because of new development or redevelopment or impending new development or redevelopment, the Board may spread the cost of such construction over such new developments or redevelopments. New developments or redevelopments may be permitted to connect to existing sewer lines having limited capacity provided such new developments or redevelopments contribute their pro rata share as determined by the District, or the estimated costs of a new line or relief line which would be built at a later time.

CHAPTER 3.20
SEWER SERVICE CHARGES

Sections:

3.20.010	**Sewer Service Charge Established, Credit.**
3.20.020	**Additions to Existing Structures.**
3.20.030	**Use Changes.**
3.20.040	**Larger Sewer Lines.**
3.20.050	**Sewer Service Charge Rates.**
3.20.060	**Collection of Sewer Service Charges Within City.**
3.20.070	**Collection of Sewer Service Charges Outside City.**
3.20.080	**Inspection Charges.**
3.20.090	**Additional Inspection Charges for Off Hours.**
3.20.100	**Additional Connection Charges.**
3.20.110	**Variances, Credits.**
3.20.120	**Agreements.**

3.20.010 Sewer Service Charge Established, Credit. Each lot, piece, parcel, dwelling, building or structure within the District, for which application is made for a permit to connect to the existing sewer lines of the District shall be required to pay a sewer service charge as set forth herein.

3.20.020 Additions to Existing Structures. Where additional living or commercial units are added to existing buildings or structures already connected to the sewer lines of the District and such additional units will be making use of said sewer line, then in such event there shall be paid a sewer service charge.

3.20.030 Use Changes. Where existing buildings and structures are now or hereafter connected to the sewer lines of the District and the use of such buildings and/or structures is changed to a use having a higher charge under this Chapter, then in such event there shall be paid a sewer service charge as set forth by the Board in the District Fee Resolution conforming to such new use. Said charge shall be the difference between what the prior use charge would be under this chapter and what the new use charge is under this chapter.

3.20.040 Larger Sewer Lines. Such sewer service charge shall be one charge for the connection and use of the sewage facilities of the District. Such charge shall be over and above all other fees or charges made by the District for inspection of all sewer lines larger than four (4) inches inside diameter.

3.20.050 Sewer Service Charge Rates. The charges and rates therefor shall be established by the District Board in the District Fee Resolution.

3.20.060 Collection of Sewer Service Charges Within City. Pursuant to the provisions of Health and Safety Code section 5471, as may be amended from time to time, the Board of Directors hereby elects to have the sewer service charge for parcels within the corporate boundaries of the City of Garden Grove collected with the charges of the City of Garden Grove's

water utility, and that these charges may be collected on the same bills as the water charges, or on separate bills, as may be determined by the City of Garden Grove.

3.20.070 Collection of Sewer Service Charges Outside City. Pursuant to the provisions of Health and Safety Code section 5471, as may be amended from time to time, the Board of Directors hereby elects to have the sewer service charges for those areas outside of the corporate boundaries of the City of Garden Grove collected on the tax roll in the same manner, by the same persons, and at the same time as, together with and not separately from, the general taxes of the District.

3.20.080 Inspection Charges. In addition to the sewer service charges herein, the additional amounts as the Board may establish in the District Fee Resolution shall be charged and received by the District for inspection of all sewer lines.

3.20.090 Additional Inspection Charges for Off Hours. In addition to the charges under Section 3.20.080 above, there shall be paid a sum in an amount established by the Board in the District Fee Resolution, for the time spent for inspection, including travel, for any inspection requested on a holiday, or at a time other than between 8:00 a.m. and 5:00 p.m. on regular working days.

3.20.100 Additional Connection Charges. The Board may establish in the District Fee Resolution such additional charges and fees as the Board may determine are reasonable and appropriate for connection to the District's facilities and for services the owner of the property may receive or request from the District.

3.20.110 Variances, Credits.

A. Variances. The Board may upon good cause being shown grant variances from any of the provisions of this Chapter and may reduce or eliminate any of the charges and/or fees referred to herein upon the finding that unusual circumstances exist which would result in undue hardship or unfairness to the person or where the Board finds that it would be in the best interests of the District to waive any part or all of such charges and/or fees.

B. Connection Credits. The Board, in order to encourage the use of the District sewer system instead of septic tanks and in order to facilitate connections to the District facilities as fairly as possible for all users, may allow a credit towards the Sewer Service Charge up to the amount of such fee in those instances where the future user is faced with abnormal or excessive additional costs either in construction of the local collector line or for payment of reimbursement for such lines.

C. Rehabilitation Credits. For construction replacing former dwellings, commercial or industrial buildings, the connection charge shall be calculated on the same basis as provided in this chapter for new construction unless such replacement construction is commenced within two (2) years after the completion of demolition of the former building. In that case, a credit against such charge shall be allowed and shall be the equivalent of the pro-rata connection charge for the building being demolished, calculated on the basis of current

charges for new construction, provided, however, that in no case shall such credit exceed the current connection charge.

3.20.120 Agreements.

A. This chapter does not alter any previous agreement between the District and any person concerning the subject matter herein discussed, if said agreement was made prior to the date of the applicable provision in this chapter or any applicable implementing Ordinance or Resolution.

B. Except where a person and the District have entered into a valid lease agreement, all costs set forth herein must be paid for before any property may be connected to the District's facilities.

C. Notwithstanding anything in this section to the contrary, if the Board makes a finding on evidence presented to it that any person in good faith entered into a contract in reliance on quotations given to him or her by the District based upon the charges and fees in effect prior to the effective date of this chapter, then the Board may reduce the charges and fees for that person to the amounts which were in effect prior to the effective date of this chapter.

TITLE 4

SEWERS REGULATIONS

Chapters:

4.10 Sewers
4.20 California Plumbing Code Adopted

CHAPTER 4.10
SEWERS

Sections:

4.10.010	**Connections to Sewer Lines, Permit Required.**
4.10.020	**Connection through adjoining property.**
4.10.030	**Residential sewer in undedicated street.**
4.10.040	**Septic Tank or Cesspool Discharges Prohibited.**
4.10.050	**Discharge of objectionable materials—Regulations.**
4.10.060	**Discharge of corrosive harmful wastes.**
4.10.070	**Rain and surface water prohibited.**
4.10.080	**Automobile washing areas regulated.**
4.10.090	**Opening manhole prohibited.**
4.10.100	**Discharge into sewer manholes regulated.**
4.10.110	**Cleaning manholes.**
4.10.120	**Maintenance of residential connections.**
4.10.130	**Commercial Waste Disposal—Permit required.**
4.10.140	**Commercial Waste Disposal—Permit application.**
4.10.150	**Commercial Waste Disposal—Limitations.**
4.10.160	**Commercial Waste Disposal—Acts prohibited.**
4.10.170	**Commercial Waste Disposal—Permit term**.
4.10.180	**Commercial Waste Disposal—Permit transfer.**
4.10.190	**Commercial Waste Disposal—Compliance tests and inspections.**
4.10.200	**Sewer closing procedure.**
4.10.210	**Connection Approvals.**

4.10.010 Connections to Sewer Lines, Permit Required. No connection to any of the District sewer lines shall be made unless a permit shall first have been issued by the District for connection. No connection pursuant to any such permit shall be made at any other place than that designated therein. Where additional fixtures in excess of the original fixture units are added to existing buildings or structures or reconnected to the sewer lines of the District and such additional fixtures will be making a use of said sewer lines, then in such event said additional fixtures shall not make use of said District sewer lines unless a permit shall first have been issued by the District for such additional fixtures.

4.10.020 Connection through adjoining property.

A. No connection from any building or other structure shall be made to any public sewer, if such connection or any portion thereof is in, under, across or upon any lot other than the lot on which said building or structure is located.

B. If a lot requiring a sewer connection is so situated that access to the public sewer is not possible except across some other lot, a sewer connection may be placed in a recorded easement which includes the right-of-way and maintains such connection and is appurtenant to the lot to be served by such sewer connection.

4.10.030 Residential sewer in undedicated street. No person shall connect any sewer which has been or may hereafter be, constructed in any street, highway, alley, right-of-way or other public place prior to the dedication and acceptance of such street, highway, alley, right-of-way or other public place by the City or County on behalf of the public, unless such sewer first mentioned shall have been laid under the supervision and/or to the satisfaction of the General Manager and in accordance with all City or County regulations applicable thereto.

4.10.040 Septic Tank or Cesspool Discharges Prohibited. No person shall connect or discharge into the District sewer lines any sewage, affluent or other matter from any septic tank or cesspool or to any building thereto.

4.10.050 Discharge of objectionable materials—Regulations. Except as otherwise provided in this Chapter, it is unlawful to place, deposit or discharge, either directly or indirectly, into any District sewer or into any sewer connection or on or upon any street, alley or public place or upon any private property or any other place in such a manner that the same will be permitted to run into any such District sewer, any of the following substances:

A. Any oil, petroleum, gasoline, naphtha, liquid asphaltum or petroleum product, or any fatty matter, benzene, fuel, or other flammable or explosive liquid, solid or gas;

B. Dead animals, fish, fruit or vegetable matter in any form.

C. Any commercial waste other than domestic sewage that will not readily disintegrate in the sewage treatment plant or that will cause or tend to cause obstructions in the sewer system or the sewage treatment plant or interfere with or tend to interfere with the efficient and successful operation of the system or the plant, or cause a potential hazard or objectionable odor;

D. Any chemicals or wastes destructive to masonry or portland cement concrete;

E. Grease, except in quantities commonly contained in domestic sewage, or commercial waste which may contain more than two hundred (200) parts per million, by weight, of fat, oil or grease;

F. Any effluent of a temperature exceeding one hundred forty degrees Fahrenheit (140º), or that would cause the temperature of wastewater entering the headworks of any wastewater treatment plant to exceed one hundred four degrees Fahrenheit (104º);

G. Any radioactive waste, which exceeds the limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 5, Section 30287 of the California Code of Regulations;

H. Any commercial waste, including but not limited to mineral salts, molds or wastes resulting from their manufacture and other products which will tend to sterilize activated sludge, trickling filter slimes, or slime growth on artificial or natural slow sand and filters;

I. Any solids or viscous substances of such size or in such quantity that may cause obstruction to the flow in the sewer or to be detrimental to proper wastewater treatment plant operation;

J. Any wastes with odors of such strength that the discharge of the wastes to any wastewater treatment plant results in, as determined by the District, an odor violation of the treatment plant's waste discharge requirements, where without the discharge no odor violation would have been anticipated;

K. Any waste containing substances that may precipitate, solidity or become viscous at temperatures between fifty (50º) degrees and one hundred (100º) degrees Fahrenheit;

L. Any waste capable of passing through the waste water treatment works and producing discoloration of treatment plant effluent;

M. Any water added for purposes of diluting wastes which would otherwise exceed applicable maximum concentration limitations;

N. Any waste which may create a fire or explosion hazard in the wastewater collection or treatment system;

O. Any waste prohibited by federal standards from being discharged to the sewer system.

P. Any ashes, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastic, wood, paunch manure, rags, earth or stone dust or any other solid or viscous substance capable of causing obstruction of the flow in sewers or other interference with the proper operation of the sewage works;

Q. Any commercial waste containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant;

R. Any noxious or malodorous gas or substance capable of creating a public nuisance;

S. Any liquid or vapor having a temperature higher than 85 degrees Fahrenheit unless properly treated for scale inhibition;

4.10.060 Discharge of corrosive harmful wastes. Before any person may discharge alkalies, acids or other corrosive or harmful wastes into the public sewer, he or she shall reduce the biochemical oxygen demand (BOD) and control the pH to the extent which the District finds adequate, taking all circumstances into consideration. In all cases the wastewater discharge shall have a pH within the range of 6.0 to 9.5.

4.10.070 Rain and surface water prohibited. No person shall connect, any roof drain, yard drain or other conduit used for carrying off rain or surface water, to any District sewer or sewer leading thereto. No person shall cause or permit any indirect connection to the District sewer or house sewer leading thereto by means of which rain or surface waters are permitted to enter the public sewer.

4.10.080 Automobile washing areas regulated. No person engaged in washing motor vehicles or other equipment exclusive or incidental to any other business, shall permit any

water or effluent from such operations to flow into any District sewer unless the washing area is equipped with an approved sand and grease control device. Such washing areas shall be roofed over and shall be so constructed as to prevent any water from flowing over any street or public property, and to prevent any storm or surface water from entering any District sewer.

4.10.090 Opening manhole prohibited. No person shall open or enter, or cause to be opened or entered, any manhole in any District sewer to dispose of solid waste or other deleterious substances, or storm or surface waters, or for any other like purpose.

4.10.100 Discharge into sewer manholes regulated. The discharge of wastes into sewer manholes without the written permission of the District is prohibited.

4.10.110 Cleaning manholes. When wastewater is discharged into a specified manhole under permission from the District, it shall be discharged through a pipe or hose in such a manner that none of the effluent is left adhering to the sides or shelf of the manhole, and if any such effluent is inadvertently allowed to adhere to the sides or shelf of the manhole, the manhole shall be thoroughly cleaned with clean water.

4.10.120 Maintenance of residential connections. All residential connections and appurtenances thereto now existing or hereafter constructed, shall be maintained by the owner of the property served in a safe and sanitary condition and all devices or safeguards which are required by this title for the operation thereof shall be maintained in good working order.

4.10.130 Commercial Waste Disposal—Permit required. No person shall discharge or deposit any commercial waste into or upon any area in the District, or into any underground or surface waters in the District where such commercial waste is or may be deposited upon or may be carried through or over any area of the District except in conformity with the provisions of this chapter, and unless the person shall have first secured, in the manner hereinafter provided, a permit so to do from the District.

4.10.140 Commercial Waste Disposal—Permit application. Applications for permits required hereunder shall be filed with the General Manager upon printed forms to be prescribed and supplied by him or her. The General Manager may require any additional information, including plans and specifications which he or she may deem necessary for the proper disposition of the application.

4.10.150 Commercial Waste Disposal—Limitations. The General Manager may incorporate in any permit issued pursuant to this chapter, such limitations or conditions as may be reasonably necessary to effectuate the purpose of this chapter and may from time to time, review the limitations or conditions which have been incorporated in any permit theretofore issued, giving consideration to changed conditions, and may, whenever in his or her judgment it is advisable or required in order to maintain the waters of the District free from pollution, alter, revise, modify, delete or add further limitations or conditions applicable to any permit theretofore issued. No such alteration, revision, modification, deletion or addition of limitations or conditions shall be effective, however, until notice in writing thereof shall have been served upon the permittee in the manner provided by Section 1.20.060.

4.10.160 Commercial Waste Disposal—Acts prohibited. A permit issued under this chapter does not authorize any act or acts forbidden by any law, rule, regulation or order of any public agency or department and such fact shall be so stated on the face of all permits issued.

4.10.170 Commercial Waste Disposal—Permit term. A permit for the disposal of commercial waste shall be valid until suspended or revoked in the manner hereinafter provided.

4.10.180 Commercial Waste Disposal—Permit transfer. The General Manager may transfer a permit to the successor in interest of a permittee upon the filing by the successor in interest of a written application therefor, together with such evidence of transfer of title or interest as the General Manager may require; provided, however, a permit shall not be transferable from one location to another. The General Manager shall immediately notify by first class mail, the person that requested a transfer of a permit of the action taken.

4.10.190 Commercial Waste Disposal—Compliance tests and inspections. For the purpose of securing compliance with this chapter, the General Manager shall make periodic tests of samples of commercial waste obtained from the place or places of discharge or deposit, and such other tests deemed necessary for proper administration hereof. For purpose of making such tests or inspections, the General Manager or his or her duly authorized deputies or agents shall be permitted at all reasonable hours to enter any premises or place where commercial waste is being or is proposed to be discharged or deposited, or where there may be a violation of this chapter.

4.10.200 Sewer closing procedure. Whenever the use of a sewer is discontinued by reason of connection to another sewer or by reason of moving, wrecking or burning of a building, or for any other reason, such sewer shall be sealed at the property line or easement line or at the District sewer. Whenever the General Manager shall find that a sewer has not been sealed as required herein, he or she shall serve notice and post the property to that effect. Unless the sewer has been sealed as required within ten (10) days after the posting of such notice, the General Manager is authorized to have such sewer sealed, and the costs thereof shall be reimbursed to the District by the property owner within thirty (30) days after the District shall render an invoice for the same.

4.10.210 Connection Approvals. The General Manager may suspend, condition, or deny any or all applications for connections or permits for additional fixtures as provided under Section 4.10.010 of this Code where the General Manager determines that such action is necessary to remain within the aggregate operation capacity of the sanitary sewer system available to the affected property for which the connection or permit is sought or to meet the discharge standards of the sanitary sewer system imposed by the California Regional Water Quality Control Board for the Santa Ana Region. The decision of the General Manager to suspend, condition, or deny an application shall be subject to appeal to the District Board as provided in Section 2.10.050.

CHAPTER 4.20
CALIFORNIA PLUMBING CODE ADOPTED

Sections:

4.20.010 Adoption of California Plumbing Code as Adopted by City.

4.20.010 Adoption of California Plumbing Code as Adopted by City. Pursuant to California Health and Safety Code § 6491.2, the Chapter, Section and Part Numbers of the California Plumbing Code as adopted by the City and codified at Chapters 18.04 and 18.24 of the Garden Grove Municipal Code are hereby adopted by reference and made a part hereof, provided that whenever the term "administrative authority" is used in the code, it shall be construed to mean the Board, or its authorized representative.

TITLE 5

SOLID WASTE REGULATIONS

Chapters:

5.10 Solid Waste
5.20 Franchises

CHAPTER 5.10
SOLID WASTE

Sections:

5.10.010	**Collection Authority.**
5.10.020	**Collection Service Required.**
5.10.030	**Solid Waste Containers.**
5.10.040	**Self-Haulers.**
5.10.050	**Handling and Storage of Solid Waste and Recyclable Materials.**
5.10.060	**Frequency of Solid Waste Removal.**
5.10.070	**Removal of Heavy Objects.**
5.10.080	**Tampering with Solid Waste Prohibited.**
5.10.090	**Recyclable Materials as Franchisee or District Property.**
5.10.100	**Recycling by Private Individuals or Organizations.**
5.10.110	**Special Pickup—Bulky Items.**
5.10.120	**Placement of Containers for Collection.**
5.10.130	**Time of Container Placement.**
5.10.140	**Removal of Empty Containers.**
5.10.150	**Littering Prohibited.**
5.10.160	**Public Nuisance.**
5.10.170	**Hazardous Waste Disposal Prohibited.**
5.10.180	**Procedures for Disposing of Hazardous Waste.**
5.10.190	**Sanitary Maintenance Required.**
5.10.200	**Unlawful Containers - Notice of Violation.**
5.10.210	**General Penalty—Infraction.**
5.10.220	**Franchisee Remedies.**

5.10.010 Collection Authority.

A. The District shall provide for the collection and disposal of solid waste from all premises within the District either by granting one or more franchises to a public or private entity or entities for such collection and disposal or by such other methods as the Board may authorize.

B. Except as otherwise provided herein, the District and its duly authorized agents and employees, or franchisee(s) and their duly authorized agents and employees, shall have the exclusive right to gather, collect and dispose of solid waste from all premises within the District in accordance with the provisions of this Code, except that self-haulers registered in accordance with this chapter shall have the right, in a lawful manner, to dispose of solid waste generated from their own activities.

C. The General Manager shall have the charge and supervision of such collection and disposal and shall approve the routes and days thereof. When such routes and/or days of collection are established or changed, the franchisee, or, if none, the General Manager, shall give appropriate notice thereof to the public.

5.10.020 Collection Service Required.

A. Arrangements for Removal of Solid Waste Mandatory. Except as otherwise provided in this title, every owner, tenant, occupant or person in charge or control of every commercial or residential premises where solid waste is generated or accumulates shall either (1) subscribe to solid waste handling services with a franchisee or the District, as applicable; or (2) obtain and maintain registration as a self-hauler pursuant to this Chapter in connection with said premises.

B. Exception; Vacant Premises. The above requirement to provide for solid waste handling services shall not apply in connection with any residential premises at which all dwelling units are vacant, or commercial premises that are completely vacant; provided, however, that this exception shall only apply during the time period such premises are vacant and following receipt of written notice by the District and/or franchisee, as applicable, that such premises have been vacated. Any person seeking to avail himself or herself of the exception provided herein shall bear the burden of providing reasonable evidence to District and/or franchisee, pursuant to such regulations or guidelines as the General Manager is hereby authorized to develop or approve, demonstrating the premises are vacant. Premises shall not be deemed vacant for purposes of this exception during such period of time that such premises are unoccupied due only to a temporary absence of the owner(s) or occupant(s), such as a period during which the owner(s) or occupant(s) are merely away on vacation.

5.10.030 Solid Waste Containers.

A. Every owner, occupant or person in possession, charge or control of any premises within the District shall deposit or cause to be deposited all solid waste generated or accumulated on such premises, and intended for collection and disposal, in sealed, watertight bins, carts, rolloff boxes or other containers that are either (1) provided by, or acceptable to, a franchisee; or (2) approved by the General Manager for self-hauling purposes pursuant to this chapter. No owner, occupant or person in possession, charge or control of any premises shall utilize a bin, cart, rolloff box or other container not in conformance with the requirements hereof for the collection, accumulation or storage of solid waste.

B. For all residential premises, up to three carts, colored brown for green waste, black for non-recyclable materials and green for recyclable materials, will be furnished by the District or a franchisee without charge. Additional carts may be requested, but may be subject to an additional charge.

It is intended that solid waste generated at residential premises will be separated according to its character and placed in the applicable colored cart. In order to assist owners and occupants of residential premises to appropriately separate solid waste generated at such premises, the following is a list of examples of the types of acceptable and unacceptable

material to be placed in each color cart. This list is not intended to be exhaustive and shall be subject to change by the District or its franchisee at any time and to changes in applicable law.

GREEN CONTAINER—Acceptable	**BLACK CONTAINER—Acceptable**	**BROWN CONTAINER—Acceptable**
AEROSOL CANS (*completely empty)* ALUMINUM & TIN CANS ALUMINUM FOIL BEVERAGE CANS BOTTLE CAPS BROCHURES CARDBOARD CEREAL BOXES COMPUTERPAPER DRINK BOXES EGG CARTONS FOAM CUPS AND PLATES (*unsoiled*) FOOD CANS FROZEN FOOD BOXES GLASS BOTTLES AND JARS JUICE CARTONS JUNK MAIL & COUPONS LAUNDRY BOTTLES LEDGER PAPER MAGAZINES METAL COAT HANGERS MILK-TYPE CARTONS NEWSPAPERS PAINT CANS (*empty only, dry cans, lids off*) PAPER/PAPER TUBES PIZZA BOXES PLASTIC (*#1-6*) PLASTIC BOTTLES / CONTAINERS PLASTIC CUPS/UTENSILS PLASTIC MILK JUGS PHONE BOOKS USED ENVELOPES WRAPPING PAPER	ANIMAL/FOOD WASTE BATHROOM WASTES CARPET/FLOORING CAR PARTS CAT LITTER CIGARETTE BUTS DIRT/CEMENT/ROCK (*do not fill more than ¼ of container)* DISPOSABLE DIAPERS DRINKING GLASSES FOOD WASTE FREEZER / REFRIGERATOR FOOD BOXES FURNITURE GLASS AND CERAMIC PLATES/CUPS LIGHT BULBS (*no hazardous florescent bulbs*) MIRRORS PALM FRONDS OLD CLOTHES/SHOES PLASTIC TOYS RAGS/SPONGES SOILED PAPER PLATES TOOTHPASTE TUBES / PUMPS WAXED PAPER WINDOW GLASS	GRASS/LEAVES PRUNINGS (*except palm fronds*) TWIGS/SMALLBRANCHES (*4 inches or less in diameter; 3 feet or less in length*) VEGETATION WOOD WEEDS

GREEN CONTAINER—Not Acceptable	**BLACK CONTAINER—Not Acceptable**	**BROWN CONTAINER—Not Acceptable**
AEROSOL CANS (*non-empty*) WAXED/CARBON PAPER FOOD/LIQUID WASTE TRASH & GREEN WASTE HAZARDOUS WASTE	BULKY ITEMS CONSTRUCTION DEBRIS LARGE APPLIANCES RECYCLABLE MATERIALS GREEN WASTE HAZARDOUS WASTE	ANIMAL/FOOD WASTE CONSTRUCTION DEBRIS DIRT/ROCKS PALM FRONDS PLASTIC BAGS RUGS/FLOORING/METAL RECYCLABLES & TRASH HAZARDOUS WASTE

C. Container lids shall remain closed at all times that the container is unattended. If the solid waste contained within a bin, cart, rolloff box or other container exceeds the actual capacity of the container, then a larger container or multiple containers must be utilized. The owner, tenant, occupant and/or person or entity in control of a premises shall be responsible for the clean-up of any solid waste spilled, dumped or scattered as a result of a container overflow.

D. It is unlawful for any person to share, place solid waste in, or to otherwise use the bin, cart, rolloff box or other container of another person or business. Notwithstanding anything contained herein to the contrary, the sharing of containers shall be permitted under the following conditions:

1. The owner, property manager or person in charge or control of a premises upon which a multi-family dwelling or multi-family residential facility exists may arrange for bins, carts, rolloff boxes or other containers for shared use by the occupants, tenants or persons in possession of the dwelling units on such premises.

2. The occupants of a single commercial building or contiguous and adjacent commercial building may share a bin, cart, rolloff box or other container for solid waste handling services at a common location, subject to approval of the General Manager, which may be delegated to a franchisee. Approval by the General Manager shall be based upon (a) the type of solid waste generated by each commercial premises; and (b) the number of containers and frequency of solid waste collection needed to protect the public health, welfare and safety.

E. It is unlawful to use any bin, cart, rolloff box or other container furnished by the District or a franchisee for any purpose other than the collection, accumulation and storage of solid waste; or to convert or alter such containers for other uses; or to intentionally damage such containers.

5.10.040 Self-Haulers.

A. Self-haulers registered and operating in accordance with this chapter are only permitted to collect, transport and dispose of solid waste generated by and upon the self hauler's own premises. Under no circumstances may a self-hauler collect, transport or dispose of solid waste generated upon premises that are not owned, operated or controlled by the self-hauler. Notwithstanding any other provision of this chapter, registered self-haulers shall not

be permitted to share, place solid waste in, or to otherwise use the bin, cart, rolloff box, or other container of another person or business.

B. Registration. All self-haulers shall comply with the following registration requirements:

1. Each self-hauler shall obtain a registration application form from the General Manager. Self-haulers must renew their registrations at the commencement of each fiscal year. Initial applications following the adoption of these regulations must be submitted to the General Manager on or before September 30, 2010.

2. The application to register for self-hauling, whether upon initial application or renewal, shall include the following: (a) a list of all bins, carts, rolloff boxes and other containers to be used by the self hauler; (b) a list of all transport and disposal equipment to be used by the self hauler; (c) a written explanation of where all solid waste will be delivered for disposal and diversion; (d) a written plan explaining to the reasonable satisfaction of the General Manager how not less than fifty percent of solid waste collected will be diverted from disposal in compliance with AB 939; and (e) any other information deemed necessary by the General Manager to ensure protection of public health, safety and sanitary needs.

3. Renewal applications shall additionally include: (a) receipts from self-hauling activities undertaken in the prior year demonstrating that the applicant has effectively diverted at least fifty percent of all solid waste generated at its premises from landfills in a manner that complies with the requirements of AB 939; and (b) receipts from self-hauling activities undertaken in the prior year demonstrating that the applicant has delivered solid waste generated at its premises to appropriate disposal or recycling facilities at least as frequently as collection is required for such self-hauler by the General Manager.

4. The General Manager shall approve the application if it meets the requirements of this section, and if the equipment, containers, diversion plan and disposal plan meet with his or her reasonable satisfaction, and if evidence of past diversion and disposal requirements demonstrate the applicant has complied with the fifty-percent diversion requirement and otherwise complied with all laws related to disposal of solid waste.

C. Containers. Each self-hauler shall provide its own bins, carts, rolloff boxes or other containers. Bins, carts, rolloff boxes or other containers utilized by a self hauler must conform to industry standards for solid waste disposal and must be approved by the General Manager in writing prior to issuance of a self-hauler registration. In addition, any containers utilized by a self hauler shall comply with the following requirements:

1. All containers shall be maintained in good repair, and any question as to the meaning of this standard shall be resolved by the General Manager;

2. All containers shall be maintained in a sealed, watertight condition;

3. Self-haulers shall remove any graffiti that appears on containers within twenty-four hours after becoming aware of it.

D. Collection and Transport Equipment. Collection and transport equipment, including but not limited to transport trucks and vehicles, utilized by a self-hauler must be approved by the General Manager in writing prior to issuance of a self-hauler registration.

E. Non-Commercial Venture. It is the intent of this chapter to prevent and proscribe self-hauling activities undertaken as a commercial enterprise. Self-haulers must obtain all equipment, including containers and collection and transportation equipment, at a fair market value that does not include any hauling services, "free" or otherwise. A self-hauler may utilize its own employees to undertake self-hauling activities, but under no circumstance may a self-hauler utilize an independent contractor or any other person or entity for waste disposal services other than a franchisee.

F. Other Recycling Obligations. Self-haulers shall recycle all recyclable materials not otherwise addressed by this section to a degree and in a manner consistent with standards generally applicable to the solid waste disposal industry and as required by state law.

G. Collection Frequency. Unless otherwise specifically provided in this chapter, self-haulers shall remove solid wastes from their premises at least once per week. However, upon application to the District for registration as a self-hauler, the General Manager may determine a different frequency for solid waste collection, transport and disposal from the self-hauler's premises. This determination shall be based upon the nature of the premises, the type of solid waste generated by the premises, and the collection capacity of the self-hauler as demonstrated by information in the application.

H. Hazardous and Special Wastes. Unless lawfully and currently licensed under applicable state, federal and local laws, no self-hauler shall engage in the collection, transport or disposal of hazardous waste or special wastes.

I. Revocation. The General Manager may revoke prior approval of a self-hauler registration if the registrant either (1) fails to divert at least fifty percent of all solid waste generated at its premises from landfills in a manner that complies with the requirements of AB 939; or (2) fails to deliver solid waste generated at its premises to appropriate disposal or recycling facilities at least as frequently as collection is required for such self-hauler by the General Manager.

5.10.050 Handling and Storage of Solid Waste and Recyclable Materials. Solid waste and recyclable materials shall be placed directly into solid waste and recyclable materials containers respectively, except as hereinafter provided:

A. Garbage shall first be drained and wrapped to eliminate odor, leakage and fly and rodent infestation before being placed in solid waste containers.

B. Waste and manure from animals, except that generated from farms or stables, shall first be placed in moisture-resistant bags, securely sealed to prevent leakage, odor, fly and rodent infestation, before being placed in solid waste containers.

C. Untreated medical waste shall be stored, transported and disposed of in accordance with the provisions of the Medical Waste Management Act, California Health and Safety Code Section 117600 *et seq*., as it may be amended, the regulations adopted and promulgated pursuant to such statutes, and any applicable ordinances, regulations, or requirements of the Orange County Health Care Agency, as the same may be amended from time to time.

D. Ashes and dust shall be placed in disposable bags securely sealed to prevent leakage before being placed in solid waste containers.

E. Grass clippings, cuttings, leaves and other smaller vegetation including shrubs, brush and tree trimmings cut into short lengths shall be placed in approved containers designated for green waste.

F. Boxes and crates shall be dismantled or flattened. Boxes and crates constructed of recyclable materials shall be placed in approved containers designated for recyclable materials.

G. Construction and demolition waste or manure from farms and stables shall be stored in approved containers in a manner so as not to create a nuisance and at a location approved by the franchisee or the General Manager.

H. It shall be unlawful for a person occupying or having control of any premises to introduce refuse, contaminated material or any materials which are not recyclable into a solid waste container designed for recyclable materials.

I. Every person occupying or having control of any premises shall insure that a sufficient number of approved containers are available to properly store all solid waste, including recyclable materials and green waste, generated at said premises.

J. Any solid waste that does not reasonably fit within a container (such as furniture or other large bulky items) must be covered and protected, as by a tarp, netting or other secured material, in order to prevent the scattering of debris by natural forces such as wind or animals. Bulky items shall be removed from the premises at which they are generated pursuant to Section 5.10.110 or otherwise in accordance with the provisions of this title.

K. No person shall burn any solid waste within the District, except in an approved incinerator or other device for which a permit has been issued by the building official, fire marshal, and/or other public agency official having jurisdiction, and which complies with all applicable local, state, and/or federal permit requirements, laws, rules and regulations.

L. Any person who generates solid waste in connection with the construction of a new building, a building addition, remodel, or the demolition of any structure for which a building permit is required, shall either make arrangements for solid waste handling service

with the use of containers from a franchisee, be registered to self-haul such solid waste in the manner required by this Chapter, or make arrangements in accordance with Section 5.20.030(C).

5.10.060 Frequency of Solid Waste Removal. With the exception of vacant premises meeting the provisions of Section 5.10.020.B, above, each owner, tenant, occupant or person in charge of commercial or residential premises where solid waste, green waste or recyclable material accumulates shall cause said containers to be emptied and all solid waste shall be removed at least once each calendar week, except that food processing and food serving establishments shall cause said containers to be emptied of garbage at least three times each calendar week. The General Manager may provide written notice to the owner, occupant, or person in charge of any residential or commercial premises that the above minimum removal requirements are not sufficient to satisfy public health and safety needs or avoid the creation of a public nuisance due to unique circumstances at such premises and may direct that solid waste be removed by the owner, occupant, or person in charge of any premises so notified on a more frequent schedule and/or that additional or larger containers be utilized.

5.10.070 Removal of Heavy Objects. Each owner, tenant, occupant or person in charge of any premises shall at least once each calendar month collect and dispose of all waste material and debris, such as discarded automobile bodies, similar heavy or bulky objects and all other waste not specifically defined herein which may accumulate on such premises.

5.10.080 Tampering with Solid Waste Prohibited. No person other than the owner thereof, his or her agents or employees, an officer, employee, or authorized agent of the District, or the agents or employees of a franchisee, shall enter, tamper, or meddle with green waste, recycling or solid waste containers or the contents thereof or remove the contents of any such container or remove any such container from the location where the same shall have been placed by the owner thereof or the owner's agent. This includes both segregated and non-segregated recyclables at commercial and residential premises.

5.10.090 Recyclable Materials as Franchisee or District Property. Once recyclable materials are placed in a designated container for such purpose at a designated recycling collection location for collection by a franchisee or the District, the recyclable materials shall become the property of the franchisee or the District, as applicable.

5.10.100 Recycling by Private Individuals or Organizations. Nothing in this chapter shall limit the right of an individual person, organization or other entity to donate, sell or otherwise dispose of recyclable materials, provided that any such disposal is in accordance with the provisions of this title or of other applicable law.

5.10.110 Special Pickup—Bulky Items.

A. Household Bulky Item Collection Program. The Household Bulky Item Collection Program entitles residents of each single family dwelling within the District who subscribe to solid waste handling services with a franchisee to collection of bulky items generated by such residents. Residents of each residential premises may schedule with the franchisee three free bulky item collections within a calendar year. The program shall be limited to ten

(10) items maximum per scheduled collection. Requested bulky item collections in excess of three (3) per year may be subject to a charge. Reservations must be made in advance. Items must be placed at the curb or other location acceptable to the franchisee on the day scheduled for pickup. Items that are to be collected must be bulky, household items only, unable to be serviced by the normal automated curbside collection. Items eligible for collection are heavy discards, such as appliances, furniture, water heaters, large toys and tree trimmings. Items not accepted include automobile parts, tree stumps, earth, turf, sod, sand, clay, gravel, concrete, refuse from building or construction, and hazardous or toxic waste. Certain types of bulky items requiring special handling may be subject to an additional charge. All loose items eligible for collection must be bagged, bundled or tied. All bagged items may not weigh more than fifty (50) pounds or measure more than four (4) feet in length and eighteen (18) inches in diameter.

B. Commercial Bulky Item Collection. The owners, occupants, or persons in charge of commercial premises within the District, including MFRFs, who subscribe to solid waste handling services with a franchisee shall also be entitled to arrange for collection of bulky items generated at such premises by a franchisee. Such commercial bulky item collections shall be subject to reasonable charges and limits established by the franchisee.

5.10.120 Placement of Containers for Collection.

A. Generally. Except as otherwise agreed upon with the franchisee and/or determined by the General Manager, where rolloff boxes are used, or where collection locations in commercial or MFRF complexes have been approved by the District, all collection of solid waste, recyclable materials, green waste and garbage from commercial and residential premises shall be made from the gutter along the street adjacent to the premises, or the alley in the rear of each premise, provided, however, that no solid waste shall be picked up in any alley that has a width of less than fifteen (15) feet or where a truck with an eight (8) foot bed cannot pass with at least three and one-half (3 ½) feet of clearance on each side of the truck bed. Containers may be placed in the parkway next to the curb on arterial streets or as determined by the General Manager. The General Manager may also approve alternate locations which are readily accessible.

B. Obstructions. Containers must be placed three (3) feet away from any obstruction such as fire plug, mailbox, fence post or lamp post. There must be one (1) foot between each container and a minimum distance of three (3) feet from any vehicle.

5.10.130 Time of Container Placement. Except as otherwise determined by the General Manager, all solid waste must be placed at the street as provided herein only between the hours of 4 p.m. of the day prior to collection and by 6:00 a.m. on the day of collection.

5.10.140 Removal of Empty Containers. After containers have been emptied by the franchisee they shall be removed no later than 10:00 p.m. on the day of such collection by the owner, tenant, occupant or person in charge of every commercial or residential premises and placed and kept in an area not visible from the street.

5.10.150 Littering Prohibited.

A. It shall be unlawful for any person to throw, place, scatter or deposit any solid waste, medical waste, or hazardous waste in, upon or below the land of another, or upon any public property or right-of-way, except as herein authorized, or to throw, place, scatter or deposit any such waste in, upon or below the surface of any premises in such a manner that the same is or may become decayed, putrid or a nuisance or may otherwise endanger the public health or safety.

B. It shall be unlawful for any person to place, deposit or dump, or cause to be placed, deposited or dumped, or cause or allow to overflow any sewage, sludge, cesspool, waste water, or septic tank effluent, or allow the accumulation of human excreta or any garbage, solid waste materials, debris, rubbish, scrap iron, organic residues resulting from commercial canning or processing of food products, dead animals, manure, combustible materials, discarded automobiles and similar heavy, bulky objects or any other waste in or upon any public property not designated or set aside for such purpose by the Board or any other competent authority or upon any private property into or upon which the public is admitted by easement, license or otherwise.

5.10.160 Public Nuisance.

A. The accumulation and existence of garbage, solid waste, refuse or green waste on any premises, public or private, within the confines of the District, and/or the keeping of solid waste in containers other than those prescribed by this chapter, is hereby declared to be a public nuisance. No person who owns, controls, or occupies any premises within the District shall cause, permit, or allow any such nuisance to exist thereon.

B. It is unlawful, and a public nuisance, for any person to occupy or inhabit any property within the District for which arrangements have not been made and kept in full force and effect for solid waste handling services in a manner consistent with the provisions hereof.

5.10.170 Hazardous Waste Disposal Prohibited. It shall be unlawful for any person to place or cause to be placed material deemed to be hazardous waste in any container to be picked up with solid waste designated to be deposited at a Class III landfill. As a way of example, prohibited material includes, but is not limited to the following:

CHLORINE	POISON	LACQUER
ACETONE	ADHESIVES	AUTO/FURNITURE
AEROSOL CANS (*non-empty*)	GASOLINE	POLISH
AMMUNITION	SHELLAC	TREATED WOOD
EXPLOSIVES	LYE	SOLVENT
ANTI-FREEZE	OIL	PESTICIDES
GASOHOL	AMMONIA	WEED KILLER
PAINT	HOUSEHOLD CLEANERS	POOL CHEMICALS
PAINT THINNER	CHEMICAL DRAIN	DRUGS
VARNISH	CLEANERS	ACID
BATTERIES	FERTILIZER	BIOLOGICAL WASTE
FLORESCENT LIGHT BULBS	ASBESTOS	RADIOACTIVE WASTE

AND BALLAST COMPRESSED GAS CYLINDERS	TIRES DRUMS	ELECTRONIC WASTE UNIVERSAL WASTE

5.10.180 Procedures for Disposing of Hazardous Waste.

A. Each owner, tenant, occupant, or person in charge of any premises in the District shall, at least once every ninety (90) days unless more frequent disposal is required, dispose of all hazardous waste which has accumulated at such premises. Hazardous waste shall not be placed for regular collection but shall be disposed of as hereinafter specified or in a lawful manner in accordance with Chapter 6.5 of Division 20 of the California Health and Safety Code and/or other applicable law.

B. Group I materials such as caustics, toxic acids, chemicals, paints and liquids shall be disposed of by the owner, tenant, occupant or person in charge of any premises upon which such materials have accumulated only at an approved Class I disposal site. The waste must be in its original container and labeled clearly. The containers must be sound and not leaking. Glass containers must be protected from breakage.

C. Radioactive materials shall be disposed of by the owner, tenant, occupant or person in charge of any premises upon which such materials have accumulated under the supervision of the Orange County Health Department.

D. Explosives or highly flammable material, including small arms ammunition, war souvenirs, or black powder shall be disposed of by, or under the supervision of, the Orange County Fire Authority.

E. Abandoned, inoperative or dismantled vehicles or major component parts thereof shall be disposed of by a licensed dismantler or towing company.

F. Dead animals shall be disposed of by, or under the supervision of, the Orange County Animal Shelter.

5.10.190 Sanitary Maintenance Required. Each owner, tenant, occupant or person in charge of all commercial and residential premises shall keep each container maintained thereon for the deposit of solid waste in a clean and sanitary condition. When the General Manager determines that the owner, tenant, occupant or person in charge of any premises is not maintaining the containers thereon in a sanitary manner, said owner, tenant, occupant or person in charge shall be notified by Registered Mail to correct the problem within ten (10) days from the receipt of said notice. If the person fails to take action on the matter within the prescribed time allowed, the General Manager shall order the franchisee to provide such service. The containers shall be exchanged and sanitized thereafter as needed with a minimum frequency of four (4) times per year. Except as otherwise provided in an agreement between the District and a franchisee, the expense for exchanging and sanitizing the container shall be borne by the owner, tenant, occupant or person in charge.

5.10.200 Unlawful Containers - Notice of Violation.

A. Unauthorized Containers. No person other than the District or its authorized representative, a franchisee or its authorized representative, an authorized self-hauler, or person otherwise authorized to collect or transport solid waste pursuant to the provisions of this title shall place or leave standing any container on any public or private property within the District for the purpose of providing solid waste handling services.

B. Removal of Unlawfully Placed Container.

1. The General Manager may cause the posting of a notice to remove, as described below, in a conspicuous place on any container placed on any public or private property within the District in violation of this title.

2. Notices to remove posted pursuant to the provisions of this chapter shall specify the nature of the violation and shall state that the container must be removed within twenty-four (24) hours or it may be removed and stored by the District, and the contents disposed of, at the expense of the owner thereof. The notice shall indicate the time that it was posted and shall include the name and telephone number of a person designated by the District to hear any appeal or challenge to the requirement that the container be removed, and, further shall indicate that any appeal or challenge of the order for removal must occur within twenty-four (24) hours of the posting of the notice. The posting of a notice to remove shall constitute constructive notice to the owner and user(s) of the container of the requirement to remove the container.

3. If the container is not removed or an appeal received within twenty-four (24) hours after the notice to remove is posted, the General Manager may direct the removal and storage of the container. The owner of the container shall be responsible to reimburse the District for the actual cost of removal, storage and disposal. All amounts due to the District for the cost of removal, storage and disposal must be paid before the container may be returned to the owner. Such amounts shall constitute a debt owed by the owner to the District, and the owner shall be liable to the District in an action brought by the District for the recovery of such amounts.

a. The owner may contest and request a hearing to appeal the District's claim that the container was illegally placed or left standing by giving notice to the District within ten (10) calendar days of receipt of notification from the District that the container was impounded. The General Manager shall establish a procedure for such a hearing and the method for requesting such a hearing shall be included on the notice to remove. Where the owner asserts that the placement or use of the container was for a legitimate recycling activity or other activity not proscribed by this Code, the owner shall provide the District with information to substantiate that assertion. Said information shall be submitted with the notice from the owner and shall include, at a minimum, the following:

(i) A description of the materials of value deposited in the container and an estimate of their value;

(ii) The address, telephone number and contact person of the facility or facilities with whom the owner has arranged for the contents to be disposed of, processed or recycled, and proof of that arrangement;

(iii) Evidence that the facility or facilities where the contents are destined to be disposed of, processed or recycled carries all requisite approvals, permits, or other forms of authorization required by any governmental agency having jurisdiction, to conduct disposal, processing or recycling activities;

(iv) If the materials consist of recyclable materials, a declaration from the customer receiving service, signed under penalty of perjury, that the customer paid no broker's, consultant's or other fee or consideration in any form or amount to the service provider, or to any other person, in exchange for service, and that the contents of the container were either donated or sold by the customer to the service provider/owner;

(v) The District shall have the right to request such additional information as may be necessary or useful in determining the validity of the owner's contest.

b. If the District, acting through the General Manager or his designee, determines, in the exercise of reasonable discretion, that the owner has supplied evidence sufficient to support its contention that it was engaged in a legitimate recycling activity involving donated or sold materials, the container shall be returned to the owner without any charge for removal or storage of same.

4. If the identity of the owner of a container that has been removed by the District is known to the General Manager, the General Manager shall promptly cause notice to be mailed to the owner to claim the stored property. If the container is not claimed within ninety-five (95) days after removal and notice to the owner, or ninety (90) days after removal if the identity of the owner is unknown to the Director, the container and its contents shall be deemed abandoned property and may be disposed of accordingly. Where the contents present imminent threat to public health and safety, as determined by the District, they may be processed or disposed of without awaiting the expiration of the ninety (90) day claim period.

5. After a container has once been removed by the District pursuant to a notice to remove, the owner thereof shall be deemed to have actual notice of the provisions of this title, including the prohibition against the placement of unauthorized containers. In the event of a subsequent placement of a container owned by the same owner, or an affiliate of the owner, the General Manager may immediately, without the posting of a notice to remove, direct the removal and storage of the unlawfully

placed container and shall, in such case, give notice to the owner to claim the container. In such event, the owner shall, subject to the provisions of subsection 3 of this section, be responsible to reimburse the District for the actual cost of such removal, storage and disposal, which cost shall be paid by the owner before the container may be returned to the owner. If the container is unclaimed after notice is mailed to the owner and the expiration of the period set forth in subsection 4 of this section, the container and its contents shall be deemed abandoned property and may be disposed of accordingly. The costs incurred by the District for removal, storage and disposal shall constitute a debt owed to the District by the owner, who shall be liable therefor in an action by the District for the recovery of such amounts.

C. Summary Abatement of containers of unidentified owners. Notwithstanding any other provision of this Section to the contrary, the General Manager is authorized to direct the immediate removal, without notice, of any container placed on public or private property within the District in violation of this Section where the owner of the container is unidentified and cannot be ascertained from the owner or lessee of the property where the container is placed, and by an inspection of the container.

5.10.210 General Penalty—Infraction. Unless otherwise specified, any violation of this Chapter 5.10 shall be deemed to be an infraction. In addition, the District's legal counsel is authorized to cite violators for a misdemeanor offense pursuant to the general penalty provisions of this Code as an alternate remedy at counsel's discretion.

5.10.220 Franchisee Remedies. Nothing in this chapter shall be deemed to limit the right of a franchisee or the District to bring a civil action against any person who violates this chapter, nor shall a conviction for such violation exempt any person from a civil action brought by a franchisee or the District.

CHAPTER 5.20
FRANCHISES

Sections:

5.20.010 **Granting of Franchises; Exclusive Contract.**
5.20.020 **Franchise Operation Fee.**
5.20.030 **Collecting Solid Waste Without Franchise Prohibited—Penalty.**
5.20.040 **Franchise Non-Transferable.**
5.20.050 **Franchisee Regulations.**
5.20.060 **Purpose for Franchisee Regulations.**

5.20.010 Granting of Franchises; Exclusive Contract. The Board may by resolution or ordinance grant one or more franchises for solid waste handling services related to solid waste generated within the District and pursuant thereto, may, with or without inviting bids or proposals, enter into one or more franchise agreements or other contracts with one or more franchisees. The City may also be a party to any such agreements. Where such an agreement has been entered into between the District and a franchisee, the District may, without inviting bids or proposals, either prior to or after the expiration of such agreement, extend or renew the agreement for such period and on such terms and conditions as the Board may provide.

Effective May 17, 1989, the District provided for the collection and disposal of solid waste, green waste and recyclable material from all premises within the District by granting an exclusive contract and franchise for such collection and removal to Taormina Industries, Inc., dba Garden Grove Disposal, which exclusive franchise shall continue in effect in accordance with the terms of that certain agreement for solid waste handling services, effective July 1, 2010, between the District and Taormina Industries, Inc.'s successor in interest, Republic Waste Services of Southern California, LLC, dba Garden Grove Disposal. Except as otherwise provided herein or in said agreement, while any such agreement shall be in force, said franchisee shall have the exclusive right to gather, collect and remove solid waste, green waste and recyclable material from all premises within the District. No person, other than an authorized franchisee shall gather, collect or remove any solid waste, green waste or recyclable material from any premises or take any such waste from any container in which the same may be placed for collection or removal, or interfere with or disturb any such container, or remove any such container from any location where the same is placed, or remove the contents of any such container; provided that nothing in this chapter shall be deemed to prohibit the generators or the owners from personally collecting, conveying and disposing of solid waste in a manner consistent with this title and other applicable governing laws. Said license and privilege shall not be exclusive with respect to special removal needs created by demolition or construction projects for which the District or franchisee has no special disposal service available. To the extent that said license and privilege is exclusive, it shall be so only if the District or the franchisee shall be at all times ready, willing and able to collect, transport and dispose of all such solid waste.

5.20.020 Franchise Operation Fee. There is hereby imposed upon any person whose business is the collection of solid waste within the District an annual franchise fee in the amount specified by the District Board. This Section 5.20.020 is not intended to, and shall not,

preclude the imposition and collection by the District from a franchisee of consideration or cost reimbursements pursuant to the terms of a franchise agreement, whether denominated as franchise fees or otherwise, in addition to or in lieu of the franchise fee provided for in this Section 5.20.020.

5.20.030 Collecting Solid Waste Without Franchise Prohibited—Penalty.

It shall be unlawful for any person other than a franchisee (or its agents and employees) to collect any solid waste, green waste or recyclable material from any premises whatsoever, or otherwise provide solid waste handling services within the District, while there is in existence an exclusive franchise by the District to a person or persons to collect all solid waste, green waste or recyclable material from such premises. Every person who violates or infringes upon any exclusive franchise as heretofore set forth shall be guilty of a misdemeanor and shall be punishable pursuant to Section 6.10.010 of this Code. This prohibition shall not, however, apply to the following:

A. Self-haulers registered in accordance with chapter 5.10.

B. The owner, tenant or occupant of residential or commercial premises who has subscribed for and is receiving solid waste handling services with a franchisee, when such owner, tenant or occupant is hauling materials generated at his or her own premises to a lawful disposal or recycling facility. This exemption does not permit the hiring of any person or entity, other than a franchisee, to haul solid waste from one's own premises.

C. The collection, transportation and disposal of construction and demolition debris by a contractor, handyman, repairman or other similar service provider as an incidental part of the services provided to its customers rather than as a hauling service, provided that such solid waste is not collected or transported by a third party hired for the primary purpose of collecting and transporting said materials, and further provided that such services comply with any ordinances, policies and regulations of the District or the City relating to the collection of such materials.

D. The collection, transportation and disposal of yard waste, green waste and related solid waste by a gardener or landscaper as an incidental part of the gardening or landscaping services provided to its customers, rather than as a hauling service, provided that such solid waste is not collected or transported by a third party hired for the primary purpose of collecting and transporting said materials.

E. Any person or entity collecting recyclable material sold or donated to it by the generator of the recyclable material; provided, however, to the extent permitted by law, if the generator is required to pay monetary or non-monetary consideration for the collection, transportation, transfer or processing of recyclable material, and the generator receives a reduction or discount in price therefor (or in other terms of the consideration the generator is required to pay), such transaction shall not be considered a sale or donation.

F. Any District or City employee collecting or transporting solid waste to a disposal or recycling facility in the course and scope of their employment.

G. The collection, transportation or disposal of any hazardous waste, universal waste; e-waste; biohazardous waste; untreated medical waste; infectious waste; dead animals or portions of dead animals; used cooking fats, oils, grease and similar waste; or other materials which do not constitute solid waste by the generator thereof.

H. Any person otherwise authorized by law to collect, transport, and/or dispose of solid waste, green waste, or recyclable material within the District.

5.20.040 Franchise Non-Transferable. No franchise issued pursuant to this chapter shall be transferable, except as otherwise provided in a franchise agreement between the District and Franchisee and pursuant to the terms thereof.

5.20.050 Franchisee Regulations. Except as otherwise provided in a franchise agreement approved by the District Board, the following regulations apply to all those persons doing business within the District or residing therein who deposit or collect solid waste, green waste or recyclable materials:

A. Every person doing business within the District for the purpose of collecting solid waste, green waste or recyclable materials shall be adequately covered by public liability insurance. For the purposes of this section, adequate public liability insurance shall be defined to mean a minimum combined single limit of $10,000,000.00 per occurrence with a $10,000,000.00 policy aggregate limit of public liability coverage (either commercial general liability or comprehensive general liability) and $10,000,000.00 property damage coverage with the District named as an additional insured on the policy of insurance. Every person doing business within the District as aforesaid shall furnish the District with a Certificate of Insurance showing said District as an additional named insured on the policy of insurance. Such Certificate must be on file at the office of the District.

B. Every person doing business within the District for the purpose of collecting solid waste, green waste or recyclable materials shall use waste-collecting vehicles with steel-enclosed bodies.

C. Every person doing business in the District for the purposes of collecting solid waste, green waste or recyclable materials shall mark each vehicle and container with the name, address and telephone number of the person under which such business is conducted.

D. Every person maintaining or using equipment within the boundaries of the District for the purposes of collecting or depositing solid waste, green waste or recyclable materials shall keep such equipment in good mechanical condition and in a neat and orderly manner.

E. Every person doing business within the District for the purposes of collecting solid waste, green waste or recyclable materials shall not bring waste from outside the County on the vehicles collecting solid waste, green waste or recyclable materials within the District.

F. Every person doing business within the District for the purposes of collecting solid waste, green waste or recyclable materials shall, after each collection, insure that the immediate area around such collection is left in a clean, neat and orderly manner without any garbage,

trash, rubbish or refuse left on the ground. In the event the District, by or through its agents, determines that such person has not left the area of collection in a neat, orderly and clean manner then the District shall after four hours notice to such person cause said collection area to be cleaned and placed in proper order. The cost of cleaning and placing said collection area in proper order shall be determined by the District and billed to the person failing to comply with this regulation. Non-payment of such bill within ten (10) days after mailing shall be sufficient cause for the District to revoke any and all rights and privileges to do business within the District.

G. Every person doing business within the District for the purposes of collecting solid waste, green waste or recyclable materials shall provide sufficient containers to insure that between each collection of said solid waste, green waste or recyclable materials there shall not be deposited in said container waste that will exceed the height of the top of such container.

H Any container in which garbage or food residue is deposited shall be provided with a lid to cover said container. Such lid shall be kept on said container at all times and shall be replaced on said container by such person collecting such garbage or food residue after each collection.

I. Failure to comply with the regulations herein shall be sufficient cause for the District to revoke any and all rights and privileges to do business within the District.

5.20.060 Purpose for Franchisee Regulations. The purpose of this chapter is to provide the District with the necessary police power to regulate solid waste collection and disposal, and to insure that any and all franchises shall not be infringed upon by any person to protect the public health, welfare and safety.

TITLE 6

ENFORCEMENT

Chapters:

6.10 General Penalty
6.20 Code Enforcement
6.30 Payment and Enforcement of Fees

CHAPTER 6.10
GENERAL PENALTY

Sections:

6.10.010 **General Penalty—Misdemeanor.**
6.10.020 **Infractions.**
6.10.030 **Public Nuisances—Injunctive Relief.**

6.10.010 General Penalty—Misdemeanor. Section 6523 of the Health and Safety Code of the State of California provides that the violation of an ordinance, rule, or regulation of the District by any person is a misdemeanor punishable by fine not to exceed One Thousand Dollars ($1,000.00), or imprisonment in the county jail not to exceed thirty (30) days, or by both such fine and imprisonment. The District hereby incorporates such code section herein and further declares that each and every connection, occupancy or use in violation of the ordinances, rules or regulations of the District shall be deemed a separate violation and each and every day or part of a day of violation of the ordinance, rule or regulation that continues shall be deemed a separate offense hereunder and shall be punishable as such.

6.10.020 Infractions.

A. Whenever a violation or failure to comply with any mandatory requirement of this Code is expressly stated by this Code to be an infraction, that person shall be guilty of an infraction.

B. Notwithstanding Section 6.10.010 herein, the District Counsel or prosecuting attorney is hereby authorized at his or her discretion to prosecute any person violating any provision or failing to comply with any mandatory requirement of this Code as an infraction.

C. Any person convicted of an infraction shall be punishable by:

1. A fine not exceeding $100.00 for a first violation;

2. A fine not exceeding $200.00 for a second violation of the same provision of this Code within one year;

3. A fine not exceeding $500.00 for a third and subsequent violations of the same provision of this Code within one year.

D. Each person shall be guilty of a separate offense for each and every day during any portion of which any violation of any provision of this Code is committed, continued or permitted by such person and shall be punishable accordingly.

6.10.030 Public Nuisances—Injunctive Relief. In addition to the penalties provided herein, any condition caused or permitted to exist in violation of any of the provisions of this Code is declared to be a public nuisance and the District Counsel or authorized legal representative may with approval of the Board commence an action for abatement thereof in the manner provided by law. A civil action may be filed, whether or not criminal proceedings have been commenced for the same conduct. Every day such condition continues shall be regarded as a new and separate offense.

CHAPTER 6.20
CODE ENFORCEMENT

Sections:

6.20.010	**Maintenance inspections.**
6.20.020	**Sewage overflow—Authorized action by General Manager.**
6.20.030	**Disconnection authorized.**
6.20.040	**Cost Recovery for Violations.**
6.20.050	**Arrest Authority—City of Garden Grove Officers.**
6.20.060	**Arrest—Notice to Appear.**
6.20.070	**Arrest—Time and Place of Appearance.**
6.20.080	**Arrest—Release from Custody.**
6.20.090	**Arrest—Failure to Appear.**
6.20.100	**Arrest—Warrant for Arrest.**
6.20.110	**Arrest—Citations not required.**
6.20.120	**Notice of violation.**
6.20.130	**Continued violation—Activity cessation**.
6.20.140	**Permit suspension**.
6.20.150	**Permit—Revocation**.
6.20.160	**Permit—Revocation proceeding**.

6.20.010 Maintenance inspections. The District may inspect as often as it deems necessary, every sewage pumping plant, sewage treatment plant, industrial liquid waste pretreatment plant, residential sewer, grease control device, dilution basin, neutralization basin, backwater trap or valve, or other similar appurtenances to ascertain whether such facilities are maintained and operated in accordance with the provisions of this Code. All persons shall permit the District, City or their representatives, to have access to all such facilities at all reasonable times.

6.20.020 Sewage overflow—Authorized action by General Manager. Whenever it comes to the attention of the General Manager that sewage is overflowing from any plumbing fixture which is located below the elevation of the rim of the nearest upstream main sewer manhole due to the backing up of sewage in the District sewer, or due to pressure in the District sewer, or due to any cause whatsoever, except a temporary stoppage in any such plumbing fixture, the General Manager may order and require the plumbing fixture to be plugged up, or capped, or may require that a back-water trap or backwater sewer valve be installed to prevent such overflow.

6.20.030 Disconnection authorized. The District may disconnect from the District sewer any commercial or residential connection which is constructed or connected without a permit or which is used contrary to the provisions of this Code. The General Manager shall make every reasonable effort to notify the owner or occupant of the premises affected by any proposed disconnection and may grant a reasonable time for elimination of the violation.

6.20.040 Cost Recovery for Violations. Whenever any permittee or any other person causes obstruction, damage, or destruction of a public sewer, street, or public improvement, or is responsible in whole or in part for any spill or discharge of effluent in a manner that is not permitted under this Code, such permittee or person shall reimburse the District, the City of Garden Grove, and any other affected public agency for all costs, including reasonable administrative and overhead costs incurred for flushing, repairing, reconnection, or cleaning of such sewer, street, or public improvement within thirty days after the District, City, or affected public agency shall render an invoice for the same.

6.20.050 Arrest Authority—City of Garden Grove Officers. The District's code enforcement officers, code enforcement officers and police officers of the City of Garden Grove, shall have the power to arrest persons for violations of the District's regulations whenever the officers or the officers' designated employees have reasonable cause to believe that the person has committed the offense.

6.20.060 Arrest—Notice to Appear. If any person is arrested for a violation of any provision of this code and such person is not immediately taken before a magistrate, as more fully set forth in the California Penal Code, the arresting officer shall prepare in duplicate a written notice to appear in court, containing the name and address of such person, the offense charged, and the time and place when such person shall appear in court.

6.20.070 Arrest—Time and Place of Appearance. The time specified in the notice to appear must be at least five (5) days after the arrest. The place specified in the notice to appear shall be either:

A. Before a judge of a justice court or a municipal court judge within the county in which the offense charged is alleged to have been committed, and who has jurisdiction of the offense and who is nearest and most accessible with reference to the place where the arrest is made; or

B. Upon demand of the person arrested, before a judge of a municipal court having jurisdiction over such offense, at the county seat of the county in which such offense is alleged to have been committed; or

C. Before a judge in the judicial district in which the offense is alleged to have been committed; or

D. Before an officer authorized by the District to receive a deposit of bail.

6.20.080 Arrest—Release from Custody. The officer shall deliver one copy of the notice to appear to the arrested person; and the arrested person in order to secure release must give his written promise so to appear in court by signing the duplicate notice which shall be retained by the officer. Thereupon the arresting officer shall forthwith release the person arrested from custody. The officer shall as soon as practicable file the duplicate notice with the magistrate specified therein.

6.20.090 Arrest—Failure to Appear. Any person willfully violating his written promise to appear in court is guilty of a misdemeanor and shall be punished by a fine not to exceed one thousand dollars or imprisonment in the county jail for a term not to exceed six months, or by both such fine and imprisonment, regardless of the disposition of the charge upon which he was originally arrested.

6.20.100 Arrest—Warrant for Arrest. When a person signs a written promise to appear at the time and place specified in the written promise to appear and has not posted bail as provided in Section 853.1 of the California Penal Code, the magistrate shall issue and have delivered for execution a warrant for the person's arrest within twenty (20) days after his failure to appear as promised, or if such person promises to appear before an officer authorized to accept bail other than the magistrate and fails to do so on or before the date which he promised to appear, then, within twenty (20) days after the delivery of such written promise to appear by the officer to the magistrate having jurisdiction over the offense.

6.20.110 Arrest—Citations not required. Nothing contained in this chapter shall be deemed or construed to require any arresting officer to issue a citation instead of taking the person arrested before a magistrate as otherwise provided by law.

6.20.120 Notice of violation. In addition to the enforcement authority herein, whenever the General Manager finds that any person is acting in violation of any provision of this code or of any permit issued hereunder, he or she may serve upon the person causing or suffering such violation to be committed, including the permittee, if a permit has been issued, a notice of violation. The notice shall state the act or acts constituting the violation and shall direct notice as the General Manager may deem reasonable.

6.20.130 Continued violation—Activity cessation. Whenever the General Manager finds that the continued violation of any provision of this Code or of the conditions of any permit issued hereunder is so aggravated that the prevention of pollution of underground or surface waters requires the immediate cessation of the activities causing the violation, he or she may so direct in a notice of violation. A person who has been so notified shall immediately cease all such activities and shall not resume them until the General Manager determines that all of the violations charged in the notice have been corrected.

6.20.140 Permit suspension.

A. In addition to the enforcement authority herein, the General Manager may suspend a permit by giving notice thereof to the permittee:

   1. When a permittee fails to rectify a violation within the time specified in a notice thereof; or

   2. When a violation is so aggravated as to require cessation of activities as provided in the preceding section.

B. A permit suspended by the General Manager shall be reinstated by the General Manager when all of the violations charged in a notice thereof have been corrected.

6.20.150 Permit—Revocation. In addition to the enforcement authority herein, the Board may, after notice and hearing as hereinafter provided, revoke a permit on any one or more of the following grounds:

A. Fraud or deceit in obtaining a permit;

B. Failure of a permittee to correct a violation within the time prescribed in a notice of violation;

C. Willful violation of any provisions of this Code or a condition or limitation of a permit, or any lawful order of the General Manager.

6.20.160 Permit—Revocation proceeding. Proceedings for the revocation of a permit may be initiated:

A. By the General Manager by serving upon the permittee a copy of, and filing with the Secretary, a written recommendation of revocation setting forth the grounds therefore and requesting a hearing thereon before the Board;

B. By the Board on its own motion or upon complaint of a third person, by serving or causing to be served upon the permittee and the General Manager a notice of intention to revoke, setting forth the grounds therefor and designating a time and place for hearing thereon.

CHAPTER 6.30
PAYMENT AND ENFORCEMENT OF FEES

Sections:

6.30.010	**Bill Payment.**
6.30.020	**Reserved.**
6.30.030	**Returned Checks.**
6.30.040	**Aged Overdue Payment.**
6.30.050	**Service Termination Authority.**
6.30.060	**Notice—Hearing.**
6.30.070	**Reconnection—Reimbursement.**
6.30.080	**Habitation During Disconnection Declared a Public Nuisance.**

6.30.010 Bill Payment. The amounts billed by the District to the property owner shall be paid by the due date stated in the bill. For amounts unpaid by the due date, the District shall send bills bearing notification to the property owner concerned that if the bills are not paid within fifteen (15) days, they shall become delinquent and, pursuant to Division 5, Part 3, Chapter 6, Article 4 of the California Health and Safety Code (§§ 5470 et seq.), a basic penalty equal to ten percent (10%) of the charge shall be immediately imposed, and an additional penalty in the amount of one-half percent (½%) of the charge per month shall be imposed for each month that payment is delinquent thereafter. Charges which remain delinquent for a period of sixty (60) days shall become and constitute a lien against the property against which the charge is imposed, which lien shall become effective upon recordation with the County Recorder and when so recorded shall have the force, effect and priority of a judgment lien.

6.30.020 Reserved.

6.30.030 Returned Checks. A returned check charge in the amount specified by the District Board in the District Fee Resolution may be imposed for all checks made payable to the District which are returned from the bank for any reason whatsoever. This fee shall be payable each time a check is returned. Further, all provisions for collection of delinquent accounts as set forth in this chapter shall be applicable to the returned check charge.

6.30.040 Aged Overdue Payment. For any bills unpaid within two weeks after the end of the fiscal year, the District shall notify the property owner concerned that the Board shall review and approve as a charge against the property the delinquent amount, and the amount of the penalty and interest. The delinquent bill shall be filed with the County Auditor and, upon recordation by the County Recorder, shall constitute a lien against the property. The assessment shall be collected at the same time and in the same manner as are county property taxes and shall be subject to the same penalties and to the same procedure for foreclosure and sale as provided for ordinary county taxes.

6.30.050 Service Termination Authority. As a method of enforcing the provisions of this Code or any other resolution, ordinance, rule or regulation pertaining to the

collection or disposal of sewage or solid waste or where any charges or fees are due, the Board upon a 3/5 vote may authorize the termination of sewer service to any property.

6.30.060 Notice—Hearing. Prior to termination of sewage service, the Board shall notify in writing the owner, tenant, occupant or person in charge of such property that service is intended to be so terminated and conduct a hearing thereon. Such notice shall be mailed to the owner at the address shown on the records of the assessor of the County or is known to the District and a copy shall be delivered to the tenant, occupant, or person in charge thereof, or posted conspicuously on the property. The notice shall state the date of proposed termination of service and the reason therefor and the date the Board shall hold a hearing upon such intended termination. Such hearing shall not be held less than 10 days subsequent to the giving of notice as herein provided.

6.30.070 Reconnection—Reimbursement. Where service has been disconnected as provided herein the Board may require the person or persons making application for re-establishment of service to pay all expenses incurred by the District in causing such disconnection and re-connection before permission is granted re-establishing service to such property.

6.30.080 Habitation During Disconnection Declared a Public Nuisance. During any period of disconnection, the habitation of such disconnected premises by human beings shall constitute a public nuisance, whereupon the District shall cause proceedings to be brought for the abatement of the occupancy of said premises by human beings during the period of such disconnection. In such event and as a condition of re-connection there shall be paid to the District a reasonable attorney's fee and costs of suit arising in said action.

Appendix C-2

Stormwater Quality

Chapter 6.40 STORMWATER QUALITY

6.40.010 Purpose

A. The United States Congress passed the Clean Water Act (33 USC Section 1251 et seq., as amended, including Section 402(p) therein) as a mandate, in part, that municipal separate storm sewer systems, such as in Orange County, obtain permits to "effectively prohibit non-stormwater discharges into the storm sewers" and "require controls to reduce the discharge of pollutants to the maximum extent practicable...." This permitting authority has been delegated by the United States Environmental Protection Agency (EPA) to the State of California, which has authorized the State Water Resources Control Board and its local regulatory agencies, the Regional Water Quality Control Boards, to control non-point source discharges to California's waterways.

B. The Santa Ana and San Diego Regional Water Quality Control Boards have addressed the obligation to implement the Clean Water Act by issuing Waste Discharge Requirements governing stormwater runoff for the County of Orange, Orange County Flood Control District, and the incorporated cities of Orange County. These permits shall be referred to collectively in this chapter as the National Pollution Discharge Elimination System Permit (NPDES) permits.

C. The City is participating as a "co-permittee" under the NPDES permits in the development and adoption of an ordinance to accomplish the requirements of the Clean Water Act.

D. Stormwater runoff is one step in the natural cycle of water. However, human activities, such as agriculture, construction, and the operation and maintenance of an urban infrastructure may result in undesirable discharges of pollutants and certain sediments, which may accumulate in local drainage channels and waterways and eventually may be deposited in the waters of the United States.

E. The purpose of the ordinance codified in this chapter is to participate in the improvement of water quality and comply with federal requirements for the control of urban pollutants to stormwater runoff that enters the network of storm drains throughout Orange County. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.020 Finding and Intent

A. The City is authorized by Article XI, Section 5 and Section 7 of the State Constitution to exercise the police power of the state by adopting regulations promoting the public health, public safety and general prosperity.

B. The City has determined that a legitimate local purpose is present in complying with the provisions of the NPDES permit.

C. A reduction in stormwater-borne pollution will promote the public health and protect the general welfare of the locality by reducing the level of artificial and naturally occurring constituents, which may improve the quality of the waters in this region.

D. The land use authority exercised by the City, pursuant to California Government Code Section 65300 et seq., requires regional planning and the adoption of policies protecting the environment through the imposition of reasonable conditions on the use of land.

E. This chapter conforms to the policies and goals of the General Plan adopted by the City, pursuant to California Planning and Zoning Law, for the protection of the portions of watersheds located within Orange County by implementing measures to control erosion and prevent the pollution of streams and other waters.

F. Certain provisions of this chapter may be coordinated with the local coastal program for inclusion in coastal development permits, pursuant to California Public Resources Code Section 30607, as mitigation for the negative effects of grading, construction, reconstruction, and changes to the intensity of use of land or water resources within the coastal zone.

G. The Subdivision Map Act, California Government Code Section 66411 authorizes the City to regulate and control the design and improvement of subdivided lands and mitigate the burdens of proposed development by imposing reasonable conditions on map approval.

H. California Constitution Article XI, Section 7 and Government Code Section 38660 authorize the City to establish appropriate conditions for the issuance of building permits, which require the installation of improvements reasonably related to the proposed use of property.

I. Government Code Section 38771 authorizes the City to declare as public nuisances undesirable acts that may injure health or cause interference with the comfortable enjoyment of life or property and to provide for the abatement of the same.

J. The City may commence civil actions, pursuant to Federal Clean Water Act Section 505(a), against any person or any governmental agency acting in violation of any condition of the NPDES permit.

K. All industrial dischargers subject to the provisions of the State General Industrial Storm Water Permit and General Construction Activity Storm Water Permit (referred to collectively in this chapter as the "state general permits") must comply with the lawful requirements of the City, which regulate discharges of stormwater to the storm drain system within its jurisdiction.

L. All industrial dischargers subject to the provisions of the state general permits are required to maintain stormwater pollution prevention plans on-site and make them available to the City for inspection.

M. All dischargers subject to the provisions of the State General Construction Activity Storm Water Permit may be required by the City, with the concurrence of the Santa Ana Regional Water Board, to amend any stormwater pollution prevention plan.

N. All industrial dischargers subject to the provisions of the State General Industrial Storm Water Permit are required to maintain a description of the required monitoring program on-site and make it available to the City for inspection.

O. The City has jurisdiction over certain stormwater facilities and other watercourses within the City, and the water discharges into these facilities may be subject to the provisions of the State General Industrial Storm Water Permit; accordingly, the City may certify (but is not required to certify) in writing that regulated dischargers have developed and implemented effective stormwater pollution prevention plans and should not be required to collect and analyze stormwater samples for pollutants.

P. The City has jurisdiction over certain stormwater facilities and other watercourses within the City, and these facilities may receive stormwater discharges from properties and activities regulated under the provisions of the state general permits, and the City may request that the regulated dischargers furnish information and records necessary to determine compliance with the state general permits.

Q. The City has jurisdiction over certain stormwater facilities and other watercourses within the City, and these facilities may receive stormwater discharges from properties and activities regulated under the provisions of the state general permits, and the City may, upon presentation of credentials and other documents required by law:

1. Enter upon the discharger's premises where a regulated facility is located or where records must be kept under the conditions of the state general permits;

2. Access and copy, at reasonable times, any records that must be kept under the conditions of the state general permits;

3. Inspect, at reasonable times, any facility or equipment related to or impacting stormwater discharge;

4. Sample or monitor for the purpose of ensuring compliance with the state general permits.

R. The enacting of this chapter is a condition of the NPDES permit, the requirements of which are exempt from the California Environmental Quality Act pursuant toPublic Resources Code Section 21000, et seq. (CEQA); and

S. This chapter is subject to CEQA categorical exemption Classes 1 through 4, 6 through 9, 21 and 22, pursuant to the CEQA Guidelines, respectively, Title 14, California Code of Regulations Sections 15301, 15302, 15303, 15304, 15306, 15307, 15308, 15309, 15321, and 15322. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.030 Definitions

For purposes of this chapter:

"Authorized inspector" means the City Manager and persons designated by and under his or her instruction and supervision, who are assigned to investigate compliance with, detect violations of, and/or take actions pursuant to this chapter.

"City" means the City of Garden Grove, Orange County, California.

"Co-permittee" means the County of Orange, the Orange County Flood Control District, and/or any one of the 31 municipalities, including the City of Garden Grove, which are responsible for compliance with the terms of the NPDES permit.

"DAMP" means the Orange County Drainage Area Management Plan, as the same may be amended from time to time.

"Development project guidance" means DAMP Chapter VII and the appendix thereto, entitled "Best Management Practices for New Development Including Non-residential Construction Projects," as the same may be amended from time to time.

"Discharge" means any release, spill, leak, pump, flow, escape, leaching (including subsurface migration or deposition to groundwater), dumping, or disposal of any liquid, semisolid, or solid substance.

"Discharge exception" means the group of activities not restricted or prohibited by this chapter, including only:

1. Discharges composed entirely of stormwater; discharges subject to regulation under current EPA or Regional Water Quality Control Board issued NPDES permits, state general permits, or other waivers, permits, or approvals granted by an appropriate government agency; discharges from property for which best management practices set forth in the development project guidance are being implemented and followed; discharges to the stormwater drainage system from potable water line flushing, fire fighting activities, landscape irrigation systems, diverted stream flows, rising groundwater, and de minimis groundwater infiltration to the stormwater drainage system (from leaks in joints or connections or cracks in water drainage pipes or conveyance systems); discharges from potable water sources, passive foundation drains, air conditioning condensation and other building roof runoff; agricultural irrigation water runoff; water from crawl space pumps, passive footing drains, lawn watering, noncommercial vehicle washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; discharges of reclaimed water generated by a lawfully permitted water treatment facility; street wash waters when related to cleaning and maintenance by, or on behalf of, the City; discharges authorized pursuant to a permit issued under Section6.40.080 hereof; discharges for which the discharger has reduced to the extent feasible the amount of pollutants in such discharge; and discharges authorized pursuant to federal or state laws or regulations.

2. In any action taken to enforce this chapter, the burden shall be on the person who is the subject of such action to establish that a discharge was within the scope of this discharge exception.

"Enforcing attorney" means the City Attorney or District Attorney acting as counsel to the City of Garden Grove and his or her designee, which counsel is authorized to take enforcement action as described in this chapter. For purposes of criminal prosecution, only the District Attorney (and/or City Attorney), or his or her designee, shall act as the enforcing attorney.

"EPA" means the Environmental Protection Agency of the United States.

"Hearing officer" means the City Manager or his or her designee who shall preside at the administrative hearings authorized by this chapter and issue final decisions on the matters raised therein.

"Illicit connection" means any man-made conveyance or drainage system, pipeline, conduit, inlet, or outlet through which the discharge of any pollutant to the stormwater drainage system occurs or may occur. The term "illicit connection" shall not include legal nonconforming connections or connections to the stormwater drainage system that are hereinafter authorized by the agency with jurisdiction over the system at the location at which the connection is made.

"Industrial discharger" means industries whose Standard Industrial Classification (SIC) codes are identified by the State Water Resources Control Board as requiring coverage under the State's general industrial NPDES stormwater permit.

"Invoice for costs" means the actual costs and expenses of the City, including but not limited to administrative overhead, salaries and other expenses recoverable under state law, incurred during any inspection conducted pursuant to

Section 6.40.060 or where a notice of noncompliance, administrative compliance order, or other enforcement option under Section 6.40.070 is utilized to obtain compliance with this chapter.

"Legal nonconforming connection" means connections to the stormwater drainage system existing as of the adoption of this chapter that were in compliance with all federal, state, and local rules, regulations, statutes, and administrative requirements in effect at the time the connection was established, including but not limited to any discharge permitted pursuant to the terms and conditions of an individual discharge permit issued pursuant to the Industrial Waste Ordinance, County Ordinance No. 703.

"New development" means all public and private residential (whether single-family, multi-unit, or planned unit development), industrial, commercial, retail, and other nonresidential construction projects, or grading for future construction, for which either a discretionary land use approval, grading permit, building permit, or nonresidential plumbing permit is required.

"Nonresidential plumbing permit" means a plumbing permit authorizing the construction and/or installation of facilities for the conveyance of liquids other than stormwater, potable water, reclaimed water, or domestic sewage.

"NPDES permit" means the currently applicable municipal discharge permit issued by the Regional Water Quality Control Board, Santa Ana Region, which permit establishes waste discharge requirements applicable to stormwater runoff in the City;

"Person" means any natural person as well as any corporation, partnership, government entity or subdivision, trust, estate, cooperative association, joint venture, business entity, or other similar entity, or the agent, employee, or representative of any of the above.

"Pollutant" means any liquid, solid, or semisolid substances, or combination thereof, including and not limited to:

1. Artificial materials (such as floatable plastics, wood products, or metal shavings).

2. Household waste (such as trash, paper, and plastics; cleaning chemicals; yard wastes; animal fecal materials; used oil and fluids from vehicles, lawn mowers, and other common household equipment).

3. Metals and nonmetals, including compounds of metals and nonmetals (such as cadmium, lead, zinc, copper, silver, nickel, chromium, cyanide, phosphorus, and arsenic), with characteristics that cause an adverse effect on living organisms.

4. Petroleum and related hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease).

5. Animal wastes (such as discharge from confinement facilities, kennels, pens, and recreational facilities, including stables, show facilities, or polo fields).

6. Substances having a pH less than 6.5 or greater than 8.6, or unusual coloration, turbidity, or odor.

7. Waste materials and wastewater generated on construction sites and by construction activities (such as painting and staining; use of sealants and glues; use of lime; use of wood preservatives and solvents; disturbance of asbestos fibers, paint flakes, or stucco fragments; application of oils, lubricants, hydraulic, radiator, or battery fluids; construction equipment washing; concrete pouring and cleanup; use of concrete detergents; steam cleaning or sand blasting; use of chemical degreasing or diluting agents; and use of super chlorinated water for potable water line flushing).

8. Materials causing an increase in biochemical oxygen demand, chemical oxygen demand, or total organic carbon.

9. Materials that contain base/neutral or acid extractable organic compounds.

10. Those pollutants defined in Section 1362(6) of the Federal Clean Water Act.

11. Any other constituent or material, including but not limited to pesticides, herbicides, fertilizers, fecal coliform, fecal streptococcus, or enterococcus, or eroded soils, sediment, and particulate materials, in quantities that will interfere with or adversely affect the beneficial uses of the receiving waters, flora, or fauna of the state.

"Prohibited discharge" means any discharge that contains any pollutant, from public or private property to:

1. The stormwater drainage system.

2. Any upstream flow that is tributary to the stormwater drainage system.

3. Any groundwater, river, stream, creek, wash, or dry weather arroyo, wetlands area, marsh, coastal slough.

4. Any coastal harbor, bay, or the Pacific Ocean.

5. The term "prohibited discharge" shall not include discharges allowable under the discharge exception.

"Significant reconstruction" means the rehabilitation or reconstruction of public or private residential (whether single-family, multi-unit, or planned unit development), industrial, commercial, retail, or other nonresidential structures, for which either a discretionary land use approval, grading permit, building permit, or nonresidential plumbing permit is required.

"State general permit" means the state general industrial stormwater permit, the state general construction permit, or any other state general permit that has been or will be adopted and the terms and requirements of any such permit. In the event the U.S. Environmental Protection Agency (EPA) revokes the in-lieu permitting authority of the State Water Resources Control Board, then the term "state general permit" shall also refer to any EPA administered stormwater control program for industrial and construction activities.

"Stormwater drainage system" means street gutter, channel, storm drain, constructed drain, lined diversion structure, wash area, inlet, outlet, or other facility that is a part of or tributary to the county-wide stormwater runoff system and owned, operated, maintained, or controlled by County of Orange, the Orange County Flood Control District, or any co-permittee city, and used for the purpose of collecting, storing, transporting, or disposing of stormwater.

"Stormwater Pollution Prevention Plan (SWPPP)" means a plan to:

1. Help identify the sources of pollution that affect the quality of storm-water discharges and authorized non-stormwater discharges, and

2. To describe and ensure the implementation of BMPs to reduce or prevent pollutants in stormwater discharges and authorized non-stormwater discharges.

"Local Implementation Plan" means the City of Garden Grove National Pollutant Discharge Elimination System (NPDES) Stormwater Permit Local Implementation Plan as approved by the City Council on June 10, 2003, and as may be amended from time to time. (2803 § 1, 2011; 2603 § 1, 2003; 2401 § 1, 1997)

6.40.040 Prohibition on Illicit Connections and Prohibited Discharges

No person shall:

A. Construct, maintain, operate, and/or utilize any illicit connection;

B. Cause, allow, or facilitate any prohibited discharge;

C. Act, cause, permit, or suffer any agent, employee or independent contractor, to construct, maintain, operate or utilize any illicit connection, or cause, allow, or facilitate any prohibited discharge. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.050 Controls for Water Quality Management

A. NEW DEVELOPMENT AND SIGNIFICANT RECONSTRUCTION.

1. All new development and significant reconstruction within the City shall be undertaken in accordance with the DAMP, including but not limited to the development project guidance, the local development plan, and/or administrative rules and practices as may be adopted from time to time by the City Manager or his or her designee.

2. Prior to the issuance by the City of a grading permit, building permit, or nonresidential plumbing permit for any new development or significant reconstruction, the City shall review the project plans and impose terms, conditions and requirements on the project in accordance with Section 6.40.050(A)(1).

3. Compliance with the conditions and requirements of the DAMP shall not exempt any person from the requirement to independently comply with each provision of this chapter.

4. The owner of a new development or significant reconstruction project, or upon transfer of the property, its successors and assigns, shall implement and adhere to the terms, conditions, and requirements imposed pursuant to Section 6.40.050(A)(1) on a new development or significant reconstruction project.

Each failure by the owner of the property or its successors or assigns, to implement and adhere to the terms, conditions, and requirements imposed pursuant to Section6.40.050(A)(1) on a new development or significant reconstruction project shall constitute a violation of this chapter.

B. COST RECOVERY. The City shall be reimbursed by the project applicant for all costs and expenses incurred by the City in the review of new development or significant development projects for compliance with the DAMP. The City may elect to require a deposit of estimated costs and expenses, and the actual costs and expenses shall be deducted from the deposit, and the balance, if any, refunded to the project applicant.

C. LITTER CONTROL. No person shall discard any waste material, including but not limited to common household rubbish or garbage of any kind (whether generated or accumulated at a residence, business, or other location), upon any public property, whether occupied, open, or vacant, including but not limited to any street, sidewalk, alley, right-of-way, open area, or point of entry to the stormwater drainage system. (2803 § 1, 2011; 2603 § 2, 2003; 2401 § 1, 1997)

6.40.060 Inspections

A. SCOPE OF INSPECTIONS.

1. RIGHT TO INSPECT. Prior to commencing any inspection as authorized in this section, the authorized inspector shall obtain either the consent of the owner or occupant of the property or shall obtain an administrative inspection warrant or criminal search warrant.

2. ENTRY TO INSPECT. The authorized inspector may enter property to investigate the source of any discharge to any public street, inlet, gutter, storm drain, or the stormwater drainage system located within the jurisdiction of the City.

3. COMPLIANCE ASSESSMENTS. The authorized inspector may inspect property for the purpose of verifying compliance with this chapter, including but not limited to:

a. Identifying products produced, processes conducted, chemicals used, and materials stored on or contained within the property;

b. Identifying point(s) of discharge of all wastewater, process water systems, and pollutants;

c. Investigating the natural slope at the location, including drainage patterns and man-made conveyance systems;

d. Establishing the location of all points of discharge from the property, whether by surface runoff or through a storm drain system;

e. Locating any illicit connection or the source of prohibited discharge;

f. Evaluating compliance with any permit issued pursuant to Section 6.40.080 hereof; and

g. Investigating the condition of any legal nonconforming connection.

4. PORTABLE EQUIPMENT. For purposes of verifying compliance with this chapter, the authorized inspector may inspect any vehicle, truck, trailer, tank truck, or other mobile equipment.

5. RECORDS REVIEW. The authorized inspector may inspect all records of the owner or occupant of property relating to chemicals or processes presently or previously occurring on-site, including material and/or chemical inventories, facilities maps or schematics and diagrams, Material Safety Data Sheets, hazardous waste manifests, business plans, pollution prevention plans, state general permits, stormwater pollution prevention plans, monitoring program plans, and any other record(s) relating to illicit connections, prohibited discharges, a legal nonconforming connection, or any other source of contribution or potential contribution of pollutants to the stormwater drainage system.

6. SAMPLE AND TEST. The authorized inspector may inspect, sample, and test any area runoff, soils area (including groundwater testing), process discharge, materials within any waste storage area (including any container contents), and/or treatment system discharge for the purpose of determining the potential for contribution of pollutants to

the stormwater drainage system. The authorized inspector may investigate the integrity of all storm drain and sanitary sewer systems, any legal nonconforming connection, or other pipelines on the property using appropriate tests, including but not limited to smoke and dye tests or video surveys. The authorized inspector may take photographs or videotape, make measurements or drawings, and create any other record reasonably necessary to document conditions on the property.

7. MONITORING. The authorized inspector may erect and maintain monitoring devices for the purpose of measuring any discharge or potential source of discharge to the stormwater drainage system. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.070 Enforcement

A. ADMINISTRATIVE REMEDIES.

1. NOTICE OF NONCOMPLIANCE. The authorized inspector may deliver to the owner or occupant of any property, or to any person responsible for an illicit connection or prohibited discharge a notice of noncompliance. The notice of noncompliance shall be delivered in accordance with Section 6.40.070(A)(5).

a. The notice of noncompliance shall identify the provision(s) of this chapter or the applicable permit that has been violated. The notice of noncompliance shall state that continued noncompliance may result in additional enforcement actions against the owner, occupant, and/or person.

b. The notice of noncompliance shall state a compliance date that must be met by the owner, occupant, and/or person, provided, however, that the compliance date may not exceed seven days unless the authorized inspector extends the compliance deadline where good cause exists for the extension.

2. ADMINISTRATIVE COMPLIANCE ORDERS.

a. The authorized inspector may issue an administrative compliance order. The administrative compliance order shall be delivered in accordance with Section6.40.070(A)(5). The administrative compliance order may be issued to:

i. The owner or occupant of any property requiring abatement of conditions on the property that cause or may cause a prohibited discharge or an illicit connection in violation of this chapter.

ii. The owner of property subject to terms, conditions, or requirements imposed on a project in accordance with Section 6.40.070(A)(1) to ensure adherence to those terms, conditions, and requirements.

iii. A permittee subject to the requirements of any permit issued pursuant to Section 6.40.080 hereof to ensure compliance with the terms, conditions, and requirements of the permit.

iv. Any person responsible for an illicit connection or prohibited discharge.

b. The administrative compliance order may include the following terms and requirements:

i. Specific steps and time schedules for compliance as reasonably necessary to eliminate an existing prohibited discharge or to prevent the imminent threat of a prohibited discharge, including but not limited to a prohibited discharge from any pond, pit, well, surface impoundment, holding, or storage area.

ii. Specific steps and time schedules for compliance as reasonably necessary to discontinue any illicit connection.

iii. Specific requirements for containment, cleanup, removal, storage, installation of overhead covering, or proper disposal of any pollutant having the potential to contact stormwater runoff.

iv. Any other terms or requirements reasonably calculated to prevent the imminent threat of or continuing violations of this chapter, including, but not limited to requirements for compliance with best management practices guidance documents promulgated by any federal, State of California or regional agency.

v. Any other terms or requirements reasonably calculated to achieve full compliance with the terms, conditions, and requirements of any permit issued pursuant hereto.

3. CEASE AND DESIST ORDERS.

a. The authorized inspector may issue a cease and desist order. A cease and desist order shall be delivered in accordance with Section 6.40.070(A)(5). A cease and desist order may direct the owner or occupant of any property and/or other person responsible for a violation of this chapter to:

i. Immediately discontinue any illicit connection or prohibited discharge to the stormwater drainage system.

ii. Immediately contain or divert any flow of water off the property, where the flow is occurring in violation of any provision of this chapter.

iii. Immediately discontinue any other violation of this chapter.

iv. Clean up the area affected by the violation.

v. The authorized inspector may direct by cease and desist order that the owner of any property, or his or her successor-in-interest, whose property is subject to any conditions or requirements issued pursuant to Section 6.40.050(A)(1) or any permittee under any permit issued pursuant to Section 6.40.080 hereof: Immediately cease any activity not in compliance with the conditions or requirements issued pursuant to Section 6.40.050(A)(1), or the terms, conditions, and requirements of the applicable permit.

4. RECOVERY OF COSTS. The authorized inspector may deliver to the owner or occupant of any property, any permittee, or any other person who becomes subject to a notice of noncompliance or administrative order, an invoice for costs. An invoice for costs shall be delivered in accordance with Section 6.40.070(A)(5). An invoice for costs shall be immediately due and payable to the City for the actual costs incurred by the City in issuing and enforcing any notice or order.

If any owner or occupant, permittee, or any other person subject to an invoice for costs fails to either pay the invoice for costs or appeal successfully the invoice for costs in accordance with Section 6.40.070(A)(6), then the enforcing attorney may institute collection proceedings.

5. DELIVERY OF NOTICE. Any notice of noncompliance, administrative compliance order, cease and desist order, or invoice of costs to be delivered pursuant to the requirements of this chapter shall be subject to the following:

a. The notice shall state that the recipient has a right to appeal the matter as set forth in Section 6.40.070(A)(6) through 6.40.070(A)(10).

b. Delivery shall be deemed complete upon:

i. Personal service to the recipient;

ii. Deposit in the U.S. mail, postage pre-paid for first class mail; or

iii. Facsimile service with confirmation of receipt.

c. Where the recipient of notice is the owner of the property, the address for notice shall be the address from the most recently issued equalized assessment roll for the property or as otherwise appears in the current records of the City.

d. Where the owner or occupant of any property cannot be located after the reasonable efforts of the authorized inspector, a notice of noncompliance or cease and desist order shall be deemed delivered after posting on the property for a period of 10 business days.

6. ADMINISTRATIVE HEARING FOR NOTICES OF NONCOMPLIANCE, ADMINISTRATIVE COMPLIANCE ORDERS, INVOICES FOR COSTS AND ADVERSE DETERMINATIONS. Except as set forth in subsection (A)(8) of this section, any person receiving a notice of noncompliance, administrative compliance order, a notice of legal nonconforming connection, an invoice for costs, or any person who is subject to any adverse determination made pursuant to this chapter, may appeal the matter by requesting an administrative hearing. Notwithstanding the foregoing, these administrative appeal procedures shall not apply to criminal proceedings initiated to enforce this chapter.

7. REQUEST FOR ADMINISTRATIVE HEARING. Any person appealing a notice of noncompliance, an administrative compliance order, a notice of legal nonconforming connection, an invoice for costs or an adverse determination shall, within 30 days of receipt thereof, file a written request for an administrative hearing, accompanied by an administrative hearing fee as established by separate City Council resolution, with the office of the City Clerk, with a copy of the request for administrative hearing mailed on the date of filing to the City Manager. Thereafter, a hearing on the matter shall be held before the hearing officer within 45 business days of the date of filing of the written request

unless, in the reasonable discretion of the hearing officer and pursuant to a written request by the appealing party, a continuance of the hearing is granted.

8. ADMINISTRATIVE HEARING FOR CEASE AND DESIST ORDERS AND EMERGENCY ABATEMENT ACTIONS. An administrative hearing on the issuance of a cease and desist order or following an emergency abatement action shall be held within five business days following the issuance of the order or the action of abatement, unless the hearing (or the time requirement for the hearing) is waived in writing by the party subject to the cease and desist order or the emergency abatement. A request for an administrative hearing shall not be required from the person subject to the cease and desist order or the emergency abatement action.

9. HEARING PROCEEDINGS. The authorized inspector shall appear in support of the notice, order, determination, invoice for costs, or emergency abatement action, and the appealing party shall appear in support of withdrawal of the notice, order, determination, invoice for costs, or in opposition to the emergency abatement action. Except as set forth in Section 6.40.030 (definition of "discharge exception"), the City shall have the burden of supporting any enforcement or other action by a preponderance of the evidence. Each party shall have the right to present testimony and other documentary evidence as necessary for explanation of the case.

10. FINAL DECISION AND APPEAL. The final decision of the hearing officer shall issue within 10 business days of the conclusion of the hearing and shall be delivered by first-class mail, postage prepaid, to the appealing party. The final decision shall include notice that any legal challenge to the final decision shall be made pursuant to the provisions of Code of Civil Procedure Sections 1094.5 and 1094.6 and shall be commenced within 90 days following issuance of the final decision. The administrative hearing fee paid by a prevailing party in an appeal shall be refunded.

Notwithstanding this section, the final decision of the hearing officer in any proceeding determining the validity of a cease and desist order or following an emergency abatement action shall be mailed within five business days following the conclusion of the hearing.

11. CITY ABATEMENT. In the event the owner of property, the operator of a facility, a permittee, or any other person fails to comply with any provision of a compliance schedule issued to such owner, operator, permittee, or person pursuant to this chapter, the authorized inspector may request the enforcing attorney to obtain an abatement warrant or other appropriate judicial authorization to enter the property, abate the condition, and restore the area. Any costs incurred by the City in obtaining and carrying out an abatement warrant or other judicial authorization may be recovered pursuant to Section 6.40.070(B)(4).

B. NUISANCE. Any condition in violation of the prohibitions of this chapter, including but not limited to the maintenance or use of any illicit connection or the occurrence of any prohibited discharge, shall constitute a threat to the public health, safety, and welfare, and is declared and deemed a nuisance pursuant to Government Code Section 38771.

1. COURT ORDER TO ENJOIN OR ABATE. At the request of the City Manager, the enforcing attorney may seek a court order to enjoin and/or abate the nuisance.

2. NOTICE TO OWNER AND OCCUPANT. Prior to seeking any court order to enjoin or abate a nuisance or threatened nuisance, the City Manager shall provide notice of the proposed injunction or abatement to the owner and occupant, if any, of the property where the nuisance or threatened nuisance is occurring.

3. EMERGENCY ABATEMENT. In the event the nuisance constitutes an imminent danger to public safety or the environment, the City Manager may enter the property from which the nuisance emanates, abate the nuisance, and restore any property affected by the nuisance. To the extent reasonably practicable, informal notice shall be provided to the owner or occupant prior to abatement. If necessary to protect the public safety or the environment, abatement may proceed without prior notice to or consent from the owner or occupant thereof and without judicial warrant.

a. An imminent danger shall include, but is not limited to, exigent circumstances created by the dispersal of pollutants, where the same presents a significant and immediate threat to the public safety or the environment.

b. Notwithstanding the authority of the City to conduct an emergency abatement action, an administrative hearing pursuant to Section 6.40.070(A)(8) hereinabove shall follow the abatement action.

4. REIMBURSEMENT OF COSTS. All costs incurred by the City in responding to any nuisance, all administrative expenses, and all other expenses recoverable under state law, shall be recoverable from the person(s) creating, causing, committing, permitting, or maintaining the nuisance.

5. NUISANCE LIEN. All costs shall become a lien against the property from which the nuisance emanated and a personal obligation against the owner thereof in accordance with Government Code Sections 38773.1 and 38773.5. The owner of record of the property subject to any lien shall be given notice of the lien prior to recording as required by Government Code Section 38773.1.

At the direction of the City Manager, the enforcing attorney is authorized to collect nuisance abatement costs or enforce a nuisance lien in an action brought for a money judgment or by delivery to the County Assessor of a special assessment against the property in accord with the conditions and requirements of Government Code§38773.5.

C. CRIMINAL SANCTIONS.

1. PROSECUTOR. The enforcing attorney may act on the request of the City Manager to pursue enforcement actions in accordance with the provisions of this chapter.

2. INFRACTIONS. Any person who may otherwise be charged with a misdemeanor under this chapter may be charged, at the discretion of the enforcing attorney, with an infraction punishable by a fine of not more than $250.00 for a first violation, $500.00 for a second violation, and a fine not exceeding $1,000.00 for each additional violation occurring within one year.

3. MISDEMEANORS. Any person who negligently or knowingly violates any provision of this chapter, undertakes to conceal any violation of this chapter, continues any violation of this chapter after notice thereof, or violates the terms, conditions, and requirements of any permit issued pursuant to this chapter, shall be guilty of a misdemeanor punishable by a fine of not more than $1,000.00 or by imprisonment for a period of not more than six months, or both.

D. CONSECUTIVE VIOLATIONS. Each day in which a violation occurs and each separate failure to comply with either a separate provision of this chapter, an administrative compliance order, a cease and desist order, or a permit issued pursuant to this chapter, shall constitute a separate violation of this chapter punishable by fines or sentences issued in accordance with this chapter.

E. NONEXCLUSIVE REMEDIES. Each and every remedy available for the enforcement of this chapter shall be nonexclusive and it is within the discretion of the authorized inspector or enforcing attorney to seek cumulative remedies, except that multiple monetary fines or penalties shall not be available for any single violation of this chapter.

F. CITATIONS.

1. Pursuant to Penal Code Section 836.5, the authorized inspector shall have the authority to cause the arrest of any person committing a violation of this chapter. The person shall be released and issued a citation to appear before a magistrate in accordance with Penal Code Sections 853.5, 853.6, and 853.9, unless the person demands to be taken before a magistrate. Following issuance of any citation the authorized inspector shall refer the matter to the enforcing attorney.

2. Each citation to appear shall state the name and address of the violator, the provisions of this chapter violated, and the time and place of appearance before the court, which shall be at least 10 business days after the date of violation. The person cited shall sign the citation giving his or her written promise to appear as stated therein. If the person cited fails to appear, the enforcing attorney may request issuance of a warrant for the arrest of the person cited.

G. VIOLATIONS OF OTHER LAWS. Any person acting in violation of this chapter also may be acting in violation of the Federal Clean Water Act or the State Porter-Cologne Act and other laws and also may be subject to sanctions including civil liability. Accordingly, the enforcing attorney is authorized to file a citizen suit pursuant to the Federal Clean Water Act Section 505(a), seeking penalties, damages, and orders compelling compliance, and other appropriate relief. The enforcing attorney may notify EPA Region IX, the Santa Ana Regional Water Quality Control Board, or any other appropriate state or local agency, of any alleged violation of this chapter.

H. INJUNCTIONS. At the request of the City Manager, the enforcing attorney may cause the filing in a court of competent jurisdiction of a civil action seeking an injunction against any threatened or continuing noncompliance with the provisions of this chapter.

Order for Reimbursement. Any temporary, preliminary, or permanent injunction issued pursuant hereto may include an order for reimbursement to the City of all costs incurred in enforcing this chapter, including costs of inspection, investigation, and monitoring, the costs of abatement undertaken at the expense of the City, costs relating to restoration of the environment and all other expenses as authorized by law.

I. OTHER CIVIL REMEDIES.

1. The City Manager may cause the enforcing attorney to file an action for civil damages in a court of competent jurisdiction seeking recovery of:

a. All costs incurred in enforcement of this chapter, including but not limited to costs relating to investigation, sampling, monitoring, inspection, administrative expenses, all other expenses as authorized by law, and consequential damages;

b. All costs incurred in mitigating harm to the environment or reducing the threat to human health; and

c. Damages for irreparable harm to the environment.

2. The enforcing attorney is authorized to file actions for civil damages resulting from any trespass or nuisance occurring on public land or to the stormwater drainage system from any violation of this chapter where the same has caused damage, contamination or harm to the environment, public property, or the stormwater drainage system.

3. The remedies available to the City pursuant to the provisions of this chapter shall not limit the right of the City to seek any other remedy that may be available by law. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.080 Permits

A. DISCHARGE PERMIT PROCEDURE.

1. PERMIT. On application of the owner of property or the operator of any facility, which property or facility is not otherwise subject to the requirements of a state general permit or a national pollution discharge elimination system permit regulating stormwater discharges, the City Manager may issue a permit authorizing the release of non-stormwater discharges to the stormwater drainage system if:

a. The discharge of material or constituents is reasonably necessary for the conduct of otherwise legal activities on the property; and

b. The discharge will not cause a nuisance, impair the beneficial uses of receiving waters, or cause any reduction in established water quality standards.

2. APPLICATION. The applicant shall provide all information requested by the City Manager for review and consideration of the application, including but not limited to specific detail as to the activities to be conducted on the property, plans and specifications for facilities located on the property, identification of equipment or processes to be used on-site and other information as may be requested in order to determine the constituents, and quantities thereof, which may be discharged if permission is granted.

3. PERMIT ISSUANCE. The permit shall be granted or denied by the City Manager or his or her designated representative, no later than 60 business days following the completion and acceptance of the application as determined by the City Manager.

The applicant shall be notified in person or by first-class mail, postage prepaid, of the action taken.

4. PERMIT CONDITIONS. The permit may include terms, conditions, and requirements to ensure compliance with the objectives of this chapter and as necessary to protect the receiving waters, including but not limited to:

a. Identification of the discharge location on the property and the location at which the discharge will enter the stormwater drainage system;

b. Identification of the constituents and quantities thereof to be discharged into the stormwater drainage system;

c. Specification of pollution prevention techniques and structural or nonstructural control requirements as reasonably necessary to prevent the occurrence of potential discharges in violation of this chapter;

d. Requirements for self-monitoring of any discharge;

e. Requirements for submission of documents or data, such as technical reports, production data, discharge reports, self-monitoring reports, and waste manifests; and

f. Other terms and conditions appropriate to ensure compliance with the provisions of this chapter and the protection of receiving waters, including requirements for compliance with best management practices guidance documents approved by any federal, State of California or regional agency.

5. GENERAL PERMIT. In the discretion of the City Manager, the permit may, in accordance with the conditions identified in Section 6.40.080(A)(4), be prepared as a general permit applicable to a specific category of activities. If a general permit is issued, any person intending to discharge within the scope of the authorization provided by the general permit may do so by filing an application to discharge with the City Manager. No discharge within the scope of the general permit shall occur until such application is so filed.

Notwithstanding the foregoing in Section 6.40.080(A)(5), the City Manager, in his or her discretion, may eliminate the requirement that an application for a general permit be filed for any specific activity for which a general permit has been issued.

6. PERMIT FEES. The permission to discharge shall be conditioned upon the applicant's payment of the City's costs, in accordance with a fee schedule adopted by separate resolution, as follows:

a. For individually issued permits, the costs of reviewing the permit application, preparing and issuing the permit, and the costs reasonably related to administrating this permit program; and

b. For general permits, the costs of reviewing the permit application, that portion of the costs of preparing the general permit that is reasonably attributable to the permittee's application for the general permit, and the costs reasonably related to administering the general permit program. Notwithstanding the foregoing, no permit fee shall be charged for a general permit issued pursuant to Section 6.40.080(A)(5)(a).

B. PERMIT SUSPENSION, REVOCATION, OR MODIFICATION.

1. The City Manager may suspend or revoke any permit when it is determined that:

a. The permittee has violated any term, condition or requirement of the permit or any applicable provision of this chapter;

b. The permittee's discharge or the circumstances under which the discharge occurs have changed so that it is no longer appropriate to except the discharge from the prohibitions on prohibited discharge contained within this chapter; or

c. The permittee fails to comply with any schedule for compliance issued pursuant to this chapter; or

d. Any regulatory agency, including the EPA or a Regional Water Quality Control Board having jurisdiction over the discharge, notifies the City that the discharge should be terminated.

2. The City Manager may modify any permit when it is determined that:

a. Federal or state law requirements have changed in a manner that necessitates a change in the permit; or

b. The permittee's discharge or the circumstances under which the discharge occurs have changed so that it is appropriate to modify the permit's terms, conditions, or requirements; or

c. A change to the permit is necessary to ensure compliance with the objectives of this chapter or to protect the quality of receiving waters.

3. The permittee, or in the case of a general permit, each person who has filed an application pursuant to Section 6.40.080(A)(5), shall be informed of any change in the permit terms and conditions at least 60 days prior to the effective date of the modified permit. In the case of a general permit issued pursuant to Section 6.40.080(A)(5)(a), any change in the permit terms and conditions shall be published in newspaper of general circulation within the City at least 60 days prior to the effective date of the modified permit.

4. The determination that a permit shall be denied, suspended, revoked, or modified may be appealed by a permittee pursuant to the same procedures applicable to appeal of an administrative compliance order in this chapter. In the absence of a judicial order to the contrary, the permittee may continue to discharge pending issuance of the final administrative decision by the hearing officer.

C. PERMIT ENFORCEMENT — PENALTIES. Any violation of the terms, conditions, and requirements of any permit issued by the City Manager shall constitute a violation of this chapter and subject the violator to the administrative, civil, and criminal remedies available under this chapter.

D. Compliance with the terms, conditions, and requirements of a permit issued pursuant to this chapter shall not relieve the permittee from compliance with all federal, state, and local laws, regulations and permit requirements, applicable to the activity for which the permit is issued.

1. LIMITED PERMITTEE RIGHTS. Permits issued under this chapter are for the person or entity identified therein as the "permittee" only, and authorize the specific operation at the specific location identified in the permit. The issuance of a permit does not vest the permittee with a continuing right to discharge.

2. TRANSFER OF PERMITS. No permit issued to any person may be transferred to allow:

a. A discharge to the stormwater drainage system at a location other than the location stated in the original permit; or

b. A discharge by a person other than the person named in the permit, provided however, that the City may approve a transfer if written approval is obtained, in advance, from the City Manager. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.090 Interagency Cooperation

A. The City intends to cooperate with other agencies with jurisdiction over stormwater discharges to ensure that the regulatory purposes underlying stormwater regulations promulgated pursuant to the Clean Water Act (33 USC Section 1251 et seq.) are met.

B. The City may, to the extent authorized by law, elect to contract for the services of any public agency or private enterprise to carry out the planning approvals, inspections, permits, and enforcement authorized by this chapter. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.100 Miscellaneous

A. COMPLIANCE DISCLAIMER. Full compliance by any person or entity with the provisions of this chapter shall not preclude the need to comply with other local, state, or federal statutory or regulatory requirements, which may be required for the control of the discharge of pollutants into stormwater and/or the protection of stormwater quality.

B. SEVERABILITY. If any provision of this chapter or the application of the chapter to any circumstance is held invalid, the remainder of the chapter or the application of the chapter to other persons or circumstances shall not be affected. (2803 § 1, 2011; 2401 § 1, 1997)

6.40.110 Judicial Review

The provisions of Sections 1094.5 and 1094.6 of the Code of Civil Procedure set forth the procedure for judicial review of any act taken pursuant to this chapter. Parties seeking judicial review of any action taken pursuant to this chapter shall file such action within 90 days of the occurrence of the event for which review is sought. (2803 § 1, 2011; 2401 § 1, 1997)

Appendix C-3

Ordinance No. 6 (FOG Requirements)

ORDINANCE NO. 6

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE GARDEN GROVE SANITARY DISTRICT ADOPTING FATS, OILS AND GREASE CONTROL REGULATIONS APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

WHEREAS, pursuant to the County Sanitary District Act , Health & Safety Code §§ 4700 et seq., the Garden Grove Sanitary District ("District") has the authority to adopt ordinances relating to the provision of sewer services and facilities, and regulations of those services and facilities; and

WHEREAS, the Regional Water Quality Control Board ("RWQCB") for the Santa Ana Region adopted Order R8-2002-0014, which prescribes general waste discharge requirements prohibiting sanitary sewer overflows ("SSOs") by sewer collection agencies; and

WHEREAS, in Order R8-2002-0014, the RWQCB found that one of the leading causes of SSOs within the Santa Ana Region, which encompasses the District's service area is "grease blockages;" and

WHEREAS, SSOs often caused by discharge of wastewater containing high levels of fat, oils and grease ("FOG"), suspended solids, pathogenic organisms, and other pollutants, may result in the temporary failure to meet applicable water quality objectives, pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters within the District's service area; and

WHEREAS, the 2000-2001 Orange County Grand Jury ("Grand Jury") conducted a survey among 35 wastewater collection and treatment agencies in Orange County and concluded that one of the leading causes of SSOs and sewage spills is sewer lines clogged from the accumulation of FOG discharged from Food Service Establishments; and

WHEREAS, the Grand Jury further concluded that more effective methods of minimizing grease discharges into the sewer system must be developed and implemented to reduce the discharge of FOG to the sewer system in order to prevent sewer blockages and SSOs; and

WHEREAS, Order No. R8-2002-0014 requires the District to monitor and control SSOs and to develop a FOG Control Program by December 30, 2004; and

WHEREAS, in light of the overwhelming evidence that FOG is a primary cause of SSOs, the District desires to implement a FOG Control Program to prevent SSOs; and

WHEREAS, the foregoing findings indicate that a FOG Control Program is required for Food Service Establishments within the District's jurisdiction to comply with waste discharge regulations and prevent the harmful effects of SSOs; and

WHEREAS, the Board of Directors finds that specific enforcement provisions must be adopted to govern discharges of wastewater to the District's system by Food Service Establishments.

NOW, THEREFORE**,** the Board of Directors does hereby ordain as follows:

Section I. Amendment To Code Of Regulations.

Chapter 4.30, entitled "Regulations Controlling the Discharge of Fats, Oils, and Grease From Food Service Establishments", is hereby added to Title 4, "Sewer Regulations" of the Garden Grove Sanitary District Code of Regulations (2004 Edition) to read as follows:

"Chapter 4.30. Regulations Controlling the Discharge of Fats, Oils

And Grease From Food Service Establishments.

Section 4.30.010. PURPOSE AND POLICY

A. The purpose of this Ordinance is to facilitate the maximum beneficial public use of the District's sewer services and facilities while preventing blockages of the sewer lines resulting from discharges of FOG to the sewer facilities, and to specify appropriate FOG discharge requirements for Food Service Establishments.

B. This Ordinance shall be interpreted in accordance with the definitions set forth in Section 16. The provisions of this Ordinance shall apply to the direct or indirect discharge of all wastewater or waste containing FOG carried to the sewer facilities of the District.

C. To comply with Federal, State, and local policies and to allow the District to meet applicable standards, provisions are made in this Ordinance for the regulations of wastewater or waste containing FOG discharges to the sewer facilities.

D. This Ordinance establishes quantity and quality standards on all wastewater and/or waste discharges containing FOG, which may alone or collectively cause or contribute to FOG accumulation in the sewer facilities causing or potentially causing or contributing to the occurrence of SSOs.

Section 4.30.020. FOG DISCHARGE REQUIREMENT

No person, firm, corporation, or other entity shall operate a Food Service establishment so as to discharge or cause to be discharged into the sanitary sewer

collection system FOG that: (1) exceeds a concentration level adopted by the Board; or, (2) that may accumulate and/or cause or contribute to blockages in the sewer system or at the sewer system lateral which connects the Food Service Establishment to the sanitary sewer collection system.

Section 4.30.030. PROHIBITIONS

Any person, firm, corporation, or other entity is prohibited from operating a Food Service Establishment by:

A. Installing food grinders in the plumbing system of new construction of Food Service Establishments. All food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this Ordinance, unless the FOG Control Program Manager has authorized the grinder to remain.

B. Introducing any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG, unless otherwise permitted by specific written authorization of the FOG Control Program Manager.

C. Disposing waste cooking oil into drainage pipes. All waste cooking oils shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.

D. Discharging wastewater from dishwashers to any grease trap or grease interceptor.

E. Discharging wastewater with temperatures in excess of 140°F to any grease control device.

F. Introducing biological additives for grease remediation or as a supplement to grease control device maintenance without prior authorization from the FOG Control Program Manager.

G. Discharging wastes from toilets, urinals, washbasins, and other fixtures containing fecal materials to sewer lines intended for grease control device service, or vice versa.

H. Discharging any waste, including FOG and solid materials removed from the grease control device, to the sewer system. Grease removed from grease control devices shall be waste hauled periodically as part of the operation and maintenance requirements for grease interceptors and traps.

Section 4.30.040. BEST MANAGEMENT PRACTICES REQUIRED

Any person, firm, corporation, or other entity operating a Food Services Establishment shall implement Best Management Practices as prescribed in this ordinance for the purpose of controlling and limiting the discharge of FOG to the sanitary sewer collection system.

Section 4.30.050. FOG PRETREATMENT/BEST MANAGEMENT PRACTICES

Any person, firm, corporation, or other entity operating a Food Service Establishment (FSE), or a property owner of a parcel containing multiple FSEs, may be required to install, operate and maintain an approved type and adequately sized grease interceptor in accordance with the provisions of this section. The grease interceptor shall be adequate to separate and remove FOG contained in wastewater discharges from Food Service Establishments prior to discharge to the sewer system. Fixtures, equipment, and drain lines located in the food preparation and clean up areas of Food Service Establishments that are sources of FOG discharges except for dish washing machines shall be connected to the grease interceptor. Compliance shall be established as follows:

A. New Construction of Food Service Establishments

New construction of Food Service Establishments shall include and install grease interceptors prior to commencing discharges of wastewater to the sanitary sewer collection system.

B. Existing Food Service Establishments/Commercial Properties

Existing FSE operators, or property owners with multiple FSEs, shall install a grease control device where the FOG Program Manager has found and determined that a FSE, has been responsible for, or otherwise contributed to, one or more SSO(s) following the enactment of this ordinance.

Where the FOG Program Manager has determined that an owner's lateral line requires cleaning to avoid an imminent threat of an SSO spill, the Manager is authorized to issue an order to the owner to immediately clean the subject lateral line.

The Program Manager shall issue his/her order in writing to the applicable party and shall designate a reasonable period of time period for corrective action.

C. Best Management Practice Requirements.

Food Service Establishment Operators and affected Property Owners shall comply with the following Best Management Practice standards:

1. BMP (Non-Structural)- Food Grinders (garbage disposal devices) shall immediately be removed from the FSEs plumbing system to prevent the discharge of food debris into the FSEs sewer drain system. This requirement will lead to controlling and limiting the introduction of FOG into the district's sanitary sewer collection system.

2. BMP (Non-Structural) - The District's approved SSO prevention-training program shall be instituted and continuously maintained. The training program shall consists of those tasks set forth in the training materials
adopted by the Program Manager and made available to each FSE operator and property owner affected by this ordinance.

3. BMP (Structural)- Grease trap devices shall be installed and maintained so as to prevent odors, cross-contamination, sewer back-ups or SSOs.

4. BMP (Non-Structural)- Grease rendering containers shall be installed and Maintained.

5. BMP (Non-Structural)- Document record keeping shall be maintained consisting of: 1) employee training records; 2) grease control dev ice (trap or interceptor) maintenance and cleaning records; 3) on property SSO records; 4) plumbing maintenance records; 5) rendering grease disposal records. Documents consist of, but are not limited to logs, records, letters, blue prints, equipment specification and operation, receipts, and manifests. Such records are deemed to be environmental records and shall be retained for a minimum of 5 years.

Section 4.30.060. APPEALS/INTERCEPTOR REQUIREMENT.

Where the FOG Control Program Manager has determined to require the installation of a grease interceptor, the responsible party may appeal said determination in accordance with the following procedure and criteria:

The Appellant can establish that:

1. There is no adequate space for installation and/or maintenance of a grease interceptor.

2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

The appellant may submit an appeal from the grease interceptor requirement to the FOG Control Program Manager. The operator bears the burden of presenting sufficient facts in the application to justify falling within one or more of the above stated criteria.

The FOG Program Manager shall forthwith render a written decision on the appeal within ten (10) working days. If the Manager requires more information, the Manager is authorized to request additional needed information prior to making a

final determination on the application. In the event that the Program Manager grants an approval of the appeal, the Manager's determination shall specify the terms and conditions of the waiver thereof.

The appellant may further appeal an adverse decision by the Program Manager within fifteen (15) calendar days from date of the written decision by filing a written appeal with the District Board Secretary. The appeal shall be heard by the General Manager, or his designee, as soon as reasonably practicable. A written notice of decision shall be mailed to the appellant within 10 business days from date of the appeal hearing. The decision of the General Manager, or designee, shall be final and binding.

The above stated appeal provisions shall also be applicable to revocation of waiver approvals.

Section 4.30.070 COMMERCIAL PROPERTIES

Property owners of commercial properties or their official designee(s) shall be responsible for the installation and maintenance of the grease interceptor serving multiple Food Service Establishments that are located on a single parcel.

Section 4.30.080. SEWER SYSTEM OVERFLOWS, PUBLIC NUISANCE, ABATEMENT

If the District must act immediately to contain and clean up an SSO caused by blockage of a private or public sewer lateral or system serving a Food Service Establishment , or at the request of the property owner or operator of the Food Service Establishment, or because of the failure of the property owner or Food Service Establishment to abate the condition causing immediate threat of injury to the health, safety, welfare, or property of the public, the District's costs for such abatement may be entirely borne by the property owner or operator of the Food Service Establishment, and individual(s) as a responsible officer or owner of the Food Service Establishment(s) and may constitute a debt to the District and become due and payable upon the District's request for reimbursement of such costs.

Section 4.30.090. DRAWING SUBMITTAL REQUIREMENTS

Upon request by the District:

A. Operators of Food Service Establishments may be required to submit two copies of facility site plans, mechanical and plumbing plans, and details to show all sewer locations and connections. The submittal shall be in a form and content acceptable to the District for review of existing or proposed grease control device, grease interceptor, monitoring facilities, metering facilities, and operating procedures. The review of the plans and procedures shall in no way relieve the Food Service Establishments of the responsibility of modifying the facilities or

procedures in the future, as necessary to produce an acceptable discharge, and to meet the requirements of this Ordinance or any requirements of other Regulatory Agencies; and a schematic drawing of the FOG control device, grease interceptor or other pretreatment equipment, piping and instrumentation diagram, and wastewater characterization report.

B. The District may require the drawings be prepared by a California Registered Civil, Chemical, Mechanical, or Electrical Engineer.

Section 4.30.100. GREASE INTERCEPTOR REQUIREMENTS

A. Food Service Establishment operators shall provide wastewater acceptable to the District, under the requirements and standards established herein before discharging to any public sewer. Any Food Service Establishment required to pretreat wastewater shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this Ordinance.

B. Grease interceptor sizing and installation shall conform to the current edition of the California Plumbing Code. Grease interceptors shall be constructed in accordance with the design approved by the FOG Control Program Manager and shall have a minimum of two compartments with fittings designed for grease retention.

C. The grease interceptor shall be installed at an exterior location where it shall be at all times easily accessible for inspection, cleaning, and removal of accumulated grease.

D. Access manholes, with a minimum diameter of 24 inches, shall be provided over each grease interceptor chamber and sanitary tee. The access manholes shall extend at least to finished grade and be designed and maintained to prevent water inflow or infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities.

E Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids.

F All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency approved by the FOG Control Program Manager pursuant to this section.

G No FOG that has accumulated in a grease interceptor shall be allowed to pass into any sewer lateral, sewer system, storm drain, or public right of way.

H. Food Service Establishment operators with grease interceptors may be required to submit data and information necessary to establish the maintenance frequency of grease interceptors.

I. The maintenance frequency for all Food Service Establishments with a grease interceptor shall be determined in one of the following methods:

1. Grease interceptors shall be fully pumped out and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total liquid depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available volume is maintained to effectively intercept and retain FOG discharged to the sewer system.

2. All Food Service Establishments with a Grease Interceptor shall maintain their grease interceptor not less than every 6 months. Grease interceptors shall be fully pumped out and cleaned quarterly when the frequency described in (1) has not been established. The maintenance frequency shall be adjusted when sufficient data have been obtained to establish an average frequency based on the requirements described in (1) and guidelines adopted pursuant to the FOG Control Program. The District may change the maintenance frequency at any time to reflect changes in actual operating conditions in accordance with the FOG Control Program. Based on the actual generation of FOG from the Food Service Establishment, the maintenance frequency may increase or decrease.

3. A Food Service Establishment operator may submit a request to the FOG Control Program Manager requesting a change in the maintenance frequency at any time. The operator has the responsibility to demonstrate that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements described in (1).

4. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the Food Service Establishment operator shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. If deemed necessary, the FOG Control Program Manager may also increase the maintenance frequency of the grease interceptor from the current frequency.

Section 4.30.110. GREASE TRAP REQUIREMENTS

A. Food Service Establishment operators may be required to install grease traps in the waste line leading from drains, sink, and other fixtures or equipment where grease may be introduced into the sewer system in quantities that can cause blockage.

B. Prior to receiving a City of Garden Grove Plumber's Permit, an applicant shall submit to the FOG Control Program Manager a stamped and signed copy of installation plans indicating that the Orange County Health Care Agency has approved the grease trap location.

C. Sizing and installation of grease traps shall conform to the current edition of the California Plumbing Code.

D. Grease traps shall be maintained in efficient operating conditions by removing accumulated grease at a frequency approved by the FOG Control Program Manager.

E. Grease traps shall be maintained free of all food residues and any FOG waste removed during the cleaning and scraping process.

F. Grease traps shall be inspected periodically to check for leaking seams and pipes, and for effective operation of the baffles and flow-regulating device. Grease traps and their baffles shall be maintained free of all caked-on FOG and waste. Removable baffles shall be removed and cleaned during the maintenance process.

G. Dishwashers and food grinder units shall not be connected to or discharged into any grease trap.

Section 4.30.120. MONITORING FACILITIES REQUIREMENTS

A. The District may require the Food Service Establishments to construct and maintain in proper operating condition at the Food Service Establishment's sole expense, flow monitoring, constituent monitoring and/or sampling facilities.

B. The location of the monitoring or metering facilities shall be subject to approval by the FOG Control Program Manager.

C. Food Service Establishments may be required to provide immediate, clear, safe and uninterrupted access to the FOG Control Program Manager or inspectors to the Food Service Establishment's monitoring and metering facilities.

D. Food Service Establishments may also be required by the FOG Control Program Manager to submit waste analysis plans, contingency plans, and meet other necessary requirements to ensure proper operation and maintenance of the grease control device and compliance with this Ordinance.

E. No Food Service Establishment shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the FOG Wastewater Discharge Permit.

Section 4.30.130. INSPECTION AND SAMPLING CONDITIONS

A. The FOG Control Program Manager may inspect or order the inspection and sample the wastewater discharges of any Food Service Establishment to ascertain compliance with this Ordinance. The owner shall allow the District access to the Food Service Establishment premises, during normal business hours, for purposes of inspecting the Food Service Establishment's grease control devices or interceptor, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices.

1. Right to Inspect. Prior to commencing any inspection as authorized in this section, the authorized inspector shall obtain either the consent of the owner or occupant of the property or shall obtain an administrative inspection warrant or criminal search warrant.

2. Entry to Inspect. The authorized inspector may enter property to investigate the source of any discharge to any public street, inlet, gutter, storm drain or the stormwater drainage system located within the jurisdiction of the city.

3. Compliance Assessments. The authorized inspector may inspect property for the purpose of verifying compliance with this ordinance, including but not limited to (i) identifying products produced, processes conducted, chemicals used and materials stored on or contained within the property, (ii) identifying point(s) of discharge of all wastewater, process water systems and pollutants, (iii) investigating the natural slope at the location, including drainage patterns and man-made conveyance systems, (iv) establishing the location of all points of discharge from the property, whether by sanitary sewer collection system, surface runoff or through a storm drain system, (v) locating any illicit connection or the source of prohibited discharge, (vi) evaluating compliance with any permit issued pursuant to Article 3 hereof.

4. Records Review. The authorized inspector may inspect all records of the owner or occupant of property relating to FOG Best Management Practices to include related chemicals or processes presently or previously occurring on-site, facilities maps or schematics and diagrams, pumping and/or grease hauler manifests or receipts pollution prevention plans, monitoring program plans and any other record(s) relating to unauthorized connections, prohibited discharges, or any other source of contribution or potential contribution of pollutants to the stormwater drainage system.

5. Sample and Test. The authorized inspector may inspect, sample and test any area runoff, soils area (including groundwater testing), process discharge, materials within any waste storage area (including any container contents), and/or treatment system discharge for the purpose of determining the potential for contribution of pollutants to the stormwater drainage system. The authorized inspector may investigate the integrity of all storm drain and sanitary sewer systems, any legal nonconforming connection or other pipelines on the property using appropriate tests, including but not limited to smoke and dye tests or video surveys. The authorized inspector may take photographs or videotape, make measurements or

drawings, and create any other record reasonably necessary to document conditions on the property.

Section 4.30.140. NOTIFICATION OF SPILL

A. When material discharged to the sewer has the potential to cause or result in sewer blockages or SSOs, the discharger shall immediately notify the local Health Department, City or County, and the District.

B. Confirmation of this notification shall be made in writing to the FOG Control Program Manager no later than five (5) working days from the date of the incident. The written notification shall state the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately correct the problem, and what steps are being taken to prevent the problem from recurring.

C. Such notification shall not relieve the discharger of any expense, loss, damage or other liability which may be incurred as a result of damage or loss to the District or any other damage or loss to person or property; nor shall such notification relieve the discharger of any fees or other liability which may be imposed by this Ordinance or other applicable law.

Section 4.30.150. ENFORCEMENT

A. Criminal Sanctions/General Penalty.

It is unlawful for any person, firm or corporation to violate any provision of this ordinance, including a failure of any party to comply with an order of the Program Manager. A violation of this ordinance shall constitute a misdemeanor; except that notwithstanding any other requirement of this ordinance, any violation constituting a misdemeanor herein, in the discretion of the District's legal counsel, or other authorized enforcement officer, may be charged and prosecuted as an infraction.

Any person, firm, corporation convicted of a misdemeanor shall be punished by a fine of note more than one thousand dollars ($1,000) or by imprisonment in the county jail for a period of not more than six (6) months, or by both such fine and imprisonment. Any person charged and convicted of an infraction under the provisions of this code is punishable pursuant to the fine schedule set forth in Government Code section 36900.

Each such person, firm, corporation shall be guilty of a separate offense for each and every day, during any portion of which, any violation of this code is committed, continued, or permitted by any such person, firm, corporation.

B. Nuisances/Civil Relief.

Any condition in violation of this Ordinance, including but not limited to the maintenance or use of any illicit connection or the occurrence of any prohibited discharge, shall constitute a threat to the public health, safety and welfare, and is declared and deemed a nuisance pursuant to Government Code section 38771.

Any continuing or repetitive violation of this ordinance is declared to be a public nuisance and the district's legal counsel or authorized legal representative is authorized to file an appropriate civil action, whether or not criminal proceedings have been commenced for the subject offense.

C. Costs of Abatement.

Pursuant to Health and Safety Code section 6523.3, the District is entitled to recover its costs incurred in taking any action to correct a violation of this ordinance. Such costs shall be added to any sewer service charge payable by any person violating this ordinance. The district shall have such remedies for the collection of such costs as it has for the collection of sewer service charges.

Section 4.30.160. DEFINITIONS

A. Unless otherwise defined herein, terms related to water quality shall be as adopted in the latest edition of Standard Methods for Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association and the Water Environment Federation. The testing procedures for waste constituents and characteristics shall be as provided in 40 CFR 136 (Code of Federal Regulations).

B. Other terms not herein defined are defined as being the same as set forth in the latest adopted applicable editions of the California Codes applicable to building construction.

C. Subject to the foregoing provisions, the following definitions shall apply in this Ordinance:

Best Management Practices(Structural and Non-Structural)	Schedules of activities, prohibitions of practices, maintenance procedures, installation of equipment, and other management practices to control and limit the introduction of FOG to sewer facilities.,
Board	The Board of Directors of the District.

Change in Operations	Any change in the ownership, food types, or operational procedures that have the potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively causes or creates a potential for SSOs to occur.
Composite Sample	A collection of individual samples obtained at selected intervals based on an increment of either flow or time. The resulting mixture (composite sample) forms a representative sample of the waste stream discharged during the sample period. Samples will be collected when a wastewater discharge occurs.
Discharger	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer and/or stormwater drain system. Discharger shall mean the same as User.
District	The Garden Grove Sanitary District.
Sewer Facility or System	Any property belonging to the District used in the treatment, reclamation, reuse, transportation, or disposal of wastewater.
Effluent	Any liquid outflow from the Food Service Establishment that is discharged.
Fats, Oils, and Grease ("FOG")	Any substance such as a vegetable or animal product that is used in, or is a by product of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.
FOG Control Program	The FOG Control Program required by and developed pursuant to RWQCB Order No. R8-2002-0014, Section (c)(12)(viii).

FOG Control Program Manager	The individual designated by the District to administer the FOG Control Program. The FOG Control Program Manager is responsible for all determinations of compliance with the program.
Food Service Establishment	Facilities defined in California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785, and any commercial entity within the boundaries of the District, operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in CURFFL Section 113785. A limited food preparation establishment is not considered a Food Service Establishment when engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.
Food Grinder	Any device installed in the plumbing or sewage system for the purpose of grinding food waste or food preparation by-products for the purpose of discharging it into the sanitary sewer collection system.

Grease Control Device	Any grease interceptor, grease trap or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap or collect or treat FOG prior to it being discharged into the sewer system. "Grease control device" may also include any other proven method to reduce FOG subject to the approval of the District.
Grease Interceptor	A multi-compartment device that is constructed in different sizes and is generally required to be located, according to the California Plumbing Code, underground between a Food Service Establishment and the connection to the sewer system. These devices primarily use gravity to separate FOG from the wastewater as it moves from one compartment to the next. These devices must be cleaned, maintained, and have the FOG removed and disposed of in a proper manner on regular intervals to be effective.
Grease Trap	A grease control device that is used to serve individual fixtures and have limited effect and should only be used in those cases where the use of a grease interceptor or other grease control device is determined to be impossible or impracticable.
General Manager	The individual duly designated by the Board of Directors of the District to administer this Ordinance.
Grab Sample	A sample taken from a waste stream on a one-time basis without regard to the flow in the waste stream and without consideration of time.
Hot Spots	Areas in sewer lines that have experienced sanitary sewer overflows resulting in the need for frequent maintenance and cleaning.

Inflow	Water entering a sewer system through a direct stormwater runoff connection to the sanitary sewer, which may cause an almost immediate increase in wastewater flows.
Infiltration	Water entering a sewer system, including sewer service connections, from the ground through such means as defective pipes, pipe joints, connections, or manhole walls.
Inspector	A person authorized by the District to inspect any existing or proposed wastewater generation, conveyance, processing, and disposal facilities.
Interceptor	A grease interceptor.
Interference	Any discharge which, alone or in conjunction with discharges from other sources, inhibits or disrupts the District's sewer system, treatment processes or operations; or is a cause of violation of the District's NPDES or Waste Discharge Requirements or prevents lawful sludge use or disposal.
Local Sewering Agency	Any public agency or private entity responsible for the collection and disposal of wastewater to the District's sewer facilities duly authorized under the laws of the State of California to construct and/or maintain public sewers.
NPDES	The National Pollutant Discharge Elimination System; the permit issued to control the discharge of liquids or other substances or solids to surface waters of the United States as detailed in Public Law 92-500, Section 402.
New Construction	Any structure planned or under construction for which a sewer connection permit has not been issued.
Person	Any individual, partnership, firm, association, corporation or public agency, including the State of California and the United States of America.

Prohibited Discharge	Any discharge which contains any pollutant, from public or private property to (i) the stormwater drainage system; (II) any upstream flow, which is tributary to the stormwater drain system; (III) any groundwater, river, stream, creek, wash or dry weather arroyo, wetlands area, march, coastal slough, or (iv) any coastal harbor, bay or the pacific Ocean.
Public Agency	The State of California and/or any city, county, special district, other local governmental authority or public body of or within this State.
Public Sewer	A sewer owned and operated by the District, or other local Public Agency, which is tributary to the District's sewer facilities.
Regulatory Agencies	Regulatory Agencies shall mean those agencies having regulatory jurisdiction over the operations of the District, including, but not limited to: a) United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA). b) California State Water Resources Control Board (SWRCB). c) California Regional Water Quality Control Board, Santa Ana Region (RWQCB). d) South Coast Air Quality Management District (SCAQMD). e) California Department of Health Services (DOHS).

Remodeling	A physical change or operational change causing generation of the amount of FOG that exceed the current amount of FOG discharge to the sewer system by the Food Service Establishment in an amount that alone or collectively causes or create a potential for SSOs to occur; or exceeding a cost of $50,000 to a Food Service Establishment that requires a building permit, and involves any one or combination of the following: (1) Under slab plumbing in the food processing area, (2) a 30% increase in the net public seating area, (3) a 30% increase in the size of the kitchen area, or (4) any change in the size or type of food preparation equipment.
Sample Point	A location approved by the District, from which wastewater can be collected that is representative in content and consistency of the entire flow of wastewater being sampled.
Sampling Facilities	Structure(s) provided at the user's expense for the District or user to measure and record wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.
Sewer System Overflow (SSO)	A sanitary sewer system overflow (SSO), or sewage spill, is each instance of a discharge of sewage from a sanitary sewer system.
Sewage	Wastewater.
Sewer Facilities or System	Any and all facilities used for collecting, conveying, pumping, treating, and disposing of wastewater and sludge.
Sewer Lateral	A building sewer as defined in the latest edition of the California Plumbing Code. It is the wastewater connection between the building's wastewater facilities and a public sewer system.

Sludge	Any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or pretreatment facility.
Stormwater Drainage System	Street gutter, channel, storm drain, constructed drain, lined diversion structure, wash area, inlet, outlet or other facility, which is part of or tributary to the county-wide stormwater runoff system and owned, operated, maintained or controlled by County of Orange, the Orange County Flood Control District or any city, and used for the purpose of collecting, storing, transporting or disposing of stormwater.
User	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer system. User shall mean the same as Discharger.
Waste	Sewage and any and all other waste substances, liquid, solid, gaseous or radioactive, associated with human habitation or of human or animal nature, including such wastes placed within containers of whatever nature prior to and for the purpose of disposal.
Manifest	That receipt which is retained by the generator of wastes for disposing recyclable wastes or liquid wastes as required by the District.
Waste Minimization Practices	Plans or programs intended to reduce or eliminate discharges to the sewer system or to conserve water, including, but not limited to, product substitutions, housekeeping practices, inventory control, employee education, and other steps as necessary to minimize wastewater produced.
Waste hauler	Any person carrying on or engaging in vehicular transport of waste as part of, or incidental to, any business for that purpose.
Wastewater	The liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.

Wastewater Constituents and Characteristics	The individual chemical, physical, bacteriological, and other parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of wastewater.

Section II. Effective Date

This Ordinance shall take effect immediately upon its adoption and a summary shall be published in a newspaper of general circulation as provided by law.

Adopted this 26th day of October 2004.

/s/ BRUCE A. BROADWATER
PRESIDENT

ATTEST:

/s/ RUTH E. SMITH
SECRETARY

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss:
CITY OF GARDEN GROVE)

I, RUTH E. SMITH, Secretary of the Garden Grove Sanitary District, hereby certify that the foregoing Ordinance was duly adopted by the Board of the Garden Grove Sanitary District at a meeting held on the 26th day of October 2004, by the following vote:

AYES: MEMBERS: (5) DALTON, LEYES, ROSEN, TRAN, BROADWATER
NOES: MEMBERS: (0) NONE
ABSENT: MEMBERS: (0) NONE

/s/ RUTH E. SMITH
SECRETARY

Appendix C-4

City of Anaheim Agreement

CITY OF ANAHEIM, CALIFORNIA
CIVIC CENTER, 200 South Anaheim Boulevard, Third Floor
Anaheim, California 92805

Office of
CITY ATTORNEY

Telephone:
714/999-5169

July 23, 1986

Garden Grove Sanitary District
Attention: President and
Board of Directors
11391 Acacia Parkway
P.O. Box 1437
Garden Grove, California 92642

Gentlemen:

Enclosed herewith is a completely executed copy of the Agreement between Garden Grove Sanitary District and the City of Anaheim.

The execution of said Agreement was approved by motion of the City Council of the City of Anaheim at their meeting held July 15, 1986.

Very truly yours,

Jack White

JACK L. WHITE
CITY ATTORNEY

Enclosure

cc: City Clerk
John Roche, Maintenace Dept.

1419V

CITY OF ANAHEIM, CALIFORNIA 92803
OFFICE OF THE CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ANAHEIM)

I, LEONORA N. SOHL, City Clerk of the City of Anaheim, do hereby certify that, upon a motion duly made and seconded, the attached Agreement for Joint Use and Maintenance of Sewerage Facilities was approved by the City Council of the City of Anaheim at a regular meeting of said City Council held on the 8th day of July, 1986.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Anaheim this 8th day of July, 1986.

Leonora N. Sohl
CITY CLERK OF THE CITY OF ANAHEIM

(SEAL)

200 South Anaheim Boulevard, P. O. Box 3222, (714) 999-5166

AGREEMENT FOR JOINT USE AND MAINTENANCE OF SEWERAGE FACILITIES

THIS AGREEMENT FOR JOINT USE AND MAINTENANCE OF SEWERAGE FACILITIES, dated solely for identification this 8th day of July, 1986, is made and entered into by and between the

CITY OF ANAHEIM, a municipal corporation, hereinafter referred to as "CITY."

A
N
D

GARDEN GROVE SANITARY DISTRICT, a public body, corporate and politic, hereinafter referred to as "DISTRICT,"

W I T N E S S E T H:

WHEREAS, by Resolution No. 86-37, the Local Agency Formation Commission of Orange County (LAFCO) approved Reorganization No. 82 detaching approximately 1,163 acres of property within the City of Anaheim (CITY) from the Garden Grove Sanitary District (DISTRICT); and

WHEREAS, pursuant to the detachment, DISTRICT transferred to CITY all fixed assets and facilities of DISTRICT in the detaching area; and

WHEREAS, Resolution No. 86-37 calls for CITY to retain capacity rights in certain DISTRICT facilities to transport waste water from the detaching areas to the Orange County Sanitation District's facilities; and

WHEREAS, because capacity rights in certain DISTRICT facilities will be shared by DISTRICT and CITY, it is in the best interests of both parties to enter into an agreement to provide for the cost sharing of maintenance, repair and replacement of existing

OFFICE OF
CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

sewers in which DISTRICT and CITY will share capacity rights and to provide for expanded capacity where necessary in the future to transport the combined ultimate wastewater flows from portions of DISTRICT and CITY to the Orange County Sanitation District facilities.

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE MUTUAL PROMISES, COVENANTS AND CONDITIONS HEREIN CONTAINED, THE PARTIES HERETO AGREE AS FOLLOWS:

A. SHARED SEWER'S CAPACITY

1. DISTRICT hereby grants to CITY capacity rights in amounts as will be established below, the locations of which are shown in Exhibit "A" attached hereto and made a part hereof by this reference. DISTRICT and CITY agree to use said sewers only to transport wastewater from those portions of the detaching area of CITY within the tributary area shown as crosshatched or shaded in Exhibit "A."

2. When DISTRICT determines by field measurements that a portion of a shared sewer is flowing at capacity, as defined below, it shall immediately notify CITY in writing, setting forth the limits, the measured flow, and the depth of the peak flow. The shared sewers or portions thereof shall be deemed to be at capacity when the measured daily peak flow has a depth equal to seventy-five percent (75%) of the sewer diameter.

Upon determination and notification that a sewer is at capacity, both parties shall take actions necessary to cease issuance of any additional sewer connection permits to any tributary sewer or to appropriately condition issuance of the permits to mitigate additional outflow. The cessation of issuance

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ANAHEIM, CALIFORNIA 92805
(714) 999-5169

of sewer connection permits shall continue in force until additional sewer capacity has been constructed as provided for herein. Any conditionally issued permit shall provide that any outflow shall not increase the amount of total outflow in the particular shared sewer.

3. CITY's percentage of capacity in the shared sewers is based upon the current level of outflow of the detaching area and anticipated increased outflow based upon the current land use designations and densities of the detaching area. In the event CITY approves any development which will change the land use designation or permit a higher density which would create an increased outflow over that currently existing or anticipated, CITY agrees to impose a condition of approval on that development so as to mitigate the impact of the increased outflow on the shared sewer.

4. DISTRICT also recognizes that changes in land use and increased densities in its service area can impact the capacities of the shared sewers. Therefore, DISTRICT agrees that for any development in its service area which would increase densities or change land use so as to create an increased outflow into any shared sewer over that currently existing or is anticipated, it will impose a condition upon any connection permit to its system so as to mitigate the impact of increased outflow on a shared sewer.

B. MAINTENANCE, REPAIR AND REPLACEMENT OF SHARED SEWERS

1. Attached hereto and made a part hereof by the reference is Exhibit B which lists each shared sewer and the agreed percentage of current use by DISTRICT and CITY. As shown on Exhibit "B," DISTRICT and CITY share capacities in each shared

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CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

sewer in different ratios based upon the respective land areas and land uses currently existing in the areas served by each shared sewer. DISTRICT and CITY agree to share the cost of maintenance and upkeep of the shared sewers based upon the ratios of each shared sewer as shown on Exhibit "B." DISTRICT shall be responsible for the regular inspection, upkeep, maintenance and repair of the shared sewers and shall, on a regular interval acceptable to DISTRICT and CITY, invoice CITY for its percentage of that cost based upon the ratios set forth in Exhibit "B" and the schedule of costs set for in Exhibit "C" which is attached hereto and made a part hereof by this reference.

2. When DISTRICT determines that a portion of a shared sewer is in need of extraordinary repair, it shall immediately notify CITY in writing, setting forth a description and schedule of repair or replacement and the estimated cost thereof. Unless the work is required to abate an immediate public health problem DISTRICT and CITY shall work together to arrange for financing in the normal budgetary process. Work required to abate an immediate public health problem shall be commenced as reasonably practicable. DISTRICT agrees to consult with CITY, whenever practicable, before beginning emergency repairs. The cost of repair or replacement of each shared line shall be apportioned to each party as set forth in Exhibit "B." The total cost shall include engineering, administration and construction expenses. Prior to starting the repair or replacement work, DISTRICT shall bill CITY for its apportioned share. CITY shall promptly deposit the billed amount. Upon completion of the work and payment of all costs, DISTRICT shall submit a report setting forth all costs

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(714) 999-5109

incurred together with either a bill, or a refund for the difference between the actual apportioned cost and the deposit.

3. If, within thirty (30) days after notification, CITY disagrees with the necessity or estimated cost or apportionment of the cost of the repair or replacement, it shall so notify the other party in writing. If the parties are unable to agree upon the need or cost of the repair or replacement, either party may initiate legal proceedings to determine each party's rights and obligations.

4. Nothing in this Agreement shall prohibit CITY from constructing alternative connections of the facilities in the detaching area to existing CITY-owned sewers, thereby eliminating the necessity for CITY's use of some or all of the shared sewers. If CITY chooses to make such connections, it shall give DISTRICT reasonable notice of its intentions, along with an anticipated date of completion. Upon cessation of the need of CITY for use of any shared sewer, the parties shall amend this Agreement to delete or modify the exhibit of shared sewers, or as otherwise appropriate. If CITY chooses to withdraw all or part of the detaching area from service or a shared sewer at or after receipt of a notice of need for extraordinary repairs as set forth above, it may do so in lieu of contributing to the cost of repairs not yet made, provided that the alternate connection is complete and the area served by the shared sewer no longer discharges outflow into the shared sewer on or before the time the extraordinary repairs are complete. If at all practicable, CITY shall coordinate its alternate sewer connection with DISTRICT's extraordinary repairs.

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CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

5. All repair and replacement work shall be done in accordance with applicable laws, ordinance and charter provisions related to public works projects.

C. GENERAL PROVISIONS

1. Each party hereto agrees to indemnify, defend and hold harmless the other contracting party, its officers, agents, employees and representatives from and against all claims, demands and actions in connection with the negligent or willful misconduct of the indemnifying party, its officers, agents, employees and representatives in the performance of this Agreement.

2. This writing constitutes the entire agreement between the parties with respect to the subject matter hereof, and supersedes all oral or written representations or written agreements which may have been entered into between the parties. No modification or revision shall be of any force or effect, unless the same is in writing and executed by the parties hereto.

If any provision of this Agreement shall be held invalid, such invalidity shall not affect the other provisions hereof, and to this extent, the provisions of this Agreement are intended to be and shall be deemed severable. The parties shall agree, if reasonably practicable, upon provisions which are equivalent from an economic point of view to replace any provision which is determined to be invalid.

3. Notices and communication concerning this Agreement shall be sent to the following addresses:

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OFFICE OF THE CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

ANAHEIM

City of Anaheim
Attention: City Clerk
200 S. Anaheim Boulevard
Anaheim, California 92805

DISTRICT

Garden Grove Sanitary District
Attention: President and
Board of Directors
11391 Acacia Parkway
P.O. Box 1437
Garden Grove, California 92642

The effective date of this Agreement shall be the later of the effective date of Reorganization No. 82 or the date of final execution of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the dates hereinafter respectively set forth.

CITY OF ANAHEIM, a municipal corporation,

By _____
Mayor

DATE OF EXECUTION:
July 9 1986

ATTEST:
_____
City Clerk

"CITY"

GARDEN GROVE SANITARY DISTRICT, a public body, corporate and politic

By _____
President

DATE OF EXECUTION:

_____

By _____
Secretary

"DISTRICT"

APPROVED AS TO FORM:

OFFICE OF THE ANAHEIM CITY ATTORNEY

By _____

Date 10/23/86

JWF:lm/5323M

061986

OFFICE OF THE CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

EXHIBIT "B"

SHARED SEWERS	LENGTH
Chapman Avenue - 9th Street to Jetty Drive (9600'±)	9600'
Haster Street - Chapman Avenue to Simmons Avenue (1300'±)	1300'
West Street - Orangewood Avenue to 150' N/o Rickey Avenue (1000'±)	1000'
Jacalene Lane - Orangewood Avenue to 150' N/o Rickey Avenue (1000'±)	1000'
Chapman Avenue - Euclid Avenue to Waverly Drive (2150'±)	2150'
Loara Street - Chapman Avenue to 1300' N/o Chapman Avenue (1300'±)	1300'
Della Lane - Chapman Avenue to 200' S/o Ord Way (1300'±)	1300'
Chapman Avenue - Magnolia Avenue to Brookhurst Street (5200'±)	5200'
Brookhurst Street - Chapman Avenue to Katella Avenue (5200'±)	5200'
Katella Avenue - Magnolia Avenue to Endry Street (2000'±)	2600'
Decker Street - Endry Street to 150' E/o Jean Street (1200'±)	1200'
Crestwood Lane - Endry Street to 150' E/o Jean Street (1150'±)	1150'
Pacific Avenue - Magnolia Avenue to Brookhurst Street (5100'±)	5100'
Cerritos Avenue - Gilbert Avenue to Brookhurst Street (2600'±)	2600'
Gilbert Street - Cerritos Avenue to Mystic Lane (3300'±)	3300'
Endry Street - Katella Avenue to Crestwood Lane (1150'±)	1150'
Waverly Drive - Chapman Avenue to 150' S/o Lorane Way (2000'±)	2000'
Cerritos - Magnolia Avenue to 1150' Easterly (1150'±)	1150'
TOTAL LENGTH OF SHARED SEWERS	48,300'

EXHIBIT "B"

SHARED SEWERS - MAINTENANCE COST REIMBURSEMENT

Percentage of flow for shared sewers is based upon overall percentage of Anaheim's flow compared to the total of Anaheim's flow plus Garden Grove Sanitary District's flow.

Anaheim's percentage of flow is defined as the calculated flow derived from that area within the City of Anaheim formerly a part of the Garden Grove Sanitary District tributary to the shared sewer.

District's percentage of flow is defined as the calculated flow derived from the Garden Grove Sanitary District tributary to the shared sewer.

G.G.S.D. Flow	-	3,096,053	
Anaheim Flow	-	2,042,045	
TOTAL FLOW	-	5,138,098	GAL/DAY (GPD)

Anaheim Share

$$\frac{2,042,045}{5,138,098} = 39.75\%$$

Garden Grove Sanitary District Share

$$\frac{3,096,053}{5,138,098} = 60.25\%$$

EXHIBIT "B"

Flow Outside City of Anaheim
(Garden Grove Sanitary District Area)

ZONING	NO.ACRES	FLOW COEFFICIENTS GPD/ACRE	GPD
Low Density Residential	1,412.92	1550	2,190,026
Medium Density Residential	128.10	3880	497,028
Commercial	122.37	3230	395,255
Recreational/ Open Space	68.72	200	13,744
TOTALS	1,732.11		3,096,053

Flow Inside City of Anaheim
(Formerly part of Garden Grove Sanitary District)

ZONING	NO.ACRES	FLOW COEFFICIENTS GPD/ACRE	GPD
Low Density Residential	910.33	1550	1,411,011
Medium Density Residential	48.22	3880	187,094
Commercial	133.02	3230	429,654
Recreational/ Open Space	71.43	200	14,286
TOTALS	1,163.00		2,042,045

EXHIBIT "C"

MAINTENANCE COST

48,300 L.F. of Shared Sewers

Maintenance Cost @ $.06/lineal foot (1986)

(Maintenance cost to be adjusted annually per C.P.I. - All Urban Customers - Los Angeles - Long Beach - Anaheim average)

Total Maintenance Cost

(48,300) (.06) = $2,898

Anaheim Share

(.3975) ($2,898) = $1,152

Garden Grove Sanitary District Share

(.6025) ($2,898) = $1,746

1986 = 111.9
1996 = 157.5
1997 = 159.5

Base = .054 .053643 .085111

CUUSA421SAD

OFFICE OF CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

AGREEMENT FOR JOINT USE AND MAINTENANCE OF SEWERAGE FACILITIES

THIS AGREEMENT FOR JOINT USE AND MAINTENANCE OF SEWERAGE FACILITIES, dated solely for identification this 8th day of July, 1986, is made and entered into by and between the

CITY OF ANAHEIM, a municipal corporation, hereinafter referred to as "CITY."

A
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D

GARDEN GROVE SANITARY DISTRICT, a public body, corporate and politic, hereinafter referred to as "DISTRICT,"

W I T N E S S E T H:

WHEREAS, by Resolution No. 86-37, the Local Agency Formation Commission of Orange County (LAFCO) approved Reorganization No. 82 detaching approximately 1,163 acres of property within the City of Anaheim (CITY) from the Garden Grove Sanitary District (DISTRICT); and

WHEREAS, pursuant to the detachment, DISTRICT transferred to CITY all fixed assets and facilities of DISTRICT in the detaching area; and

WHEREAS, Resolution No. 86-37 calls for CITY to retain capacity rights in certain DISTRICT facilities to transport waste water from the detaching areas to the Orange County Sanitation District's facilities; and

WHEREAS, because capacity rights in certain DISTRICT facilities will be shared by DISTRICT and CITY, it is in the best interests of both parties to enter into an agreement to provide for the cost sharing of maintenance, repair and replacement of existing

ORIGINAL

sewers in which DISTRICT and CITY will share capacity rights and to provide for expanded capacity where necessary in the future to transport the combined ultimate wastewater flows from portions of DISTRICT and CITY to the Orange County Sanitation District facilities.

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE MUTUAL PROMISES, COVENANTS AND CONDITIONS HEREIN CONTAINED, THE PARTIES HERETO AGREE AS FOLLOWS:

A. SHARED SEWER'S CAPACITY

1. DISTRICT hereby grants to CITY capacity rights in amounts as will be established below, the locations of which are shown in Exhibit "A" attached hereto and made a part hereof by this reference. DISTRICT and CITY agree to use said sewers only to transport wastewater from those portions of the detaching area of CITY within the tributary area shown as crosshatched or shaded in Exhibit "A."

2. When DISTRICT determines by field measurements that a portion of a shared sewer is flowing at capacity, as defined below, it shall immediately notify CITY in writing, setting forth the limits, the measured flow, and the depth of the peak flow. The shared sewers or portions thereof shall be deemed to be at capacity when the measured daily peak flow has a depth equal to seventy-five percent (75%) of the sewer diameter.

Upon determination and notification that a sewer is at capacity, both parties shall take actions necessary to cease issuance of any additional sewer connection permits to any tributary sewer or to appropriately condition issuance of the permits to mitigate additional outflow. The cessation of issuance

OFFICE OF THE CITY ATTORNEY
CITY OF ANAHEIM
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ANAHEIM, CALIFORNIA 92805
(714) 999-5169

of sewer connection permits shall continue in force until additional sewer capacity has been constructed as provided for herein. Any conditionally issued permit shall provide that any outflow shall not increase the amount of total outflow in the particular shared sewer.

3. CITY's percentage of capacity in the shared sewers is based upon the current level of outflow of the detaching area and anticipated increased outflow based upon the current land use designations and densities of the detaching area. In the event CITY approves any development which will change the land use designation or permit a higher density which would create an increased outflow over that currently existing or anticipated, CITY agrees to impose a condition of approval on that development so as to mitigate the impact of the increased outflow on the shared sewer.

4. DISTRICT also recognizes that changes in land use and increased densities in its service area can impact the capacities of the shared sewers. Therefore, DISTRICT agrees that for any development in its service area which would increase densities or change land use so as to create an increased outflow into any shared sewer over that currently existing or is anticipated, it will impose a condition upon any connection permit to its system so as to mitigate the impact of increased outflow on a shared sewer.

B. MAINTENANCE, REPAIR AND REPLACEMENT OF SHARED SEWERS

1. Attached hereto and made a part hereof by the reference is Exhibit B which lists each shared sewer and the agreed percentage of current use by DISTRICT and CITY. As shown on Exhibit "B," DISTRICT and CITY share capacities in each shared

OFFICE OF T. ~ Y ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

sewer in different ratios based upon the respective land areas and land uses currently existing in the areas served by each shared sewer. DISTRICT and CITY agree to share the cost of maintenance and upkeep of the shared sewers based upon the ratios of each shared sewer as shown on Exhibit "B." DISTRICT shall be responsible for the regular inspection, upkeep, maintenance and repair of the shared sewers and shall, on a regular interval acceptable to DISTRICT and CITY, invoice CITY for its percentage of that cost based upon the ratios set forth in Exhibit "B" and the schedule of costs set for in Exhibit "C" which is attached hereto and made a part hereof by this reference.

2. When DISTRICT determines that a portion of a shared sewer is in need of extraordinary repair, it shall immediately notify CITY in writing, setting forth a description and schedule of repair or replacement and the estimated cost thereof. Unless the work is required to abate an immediate public health problem DISTRICT and CITY shall work together to arrange for financing in the normal budgetary process. Work required to abate an immediate public health problem shall be commenced as reasonably practicable. DISTRICT agrees to consult with CITY, whenever practicable, before beginning emergency repairs. The cost of repair or replacement of each shared line shall be apportioned to each party as set forth in Exhibit "B." The total cost shall include engineering, administration and construction expenses. Prior to starting the repair or replacement work, DISTRICT shall bill CITY for its apportioned share. CITY shall promptly deposit the billed amount. Upon completion of the work and payment of all costs, DISTRICT shall submit a report setting forth all costs

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ANAHEIM, CALIFORNIA 92805
(714) 999-5169

incurred together with either a bill, or a refund for the difference between the actual apportioned cost and the deposit.

3. If, within thirty (30) days after notification, CITY disagrees with the necessity or estimated cost or apportionment of the cost of the repair or replacement, it shall so notify the other party in writing. If the parties are unable to agree upon the need or cost of the repair or replacement, either party may initiate legal proceedings to determine each party's rights and obligations.

4. Nothing in this Agreement shall prohibit CITY from constructing alternative connections of the facilities in the detaching area to existing CITY-owned sewers, thereby eliminating the necessity for CITY's use of some or all of the shared sewers. If CITY chooses to make such connections, it shall give DISTRICT reasonable notice of its intentions, along with an anticipated date of completion. Upon cessation of the need of CITY for use of any shared sewer, the parties shall amend this Agreement to delete or modify the exhibit of shared sewers, or as otherwise appropriate. If CITY chooses to withdraw all or part of the detaching area from service or a shared sewer at or after receipt of a notice of need for extraordinary repairs as set forth above, it may do so in lieu of contributing to the cost of repairs not yet made, provided that the alternate connection is complete and the area served by the shared sewer no longer discharges outflow into the shared sewer on or before the time the extraordinary repairs are complete. If at all practicable, CITY shall coordinate its alternate sewer connection with DISTRICT's extraordinary repairs.

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OFFICE OF THE CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

5. All repair and replacement work shall be done in accordance with applicable laws, ordinance and charter provisions related to public works projects.

C. GENERAL PROVISIONS

1. Each party hereto agrees to indemnify, defend and hold harmless the other contracting party, its officers, agents, employees and representatives from and against all claims, demands and actions in connection with the negligent or willful misconduct of the indemnifying party, its officers, agents, employees and representatives in the performance of this Agreement.

2. This writing constitutes the entire agreement between the parties with respect to the subject matter hereof, and supersedes all oral or written representations or written agreements which may have been entered into between the parties. No modification or revision shall be of any force or effect, unless the same is in writing and executed by the parties hereto.

If any provision of this Agreement shall be held invalid, such invalidity shall not affect the other provisions hereof, and to this extent, the provisions of this Agreement are intended to be and shall be deemed severable. The parties shall agree, if reasonably practicable, upon provisions which are equivalent from an economic point of view to replace any provision which is determined to be invalid.

3. Notices and communication concerning this Agreement shall be sent to the following addresses:

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OFFICE OF THE CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

ANAHEIM	DISTRICT
City of Anaheim Attention: City Clerk 200 S. Anaheim Boulevard Anaheim, California 92805	Garden Grove Sanitary District Attention: President and Board of Directors 11391 Acacia Parkway P.O. Box 1437 Garden Grove, California 92642

The effective date of this Agreement shall be the later of the effective date of Reorganization No. 82 or the date of final execution of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the dates hereinafter respectively set forth.

CITY OF ANAHEIM, a municipal corporation,

By _____
Mayor

ATTEST:

_____
City Clerk

"CITY"

DATE OF EXECUTION:

July 9 1986

GARDEN GROVE SANITARY DISTRICT, a public body, corporate and politic

By _____
President

By _____
Secretary

"DISTRICT"

DATE OF EXECUTION:

_____

APPROVED AS TO FORM:

OFFICE OF THE ANAHEIM CITY ATTORNEY

By _____

Date 6/23/86

JWF:lm/5323M

061986

OFFICE OF THE CITY ATTORNEY
CITY OF ANAHEIM
200 S. ANAHEIM BOULEVARD, SUITE 356
ANAHEIM, CALIFORNIA 92805
(714) 999-5169

EXHIBIT "B"

SHARED SEWERS	LENGTH
Chapman Avenue - 9th Street to Jetty Drive (9600'±)	9600'
Haster Street - Chapman Avenue to Simmons Avenue (1300'±)	1300'
West Street - Orangewood Avenue to 150' N/o Rickey Avenue (1000'±)	1000'
Jacalene Lane - Orangewood Avenue to 150' N/o Rickey Avenue (1000'±)	1000'
Chapman Avenue - Euclid Avenue to Waverly Drive (2150'±)	2150'
Loara Street - Chapman Avenue to 1300' N/o Chapman Avenue (1300'±)	1300'
Della Lane - Chapman Avenue to 200' S/o Ord Way (1300'±)	1300'
Chapman Avenue - Magnolia Avenue to Brookhurst Street (5200'±)	5200'
Brookhurst Street - Chapman Avenue to Katella Avenue (5200'±)	5200'
Katella Avenue - Magnolia Avenue to Endry Street (2000'±)	2600'
Decker Street - Endry Street to 150' E/o Jean Street (1200'±)	1200'
Crestwood Lane - Endry Street to 150' E/o Jean Street (1150'±)	1150'
Pacific Avenue - Magnolia Avenue to Brookhurst Street (5100'±)	5100'
Cerritos Avenue - Gilbert Avenue to Brookhurst Street (2600'±)	2600'
Gilbert Street - Cerritos Avenue to Mystic Lane (3300'±)	3300'
Endry Street - Katella Avenue to Crestwood Lane (1150'±)	1150'
Waverly Drive - Chapman Avenue to 150' S/o Lorane Way (2000'±)	2000'
Cerritos - Magnolia Avenue to 1150' Easterly (1150'±)	1150'
TOTAL LENGTH OF SHARED SEWERS	48,300'

EXHIBIT "B"

SHARED SEWERS - MAINTENANCE COST REIMBURSEMENT

Percentage of flow for shared sewers is based upon overall percentage of Anaheim's flow compared to the total of Anaheim's flow plus Garden Grove Sanitary District's flow.

Anaheim's percentage of flow is defined as the calculated flow derived from that area within the City of Anaheim formerly a part of the Garden Grove Sanitary District tributary to the shared sewer.

District's percentage of flow is defined as the calculated flow derived from the Garden Grove Sanitary District tributary to the shared sewer.

G.G.S.D. Flow	-	3,096,053	
Anaheim Flow	-	2,042,045	
TOTAL FLOW	-	5,138,098	GAL/DAY (GPD)

Anaheim Share

$$\frac{2,042,045}{5,138,098} = 39.75\%$$

Garden Grove Sanitary District Share

$$\frac{3,096,053}{5,138,098} = 60.25\%$$

EXHIBIT "B"

Flow Outside City of Anaheim
(Garden Grove Sanitary District Area)

ZONING	NO.ACRES	FLOW COEFFICIENTS GPD/ACRE	GPD
Low Density Residential	1,412.92	1550	2,190,026
Medium Density Residential	128.10	3880	497,028
Commercial	122.37	3230	395,255
Recreational/ Open Space	68.72	200	13,744
TOTALS	1,732.11		3,096,053

Flow Inside City of Anaheim
(Formerly part of Garden Grove Sanitary District)

ZONING	NO.ACRES	FLOW COEFFICIENTS GPD/ACRE	GPD
Low Density Residential	910.33	1550	1,411,011
Medium Density Residential	48.22	3880	187,094
Commercial	133.02	3230	429,654
Recreational/ Open Space	71.43	200	14,286
TOTALS	1,163.00		2,042,045

MAINTENANCE COST

48,300 L.F. of Shared Sewers

Maintenance Cost @ $.06/lineal foot (1986)

(Maintenance cost to be adjusted annually per C.P.I. - All Urban Customers - Los Angeles - Long Beach - Anaheim average)

Total Maintenance Cost

(48,300) (.06) = $2,898

Anaheim Share

(.3975) ($2,898) = $1,152

Garden Grove Sanitary District Share

(.6025) ($2,898) = $1,746

Appendix C-5

City of Orange Agreement

RECORDING REQUESTED BY
and mail to:
CITY OF ORANGE - Subdivision Section
300 East Chapman Avenue
Orange, California 92666

EXEMPT PER GOV'T
code 6103

AGREEMENT

THIS AGREEMENT, entered into this 15th day of July, 1985, by and between the CITY OF ORANGE, a municipal corporation, hereinafter referred to as "CITY", and the GARDEN GROVE SANITARY DISTRICT, a public corporation, hereinafter referred to as "DISTRICT".

WITNESSETH:

WHEREAS, the DISTRICT currently operates and maintains sewer lines within the corporate boundaries of the CITY, more particularly described as Area "A" and Area "B" as shown on the map of Exhibit "B", hereto attached and made a part of.

WHEREAS, said sewer lines shall be relinquished to the CITY by the DISTRICT as prescribed by the Orange County Board of Supervisors in Resolution No. 84-1806, marked Exhibit"A", hereto attached and made a part of.

WHEREAS, the subject area is now classified as a low density residential area.

WHEREAS, the Ultimate Land Use Plan of the Orange County Sanitation District designates the subject area as high density residential.

NOW, THEREFORE, IT IS AGREED by and between the CITY and DISTRICT as follows:

1. ONE YEAR AFTER THE FILING of the Notice of Completion of Orange County Reorganization No. 66 by the County, the DISTRICT shall relinquish subject sewer lines to the CITY. The DISTRICT shall remain responsible for the maintenence and operation of said lines until acceptance of the lines by the CITY.

AFTER ACCEPTANCE of subject sewer lines, the CITY shall become responsible for the maintenence and operation of said lines, and the CITY shall relieve

the DISTRICT of all responsibility for future maintenence of the subject lines.

3. THE CITY HEREBY GRANTS TO THE DISTRICT, capacity rights of 140,000 gallons per day for the lines in Area "C" of Exhibit "B" for current capacities at peak flows.

4. THE CITY also hereby waives any cash payment for said capacity rights and future maintenence of said lines.

5. THE DISTRICT hereby grants to the CITY capacity rights of 280,000 gallons per day for the lines in Area "A" and Area "B" of Exhibit "B", in addition to the flow from Area "C" for current capacities at peak flows.

6. THE DISTRICT also hereby waives any cash payment for said capacity rights and future maintenence of said lines.

7. THE DISTRICT hereby agrees to construct an adequate sewer line at the southern-most intersecting point of Area "A" and Area "B" in order to connect Area"B" into the Orange County Sanitation District trunk sewer at the intersection of Chapman Avenue and Lewis Street. The cost of engineering, administration, and construction of said line shall be paid by the DISTRICT. After visual inspection of the existing lines by the CITY, the DISTRICT agrees to perform the necessary repairs, if any, to restore the lines to proper operation.

8. THE DISTRICT also hereby agrees to construct the abovementioned line and make the abovementioned repairs prior to acceptance of the lines by the CITY.

9. THE CITY agrees that upon completion of said line, the capacity rights of the CITY be reduced to 205,000 gallons per day, not including the flow from Area "C".

10. THE CITY further agrees to place a condition of approval upon any future development along the southern boundary of Area "A" to construct a new sewer along the frontage of the development which would reverse the flow back to the Orange County Sanitation District trunk sewer at Chapman Avenue and Lewis ST.

11. IT IS AGREED by and between the CITY and the DISTRICT that upon completion of each segment of sewer line and as the flow into the DISTRICT'S line dimenishes, that the capacity rights in said line be reduced accordingly by separate instrument.

12. IT IS FURTHER AGREED by and between the CITY and the DISTRICT that the capacity rights granted to the DISTRICT for Area "C" be reserved after Area "A" and Area "B" have been removed from the DISTRICT'S sewer system, until which time as Area "C" is removed from the system or the lines relinquished to the City of Anaheim.

IN WITNESS WHEREOF, THE CITY OF ORANGE has caused this agreement to be executed by the Mayor of the City Council on the day and year above first written and attested to by the Clerk of the City.

CITY OF ORANGE, a municipal corporation

By: _____
JAMES BEAM, mayor

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss

On this _____ day of _____, in the year 1985, before me, Marilyn Jensen, City Clerk of the City of Orange, personally appeared James Beam, personally known to me to be the person who executed this instrument as Mayor of the City of Orange, and acknowledged to me that the City of Orange executed the same.

Marilyn J Jensen
Marilyn Jensen, City Clerk of Orange

GARDEN GROVE SANITARY DISTRICT,
a public corporation

By: Robert H. Main
Robert H. Main, president

By: Sheldon S. Singer
Sheldon S. Singer, secretary

By: Ronald D. Cates
Ronald D. Cates, Witness

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss

STATE OF CALIFORNIA
COUNTY OF Orange } ss.

On June 7, 1985, before me, the undersigned, a Notary Public in and for said State, personally appeared Ronald D. Cates, personally known to me (or proved to me on the basis of the oath of _____, a credible witness who is personally known to me) to be the person whose name is subscribed to the within instrument, as a witness thereto, who being by me duly sworn, deposed and said: That he/~~she~~ resides in 1712 Birchfield Dr., Tustin, California, that he/~~she~~ was present and saw Robert H. Main, President and Sheldon S. Singer, Secretary, personally known to him/her to be the same person(s) described in and who executed the within instrument, as a party(ies) thereto, sign, seal and deliver the same and that said party(ies) duly acknowledged in the presence of said affiant, that he/she/they executed the same, and that said affiant, thereupon at the party's(ies') request, subscribed his/her name as a witness thereto.

Garden Grove Sanitary District

OFFICIAL SEAL
LUPE CHANGALA-GARCIA
NOTARY PUBLIC-CALIFORNIA
ORANGE COUNTY
My Commission Expires Aug. 23, 1988

WITNESS my hand and official seal.

Signature Lupe Changala-Garcia

(This area for official notarial seal)

3000 (6/82) — (Witness) — American Title Company

Approved as to form:

Lee R. Mineklew
(Assistant) City Attorney

GARDEN GROVE SANITARY DISTRICT,
a public corporation

By: _____
Robert H. Main, president

By: _____
Sheldon S. Singer, secretary

By: _____
Ronald D. Cates, Witness

STATE OF CALIFORNIA)
) ss
COUNTY OF ORANGE)

On this _____ day of _____, 1985, before me, _____, a notary public in and for said State, personally appeared _____ and _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the President and Secretary, respectively, of the Garden Grove Sanitary District, the public corporation that executed the within instrument on behalf of said corporation and acknowledged to me that such corporation executed the same.

My commission expires _____. Witness my hand and official seal.

_____
Notary Public in and for said State

Approved as to form:

_____
(Assistant) City Attorney

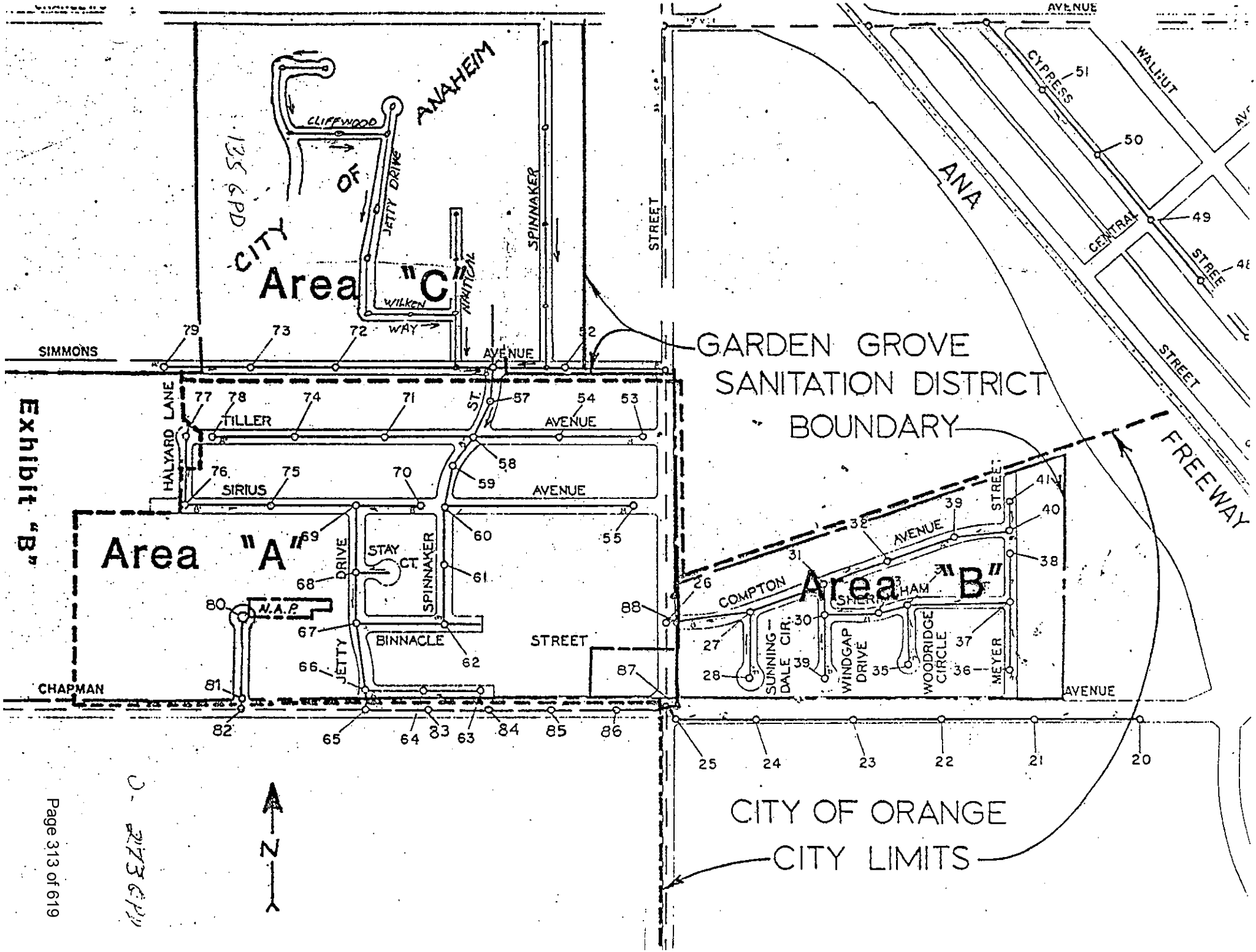
Exhibit "B"
CITY OF ANAHEIM
Area "C"
Area "A"
Area "B"
GARDEN GROVE SANITATION DISTRICT BOUNDARY
CITY OF ORANGE CITY LIMITS
FREEWAY
ANA
CLIFFWOOD
JETTY DRIVE
SPINNAKER
WILKEN WAY
NAUTICAL
STREET
SIMMONS
AVENUE
HALYARD LANE
TILLER
SIRIUS
STAY CT.
DRIVE
BINNACLE
JETTY
N.A.P.
CHAPMAN
COMPTON
SUNNINGDALE CIR.
WINDGAP DRIVE
WOODRIDGE CIRCLE
MEYER
CYPRESS
WALNUT
CENTRAL
N

RECORDING REQUESTED BY
and mail to:
CITY OF ORANGE - Subdivision Section
300 East Chapman Avenue
Orange, California 92666

EXEMPT PER GOV'T
code 6103

AGREEMENT

THIS AGREEMENT, entered into this 15th day of July, 1985, by and between the CITY OF ORANGE, a municipal corporation, hereinafter referred to as "CITY", and the GARDEN GROVE SANITARY DISTRICT, a public corporation, hereinafter referred to as "DISTRICT".

WITNESSETH:

WHEREAS, the DISTRICT currently operates and maintains sewer lines within the corporate boundaries of the CITY, more particularly described as Area "A" and Area "B" as shown on the map of Exhibit "B", hereto attached and made a part of.

WHEREAS, said sewer lines shall be relinquished to the CITY by the DISTRICT as prescribed by the Orange County Board of Supervisors in Resolution No. 84-1806, marked Exhibit"A", hereto attached and made a part of.

WHEREAS, the subject area is now classified as a low density residential area.

WHEREAS, the Ultimate Land Use Plan of the Orange County Sanitation District designates the subject area as high density residential.

NOW, THEREFORE, IT IS AGREED by and between the CITY and DISTRICT as follows:

1. ONE YEAR AFTER THE FILING of the Notice of Completion of Orange County Reorganization No. 66 by the County, the DISTRICT shall relinquish subject sewer lines to the CITY. The DISTRICT shall remain responsible for the maintenence and operation of said lines until acceptance of the lines by the CITY.

AFTER ACCEPTANCE of subject sewer lines, the CITY shall become responsible for the maintenence and operation of said lines, and the CITY shall re

the DISTRICT of all responsibility for future maintenence of the subject lines.

3. THE CITY HEREBY GRANTS TO THE DISTRICT, capacity rights of 140,000 gallons per day for the lines in Area "C" of Exhibit "B" for current capacities at peak flows.

4. THE CITY also hereby waives any cash payment for said capacity rights and future maintenence of said lines.

5. THE DISTRICT hereby grants to the CITY capacity rights of 280,000 gallons per day for the lines in Area "A" and Area "B" of Exhibit "B", in addition to the flow from Area "C" for current capacities at peak flows.

6. THE DISTRICT also hereby waives any cash payment for said capacity rights and future maintenence of said lines.

7. THE DISTRICT hereby agrees to construct an adequate sewer line at the southern-most intersecting point of Area "A" and Area "B" in order to connect Area"B" into the Orange County Sanitation District trunk sewer at the intersection of Chapman Avenue and Lewis Street. The cost of engineering, administration, and construction of said line shall be paid by the DISTRICT. After visual inspection of the existing lines by the CITY, the DISTRICT agrees to perform the necessary repairs, if any, to restore the lines to proper operation.

8. THE DISTRICT also hereby agrees to construct the abovementioned line and make the abovementioned repairs prior to acceptance of the lines by the CITY.

9. THE CITY agrees that upon completion of said line, the capacity rights of the CITY be reduced to 205,000 gallons per day, not including the flow from Area "C".

10. THE CITY further agrees to place a condition of approval upon any future development along the southern boundary of Area "A" to construct a new sewer along the frontage of the development which would reverse the flow back to the Orange County Sanitation District trunk sewer at Chapman Avenue and Lewis ST.

11. IT IS AGREED by and between the CITY and the DISTRICT that upon completion of each segment of sewer line and as the flow into the DISTRICT'S line dimenishes, that the capacity rights in said line be reduced accordingly by separate instrument.

12. IT IS FURTHER AGREED by and between the CITY and the DISTRICT that the capacity rights granted to the DISTRICT for Area "C" be reserved after Area "A" and Area "B" have been removed from the DISTRICT'S sewer system, until which time as Area "C" is removed from the system or the lines relinquished to the City of Anaheim.

IN WITNESS WHEREOF, THE CITY OF ORANGE has caused this agreement to be executed by the Mayor of the City Council on the day and year above first written and attested to by the Clerk of the City.

CITY OF ORANGE, a municipal corporation

By: James Beam
JAMES BEAM, mayor

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss

On this _____ day of _____, in the year 1985, before me, Marilyn Jensen, City Clerk of the City of Orange, personally appeared James Beam, personally known to me to be the person who executed this instrument as Mayor of the City of Orange, and acknowledged to me that the City of Orange executed the same.

Marilyn J Jensen
Marilyn Jensen, City Clerk of Orange

GARDEN GROVE SANITARY DISTRICT,
a public corporation

By: _____
Robert H. Main, president

By: _____
Sheldon S. Singer, secretary

By: _____
Ronald D. Cates, Witness

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss

STATE OF CALIFORNIA
COUNTY OF Orange ss.

On June 7, 1985, before me, the undersigned, a Notary Public in and for said State, personally appeared Ronald D. Cates, personally known to me (or proved to me on the basis of the oath of _____ a credible witness who is personally known to me) to be the person whose name is subscribed to the within instrument, as a witness thereto, who being by me duly sworn, deposed and said: That he/~~she~~ resides in 1712 Birchfield Dr., Tustin, California, that he/~~she~~ was present and saw Robert H. Main, President and Sheldon S. Singer, Secretary, personally known to him/her to be the same person(s) described in and who executed the within instrument, as a party(ies) thereto, sign, seal and deliver the same and that said party(ies) duly acknowledged in the presence of said affiant, that he/she/they executed the same, and that said affiant, thereupon at the party's(ies') request, subscribed his/her name as a witness thereto.

OFFICIAL SEAL
LUPE CHANGALA-GARCIA
NOTARY PUBLIC-CALIFORNIA
ORANGE COUNTY
My Commission Expires Aug. 23, 1988

WITNESS my hand and official seal.

Signature Lupe Changala-Garcia

(This area for official notarial seal)

_____
Notary Public in and for said State

Approved as to form:

Gene R. Mendelow
(Assistant) City Attorney

'S INSTRUMENT IS A CORRECT COPY OF THE OR' ON
FILE IN THIS OFFICE.
ATTEST December 24 19 84
LINDA D. ROBERTS
Clerk of the Board of Supervisors
County of Orange.
BY Shirley Gilbreath DEPUTY

RESOLUTION OF THE BOARD OF SUPERVISORS OF

ORANGE COUNTY, CALIFORNIA

December 18, 1984

On motion of Supervisor Riley, duly seconded and carried, the following Resolution was adopted:

WHEREAS, the Local Agency Formation Commission of Orange County has approved ORANGE COUNTY DISTRICT REORGANIZATION NO. 66 and has directed this Board to initiate proceedings in compliance with said Resolution; and

WHEREAS, said Reorganization involves the Garden Grove Sanitary District, which district is located within Orange County; and

WHEREAS, said Reorganization proposes the detachment of territory a legal description of which is attached hereto, from the Garden Grove Sanitary District; and

WHEREAS, said proposed Reorganization is subject to certain terms and conditions contained in the Local Agency Formation Commission's Resolution No. 84-85 as follows:

a. The fixed assets of the Garden Grove Sanitary District located within the city limits of Orange shall be transferred to the City of Orange.

b. The fixed assets of the Garden Grove Sanitary District located within the city limits of Santa Ana shall be transferred to the City of Santa Ana.

Resolution No. 84-1806
Proposed Hrg/O.C. Dist.
Reorg. No. 66

RECEIVED
DEC 26 1984
RICHARD T. TURNER, EXECUTIVE OFFICER
LOCAL AGENCY FORMATION COMM.

BPD:db

EXHIBIT "A"

c. Commencing with the first year that the reorganization is effective for property tax purposes as provided in Government Code Section 54902, all property tax revenues which would have been allocated to the Garden Grove Sanitary District from the area in the corporate limits of Orange, had it remained in the District, shall be allocated to the City of Orange.

d. Commencing with the first year that the reorganization is effective for property tax purposes as provided in Government Code Section 54902, all property tax revenues which would have been allocated to the Garden Grove Sanitary District from the area in the corporate limits of Santa Ana, had it remained in the District, shall be allocated to the City of Santa Ana.

e. Funds accumulated in reserve by the Garden Grove Sanitary District for the purpose of capital improvements or maintenance thereof shall be allocated to the City of Orange based on the proportion of property tax revenues generated within the City of Orange and allocated to the District as a percentage of the total property tax revenues of said District.

f. Funds accumulated in reserve by the Garden Grove Sanitary District for the purpose of capital improvements or maintenance thereof shall be allocated to the City of Santa Ana based on the proportion of property tax revenues generated within the City of Santa Ana and allocated to the District as a percentage of the total property tax revenues of said District.

g. That upon completion of said reorganization detaching territory within the cities of Orange and Santa Ana from the Garden Grove Sanitary District, said territories shall be relieved from the liability for payment of all or any part of principal or interest or any

other amounts which may be due or become due on account of all or any part of any bonded indebtedness, contracts, or obligations, including, but not by way of limitation, any judgment or judgments against the Garden Grove Sanitary District, and that said territory be relieved from the levying or fixing and the collection of any taxes or assessments as may be made for the payment thereof.

h. The City of Orange shall be granted certain capacity rights pertaining to the transfer of sewage from city facilities owned and operated by the Garden Grove Sanitary District for the purpose of disposal into Orange County Sanitation District facilities in the amount of 280,000 gallons per day.

i. The City of Santa Ana shall be granted capacity rights so long as capacity is available in the shared sewers described in the "Agreement For Joint Use of Sewerage Facilities" executed between the City of Santa Ana and the Garden Grove Sanitary District.

j. The Garden Grove Sanitary District shall be liable and pay the applicable State Board of Equalization filing and processing fee necessary to complete the proposed reorganization.

k. Any election called upon the question of confirming an order for the reorganization shall be called, held and conducted upon such reorganization only within the territory affected by such reorganization.

l. The effective date of the reorganization shall be one year from the date of recordation of the certificate of completion by the Executive Officer of the Local Agency Formation Commission.

and

WHEREAS, said proposal was initiated by resolution of the Orange County Board of Supervisors, at the request of the cities of Orange

and Santa Ana; and

WHEREAS, the reason for said proposed Reorganization as set forth in the resolution is as follows:

The City Councils of the cities of Orange and Santa Ana believe that multiple governmental agencies performing similar public works functions within the corporate boundaries of a city contribute to the complexity of local government and may hinder the ability of city residents to readily identify and contact the agency responsible for providing service. The City Councils further believe, as stated in their resolutions, that the residents of their respective cities would benefit from a full-service municipal concept and therefore have expressed their intention to become a full-service city and assume responsibility for providing the services currently provided by the Garden Grove Sanitary District; and

WHEREAS, it was determined the proposed detachment of territory from the Garden Grove Sanitary District was categorically exempt from the California Environmental Quality Act of 1970;

NOW, THEREFORE, BE IT RESOLVED that this Board does set the hour of 9:30 o'clock A.M. on the 16th day of January, 1985, a date not less than fifteen (15) days nor more than sixty (60) days after the date of this Resolution, in the Board Hearing Room of the Board of Supervisors of the County of Orange in the Hall of Administration, 10 Civic Center Plaza, Santa Ana, California, as the time, date and place for the proposed Reorganization designated as:

ORANGE COUNTY DISTRICT REORGANIZATION NO. 66

at which time, date and place this Board shall receive any oral or written protests, objections, or evidence which shall be filed or presented.

BE IT FURTHER RESOLVED that any interested person desiring to make written protest against said Reorganization shall do so by written communication filed with the Clerk of the Board not later than the hour set for hearing, and that a written protest by a landowner shall contain a description sufficient to identify the land owned by him, and a protest by a voter shall contain the residential address of such voter.

BE IT FURTHER RESOLVED that the Clerk is hereby ordered to publish a notice of said hearing once at least fifteen (15) days prior to January 16, 1985, the date set for hearing, in the Register, a newspaper of general circulation in the area.

BE IT FURTHER RESOLVED that the Clerk of this Board is hereby ordered to post a notice of said hearing on the official bulletin board adjacent to the Hearing Room of this Board, said posting to commence at least fifteen (15) days prior to the date set for hearing, and ton continue until said date.

BE IT FURTHER RESOLVED that the Clerk of this Board is hereby directed to give mailed notice of said hearing by mailing such notice to each affected county, city or district, the Garden Grove Sanitary District, and each person who has filed a request for special notice with the Clerk.

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AYES: SUPERVISORS THOMAS F. RILEY, RALPH B. CLARK, ROGER R. STANTON, BRUCE NESTANDE and HARRIETT M. WIEDER

NOES: SUPERVISORS NONE

ABSENT: SUPERVISORS NONE

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, LINDA D. ROBERTS, Clerk of the Board of Supervisors of Orange County, California, hereby certify that the above and foregoing Resolution was duly and regularly adopted by the said Board at a regular meeting thereof held on the 18th day of December, 1984, and passed by a unanimous vote of said Board.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 18th day of December, 1984.

LINDA D. ROBERTS
Clerk of the Board of Supervisors
of Orange County, California

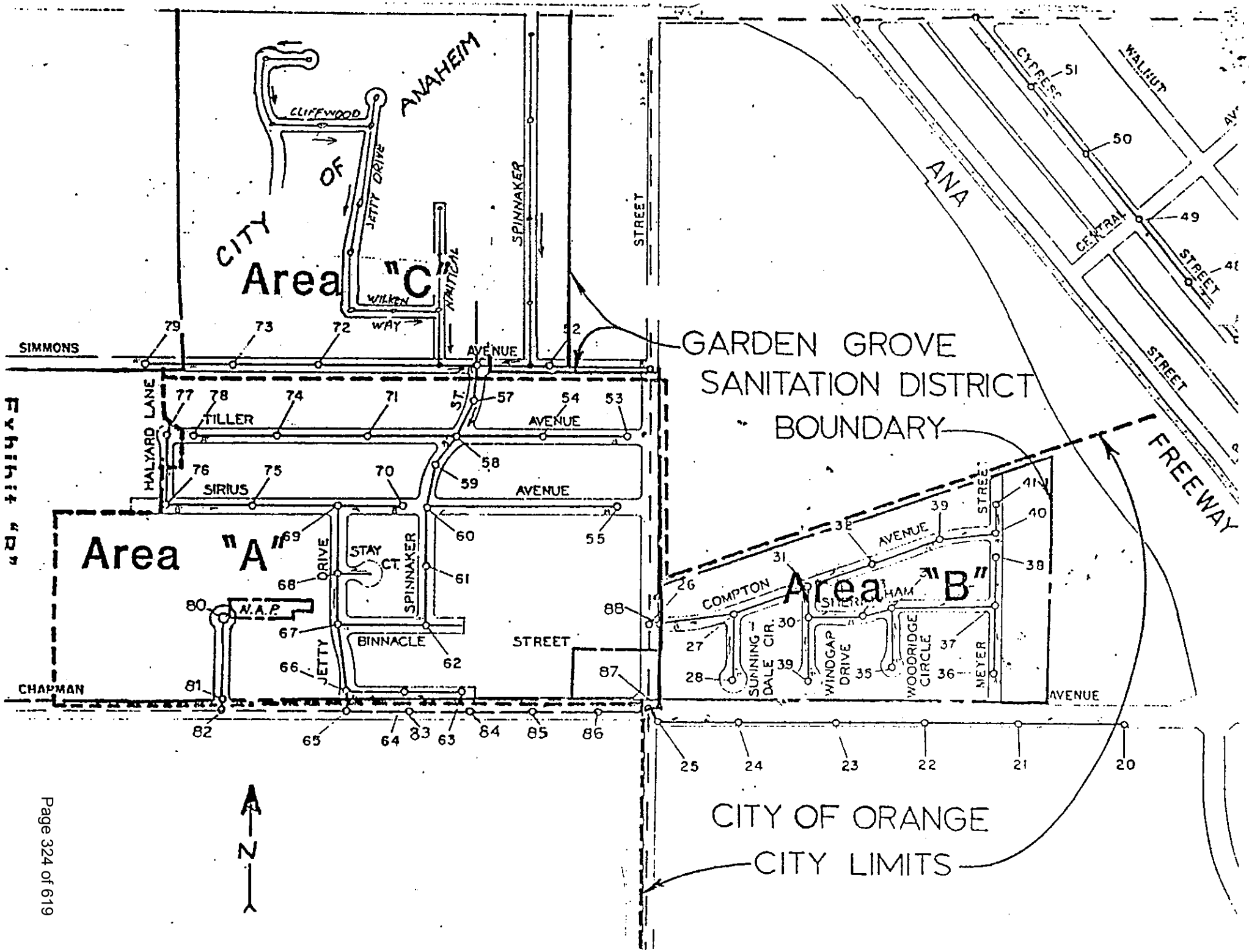


Exhibit "B"
CITY OF ANAHEIM
Area "C"
Area "A"
Area "B"
CLIFFWOOD
JETTY DRIVE
WILKEN WAY
NAUTICAL
SPINNAKER
STREET
ANA
CYPRESS
WALNUT
CENTRAL
STREET
SIMMONS
AVENUE
HALYARD LANE
TILLER
SIRIUS
STAY CT.
SPINNAKER DRIVE
BINNACLE
JETTY
N.A.P.
CHAPMAN
COMPTON
SUNNINGDALE CIR.
WINDGAP DRIVE
WOODRIDGE CIRCLE
MEYER
GARDEN GROVE SANITATION DISTRICT BOUNDARY
FREEWAY
CITY OF ORANGE
CITY LIMITS
N

Appendix C-6

City of Stanton Agreement

RESOLUTION NO. 3413

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE GARDEN GROVE SANITARY DISTRICT APPROVING AGREEMENT WITH THE CITY OF STANTON FOR JOINT USE OF SEWERAGE FACILITIES.

Upon motion duly made, seconded and carried by the roll call vote shown below, the Board of Directors of the Garden Grove Sanitary District does hereby resolve as follows:

WHEREAS, the Garden Grove Sanitary District, hereinafter referred to as District, and the City of Stanton, hereinafter referred to as City, desire to enter agreement for joint use of sewer lines and appurtenances; and

WHEREAS, Orange County District Reorganization No. 88 detached approximately 2,240 acres from the District; and

WHEREAS, said Reorganization provides for District to retain capacity rights in certain District sewerage facilities to be transferred to City which will be needed by District to transport wastewater from remaining areas of District to the Orange County Sanitation District facilities; and

WHEREAS, sewers transferred to City will remain connected to sewers retained by District, and City will need capacity rights in these sewers to transport wastewater from the detached areas within City to downstream portions of the same sewer transferred to City; and

WHEREAS, because capacity rights in certain sewerage facilities will be shared by District and City, it is in the best interests of District and City to enter into agreement to provide for the cost sharing of maintenance of sewers in which District and City will share capacity rights and to provide for funding of the construction of future sewers within City or District that may be necessary to provide sufficient capacity to transport the combined ultimate wastewater flows from portion of District and City to the Orange County Sanitation District facilities.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE GARDEN GROVE SANITARY DISTRICT, COUNTY OF ORANGE, STATE OF CALIFORNIA:

1. That District Board does approve contract with the City of Stanton. Said contract is marked Exhibit "A" and is attached hereto and by this reference made a part hereof.

2. The President and Secretary of the Board of Directors of the District be authorized and directed to execute said contract.

VOTE POLLED:

BOARD MEMBERS: Barker, Culver, Main, Singer, Zlaket

AYES Barker, Culver, Main, Singer

NOES None

ABSENT Zlaket

ADOPTED AND SIGNED this 16th day of January, 1991.

PRESIDENT - Robert H. Main

SECRETARY - Sheldon S. Singer

ATTEST:

I HEREBY CERTIFY that the above and foregoing Resolution was passed and adopted by the Sanitary Board of the Garden Grove Sanitary District of Orange County, California, on the 16th day of January, 1991.

Secretary of Garden Grove Sanitary District of Orange County, California

AGREEMENT

FOR

JOINT USE OF SEWERAGE FACILITIES

This agreement, made and entered into this_____day of _____, 19____, between the City of Stanton, a municipal corporation, hereinafter referred to as "CITY", and the Garden Grove Sanitary District of Orange County, California, a sanitary district organized under the Sanitary District Act of 1923, hereinafter referred to as "DISTRICT".

W I T N E S S E T H

WHEREAS, Orange County District Reorganization No. 88 detached approximately 2,240 acres from the DISTRICT and the Stanton County Water District located within CITY; and

WHEREAS, Reorganization No. 88 will transfer to CITY the fixed assets of the detached portion of DISTRICT that are within CITY; and

WHEREAS, said Reorganization provides for DISTRICT to retain capacity rights in certain DISTRICT sewerage facilities to be transferred to CITY which will be needed by DISTRICT to transport wastewater from remaining areas of DISTRICT to the Orange County Sanitation District facilities; and

WHEREAS, sewers transferred to CITY will remain connected to sewers retained by DISTRICT, and CITY will need capacity rights in these sewers to transport wastewater from the detached area within CITY to downstream portions of the same sewer transferred to CITY: and

WHEREAS, certain shared sewers within CITY or DISTRICT will not have adequate capacity for the wastewater from the planned ultimate development of the areas within DISTRICT and CITY tributary to said certain facilities; and

WHEREAS, because capacity rights in certain sewerage facilities will be shared by DISTRICT and CITY, it is in the best interests of district and CITY to enter into an agreement to provide for the cost sharing of maintenance of sewers in which DISTRICT and City will share capacity rights and to provide for funding of the construction of future sewers within CITY or DISTRICT that may be necessary to provide sufficient capacity to transport the combined ultimate wastewater flows from portions of DISTRICT and CITY to the Orange County Sanitation District facilities; and

NOW, THEREFORE, in consideration of the findings herein provided, the parties agree:

1. Shared Sewers

(a) CITY hereby grants to DISTRICT and DISTRICT hereby grants to CITY capacity rights so long as capacity is available in the shared sewers. DISTRICT and CITY agree to use said shared sewers only to transport wastewater from those portions of DISTRICT or CITY within the tributary areas. The shared sewers, or portions thereof, shall be deemed to be at capacity when the measured peak flow has a depth equal to 67% of the sewer diameter.

When either party determines by field measurements that a portion of a shared sewer is flowing at capacity, as defined herein, they shall immediately notify the other party in writing, setting forth the limits, the measured flow, and the depth of the peak flow.

Upon determination and notification that a sewer is at capacity, both parties shall immediately cease issuance of any additional sewer connection permits to any tributary sewer. The cessation of issuance of sewer connection permits shall continue in force until additional sewer capacity has been constructed as provided for herein.

(b) CITY and DISTRICT agree to maintain their respective portions of the shared sewers in the same manner and at the same frequency as all other sewers maintained by CITY or DISTRICT.

(c) Replacement or repair of shared sewers

Both parties agree that the shared sewers have a finite life and eventually, due to damage or deterioration, all or portions of the shared sewers may need to be replaced. When either party determines that a portion of shared sewer within its jurisdiction is in need of major replacement, it shall immediately notify the other party in writing, setting forth a description and schedule of repair or replacement and the estimated cost thereof. Unless the work is required to abate a public health problem it shall be scheduled so that both parties can arrange for financing in the next following fiscal year. Work required to abate a public health problem shall be commenced immediately.

The cost of repair or replacement of each shared line shall be apportioned to each party in accordance with the ultimate build out as permitted under the General Plan for acreage within the shared tributary area using established flow coefficients as determined by the County Sanitation Districts of Orange County as shown on Exhibit "A" attached hereto. The total cost shall include engineering, administration and construction expenses. Prior to starting the repair or replacement work, the initiating party shall bill the other party for their apportioned share. The other party shall promptly deposit the billed amount. Upon completion of the work and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill, or a refund for the difference between the actual apportioned cost and the deposit.

Any repair or replacement costing less that $5,000.00 may be done by force account. Repairs or replacements costing in excess of $5,000.00

shall be subject to a public bidding process.

If, within 30 days after notification, the notified party disagrees with the necessity or estimated cost of apportionment of the cost of the repair or replacement, they shall so notify the other party in writing. If the parties are unable to agree upon the need or cost of the repair or replacement, the matter may be submitted to arbitration as set forth in Section 4.

2. Future Sewers

It is anticipated that, as the tributary area to the shared sewers continues to develop, there will not be adequate capacity, as defined in Section 1, in some of the shared sewers. Parallel sewers and relief connections to Orange County Sanitation District facilities will be required in the future to provide capacity for ultimate planned development.

On or before October 1st of each year, each party shall determine whether the shared sewers within their jurisdiction have sufficient capacity, as defined in Section 1, to provide service without limiting connections for the next calendar year. If it appears that adequate capacity will not be available, then the parties shall meet and determine within 60 days the size and estimated cost of a parallel relief sewer that, together with the existing sewer will provide adequate capacity for ultimate planned development within the tributary area. Each party shall provide the estimated ultimate flows for their portion of the tributary area using ultimate land use plans and established flow coefficients as determined by the County Sanitation Districts of Orange County formulas.

The cost of the new parallel sewer, including engineering, administration and construction shall be apportioned between the parties equal to the ratio that each party's estimated ultimate peak flows bears to the combined ultimate peak flow.

The construction of the new line shall be scheduled to start after the next July 1st in order to permit both parties to budget the required funds.

Prior to commencing construction, the party within whose jurisdiction the new sewer will be located shall bill the other party for their apportioned share of the total cost. The other party shall promptly deposit the billed amount. Upon completion of the work, and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill or a refund for the difference between the actual apportioned cost and the deposit.

If one of the parties does not finance their apportioned share of the new parallel sewer, or relief connection, or for any other reason declines to participate, then the remaining party at their option may proceed to construct and finance a parallel sewer with capacity only for the tributary area within their jurisdiction. If this option is exercised, then the party choosing not to participate shall immediately cease issuance of sewer connection permits as provided for in Section 1(a). Such cessation of connection permits shall remain in effect until the non-participating party constructs sewer facilities with capacity for added flows from their tributary area or diverts the added flow to non-shared sewers.

3. Arbitration

If the parties are unable to agree on the necessity, cost, or apportionment of repair or replacement of shared sewers, the matter may be submitted to arbitration before a 3-man arbitration board in the following manner:

Either party may, within 60 days after the date of the notification of the need for a repair or replacement, appoint one member of said arbitration board. The third member shall be appointed by the first two members. All members of said board shall be registered Civil Engineers in the State of California.

4. Notice

Any notice hereunder shall conclusively be deemed to have been given upon the date it is enclosed in a sealed envelope addressed to the party to whom intended at the following address:

if to the CITY: City of Stanton

Attention_____

if to the DISTRICT: Garden Grove Sanitary District

Attention: President, Board of Directors

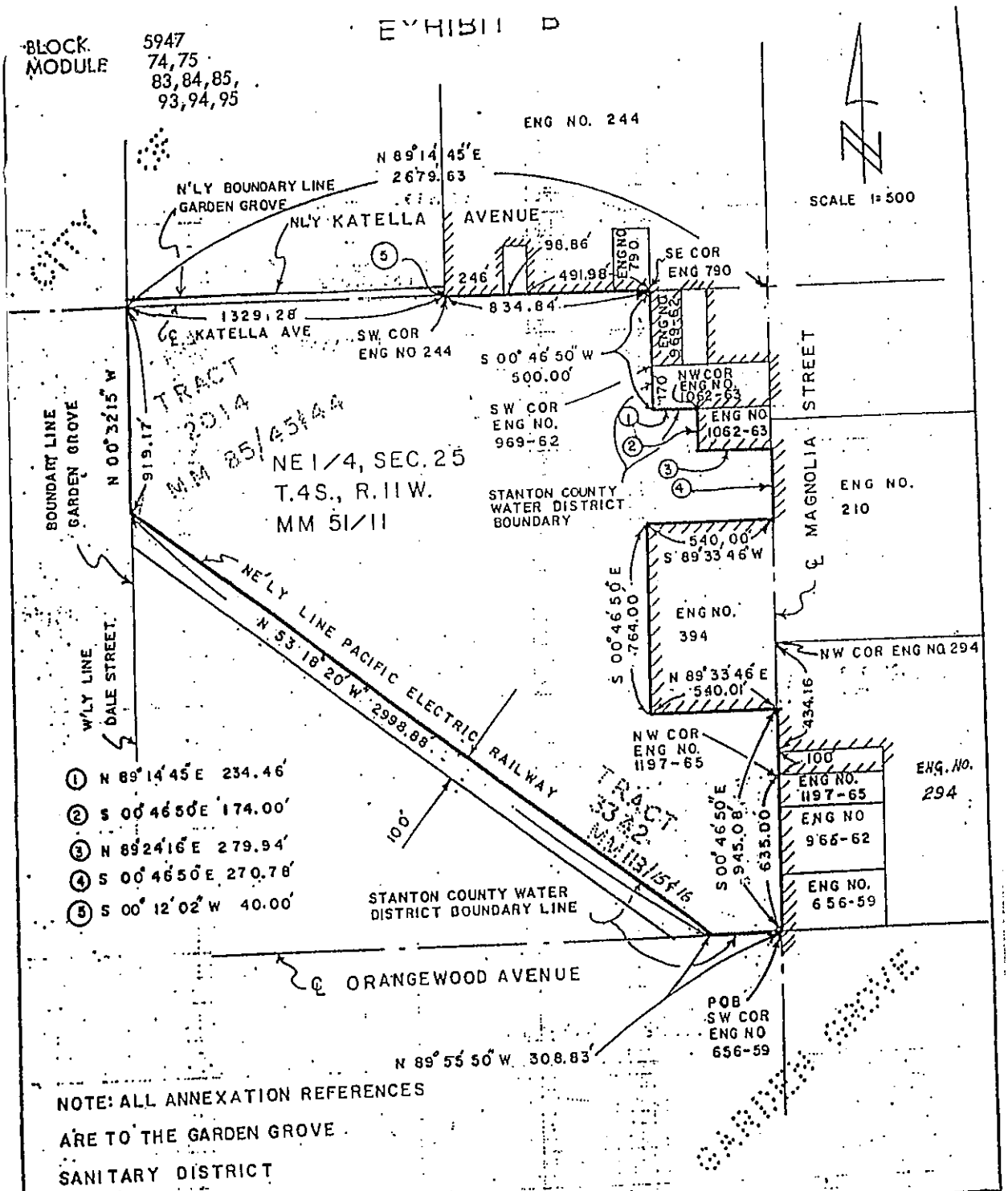
5. Termination

The term of this agreement shall commence upon approval and execution of this document by both parties, and shall continue for so long as is necessary to carry out the purposes of this agreement.

This agreement may be terminated or amended at any time by the consent of both parties.

EXHIBIT B

BLOCK 5947
MODULE 74,75
83,84,85,
93,94,95



NOTE: ALL ANNEXATION REFERENCES ARE TO THE GARDEN GROVE SANITARY DISTRICT

REGISTERED PROFESSIONAL ENGINEER
JOHN THOMAS BAINE
EXPIRES 6-30-89
No. 15795
CIVIL
STATE OF CALIFORNIA

ENGINEERS SEAL

J. Thomas Baine
JOHN THOMAS BAINE
R.C.E. 15795

This proposal does meet the approval of the Orange County Surveyor's Office
C.R. Nelson, County Surveyor
By _____ Deputy County Surveyor
Date AUGUST 13, 1987

LEGEND
EXISTING BOUNDARY
ANNEXATION BOUNDARY

PREPARED BY:
BERRYMAN & STEPHENSON INC.
CONSULTANTS TO GOVERNMENT AGENCIES
3445 EAST SEVENTEENTH STREET
SANTA ANA, CALIFORNIA 92701
(714) 558-1983

REORGANIZATION NO 101
GARDEN GROVE SANITARY DISTRICT
(Detachment of territory from Stanton County Water District and Annexation of same to the Garden Grove Sanitary District)

Appendix C-7

City of Midway Agreement

AGREEMENT

THE PARTIES MUTUALLY AGREE AS FOLLOWS:

1. DURATION: This Agreement shall be effective when executed by both parties, and the obligations of the parties hereunder shall commence upon the effective date of the reorganization, which is the date of recordation of the Certificate of Completion pursuant to Term 19 of the LAFCO Terms and Conditions. This Agreement shall continue as long as the parties continue to share sewer facilities or until superseded by mutual written agreement of the parties.

2. SHARED SANITARY SEWERS

a. CAPACITY RIGHTS GGSD hereby grants to MCSD, and MCSD grants to GGSD capacity rights so long as capacity is available in the shared sanitary sewers, the locations of which are shown in attached Exhibit A, and which are described in attached Exhibit B. MCSD and GGSD agree to use said shared sanitary sewers to transport wastewater only from those areas specified on Exhibit "A" as tributary to the designated facilities. The diversion, release, or transmission of wastewater from any other area into the shared sanitary sewer facilities by either party, without express written consent of the other party, shall be deemed to be a breach of this Agreement, and the party causing the unauthorized diversion, release, or transmission shall be subject to all remedies as provided in Section 8 hereof. The shared sanitary sewers or portions thereof shall be deemed to be at capacity for the purposes of this Agreement when the measured peak flow has a depth equal to 75% of the sanitary sewer diameter.

When either party determines by field measurements that a portion of the shared sanitary sewer is flowing at capacity, as defined herein, such party shall immediately notify the other party in writing, setting forth the capacity limits, the measured flow, and the depth of peak flow for the sanitary sewer in question.

b. MAINTENANCE GGSD and MCSD agree to maintain the portions of the shared sanitary sewers as shown on Exhibit A which lie in their jurisdiction in good condition and in at least the same manner and at the same frequency as all other comparable sanitary sewers maintained by GGSD and MCSD. Costs for routine maintenance shall be apportioned as set forth in Exhibit B. For purposes of this agreement, routine maintenance shall include anything that is within the normal scope of duties of the responsible party's employees or contractors. Any repair in excess of the normal scope of such duties shall be undertaken pursuant to paragraph 2.c.

c. REPLACEMENT OR REPAIR OF SHARED SANITARY SEWERS Both parties acknowledge and agree that the shared sanitary sewers have a finite life, and that eventually, due to damage or deterioration, all or portions of the shared sanitary sewers may need to be replaced. When either party determines that a portion of a shared sanitary sewer within its jurisdiction is in need of major repair or replacement, it shall immediately notify the other party in writing, setting forth a description and proposed schedule of repair or replacement, and the estimated cost thereof. Unless the work is required to abate a public heath hazard, it shall be scheduled so that both parities can arrange for financing. Work required to abate a public health hazard shall be commenced immediately. In the event that the non-initiating party disagrees with the necessity, projected cost, or cost apportionment of a repair or replacement, the parties agree to meet and confer to resolve the disagreement prior to scheduling construction.

The cost of repair or replacement of each shared line, and the cost of cleanup of any sewage spill on a shared line, shall be apportioned to each party as set forth in Exhibit B. The total cost shall include engineering, administration and construction expenses. Prior to starting the repair and replacement work, the initiating party shall bill the other party for such party's apportioned share. In the case of a normal repair or replacement, this bill shall be sent between sixty (60) and ninety (90) days prior to the scheduled commencement of the construction on the project. In the case of a repair to abate a public health hazard, the bill shall be sent after the repair is completed. The other party shall promptly deposit the billed amount with the initiating party. The initiating party must keep these funds in a segregated fund, and use them only for the project for which they were deposited. Upon completion of the work and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill, or a refund, for the difference between the actual apportioned cost and the deposit.

Any repair or replacement costing less that $5,000 (five thousand dollars) may be done by force account. All other repairs or replacements shall be subject to a public bidding process.

If the party receiving notice of a necessary repair as provided in this section fails to deposit the specified amount with the party giving notice within sixty (60) days after the mailing of said notice, the party giving notice may proceed with the work and recover from the delinquent party that party's proportionate share of all necessary and appropriate costs as determined after completion of repairs, plus actual damages including interest at the rate available on funds deposited in the Local Agency Investment Fund of the State of California ("LAIF" rate") all reasonable attorneys' fees, court costs, and other reasonable costs incurred in collecting said amount from the delinquent party.

3. FUTURE SANITARY SEWERS It is anticipated that future development in the tributary area may lead to a situation in which there is not adequate capacity, as defined in Section 1, in the shared sanitary sewers.

On or before October 1 of each year, each party shall determine whether the shared sanitary sewers within its jurisdiction have sufficient capacity, as defined in Section 1, to provide service without limiting connections for the next calendar year. If it appears that adequate capacity will not be available then the parties shall meet and determine within 60 days the size and estimated cost of a parallel relief sanitary sewer that, together with the existing sanitary sewer, will provide adequate capacity for ultimate planned development within the tributary area. Each party shall provide the estimated flows for their portions of tributary area.

The cost of the new parallel sanitary sewer, including engineering, administration and construction shall be apportioned between the parties equal to the ratio that each party's estimated ultimate peak flows bear to the combined ultimate peak flow.

The construction of the new line shall be scheduled by the mutual agreement of the parties, taking into account budgetary considerations, but in no event shall it be undertaken sooner than the next July 1.

Prior to commencing construction, the party within whose jurisdiction the new sanitary sewer will be located shall bill the other party for its apportioned share of the total cost. The other party shall promptly deposit the billed amount with the initiating party. The initiating party must keep these funds in a segregated fund, and use them only for the project for which they were deposited. Upon completion of the work and the payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill, or a refund, for the difference between the actual apportioned cost and the deposit.

If one of the parties does not fund its apportioned share of the new parallel sanitary sewer, or relief connection, or for any other reason declines to participate, then the remaining party may, at its option, proceed to construct and finance a parallel sanitary sewer with capacity only for the tributary area within its jurisdiction. If this option is exercised, then the party choosing not to participate shall immediately cease issuance of sanitary sewer connection permits as provided for in Section 1(a). Such cessation of connection permits shall remain in effect until the non-participating party constructs sanitary sewer facilities with capacity for added flows from its tributary area, or diverts the added flow to non-shared sanitary sewers.

4. BROOKHURST STREET LINE

a. Line Improvements. Notwithstanding any other provision of this Agreement, GGSD shall, at its sole cost and expense, plan, design, and construct improvements to the existing ten-inch (10") sanitary sewer line in Brookhurst Street between Hazard Avenue and Bolsa Avenue, which are adequate to meet all foreseeable future needs of the area tributary to said sanitary sewer line shown on Exhibit "A". The timing of the improvements and the nature of the improvements shall be determined in GGSD's sole discretion, provided that the improvements shall be completed and in use no later than five (5) years from the effective date of reorganization as provided by Term No. 4 of the LAFCO Terms and Conditions. GGSD will deposit those reserve funds transferred from MCSD to GGSD, pursuant to Term No. 20 of the LAFCO Terms and Conditions, into an escrow account to be used to fund all or a portion of these improvements. Upon completion of the improvements, the improved facilities shall be owned and controlled by GGSD, subject to the shared capacity provided herein. The subject sanitary sewer line is shown on Exhibit "C" attached hereto.

b. Line Maintenance Prior to completion of the improvements described in Section 4 a., GGSD shall bear all costs and expenses for maintenance and repair of, and for cleanup of sewage spills occurring on, the 10" sanitary sewer line in Brookhurst Street and related facilities. In addition, so long as GGSD is diverting wastewater from its Hazard Street sanitary sewer line into MCSD's facilities in Bowling Green Street and Fowler Circle, GGSD shall bear all maintenance and repair costs for, and the cost of cleanup of sewage spills occurring on, those sewer lines and related facilities. Upon completion of the improvements described in Section 4 a., GGSD shall discontinue all wastewater diversions into the Bowling Green/Fowler Circle facilities and disconnect its facilities therefrom.

c. Permits MCSD agrees to cooperate with GGSD in securing any necessary permits, entitlements, or other authorizations that may be required by the City of Westminster for construction of the improvements provided for in this Section.

5. WESTMINSTER/NEWLAND AREA SHARED SANITARY SEWERS

a. LINE CAPACITY At such time as MCSD has measurements showing that the measured peak daily flow in the shared sanitary sewers serving the Westminster Avenue/Newland Street area has a depth equal to 75% of the sanitary sewer diameter, MCSD, subject to approval of GGSD with regards to consultant selection and project scope, shall undertake an engineering study to examine the causes and possible remedies for the capacity problems of these shared sanitary sewers. GGSD shall reimburse MCSD for a share of the cost

which is proportional to GGSD's actual contribution to the flow in the sanitary sewers studied. After completion of the study, the parties shall meet and confer to agree on an approach to be used to resolve the capacity problems prior to scheduling construction of the project.

b. FUNDING GGSD and MCSD mutually agree to set aside funds in restricted accounts for their respective portions of any project agreed upon as a result of a study conducted pursuant to Section 5(a) within two years of the agreement between the parties on such a project.

c. CONSTRUCTION The cost of repair or replacement of each shared line shall be apportioned on the basis of the flow attributable to the tributary sanitary sewers within the jurisdiction of each agency. The total cost shall include engineering, administration and construction expenses. Upon completion of the work and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with a bill for the actual apportioned cost.

GGSD shall reimburse MCSD for GGSD's share of all costs and expenses incurred in connection with the repair or replacement of the shared lines no later than thirty (30) days after receipt of the report and bill. If GGSD fails to reimburse MCSD within thirty (30) days, then MCSD shall be entitled to recover from GGSD, in addition to GGSD's share of costs, actual damages including interest at the LAIF rate, plus all attorneys' fees, court costs, and other expenses incurred in collecting said amount.

d. MAINTENANCE, REPLACEMENT AND REPAIR The shared sanitary sewers serving the Westminster/Newland area shall be subject to the maintenance, replacement and repair terms stated in Section 2 of this agreement.

6. KNOTT STREET/GARDEN GROVE BOULEVARD AREA MCSD and GGSD mutually agree that MCSD shall provide sanitary sewer services to those areas of GGSD lying North of Garden Grove Boulevard, South of State Highway 22, and West of Knott Street. GGSD agrees to pay to MCSD an amount equal to the then current MCSD annual sanitary sewer assessment for each parcel served under this section. The sanitary sewers in this area shall be subject to the same cost-sharing provisions regarding maintenance, repair and replacement as the shared sanitary sewers discussed in Section 2.

7. NOTICES Any notices hereunder shall conclusively be deemed to have been given upon the date it is enclosed in a sealed envelope addressed to the party to whom it is intended, and deposited in the United States Mail with adequate postage, delivered to the office of intended party, or sent through other commercially reasonable means, such as overnight delivery by a reputable

courier company.

The addresses of the respective parties for all notices shall be:

For GGSD:

City Engineer
City of Garden Grove
11222 Acacia Parkway
Garden Grove, CA 92840

For MCSD:

General Manager
Midway City Sanitary District
14451 Cedarwood Avenue
Westminster, CA 92683

8. REMEDIES In addition to any other remedies provided elsewhere in this Agreement and by law, the parties shall be entitled to specific performance. The parties acknowledge that monetary damages are not an adequate remedy in the event of a breach by either party to this Agreement with respect to the obligations to construct or repair facilities and to discontinue wastewater flows. The parties agree that said construction, repair or discontinuance obligations shall be specially enforceable by any court of competent jurisdiction.

9. AMENDMENT. This Agreement may be amended from time-to-time by the written agreement of both parties.

10. LAFCO TERMS AND CONDITIONS. This Agreement is intended to, and shall be construed to be consistent with and implement the Terms and Conditions imposed by LAFCO on Garden Grove Reorganization No. 141, a copy of which is attached hereto as Exhibit "E" and incorporated by reference. The terms of this Agreement shall be subject to the LAFCO Terms and Conditions as they exist on the date hereof and to any future amendments and modifications thereto. This agreement constitutes the entire agreement between the parties relative to joint use sanitary sewers and shall supersede all prior agreements.

11. ATTORNEY'S FEES. In the event that litigation becomes necessary for the resolution of any dispute arising under the terms of this agreement, the prevailing party shall be entitled to its reasonable attorney's fees from the other party.

IN WITNESS THEREOF, the parties have executed this Agreement on the day and year first referenced herein.

GARDEN GROVE SANITARY DISTRICT

ATTEST:

City Clerk

By:

President

APPROVED AS TO FORM:

Special Counsel

MIDWAY CITY SANITARY DISTRICT

ATTEST:

Secretary

President

APPROVED AS TO FORM:

Special Counsel

EXHIBIT A

TRIBUTARY AREAS INTO
SHARED SANITARY SEWER FACILITIES

AREA 4E PAGE 1 OF 3

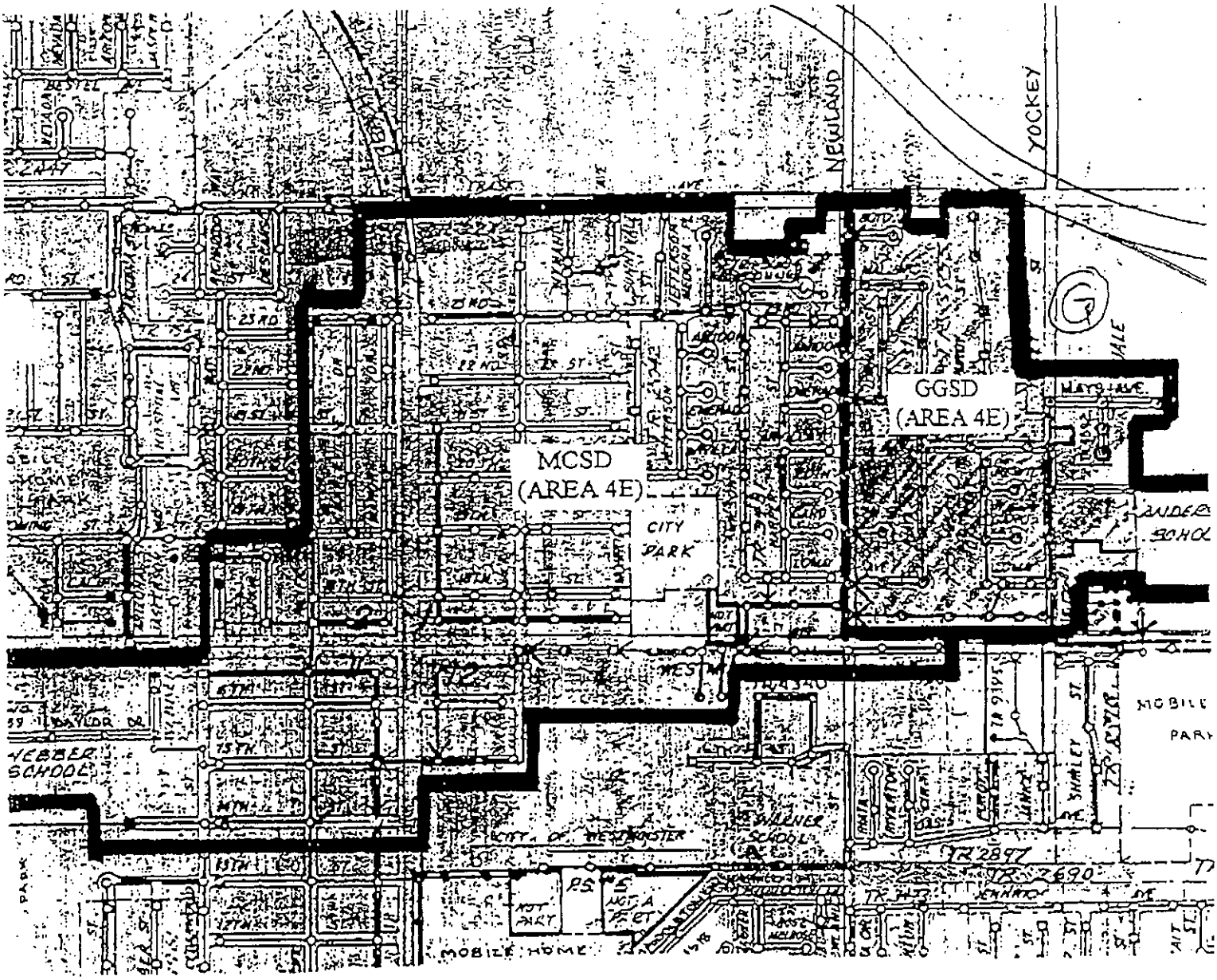


EXHIBIT A

TRIBUTARY AREAS INTO
SHARED SANITARY SEWER FACILITIES

AREA 4F PAGE 2 OF 3

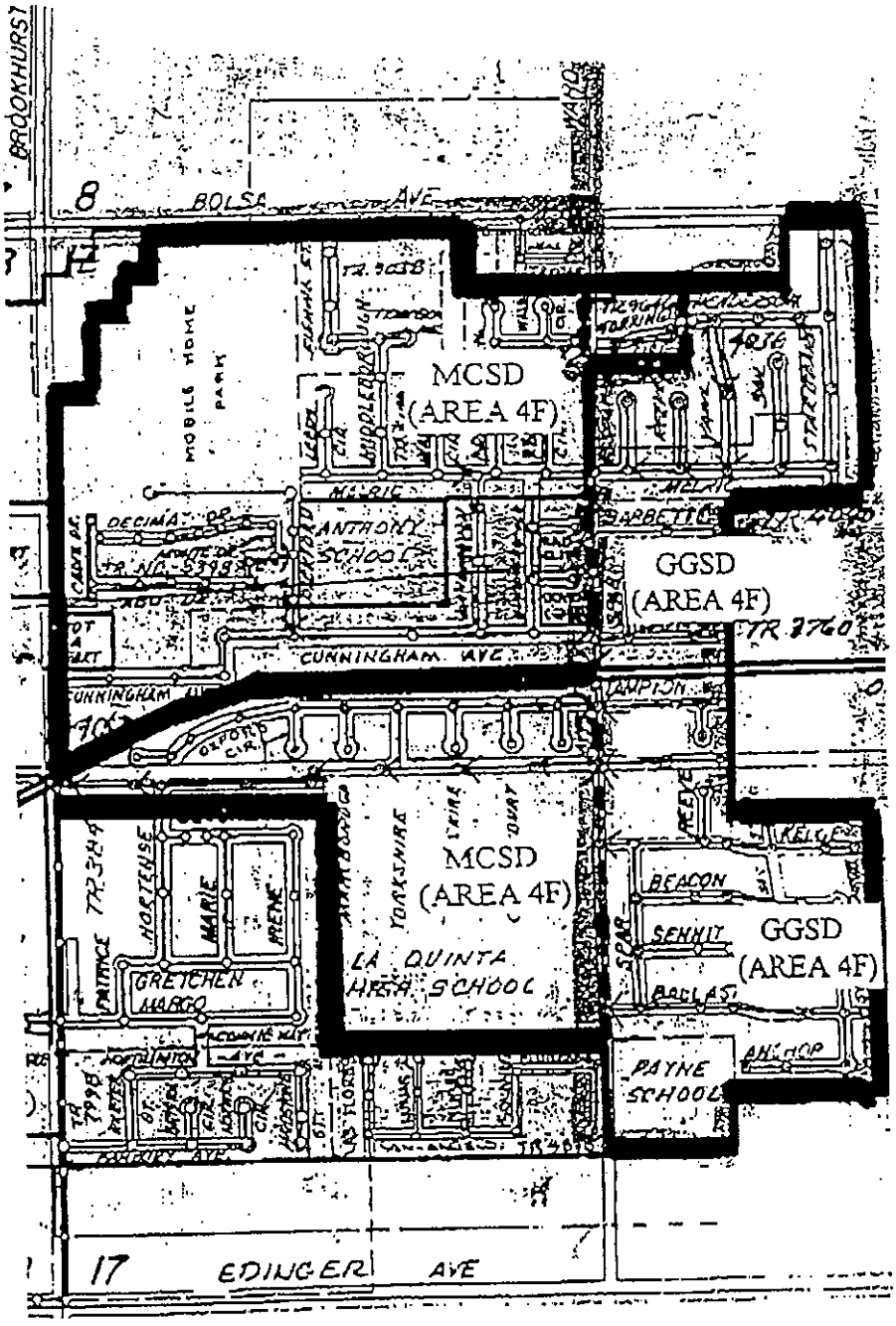


EXHIBIT A

TRIBUTARY AREAS INTO
SHARED SANITARY SEWER FACILITIES

AREAS 5A AND 5C PAGE 3 OF 3

LOCATION	MAINTENANCE SHARE MCSD	GGSD	LENGTH, FT
1) SEWERLINE TO HOOVER TRUNK SEWER (SEE EXHIBIT A, PARCEL 4E)			
WESTMINSTER AV./ NEWLAND - BEACH BL. (JACKSON TO 15TH)	45%	55%	2,600
15TH ST/ E/O BEACH- PACIFIC AND S/O PACIFIC	70	30	1,300
14TH ST./ PACIFIC - HOOVER	80	20	2,000
2) SEWERLINE TO BROOKHURST ST. TRUNK SEWER (SEE EX. A. PARCEL 4F)			
YAWL/ HENDERSON - MELRIC	20%	80%	600
MELRIC/ YAWL - WARD	15	85	650
WARD/ MELRIC - DAVIT (CUNNINGHAM)	10	90	600
WARD/ DAVIT - TAMPION (NOTTINGHAM)	80	20	500
McFADDEN/ WARD - YORKSHIRE	60	40	800
McFADDEN/ YORKSHIRE - BROOKHURST	75	25	1,800
3) SEWERLINE TO BOLSA AV. TRUNK SEWER (SEE EX. A, PARCEL 5C)			
BROOKHURST/ NEWCASTLE - PREMIER	5%	95%	800
BROOKHURST/ PREMIER - BOLSA	30	70	500

EXHIBIT B - CONTINUED

LOCATION	MAINTENANCE SHARE MCSD	GGSD	LENGTH. FT
4) SEWERLINE TO BOLSA AV. TRUNK SEWER (SEE EX. A, PARCEL 5C)			
SHEFFIELD/ HAZARD - ASHFORD	20	80	400
ASHFORD/ WAKEFIELD - SHEFFIELD	45	55	700
WAKEFIELD/ ASHFORD - SABRE	80	20	400
SABRE/ DONEGAL - WAKEFIELD	45	55	600
DONEGAL/ SABRE - MADISON	60	40	500
DONEGAL/ MADISON - LEXINGTON	45	55	500
LEXINGTON (GGSD LIMITS)	50	50	600
ALLEY/ SO. OF LEXINGTON - BOLSA TRUNK SEWER	60	40	600
5) SEWERLINE TO MAGNOLIA ST. TRUNK SEWER (SEE EX. A, PARCEL 5A)			
BUSHARD/ N/O SUTHERLAND - OASIS	40%	60%	900
OASIS / MAGNOLIA - BUSHARD	85	15	2,700

BROOKHURST STREET SEWER LIN
EXHIBIT "C"

EXHIBIT D

RECOMMENDED

TERMS AND CONDITIONS

1. The City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, shall submit a plan to LAFCO for the establishment of a Sanitary District Advisory Commission. The five member commission shall advise the Board of Directors of the District concerning administrative, legal, operational, maintenance, and financial matters. The Board of Directors of the Garden Grove Sanitary District (GGSD), seated at the time the certificate of completion for this reorganization is issued, shall be offered the opportunity to become members of the new advisory commission. Their appointment shall run until their existing GGSD terms expire. The advisory commission shall include one resident of the unincorporated area and one member appointed by the Second District County Supervisor. In addition to these two appointments, one alternate for each position shall also be appointed [G.C. 56844(k)(v)].

2. The GGSD, as a subsidiary district of the City of Garden Grove, shall assume a proportionate share of the bonded indebtedness associated with the acquisition of capital equipment of the Midway City Sanitary District (MCSD) which is to be rendered surplus to MCSD by this reorganization. The City of Garden Grove's newly created subsidiary district will take, in kind, the surplus equipment. The City of Garden Grove and Midway City Sanitary District shall file an agreement with LAFCO, which describes the disposition of the surplus equipment and certificate of participation funding. Notice that the agreement for equipment funding has been reviewed by the bond counsel shall be submitted to LAFCO by the City of Garden Grove, acting as successor agency [G.C. 56844(c)].

3. The GGSD, as a subsidiary district of the City of Garden Grove, shall accept all system facilities transferred from MCSD in an "as is" condition, without any payment or repair obligation from MCSD [G.C. 56844(h)].

4. The City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, shall execute an agreement with the Midway City SanitaryDistrict, to upgrade the GGSD sewer line in Brookhurst Street between Hazard Avenue and the pump station to the trunk line in Bolsa Avenue, at their sole cost and discretion. The agreement shall provide that the upgrading be completed no later than 5 years from the effective date of this reorganization or as mutually agreed by the two parties. Any maintenance and repair incurred before replacement of these facilities shall be at the City of Garden Grove's Subsidiary District's expense. The upgraded facilities shall remain the property of the City of Garden Grove's Subsidiary District. Upon replacement of these facilities, operation and maintenance expenses will be shared per the agreement of the two districts [G.C.56844(h)].

5. The City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, shall execute a maintenance, operation and capacity rights agreement with the Midway City Sanitary District for the use of the sewer lines serving

parcel 4E and for correction of capacity problems in those lines within 5 years or as mutually agreed upon by both agencies. Both agencies shall also include in the agreement a provision that the costs of construction shall be based upon the proportionate amount of sewage being generated by each respective agency. Garden Grove's Subsidiary District agrees to set aside funding each year in a restricted account for its share of the costs. If construction of a sanitary diversion line to the Orange County Sanitation District trunk line in Magnolia Street is less expensive than other alternative, then both parties may mutually agree to select this alternative at the time the decision is made to construct the relief line [G.C. 56844(h)].

6. The GGSD, as a subsidiary district of the City of Garden Grove, shall assume all joint use flow agreements and maintenance agreements [G.C. 56844(j)(r)].

7. Agreement shall be reached between MCSD and the City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, to continue sewer service to Parcels 4C and 4D within the City of Garden Grove [G.C. 56844(r)(v)].

8. The City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, shall execute amendments of existing agreements with the respective contract solid waste franchisees serving the areas to be reorganized, and shall be completed to address those changes in service areas [G.C. 56844(r)(v)].

9. An agreement shall be reached between the City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, and the Midway City Sanitary District which provides that the City's subsidiary district shall be responsible for costs incurred by MCSD for public information efforts taken by MCSD to advise the affected residents of the changes in billing process, the cost of trash collection, and other service changes. Such costs shall not exceed $5,000. As an alternative, Garden Grove may, in lieu of payment, provide notice in a form which is acceptable to MCSD [G.C. 56844(v)].

10. The City Council shall file a notice with LAFCO that the reorganization shall not adversely affect or impair the status of any employee of the District or City. As of the effective date of this reorganization, all employees of the Garden Grove Sanitary District shall become City employees. Current rates of pay, accrued vacation and sick leave, vacation and sick leave accrual rates, employee rights, seniority rights, insurance, retirement benefits, and all other benefits and programs now provided them shall continue at a level not less than that currently enjoyed [G.C.56844(l)].

11. All lands, buildings, real and personal property, and appurtenances held by the Midway City Sanitary District and within the City of Garden Grove served by the Midway City Sanitary District, as of the effective date of this reorganization, shall be transferred to the subsidiary district [G.C. 56844(h)].

Terms & Conditions
Garden Grove Reorganization No. 141
August 26, 1996

12. All lands, buildings, real and personal property, and appurtenances held by the Garden Grove Sanitary District and within the City of Westminster served by the Garden Grove Sanitary District, as of the effective date of this reorganization, shall be transferred to the Midway City Sanitary District [G.C. 56844(h)].

13. The City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, is authorized but not required to continue to impose and collect all charges, fees, assessments and/or taxes previously authorized and imposed by the Midway City Sanitary District in the territory which is to be detached from Midway City Sanitary District annexed to the Garden Grove Subsidiary District. Nothing in this provision shall be deemed to limit the discretion of the Board of Directors of the Garden Grove Subsidiary District to establish and levy charges, fees, assessments and/or taxes as it determines to be necessary and appropriate [G.C. 56844(t)].

14. The Midway City Sanitary District is authorized but not required to continue to impose and collect all charges, fees, assessments and/or taxes previously authorized and imposed by the Garden Grove Sanitary District in the territory which is to be detached from the Garden Grove Sanitary District and annexed to the Midway City Sanitary. Nothing in this provision shall be deemed to limit the discretion of the Board of Directors of the Midway City Sanitary District to establish and levy charges, fees, assessments and/or taxes as it determines to be necessary and appropriate [G.C. 56844(t)].

15. The City Council of Garden Grove, acting as the future Board of Directors for the Garden Grove Subsidiary District, and Midway City Sanitary District shall provide evidence to LAFCO that all sewer flow agreements affected by this reorganization have been modified to consider the reorganized boundaries, as appropriate [G.C. 56844(j)(r)].

16. The City of Garden Grove shall assist the two surplus MCSD automated trash collection truck operators to obtain employment with the subsidiary district's private trash hauler [G.C. 56844(l)(v)].

17. Areas being annexed to the City of Garden Grove shall be subject to the City of Garden Grove's Paramedic Property Tax Override and shall become part of the Garden Grove Landscaping and Lighting Assessment District [G.C. 56844(t)].

18. The formation of Improvement District No. 1 within the Garden Grove Sanitary District is to include all territory annexing into Garden Grove Sanitary District and detaching from the Midway City Sanitary District. These areas are shown as Parcels 4 A-F on the map referenced in the LAFCO staff report. The Improvement District shall continue the existing rate structure from the Midway City Sanitary District [G.C.56844(e)].

19. The effective date of this reorganization shall be the date of recordation. In any case the effective date shall not be later than nine months after the date of the election, if required, in which a majority voted in favor of the reorganization [G.C. 56844(p) and 57202(2)].

Terms & Conditions
Garden Grove Reorganization No. 141
August 26, 1996

20. A pro rata share of the reserve funds/cash balance contained in the Recycling Reserve, Contingency Reserve, Automated Equipment Fund and Capital Reserve Fund of the Midway City Sanitary District, reflecting a balance not less than that contained in those accounts on May 31, 1996 plus any additional funds collected in the transferred areas for these funds, shall be placed in an escrow account and used for repair/upgrading of the Newland and Brookhurst lines or held in reserve for debt service. The pro rata share shall be determined by multiplying the applicable fund balances by the ratio of net transferred residential trash accounts to the total of such accounts in the Midway City Sanitary District. The ratio is approximately 17% and the amount to be transferred is approximately $415,000. The final ratio and amount will be determined by LAFCO prior to the recordation date [G.C. 56884(l)].

21. The City Council of Garden Grove agrees to defend, indemnify and hold harmless LAFCO and/or its agents, officers or employees from any claim, action or proceeding against LAFCO and/or its agents, officers and employees to attack, set aside, void or annul the approval of LAFCO concerning the proposal or any action relating to or arising out of such approval when such action is brought within the applicable statute of limitations [G.C. 56884(o)].

22. The Local Agency Formation Commission shall retain jurisdiction prior to issuance of the certificate of completion to hear and amend, if necessary, any term or condition that requires agreement between parties.

Appendix C-8

City of Santa Ana Agreement

A-85-96

AGREEMENT

FOR

JOINT USE OF SEWERAGE FACILITIES

This agreement, made and entered into this 5th day of August, 19 85, between the City of Santa Ana, a municipal corporation, hereinafter referred to as "CITY", and the Garden Grove Sanitary District of Orange County, California, a sanitary district organized under the Sanitary District Act of 1923, hereinafter referred to as "DISTRICT".

W I T N E S S E T H

WHEREAS, Orange County District Reorganization No. 66 will detach approximately 1,000 acres from the DISTRICT, of which approximately 906 acres are located within CITY; and,

WHEREAS, Reorganization No. 66 will transfer to CITY the fixed assets of the detached portion of DISTRICT that are within CITY; and

WHEREAS, said Reorganization provides for DISTRICT to retain capacity rights in certain DISTRICT sewerage facilities to be transferred to CITY which will be needed by DISTRICT to transport wastewater from remaining areas of DISTRICT to the Orange County Sanitation District facilities; and,

WHEREAS, sewers transferred to CITY will remain connected to sewers retained by DISTRICT, and CITY will need capacity rights in these sewers to transport wastewater from the detached area within CITY to downstream portions of the same sewer transferred to CITY; and,

WHEREAS, a report prepared by Boyle Engineering Corporation for the City of Santa Ana entitled "Addendum to the June 1979 Engineering Report Update on Sewerage Facilities" dated July 27, 1984 indicates that certain shared sewers

within CITY or DISTRICT will not have adequate capacity for the wastewater from the planned ultimate development of the areas within DISTRICT and CITY tributary to said certain facilities; and,

WHEREAS, because capacity rights in certain sewerage facilities will be shared by DISTRICT and CITY, it is in the best interests of DISTRICT and CITY to enter into an agreement to provide for the cost sharing of maintenance of sewers in which DISTRICT and CITY will share capacity rights and to provide for funding of the construction of future sewers within CITY or DISTRICT that may be necessary to provide sufficient capacity to transport the combined ultimate wastewater flows from portions of DISTRICT and CITY to the Orange County Sanitation District facilities; and,

NOW, THEREFORE, in consideration of the payments herein provided and the several obligations hereof, the parties agree:

1. Shared Sewers

(a) CITY hereby grants to DISTRICT and DISTRICT hereby grants to CITY capacity rights so long as capacity is available in the shared sewers, the locations of which are shown on Exhibit A attached hereto and described in Exhibit B attached hereto. DISTRICT and CITY agree to use said shared sewers only to transport wastewater from those portions of DISTRICT or CITY within the tributary area as shown on said Exhibit A. The shared sewers, or portions thereof, shall be deemed to be at capacity when the measured peak flow has a depth equal to 75% of the sewer diameter.

When either party determines by field measurements that a portion of a shared sewer is flowing at capacity, as defined herein, they shall immediately notify the other party in writing, setting forth the limits, the measured flow, and the depth of the peak flow.

Upon determination and notification that a sewer is at capacity, both parties shall immediately cease issuance of any additional sewer connection permits to any tributary sewer. The cessation of issuance of sewer connection permits shall continue in force until additional sewer capacity has been constructed as provided for herein.

(b) CITY and DISTRICT agree to maintain their respective portions of the shared sewers as shown on Exhibit A in the same manner and at the same frequency as all other sewers maintained by CITY or DISTRICT.

(c) Replacement or Repair of Shared Sewers

Both parties agree that the shared sewers have a finite life and eventually, due to damage or deterioration, all or portions of the shared sewers may need to be replaced. When either party determines that a portion of a shared sewer within its jurisdiction is in need of major replacement, it shall immediately notify the other party in writing, setting forth a description and schedule of repair or replacement and the estimated cost thereof. Unless the work is required to abate a public health problem it shall be scheduled so that both parties can arrange for financing in the next following fiscal year. Work required to abate a public health problem shall be commenced immediately.

The cost of repair or replacement of each shared line shall be apportioned to each party as set forth in Exhibit B. The total cost shall include engineering, administration and construction expenses. Prior to starting the repair or replacement work, the initiating party shall bill the other party for their apportioned share. The other party shall promptly deposit the billed amount. Upon completion of the work and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill, or a refund for the difference between the actual apportioned cost and the deposit.

Any repair or replacement costing less than $5,000.00 may be done by force account. Repairs or replacements costing in excess of $5,000.00 shall be subject to a public bidding process.

If, within 30 days after notification, the notified party disagrees with the necessity or estimated cost or apportionment of the cost of the repair or replacement, they shall so notify the other party in writing. If the parties are unable to agree upon the need or cost of the repair or replacement, the matter may be submitted to arbitration as set forth in Section 4.

2. Future Sewers

It is anticipated that, as the tributary area to the shared sewers continues to develop, there will not be adequate capacity, as defined in Section 1, in some of the shared sewers. Exhibit C attached hereto shows the sizes and locations of parallel sewers and relief connections to Orange County Sanitation District facilities that are anticipated will be required in the future to provide capacity for ultimate planned development.

On or before October 1st of each year, each party shall determine whether the shared sewers within their jurisdication have sufficient capacity, as defined in Section 1, to provide service without limiting connections for the next calendar year. If it appears that adequate capacity will not be available, then the parties shall meet and determine within 60 days the size and estimated cost of a parallel relief sewer that, together with the existing sewer, will provide adequate capacity for ultimate planned development within the tributary area. Each party shall provide the estimated ultimate flows for their portion of the tributary area.

The cost of the new parallel sewer, including engineering, administration and construction shall be apportioned between the parties equal to

the ratio that each party's estimated ultimate peak flows bears to the combined ultimate peak flow.

The construction of the new line shall be scheduled to start after the next July 1st in order to permit both parties to budget the required funds.

Prior to commencing construction, the party within whose jurisdiction the new sewer will be located shall bill the other party for their apportioned share of the total cost. The other party shall promptly deposit the billed amount. Upon completion of the work, and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill or a refund for the difference between the actual apportioned cost and the deposit.

If one of the parties does not finance their apportioned share of the new parallel sewer, or relief connection, or for any other reason declines to participate, then the remaining party at their option may proceed to construct and finance a parallel sewer with capacity only for the tributary area within their jurisdiction. If this option is exercised, then the party choosing not to participate shall immediately cease issuance of sewer connection permits as provided for in Section 1(a). Such cessation of connection permits shall remain in effect until the non-participating party constructs sewer facilities with capacity for added flows from their tributary area or diverts the added flow to non-shared sewers.

3. Modifications

A pumping station in Fountain Valley now discharges sewage into the shared line in Edinger Avenue. In the event that the flow from this pumping station is discharged elsewhere, this agreement shall be modified as necessary to reflect the changed condition.

4. Arbitration

If the parties are unable to agree on the necessity, cost, or apportionment of repair or replacement of shared sewers, the matter may be submitted to arbitration before a 3-man arbitration board in the following manner:

Either party may, within 60 days after the date of the notification of the need for a repair or replacement, appoint one member of said arbitration board, giving notice thereof to the party making the first appointment to said board. The third member shall be appointed by the first two members. All members of said board shall be registered Civil Engineers in the State of California.

5. Notice

Any notice hereunder shall conclusively be deemed to have been given upon the date it is enclosed in a sealed envelope addressed to the party to whom intended at the following address:

If to the CITY: City of Santa Ana

Attention: Chief Engineer
Utilities Agency

If to the DISTRICT: Garden Grove Sanitary District

Attention: President, Board of Directors

6. Termination

The term of this agreement shall commence upon approval and execution of this document by both parties, and shall continue for so long as is necessary to carry out the purposes of this agreement.

This agreement may be terminated or amended at any time by the consent of both parties.

EXHIBIT B

Shared Sewer Location	Sewer Diameter	Located within	Apportionment[1] of Repair or Replacement Cost	
			District	City
Marty - Lewis to Siemon	8"	District	0%	100%
Marty - Lewis west to City Boundary	8"	District	44%	56%
Marty - City Boundary west to Laird	8"	City	44%	56%
Marty - Siemon to Lewis	8"	District	0%	100%
Laird - Marty to Trask	10"	City	31%	69%
Trask - Laird to Fairview	10"	City	28%	72%
Cotter - Downie to Marty	8"	City	67%	33%
Marty - Cotter to Fairview	8"	City	75%	25%
Fairview - Marty to Trask	8"	City	75%	25%
Westminster - Buena to Roxey	10"	District	0%	100%
Westminster - Roxey to Clinton	12"	District	37%	63%
Westminster - Clinton to Harper	12"	City	48%	52%
Westminster - Harper to Laurel	12"	City	42%	58%
Westminster - Laurel to Enterprise	12"	City	44%	56%
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Westminster - Nautilus to east of Harbor	12"	City	51%	49%
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Harbor - Westminster to Century	15"	City	39%	61%
Harbor - Century to Washington	15"	City	36%	64%
Harbor - Washington to Hazard	15"	City	25%	75%

EXHIBIT B

Shared Sewer Location	Sewer Diameter	Located within	Apportionment[1] of Repair or Replacement Cost District	City
Harbor - Hazard to 5th	15"	City	23%	77%
Harbor - 5th to 1st	15"	City	22%	78%
Harbor - Edinger to City Boundary	10"	District	0%	100%
Westminster - East of Newhope	10"	City	75%	25%
Westminster - East of Newhope to Newhope	10"	City	74%	26%
Westminster - Newhope west to City Boundary	10"	City	76%	24%
Westminster - City Boundary to Parsons	10"	District	78%	22%
Westminster - Parsons west to City Boundary	10"	District	79%	21%
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Westminster - Anita to Euclid	10"	City	92%	8%
Euclid - Westminster to Juarez	15"	City	91%	9%
Euclid - Juarez to Hazard	15"	City	83%	17%
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Edinger - 2280' east to 1950' east of Newhope	12"	District	36%	64%

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Shared Sewer Location	Sewer Diameter	Located within	Apportionment[1] of Repair or Replacement Cost District	City
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Edinger - City Boundary to Newhope	12"	City	39%	61%
Edinger - Harmon to Euclid	12"	City	33%	67%

(1) Apportionment based on ultimate average flows per report prepared by Boyle Engineering Corporation for the City of Santa Ana entitled "Addendum to the June 1979 Engineering Report Update on Sewerage Facilities" dated July 27, 1984.

·LEGEND·

CITY OF SANTA ANA BOUNDRY.

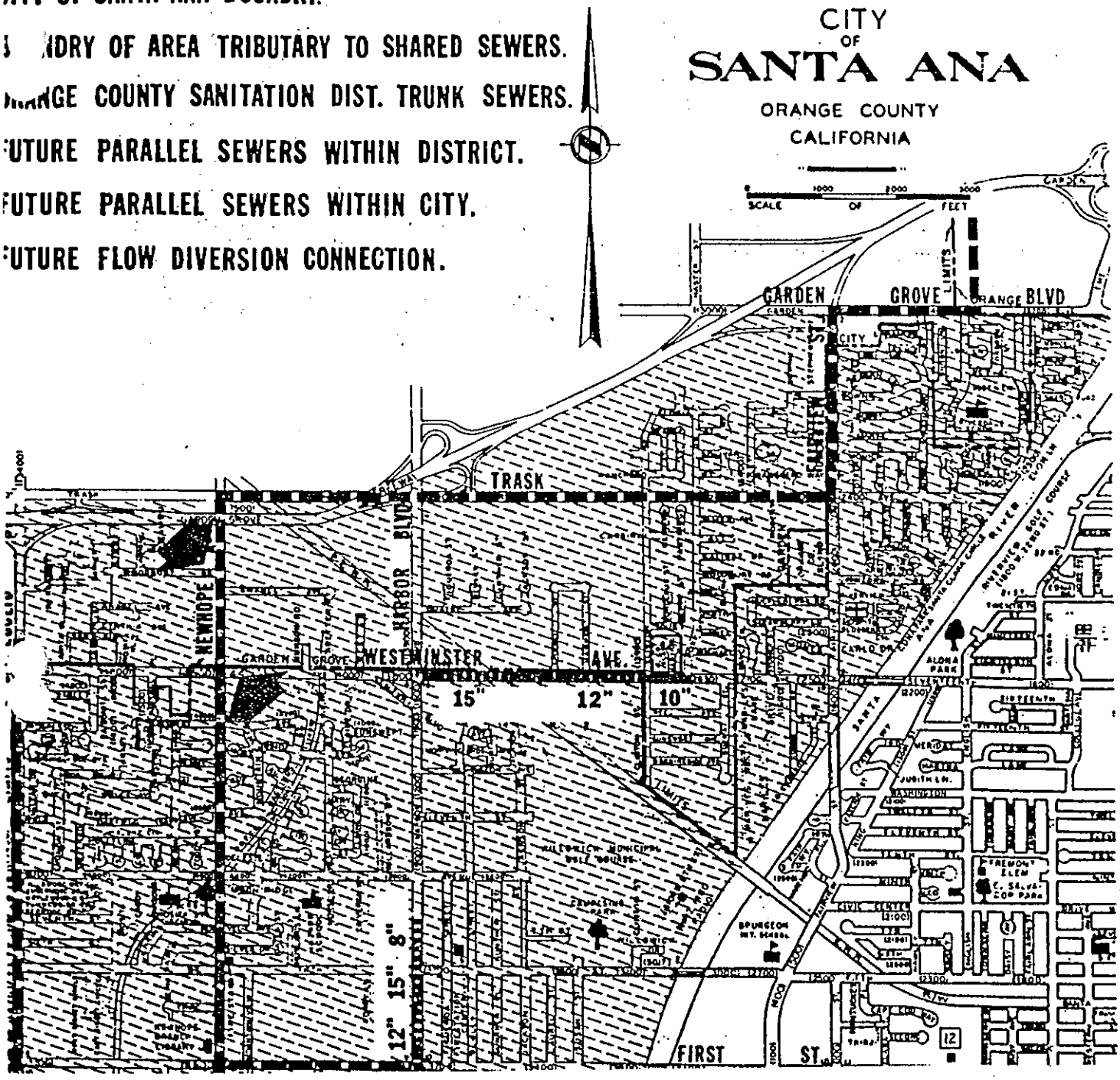
BOUNDRY OF AREA TRIBUTARY TO SHARED SEWERS.

ORANGE COUNTY SANITATION DIST. TRUNK SEWERS.

FUTURE PARALLEL SEWERS WITHIN DISTRICT.

FUTURE PARALLEL SEWERS WITHIN CITY.

FUTURE FLOW DIVERSION CONNECTION.



A-85-96

AGREEMENT

FOR

JOINT USE OF SEWERAGE FACILITIES

This agreement, made and entered into this 5th day of August, 19 85, between the City of Santa Ana, a municipal corporation, hereinafter referred to as "CITY", and the Garden Grove Sanitary District of Orange County, California, a sanitary district organized under the Sanitary District Act of 1923, hereinafter referred to as "DISTRICT".

W I T N E S S E T H

WHEREAS, Orange County District Reorganization No. 66 will detach approximately 1,000 acres from the DISTRICT, of which approximately 906 acres are located within CITY; and,

WHEREAS, Reorganization No. 66 will transfer to CITY the fixed assets of the detached portion of DISTRICT that are within CITY; and

WHEREAS, said Reorganization provides for DISTRICT to retain capacity rights in certain DISTRICT sewerage facilities to be transferred to CITY which will be needed by DISTRICT to transport wastewater from remaining areas of DISTRICT to the Orange County Sanitation District facilities; and,

WHEREAS, sewers transferred to CITY will remain connected to sewers retained by DISTRICT, and CITY will need capacity rights in these sewers to transport wastewater from the detached area within CITY to downstream portions of the same sewer transferred to CITY; and,

WHEREAS, a report prepared by Boyle Engineering Corporation for the City of Santa Ana entitled "Addendum to the June 1979 Engineering Report Update on Sewerage Facilities" dated July 27, 1984 indicates that certain shared sewers

Upon determination and notification that a sewer is at capacity, both parties shall immediately cease issuance of any additional sewer connection permits to any tributary sewer. The cessation of issuance of sewer connection permits shall continue in force until additional sewer capacity has been constructed as provided for herein.

(b) CITY and DISTRICT agree to maintain their respective portions of the shared sewers as shown on Exhibit A in the same manner and at the same frequency as all other sewers maintained by CITY or DISTRICT.

(c) Replacement or Repair of Shared Sewers

Both parties agree that the shared sewers have a finite life and eventually, due to damage or deterioration, all or portions of the shared sewers may need to be replaced. When either party determines that a portion of a shared sewer within its jurisdiction is in need of major replacement, it shall immediately notify the other party in writing, setting forth a description and schedule of repair or replacement and the estimated cost thereof. Unless the work is required to abate a public health problem it shall be scheduled so that both parties can arrange for financing in the next following fiscal year. Work required to abate a public health problem shall be commenced immediately.

The cost of repair or replacement of each shared line shall be apportioned to each party as set forth in Exhibit B. The total cost shall include engineering, administration and construction expenses. Prior to starting the repair or replacement work, the initiating party shall bill the other party for their apportioned share. The other party shall promptly deposit the billed amount. Upon completion of the work and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill, or a refund for the difference between the actual apportioned cost and the deposit.

the ratio that each party's estimated ultimate peak flows bears to the combined ultimate peak flow.

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Prior to commencing construction, the party within whose jurisdiction the new sewer will be located shall bill the other party for their apportioned share of the total cost. The other party shall promptly deposit the billed amount. Upon completion of the work, and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill or a refund for the difference between the actual apportioned cost and the deposit.

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3. Modifications

A pumping station in Fountain Valley now discharges sewage into the shared line in Edinger Avenue. In the event that the flow from this pumping station is discharged elsewhere, this agreement shall be modified as necessary to reflect the changed condition.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers, duly authorized, the provisions of which Agreement are effective as of the date first above written.

CITY OF SANTA ANA,
A Municipal Corporation

By _____
Mayor

ATTEST:

By _____
City Clerk

APPROVED AS TO FORM:

By _____
City Attorney

APPROVED AS TO CONTENT:

By _____
City Manager

GARDEN GROVE SANITARY DISTRICT,
a Sanitary District

By _____
Chairman

ATTEST:

By _____
Secretary

APPROVED AS TO FORM:

By _____
Counsel

EXHIBIT 'A'

LEGEND

- CITY OF SANTA ANA BOUNDRY.
- BOUNDRY OF AREA TRIBUTARY TO SHARED SEWERS.
- ORANGE COUNTY SANITATION DIST. TRUNK SEWERS.
- BOUNDRY OF AREA WITHIN CITY DETACHED FROM GARDEN GROVE SANITARY DISTRICT.
- SHARED SEWERS & DIAMETER TO BE MAINTAINED BY CITY.
- SHARED SEWERS & DIAMETER TO BE MAINTAINED BY DISTRICT.

CITY
OF
SANTA ANA
ORANGE COUNTY
CALIFORNIA

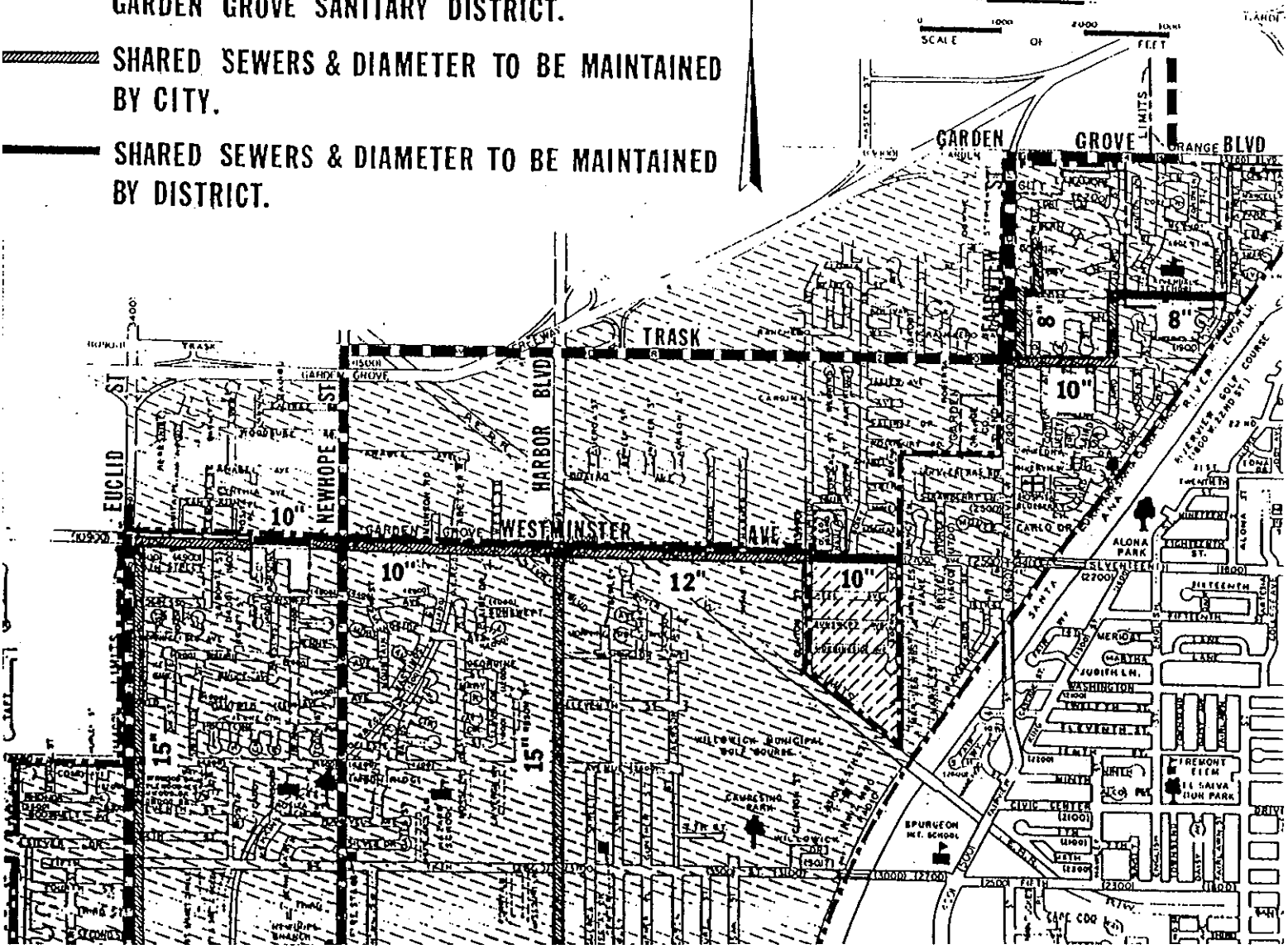

EXHIBIT B

Shared Sewer Location	Sewer Diameter	Located within	Apportionment[1] of Repair or Replacement Cost District	City
Marty - Lewis to Siemon	8"	District	0%	100%
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Harbor - Washington to Hazard	15"	City	25%	75%

EXHIBIT B

Shared Sewer Location	Sewer Diameter	Located within	Apportionment of Repair or Replacement Cost (1) District	City
Edinger - 1950' east to 1620' east of Newhope	12"	District	37%	63%
Edinger - 1620' east of Newhope to City Boundary	12"	District	39%	61%
Edinger - City Boundary to Newhope	12"	City	39%	61%
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(1) Apportionment based on ultimate average flows per report prepared by Boyle Engineering Corporation for the City of Santa Ana entitled "Addendum to the June 1979 Engineering Report Update on Sewerage Facilities" dated July 27, 1984.

A-85-96

AGREEMENT

FOR

JOINT USE OF SEWERAGE FACILITIES

This agreement, made and entered into this 5th day of August, 19 85, between the City of Santa Ana, a municipal corporation, hereinafter referred to as "CITY", and the Garden Grove Sanitary District of Orange County, California, a sanitary district organized under the Sanitary District Act of 1923, hereinafter referred to as "DISTRICT".

W I T N E S S E T H

WHEREAS, Orange County District Reorganization No. 66 will detach approximately 1,000 acres from the DISTRICT, of which approximately 906 acres are located within CITY; and,

WHEREAS, Reorganization No. 66 will transfer to CITY the fixed assets of the detached portion of DISTRICT that are within CITY; and

WHEREAS, said Reorganization provides for DISTRICT to retain capacity rights in certain DISTRICT sewerage facilities to be transferred to CITY which will be needed by DISTRICT to transport wastewater from remaining areas of DISTRICT to the Orange County Sanitation District facilities; and,

WHEREAS, sewers transferred to CITY will remain connected to sewers retained by DISTRICT, and CITY will need capacity rights in these sewers to transport wastewater from the detached area within CITY to downstream portions of the same sewer transferred to CITY; and,

WHEREAS, a report prepared by Boyle Engineering Corporation for the City of Santa Ana entitled "Addendum to the June 1979 Engineering Report Update on Sewerage Facilities" dated July 27, 1984 indicates that certain shared sewers

within CITY or DISTRICT will not have adequate capacity for the wastewater from the planned ultimate development of the areas within DISTRICT and CITY tributary to said certain facilities; and,

WHEREAS, because capacity rights in certain sewerage facilities will be shared by DISTRICT and CITY, it is in the best interests of DISTRICT and CITY to enter into an agreement to provide for the cost sharing of maintenance of sewers in which DISTRICT and CITY will share capacity rights and to provide for funding of the construction of future sewers within CITY or DISTRICT that may be necessary to provide sufficient capacity to transport the combined ultimate wastewater flows from portions of DISTRICT and CITY to the Orange County Sanitation District facilities; and,

NOW, THEREFORE, in consideration of the payments herein provided and the several obligations hereof, the parties agree:

1. Shared Sewers

(a) CITY hereby grants to DISTRICT and DISTRICT hereby grants to CITY capacity rights so long as capacity is available in the shared sewers, the locations of which are shown on Exhibit A attached hereto and described in Exhibit B attached hereto. DISTRICT and CITY agree to use said shared sewers only to transport wastewater from those portions of DISTRICT or CITY within the tributary area as shown on said Exhibit A. The shared sewers, or portions thereof, shall be deemed to be at capacity when the measured peak flow has a depth equal to 75% of the sewer diameter.

When either party determines by field measurements that a portion of a shared sewer is flowing at capacity, as defined herein, they shall immediately notify the other party in writing, setting forth the limits, the measured flow, and the depth of the peak flow.

Upon determination and notification that a sewer is at capacity, both parties shall immediately cease issuance of any additional sewer connection permits to any tributary sewer. The cessation of issuance of sewer connection permits shall continue in force until additional sewer capacity has been constructed as provided for herein.

(b) CITY and DISTRICT agree to maintain their respective portions of the shared sewers as shown on Exhibit A in the same manner and at the same frequency as all other sewers maintained by CITY or DISTRICT.

(c) Replacement or Repair of Shared Sewers

Both parties agree that the shared sewers have a finite life and eventually, due to damage or deterioration, all or portions of the shared sewers may need to be replaced. When either party determines that a portion of a shared sewer within its jurisdiction is in need of major replacement, it shall immediately notify the other party in writing, setting forth a description and schedule of repair or replacement and the estimated cost thereof. Unless the work is required to abate a public health problem it shall be scheduled so that both parties can arrange for financing in the next following fiscal year. Work required to abate a public health problem shall be commenced immediately.

The cost of repair or replacement of each shared line shall be apportioned to each party as set forth in Exhibit B. The total cost shall include engineering, administration and construction expenses. Prior to starting the repair or replacement work, the initiating party shall bill the other party for their apportioned share. The other party shall promptly deposit the billed amount. Upon completion of the work and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill, or a refund for the difference between the actual apportioned cost and the deposit.

Any repair or replacement costing less than $5,000.00 may be done by force account. Repairs or replacements costing in excess of $5,000.00 shall be subject to a public bidding process.

If, within 30 days after notification, the notified party disagrees with the necessity or estimated cost or apportionment of the cost of the repair or replacement, they shall so notify the other party in writing. If the parties are unable to agree upon the need or cost of the repair or replacement, the matter may be submitted to arbitration as set forth in Section 4.

2. Future Sewers

It is anticipated that, as the tributary area to the shared sewers continues to develop, there will not be adequate capacity, as defined in Section 1, in some of the shared sewers. Exhibit C attached hereto shows the sizes and locations of parallel sewers and relief connections to Orange County Sanitation District facilities that are anticipated will be required in the future to provide capacity for ultimate planned development.

On or before October 1st of each year, each party shall determine whether the shared sewers within their jurisdication have sufficient capacity, as defined in Section 1, to provide service without limiting connections for the next calendar year. If it appears that adequate capacity will not be available, then the parties shall meet and determine within 60 days the size and estimated cost of a parallel relief sewer that, together with the existing sewer, will provide adequate capacity for ultimate planned development within the tributary area. Each party shall provide the estimated ultimate flows for their portion of the tributary area.

The cost of the new parallel sewer, including engineering, administration and construction shall be apportioned between the parties equal to

the ratio that each party's estimated ultimate peak flows bears to the combined ultimate peak flow.

The construction of the new line shall be scheduled to start after the next July 1st in order to permit both parties to budget the required funds.

Prior to commencing construction, the party within whose jurisdiction the new sewer will be located shall bill the other party for their apportioned share of the total cost. The other party shall promptly deposit the billed amount. Upon completion of the work, and payment of all costs, the initiating party shall submit a report setting forth all costs incurred together with either a bill or a refund for the difference between the actual apportioned cost and the deposit.

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If the parties are unable to agree on the necessity, cost, or apportionment of repair or replacement of shared sewers, the matter may be submitted to arbitration before a 3-man arbitration board in the following manner:

Either party may, within 60 days after the date of the notification of the need for a repair or replacement, appoint one member of said arbitration board, giving notice thereof to the party making the first appointment to said board. The third member shall be appointed by the first two members. All members of said board shall be registered Civil Engineers in the State of California.

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Attention: Chief Engineer
Utilities Agency

If to the DISTRICT: Garden Grove Sanitary District

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This agreement may be terminated or amended at any time by the consent of both parties.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers, duly authorized, the provisions of which Agreement are effective as of the date first above written.

CITY OF SANTA ANA,
A Municipal Corporation

By _____
Mayor

ATTEST:

By _____
City Clerk

APPROVED AS TO FORM:

By _____
City Attorney

APPROVED AS TO CONTENT:

By _____
City Manager

GARDEN GROVE SANITARY DISTRICT,
a Sanitary District

By _____
Chairman

ATTEST:

By _____
Secretary

APPROVED AS TO FORM:

By _____
Counsel

EXHIBIT B

Shared Sewer Location	Sewer Diameter	Located within	Apportionment[1] of Repair or Replacement Cost District	City
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EXHIBIT B

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EXHIBIT C

·LEGEND·

CITY OF SANTA ANA BOUNDRY.

DRY OF AREA TRIBUTARY TO SHARED SEWERS.

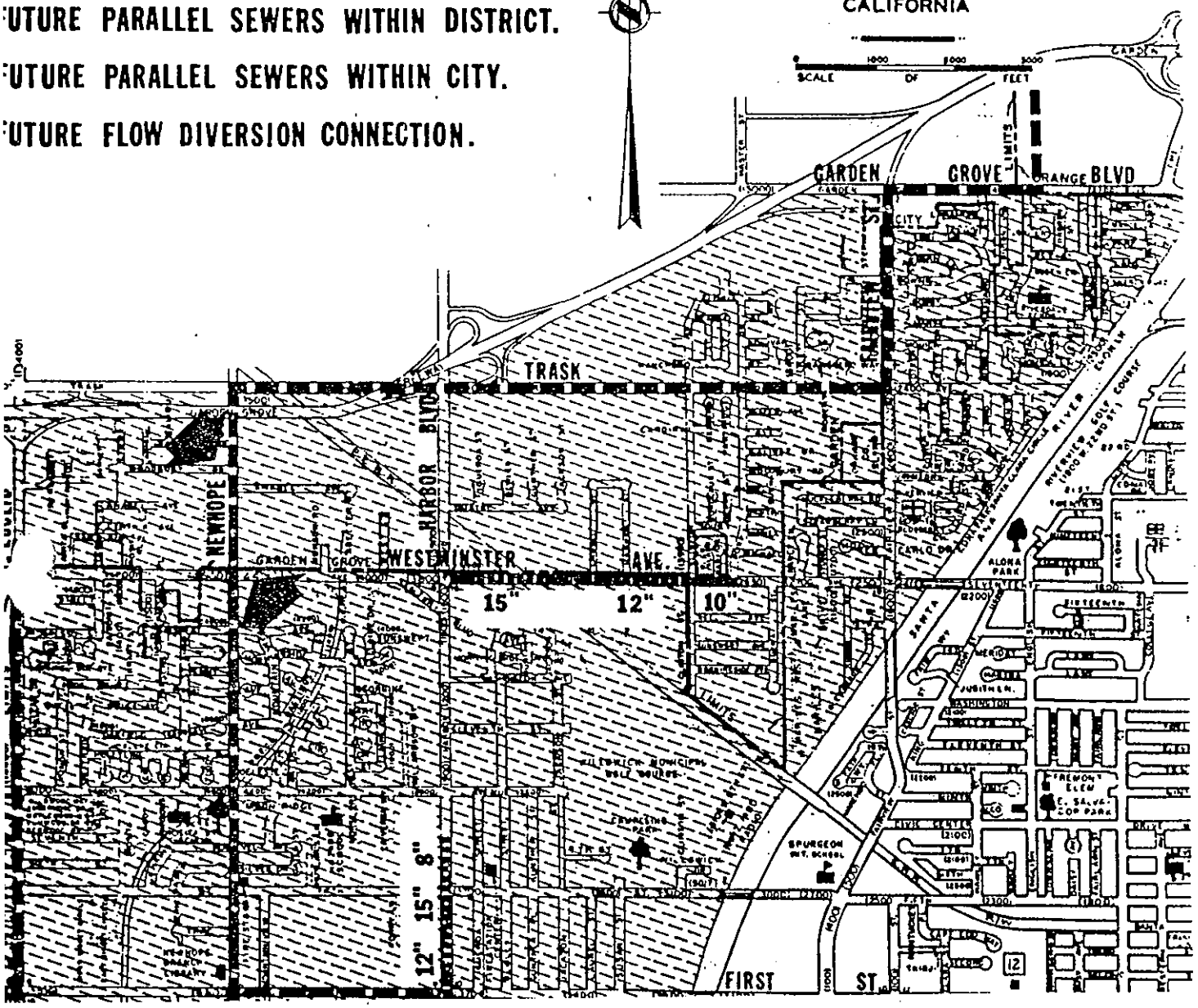
ORANGE COUNTY SANITATION DIST. TRUNK SEWERS.

FUTURE PARALLEL SEWERS WITHIN DISTRICT.

FUTURE PARALLEL SEWERS WITHIN CITY.

FUTURE FLOW DIVERSION CONNECTION.

CITY OF SANTA ANA
ORANGE COUNTY
CALIFORNIA



AGREEMENT

This Agreement is entered into this 12th day of January, 1988, by and between the CITY OF STANTON, hereinafter referred to as "City", a municipal corporation and GARDEN GROVE SANITARY DISTRICT, hereinafter referred to as "GGSD", a special district of the State of California.

R E C I T A L S

WHEREAS, the boundaries of the territory of the STANTON COUNTY WATER DISTRICT ("SCWD") include territory in the City of Stanton, the city of Garden Grove and a small portion of County of Orange territory along Knott Avenue, hereinafter referred to as the "KNOTT area"); and

WHEREAS, The City of Stanton is in the process of detaching all of the territory of the STANTON COUNTY WATER DISTRICT located within the boundaries of the CITY OF STANTON and all of the territory of the GGSD lying within the boundaries of the CITY OF STANTON; and

WHEREAS, said detachment will eliminate virtually all of the territory served by the SCWD except for an area of approximately 99 acres located in the CITY OF GARDEN GROVE lying south of Katella Avenue and east of Dale Avenue as shown on the Map attached hereto marked "Exhibit A" ("the 99 acres"); and

WHEREAS, it is not feasible for SCWD to remain in existence for the purpose of serving such a small area, and

WHEREAS, it is not feasible for the CITY OF STANTON to serve the 99 acre area, and

WHEREAS, GGSD has commenced proceedings to annex the 99 acres into its district boundaries on the basis that the CITY OF STANTON will compensate the GGSD as provided herein; and

WHEREAS, GGSD did commence said annexation in reliance upon said compensation agreement; and

WHEREAS, the reason for the CITY'S agreement to compensate GGSD is that there are no tax revenues flowing from the 99 acre area to support the services to be rendered and GGSD cannot afford to undertake the maintenance and service obligation without additional funds; and

WHEREAS, it would be unreasonable burden upon GGSD to undertake to service said territory without adequate revenues to pay for service.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. The obligations and responsibilities of this agreement shall become effective only if the CITY OF STANTON's detachment proceeding is successfully concluded and only if the GARDEN GROVE SANITARY DISTRICT annexation of territory is also successfully concluded.

2. Upon successful completion thereof, the parties agree to proceed as follows:

a. The CITY shall clean or arrange for the cleaning of all of the lines within the 99 ACRES within three months prior to the date of commencement of service by GGSD.

b. The parties shall cooperate to complete the transfer of assets from SCWD to CITY and to GGSD in a manner such that GGSD shall receive four and two-thirds percent (4-2/3%) of the

total assets of the SCWD.

c. At such time as the assets of SCWD are transferred to CITY and to GGSD, CITY shall also either transfer the sum of $35,000.00 in cash to GGSD or commence payment of the sum of $428.50 per month on the first day of each and every month for a term of 120 consecutive months.

d. All manholes in the 99 Acre area shall be brought up to grade or payment of a sum sufficient to cause the same to be done shall be made by CITY to SCWD.

3. Immediately after execution of this agreement the parties shall complete discussions and negotiations and prepare an agreement with respect to sewer capacity rights in the lines currently under the jurisdiction of each party.

CITY OF STANTON

By _____
MAYOR

GARDEN GROVE SANITARY DIST.

By _____
PRESIDENT

By _____
SECRETARY

ATTEST:

_____
CITY CLERK

Block 5947
Module 74,75
83,84,85,
93,94,95

EXHIBIT A

LEGAL DESCRIPTION
REORGANIZATION 101
GARDEN GROVE SANITARY DISTRICT
(Detachment of territory from the Stanton County Water District and Annexation of same to the Garden Grove Sanitary District)

That portion of the Northeast Quarter of Section 25, Township 4 South, Range 11 West, as shown on a map recorded in Book 51, Page 11 of Miscelloneous Maps, Records of the County of Orange, State of California, in the City of Garden Grove, of said county, more particularly described as follows:

Beginning at a point in the existing boundary line of the Garden Grove Sanitary District as established by "Engineers No. 656-59", said point being the Southwest corner of said "Engineers No. 656-59", said point also being the intersection of the centerline of Orangewood Avenue with the centerline of Magnolia Street, as shown on a map of Tract No. 3342, recorded in Book 113, pages 15 and 16, of Miscellaneous Maps, in the office of the County Recorder of said County and State;

Thence leaving said existing boundary line, North 89° 55'50" West along said centerline of Orangewood Avenue, also being the boundary line of the Stanton County Water district a distance of 308.83 feet to the Northeasterly line of the Pacific Electric Railway Right of Way (100.00 feet wide) as shown on said map of Tract No. 3342;

Thence North 53° 18'20" West along said Northeasterly line and along said boundary line a distance of 2998.88 feet to the Westerly right-of way line of Dale Street, also being the boundary line of the City of Garden Grove, as established by Northwest Annexation No. 1 to the City of Garden Grove.

Thence North 00° 32'15" West along said boundary line of the City of Garden Grove a distance of 919.17 to the Northerly right-of-way line of Katella Avenue, also being the Northerly boundary line of the City of Garden Grove.

Thence North 89° 14'45" East along said boundary line a distance of 1329.28 feet to a point in said existing boundary line of the Garden Grove Sanitary District, as established by "Engineers No. 244", said point being in the Westerly line of said "Engineers No. 244";

Thence South 00° 12'02" West along said existing boundary line a distance of 40.00 feet to the Southwest Corner of said Engineers No. 244

Thence North 89° 14'45" East along said existing boundary line and said centerline of Katella Avenue a distance of 246.00 feet to an angle point in said existing boundary line;

Block 5947
Module 74,75
83,84,85
93,94,95

EXHIBIT A

LEGAL DESCRIPTION
REORGANIZATION 101
GARDEN GROVE SANITARY DISTRICT
(Detachment of Territory from Stanton County Water District and Annexation of same to Garden Grove Sanitary District)

Thence leaving said existing boundary line North 89° 14'45" East along said centerline of Katella Avenue a distance of 98.86 feet to a point in said existing boundary line as established by said "Engineers No. 244", said point being distant North 89° 14'45" East 344.86 feet from the Southwest corner of said "Engineers No. 244";

Thence continuing along said existing boundary line as established by said "Engineer's No. 244", "Engineers No. 790" and Engineers No. 969-62" the following courses:

North 89° 14'45" East a distance of 491.98 feet to the Southeast corner of said "Engineers No. 790";

South 00° 46'50" West a distance of 330.00 feet to the Southwest corner of said "Engineers No. 969-62";

Thence leaving said existing boundary line, continuing South 00 46'50" West along said Stanton County Water District boundary a distance of 170.00 feet;

Thence North 89° 14'45" East along said boundary a distance of 234.46 feet to an angle point in said existing boundary line of the Garden Grove Sanitary District as established by "Engineers No. 1062-63", said point being the Northwest corner of said "Engineers No. 1062-63";

Thence along said existing boundary line as established by said "Engineers No. 1062-63", "Engineers No. 210", "Engineers No. 394" and "Engineers No. 294" the following courses:

South 00° 46'50" East a distance of 174.00 feet;

North 89° 24'16" East a distance of 279.94 feet;

South 00° 46'50" East a distance of 270.78 feet;

South 89° 33'46" West a distance of 540.00 feet;

South 00° 46'50" East a distance of 764.00 feet;

North 89° 33'46" East a distance of 540.01 feet;

South 00° 46'50" East a distance of 210.78 feet to an angle point in said existing boundary line, said point being distant South 00° 46'50" East 434.16 feet from the Northwest corner of said "Engineers No. 294";

Block 5947
Module 74,75,83,84
85,93,94,95

EXHIBIT A

LEGAL DESCRIPTION
REORGANIZATION 101
GARDEN GROVE SANITARY DISTRICT

(Detachment of territory from the Stanton County Water District and Annexation of same to the Garden Grove Sanitary District)

Thence leaving said existing boundary line, continuing South 00°46'50" East along the centerline of Magnolia Street a distance of 100.00 feet to a point in said existing boundary line as established by "Engineers No. 1197-65", said point being the Northwest corner of said "Engineers No. 1197-65";

Thence continuing South 00°46'50" East along said existing boundary line as established by said "Engineers No. 1197-65", "Engineers No. 965-62" and "Engineers No. 656-59" a distance of 635.00 feet to the Point of Beginning.

The above described land contains 99.85 acres, more or less and is contiguous to the existing Garden Grove Sanitary District boundary.

All as more particularly shown on a map designated as "Exhibit B", attached hereto and by reference made a part hereof.

Prepared by:

BSI CONSULTANTS, INC.

J. Thomas Baine

J. Thomas Baine, RCE 15795

REGISTERED PROFESSIONAL ENGINEER
JOHN THOMAS BAINE
EXPIRES 6-30-89
No. 15795
CIVIL
STATE OF CALIFORNIA

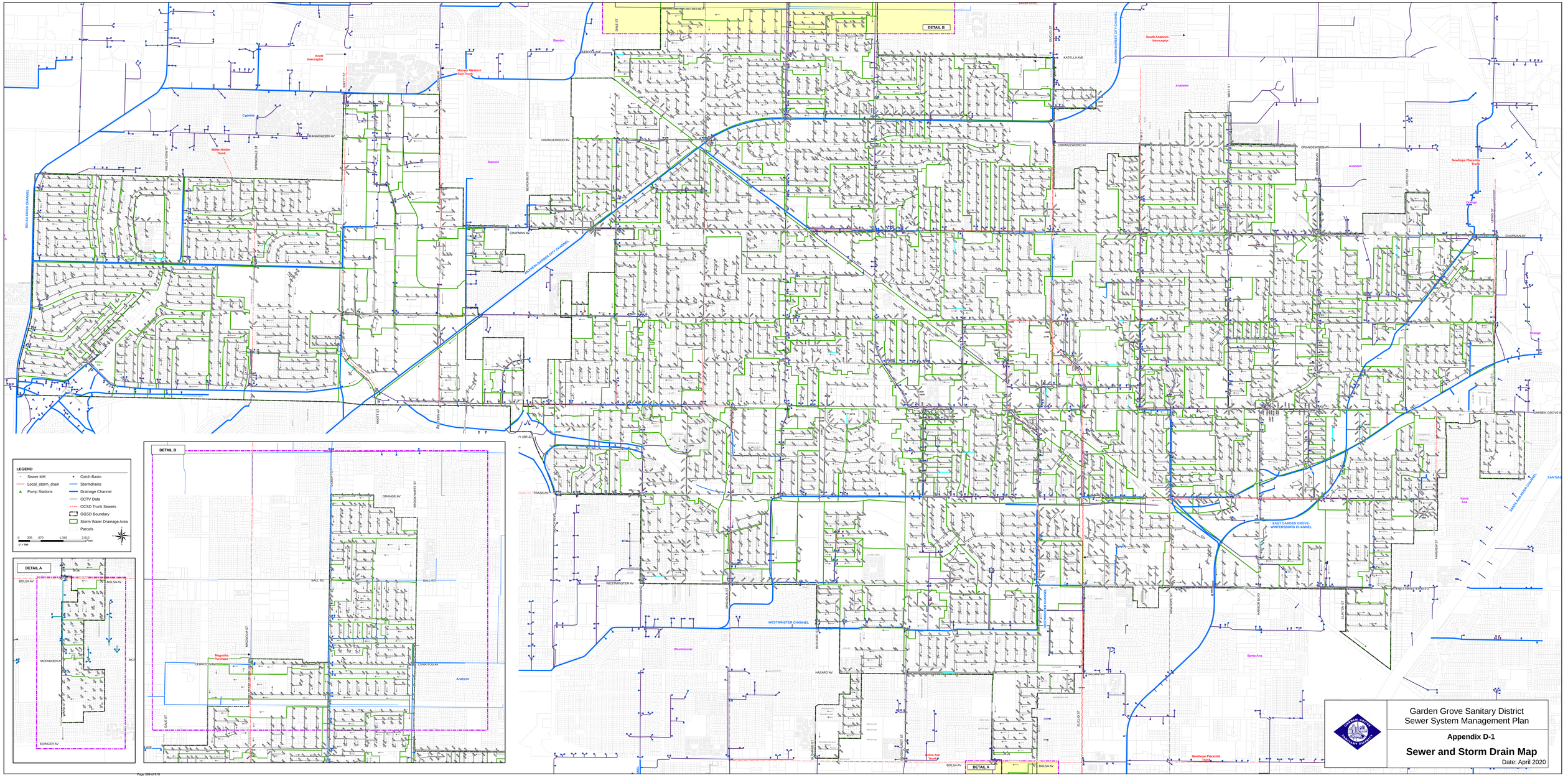
This proposal does meet the approval of the Orange County Surveyors Office
C.R. Nelson, County Surveyor

By: _____
Deputy County Surveyor

Date: AUGUST 13, 1987

Appendix D-1

Sewer and Storm Drain Map


DETAIL B
DETAIL A
LEGEND
Sewer MH
Local_storm_drain
Pump Stations
Catch Basin
Stormdrains
Drainage Channel
CCTV Data
OCSD Trunk Sewers
GGSD Boundary
Storm Water Drainage Area
Parcels
0 335 670 1,340 2,010
Feet
1" = 799'
Knott Interceptor
Hoover Western Sub-Trunk
South Anaheim Interceptor
Miller Holder Trunk
Newhope Placentia Trunk
Orange
Santa Ana
Anaheim
Stanton
Cypress
Westminster
Garden Grove
BOLSA CHICA CHANNEL
ORANGE COUNTY FLOOD CHANNEL
HUNTINGTON BEACH-GARDEN GROVE CHANNEL
WESTMINSTER CHANNEL
EAST GARDEN GROVE-WINTERSBURG CHANNEL
SANTA ANA RIVER CHANNEL
ORANGEWOOD AV
CHAPMAN AV
KATELLA AVE
TRASK AV
WESTMINSTER AV
HAZARD AV
BOLSA AV
EDINGER AV
BALL RD
ORANGE AV
CERRITOS AV
MCFADDEN AV
BEACH BLVD
KNOTT ST
DALE ST
MAGNOLIA ST
BROOKHURST ST
EUCLID ST
HARBOR BLVD
WEST ST
WALNUT ST
Magnolia Purchase
Santa Ana Trunk
Newhope Placentia Trunk
Garden Grove Sanitary District
Sewer System Management Plan
Appendix D-1
Sewer and Storm Drain Map
Date: April 2020

Appendix D-2

Pump Station Description

APPENDIX D-2

PUMP STATION DESCRIPTION

D2-1 Belgrave Pump Station

The Belgrave Sewage Pump Station is submersible pump station located adjacent to and behind 5856 Belgrave Avenue, Garden Grove, CA. The pump station is located within a Montessori school parking lot, just north of Belgrave Channel, an Orange County Flood Control District facility. The station was originally constructed in the early 1960's by the Midway City Sanitary District and upgraded/rebuilt in 2013 by the Garden Grove Sanitary District. The ground elevation at the pump station site is 29.0 ft amsl.

Belgrave Pump Station serves a 277.8 acre tributary area consisting of mostly low density residential, as well as some medium density, community residential, and light commercial areas.

Pumps

Belgrave Pump Station has two (2) WEMCO Hydrostal submersible pumps (Model F6K-M) with screw-centrifugal impellers. The pumps are driven by 60 HP motors. Per the certified pump testing curves, the pump deliver 1,400 gpm at a total dynamic head of 86 to 89 feet when operating at 1750 rpm. The Garden Grove Sanitary District has an identical spare pump, which can be installed at the facility if one pump has to be removed for service.

Wet Well

The wet well is a reinforced concrete, T-Lock lined rectangular structure with dimensions 7' by 11.17', and 19.83' high. The bottom of the structure is located at elevation 8.0 ft. amsl.

Forcemain

The wastewater tributary to the Belgrave Pump Station is pumped through approximately 3,700 ft of 12 inch diameter DR 14 PVC forcemain piping. The forcemain was constructed in 1999. It extends from the south side of the dry well, towards the Belgrave Channel, and east along the north side of the channel past Valley View, to the OCSD's Miller-Holder Trunk Sewer located in Springdale Street.

D2-2 Tiffany Pump Station

The Tiffany Sewage Pump Station is submersible pump station located at 12775 Valley View St. Garden Grove, CA. It has a ground surface elevation of 24.74 ft amsl. The station sits at the southwest corner of an office complex parking lot located on the south west corner of Valley View St and Tiffany Ave. The station was originally constructed in the early 1960's by the Midway City Sanitary District and transferred to the Garden Grove Sanitary District in 1997. The Garden Grove Sanitary District constructed the new Tiffany Pump Station in 2010.

Tiffany Pump Station serves a 222.2 acre tributary area consisting of mostly low density residential with some light commercial areas.

Pumps

Tiffany Pump Station has two (2) WEMCO Hydrostal submersible pumps (Model F6K-H) with screw-centrifugal impellers. The pumps are driven by 75 HP motors. Per the certified pump curves, the pumps deliver 1,560 gpm at a total dynamic head of 104 feet when operating at 1785 rpm.

Wet Well

The wet well is a reinforced concrete, T-Lock lined rectangular structure with overall inside dimensions of 19.67' wide, 29' long, and 29' high at the operational wet well. The bottom elevation is -5.26 ft. amsl. The wet well is divided onto an operational storage section which is 12' long, and an emergency storage section which is 16' long. The emergency storage is separated from the pump operational storage by a 1' thick and 7' high weir structure (top elevation of 8.21 feet amsl).

Forcemain

The wastewater tributary to the Tiffany Pump Station is pumped through approximately 5,370 ft of 12 inch diameter PVC pipe. The forcemain extends from the north-east side of the dry well. It then extends south-east on the north side of the Garden Grove Freeway off ramp at Valley View Street, and east on the north side of the Garden Grove Freeway to the OCSD's Miller-Holder Trunk Sewer located in Springdale Street.

D2-3 Partridge Pump Station

The Partridge Sewage Pump Station is submersible facility located to the east of Partridge Street cul-de-sac north of the Thunderbird Mobile home Park, south of Garden Grove Boulevard. The station was completed in 2010.

Tiffany Pump Station serves a 14.0 acre tributary area consisting of mostly low medium density residential, office professional, and open space.

Pumps

Partridge Pump Station has two submersible pumps with 120 gpm capacity at 17' total dynamic head.

Wet Well

The wet will is an 8-foot diameter precast concrete structure that is 19.75' tall. The bottom elevation is 88 feet amsl.

Forcemain

The wastewater tributary to the Partridge Pump Station is pumped through approximately 410 ft of 4 inch diameter PVC forcemain. The forcemain extends north from the pump station along Partridge Street to the gravity sewer at Partridge and Garden Grove Boulevard.

Appendix D-3

CCTV Database

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched?(Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe Length (ft) | CCTV Length (ft) | Crack C L | Crack C C | Crack C M | Crack C S | Crack H L | Fracture F L | Fracture F C | Fracture F M | Fracture F S | Fracture F H | Broken B SV | Hole H VV | Hole H SV | Hole H VV | Joint O S | Joint M L | Joint S M | Joint S L | Joint A | Joint V | Joint H | Joint P | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Fine (F) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Medium (M) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Line L LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
|---|---|---

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Structural Defect Coding: Crack C | Crack F | Fracture B | Broken H | Hole J | Joint O | Joint S | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Line L LD | Line L RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
|---|---|---

Phase	Priority	Ranking	Repair Completion Date	2018_Project	General: Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location: Street Name	CCTV Date	Existing MH ID: Start	Existing MH ID: End	Previous MH ID: Start	Previous MH ID: End	Direction of Camera	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID	Pipe: Size (in)	Pipe: Material	Pipe: Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)
1	2_Major	14				32		10				x	10000 Garden Grove Blvd.	4/1/2004			MHM130001	MHM130002	DS		SPM130029	10	VCP	4		314	314
1	2_Major	16				46		6				x	13371 Cypress St.	5/6/2004			MHO140010-A	MHO140012-A	DS		SPO140048	8	VCP			5	5
1	2_Major	19		X		8		20					12635 Main St.	2/18/2004	11771	11772	MHO110004	MHO110005	DS	4791	SPO110004	8	VCP			307	195
2	2_Major	20					G030	5					CHAPMAN AV	8/29/2005	13117	13118	MHQ090047	MHQ090048	D/S	6274	SPQ090059	12	VCP			265	258.5
2	2_Major	22					R064	5				Y	EASEMENT	12/5/2005	6737	6738	MHS130004	MHS130005	D/S	558	SPS130014	8	VCP			382	383.0
2	2_Major	23					R052	1				Y	CHAPMAN AV	11/3/2005	12984	12985	MHQ090059	MHQ090060	D/S	6279	SPQ090008	18	VCP			400	405.1
2	2_Major	24					G027	8				Y	TIMMY LN	8/23/2005	13078	13079	MHR080006	MHR080007	D/S	5643	SPR080018	8	VCP			241	242.1
2	2_Major	27					G048	6					VOLKWOOD ST	10/17/2005			MHS110011	MHS110012	D/S		SPS110009	8	VCP			335	334.7
5	2_Major	82			PPT		MAP 3-B3-2	13				Y	CENTRAL AVENUE	8/10/2012	11176	11193	MHO140002	MHO140005	D/S	2492	SPO140033	6	VCP			320	328.4
5	2_Major	83		X	PPT		MAP 3-5	19				Y	ACACIA PARKWAY/ALLEY	7/27/2012	11843	11842	MHO120017	MHO120016	U/S	6926	SPO120014	8	Clay Tile			310	306
5	2_Major	84			PPT		MAP 3-B3-5	29				Y	PARTRIDGE ST	8/29/2012	6700	6699	MHS130024	MHS130023	U/S	524	SPS130009	8	VCP			128	128.4
5	2_Major	85			PPT		MAP 3-B3-1	30				Y	8TH STREET	8/1/2012	11419	11410	MHP110035	MHP120004	D/S	5273	SPP110021	6	Clay Tile			325	325.2
5	2_Major	86			PPT		MAP 2-2-2	3				Y	MOEN STREET	7/2/2012	8569	8570	MHJ070007	MHJ070008	D/S	2068	SPJ070008	8	Clay Tile			111	108.7
5	2_Major	87			PPT		MAP 3-B3-1	11				Y	STANFORD AVENUE	8/3/2012	11025	11026	MHP120025	MHP120026	D/S	5140	SPP120018	8	VCP			334	329.5
5	2_Major	88			PPT		June Map 1	5				Y	KNOTT STREET	6/7/2012	8163	8164	MHG090050	MHG100011	D/S	1682	SPG090002	10	VCP			408	412.8
5	2_Major	89			PPT		June Map 1	22				Y	KNOTT STREET	6/27/2012	8141	8142	MHH120008	MHG120029	D/S	918	SPH120008	8	Clay Tile			427	424.8
5	2_Major	90			PPT		MAP 4-B1-5	17				Y	11th STREET	9/19/2012	6907	6925	MHM180005	MHN180005	D/S	527	SPM180005	8	VCP			283	282.6
5	2_Major	92			PPT		MAP 3-B2-6	10				Y	CHAPMAN AVE	8/30/2012	12245	12244	MHT090029	MHU090001	U/S	6027	SPT090020	10	VCP			320	296.8
5	2_Major	93			PPT		Map 1 May	16				Y	FAIRCHILD STREET	5/17/2012	7836	7840	MHE080024	MHE080027	D/S	986	SPE080004	8	VCP			260	257.1
5	2_Major	94			PPT		MAP 4-B1-5	2				Y	HARBOR BLVD	9/26/2012	7548	7549	MHR160020	MHR160021	D/S	571	SPR160022	8	VCP			71	228
5	2_Major	95			PPT		June Map 1	20				Y	BELGRAVE AVE	6/27/2012	7776	7786	MHE090020	MHE090015	D/S	1409	SPE090035	8	VCP			350	353.3
5	2_Major	96			PPT		Map 1 May	8				Y	VANGUARD AVENUE	5/16/2012	7340	7341	MHG090028	MHG090029	D/S	1481	SPG090042	8	VCP			227	225.7
5	2_Major	97			PPT		MAP 3-B2-2	3				Y	HOLYOAK LANE	8/16/2012	13034	13035	MHR080008	MHR080009	D/S	6562	SPR080005	8	VCP			345	353.8
5	2_Major	98			PPT		MAP 3-B2-2	1				Y	HOLYOAK LANE	8/16/2012	13034	13033	MHR080008	MHR070004	U/S	6561	SPR080004	8	VCP			325	343.9
5	2_Major	101		X	PPT		MAP 3-6	17				Y	WESTLAKE STREET	7/26/2012	11834	11835	MHO120007	MHO120008	D/S	5397	SPO120006	8	Clay Tile			336	336.1
5	2_Major	102			PPT		MAP 1	8				Y	VANGUARD AVENUE	5/11/2012	8280	8281	MHG090019	MHG090020	D/S	1067	SPG090020	8	VCP			246	245
5	2_Major	103			PPT		MAP 3-B3-4	32				Y	LEMONWOOD LANE	8/28/2012	10902	10903	MHQ130022	MHQ130023	D/S	4461	SPQ130026	8	VCP			205	201.1
5	2_Major	104			PPT		MAP 3-5	13				Y	LAW DRIVE	7/24/2012	11270	11229	MHN100049	MHN100049	D/S	2922	SPN100033	8	Clay Tile			280	271.6
5	2_Major	105			PPT		MAP 3-B3-1	24					LAMPSON AVENUE	8/2/2012	12585	12586	MHP110020	MHP110021	D/S	5087	SPP110012	6	Clay Tile			130	124.6
5	2_Major	106			PPT		MAP 3-B2-5	11				Y	FIREBRAND STREET	8/27/2012	12729	12730	MHS090018	MHS090019	D/S	6508	SPS090004	8	VCP			269	273.5
5	2_Major	107			PPT		MAP 3-B2-2	2				Y	HOLYOAK LANE	8/16/2012	13035	13036	MHR080009	MHR080010	D/S	6563	SPR080006	8	VCP			265	256.5
5	2_Major	108			PPT		MAP 3-B2-5	10				Y	FIREBRAND STREET	8/27/2012	12730	12731	MHS090019	MHS090020	D/S	6509	SPS090005	8	VCP			270	271.3
5	2_Major	111			PPT		MAP 2 July 1	14				Y	DALE STREET	6/21/2012	8047	8513	MHK070049	MHK070043	D/S	1901	SPK070030	8	VCP			358	367
5	2_Major	112		X	PPT		MAP 3-1	5				Y	HACKAMORE RD	7/20/2012	11278	11279	MHN090022	MHN090023	D/S	2880	SPN090020	8	VCP			350	355.4
5	2_Major	113			PPT		June Map 2 B1	68				Y	KATELLA AVE	6/14/2012	7983	7984	MHK050046	MHJ050001	D/S	1839	SPK050026	8	VCP			225	228.4
5	2_Major	114	2012-07-31		PPT		MAP 4-B2-2	22				Y	ALLEY	9/12/2012	7004	6993	MHK160016	MHK160038	D/S	334	SPK160028	8	VCP			264	262.5
5	2_Major	115		X	PPT		MAP 3-B5	22				Y	NELSON STREET	9/6/2012	12263	12264	MHO120019	MHO130006	D/S	3024	SPO120017	6	VCP		7	150	200
5	2_Major	116			PPT		MAP 2-1-2	7				Y	LANAKILA LN	7/10/2012	10752	10753	MHM110037	MHM110038	D/S	2670	SPM110026	8	VCP			240	241.6
5	2_Major	117		X	PPT		MAP 2-1-4	17				Y	FAYE AVE	7/18/2012	11274	11275	MHN090019	MHN090020	D/S	2876	SPN090017	8	VCP			270	272.3
5	2_Major	118		X	PPT		MAP 3-B3-1	26				Y	8TH STREET	8/2/2012	11413	10874	MHP120008	MHP130031	D/S	5278	SPP120007	8	Clay Tile			331	328
5	2_Major	119			PPT		MAP 3-B5	29				Y	GARDEN GROVE	9/5/2012	11014	11018	MHP130008	MHP130013	D/S	4449	SPP130031	10	VCP			50	330.1
5	2_Major	120			PPT		June Map 2 B1	2				Y	PARADE STREET	6/4/2012	9295	9296	MHM990026	MHM990027	D/S	3447	SPM990025	8	VCP			300	303.2
4	3_Moderate	1					P COUNTY	1				Y	MARKEV	10/8/2007	9643	9644	MHL040021	MHL040024	U/S	5523	SPL040024	8	VCP			333	342.8
4	3_Moderate	2					P COUNTY	3				Y	MARKEV	10/8/2007	9642	9641	MHL040020	MHL040019	U/S	5518	SPL040019	8	VCP			254	249.7
4	3_Moderate	3					3	2204				Y	COLCHESTER	6/19/2006	9312	9311	MHM000011	MHM000010	U/S	3461	SPM000004	8	VCP			83	79.6
4	3_Moderate	4					P COUNTY	3				Y	MARKEV	10/8/2007	9643	9642	MHL040021	MHL040020	U/S	5519	SPL040020	8	VCP			243	256.6
3	3_Moderate	5			PPT		33	32					ORANGEWOOD	8/14/2007	9656	9919	CON060005	MHN060005	D/S	4876	SPN060033	8	VCP			140	139
4	3_Moderate	5					P COUNTY	11				Y	BROOKHURST ALLEY	10/9/2007	9274	9273	MHM030031	MHM030030	U/S	4371	SPM030006	8	VCP			230	227.8
3	3_Moderate	6			GGSD		30	1041				Y	FAIRCHILD	1/31/2005	7845	7846	MHD080017	MHD080021	U/S	987	SPD080001	8	VCP			258	255
4	3_Moderate	6					7	2268				Y	HARRIET LN	8/14/2006	9219	9223	MHM020033	MHM020029	U/S	3592	SPM020025	8	VCP			300	296.2
3	3_Moderate	7			GGSD		32	1062				Y	MANLEY	2/9/2005	8632	8633	MHD090010	MHD090011	D/S	1924	SPD090009	8	VCP			259	260
4	3_Moderate	7					7	2267				Y	HARRIET LN	8/14/2006	9223	9222	MHM020033	MHM020032	U/S	3591	SPM020024	8	VCP			300	298.0
3	3_Moderate	8			GGSD		32	1074				Y	BELGRAVE	2/17/2005	8644	8645	MHD090023	MHD090024	D/S	1713	SPD090021	12	VCP			169	166

Structural Defect Coding: Crack: C (L, C, M, S, H); Fracture: F (L, C, M, S, H); Broken: B (SV, VV); Hole: H (SV, VV); Joint: J (O: S, M; S: L, S, M, L, A); Deformed: D; Collapsed Pipe: C; Surface Damage: S; Lining Failure: LF; Point Repair: RP; Slope: S; WL

Phase	Priority	Ranking	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
1	2_Major	14			3	3.00
1	2_Major	16			3	3.00
1	2_Major	19			32	1.00
2	2_Major	20			36	74
2	2_Major	22			33	66
2	2_Major	23			32	64
2	2_Major	24			22	44
2	2_Major	27			22	44
5	2_Major	82	514A	42	128	3.05
5	2_Major	83	5144	26	80	3.08
5	2_Major	84	5143	11	33	3.00
5	2_Major	85	5142	46	111	2.41
5	2_Major	86	5141	3	11	3.67
5	2_Major	87	5141	40	110	2.75
5	2_Major	88	5141			
5	2_Major	89	5141	2	9	4.50
5	2_Major	90	5134	11	24	2.18
5	2_Major	92	5131	2	8	4.00
5	2_Major	93	5131	2	8	4.00
5	2_Major	94	5111	2	6	3.00
5	2_Major	95	5100	1	5	5.00
5	2_Major	96	4F31	39	155	3.97
5	2_Major	97	4D3C	76	225	2.96
5	2_Major	98	4C3E	79	231	2.92
5	2_Major	101	4B3H	74	225	3.04
5	2_Major	102	4B3D	54	172	3.19
5	2_Major	103	4B3C	43	144	3.35
5	2_Major	104	4B3B	42	132	3.14
5	2_Major	105	4B33	21	81	3.86
5	2_Major	106	4A3D	61	190	3.11
5	2_Major	107	4A3C	46	132	2.87
5	2_Major	108	4A3D	55	173	3.15
5	2_Major	111	493B	70	146	2.09
5	2_Major	112	483F	82	222	2.71
5	2_Major	113	483A			
5	2_Major	114	453C	49	130	2.65
5	2_Major	115	443K	81	226	2.79
5	2_Major	116	433B	45	107	2.38
5	2_Major	117	423D	64	176	2.75
5	2_Major	118	413K	71	198	2.79
5	2_Major	119	413H	71	178	2.51
5	2_Major	120	4133	20	56	2.80
4	3_Moderate	1			8	22	2.75
4	3_Moderate	2			7	19	2.71
4	3_Moderate	3			5	15	3.00
4	3_Moderate	4			6	16	2.67
3	3_Moderate	5			3	6	2.00
4	3_Moderate	5			3	9	3.00
3	3_Moderate	6			12	24	2.00
4	3_Moderate	6			45	92	2.04
3	3_Moderate	7			20	40	2.00
4	3_Moderate	7			37	82	2.22
3	3_Moderate	8			1	2	2.00

Operational and Maintenance: Deposits: AGS; D: AE (B, %), AE (L, %), Other (Z, %); Roots (R): Fine (F): (B, L, J); Tap (T): (C, B, L, J); Medium (M): (C, B, L, J); Ball (B): (C, B, L, J); Infiltration: I: (C, G, D, R, W); Obstacles: OB: (C, Z, %); Other: (C, %); Vermin: V: (C, R)

Phase	Priority	Ranking	AGS	D: AE: B	D: AE: %	D: AE: L	D: AE: %	D: Other: Z	D: Other: %	Fine (F): B	Fine (F): L	Fine (F): J	Tap (T): C	Tap (T): B	Tap (T): L	Tap (T): J	Medium (M): C	Medium (M): B	Medium (M): L	Medium (M): J	Ball (B): C	Ball (B): B	Ball (B): L	Ball (B): J	I: C	I: G	I: D	I: R	I: W	OB: C	OB: Z	OB: %	Other: C	Other: %	V: C	V: R
1	2_Major	14	34																														2	
1	2_Major	16																																
1	2_Major	19								1																								
2	2_Major	20	1			1	5.00																						1	20				
2	2_Major	22	23			6	80.00					2	7																					
2	2_Major	23																											1	5				
2	2_Major	24		16	5.00					1		9																						
2	2_Major	27	3									9	1																					
5	2_Major	82	77					0				7																						
5	2_Major	83	6					15				2																						
5	2_Major	84										11	1									1	1											
5	2_Major	85						33				3																						
5	2_Major	86						32				1	1						1															
5	2_Major	87						30																										
5	2_Major	88	2																															
5	2_Major	89										1																						
5	2_Major	90																	2														1	
5	2_Major	92						97																									9	
5	2_Major	93						44																										
5	2_Major	94				1	5					17					1		1															
5	2_Major	95		5																														
5	2_Major	96						44																										
5	2_Major	97	4					0		1	5																						4	
5	2_Major	98						14																										
5	2_Major	101	56	1				32																									9	
5	2_Major	102		17				1				1							3														4	
5	2_Major	103										2																						
5	2_Major	104	10																														2	
5	2_Major	105										1																						
5	2_Major	106										5					2		1		1													
5	2_Major	107										6					1		1														2	
5	2_Major	108								1	1						2																5	
5	2_Major	111						72											1															
5	2_Major	112	13					6																									4	
5	2_Major	113						1																										
5	2_Major	114										7							1															
5	2_Major	115						25				4					1		1														2	
5	2_Major	116						5				4									1													
5	2_Major	117		6																													3	
5	2_Major	118						31																										
5	2_Major	119										4					1		1														2	
5	2_Major	120	10																														10	
4	3_Moderate	1																											1	10	5			
4	3_Moderate	2								1	2								1														3	
4	3_Moderate	3	25																														12	
4	3_Moderate	4															1																	
3	3_Moderate	5																																
4	3_Moderate	5										6					1																7	
3	3_Moderate	6						14																										
4	3_Moderate	6																																
3	3_Moderate	7																															1	
4	3_Moderate	7	95	42						1																							1	
3	3_Moderate	8	32																															

Construction Features: Tap (Lateral): T: (FD, FL, BI, BD); Line: L: (D, L, U, R, LD, RD); Intruding Seal Material: IS: (SRH, SRB, SRL); M: (Z, SA, CU); Miscellaneous: M: (MC)

Phase	Priority	Ranking	Tap (Lateral): T: FD	T: FL	T: BI	T: BD	Line: L: D	L: L	L: U	L: R	L: LD	L: RD	Intruding Seal Material: IS: SRH	SRB	SRL	M: Z	M: SA	M: CU	M: MC
1	2_Major	14															1		
1	2_Major	16					1									1			
1	2_Major	19																	
2	2_Major	20																	
2	2_Major	22																	
2	2_Major	23																	
2	2_Major	24																	
2	2_Major	27																	
5	2_Major	82																	
5	2_Major	83	1		1														
5	2_Major	84																	
5	2_Major	85			1														
5	2_Major	86																	
5	2_Major	87			1														
5	2_Major	88																	
5	2_Major	89																	
5	2_Major	90																	
5	2_Major	92					1												
5	2_Major	93																	
5	2_Major	94																	
5	2_Major	95																	
5	2_Major	96																	
5	2_Major	97	1																
5	2_Major	98																	
5	2_Major	101																	
5	2_Major	102	1																
5	2_Major	103																	
5	2_Major	104																	
5	2_Major	105					1												
5	2_Major	106																	
5	2_Major	107																	
5	2_Major	108																	
5	2_Major	111																	
5	2_Major	112																	
5	2_Major	113																	
5	2_Major	114																	
5	2_Major	115																	
5	2_Major	116																	
5	2_Major	117																	
5	2_Major	118																	
5	2_Major	119																	
5	2_Major	120																	
4	3_Moderate	1																	
4	3_Moderate	2																	
4	3_Moderate	3	1																
4	3_Moderate	4																	
3	3_Moderate	5																	
4	3_Moderate	5																	
3	3_Moderate	6																	
4	3_Moderate	6																	
3	3_Moderate	7												3					
4	3_Moderate	7																	
3	3_Moderate	8																	

Phase	Priority	Ranking	Repair Description	Comments	Recommendations
1	2_Major	14			Replace pipe
1	2_Major	16			Replace pipe
1	2_Major	19			Reline
2	2_Major	20		OBZ= OBS, BUILT INTO STRUCTURE POSITION.	
2	2_Major	22			
2	2_Major	23			
2	2_Major	24		CONTINUOUS FRACTURE MULTIPLE	
2	2_Major	27		SAG	
5	2_Major	82		56.4' Small BVV. Major Defect	Patch Repair
5	2_Major	83		198.1' BVV. Major Defect. Also Laterals @ 61.7' & 139.4' 75% full of Grease	Patch Repair BVV & clean Laterals
5	2_Major	84		60.3' BVV. 128.4' MSA (RBJ). No Reversal Video. Major Defect.	Patch Repair 184.3' , Cut & Clean RBJ
5	2_Major	85		80.7' BVV. Major Defect. Ending MH was 11420. We checked GIS & changed it.	Patch Repair
5	2_Major	86		0' Small BVV. Major Defect	Patch Repair
5	2_Major	87		316' Small BVV. Major Defect	Patch Repair
5	2_Major	88		327.6' BVV. Major Defect	Patch Repair
5	2_Major	89		336.9' BSV. Major Defect	Patch Repair
5	2_Major	90		176.7' Small BVV. Major Defect. Inspection Report shows JOL @ 176.7'. It was JOM & we changed it	Patch Repair
5	2_Major	92		286.1' Small BSV. Major Defect	Patch Repair
5	2_Major	93		254.3' BVV. End of the Sewer Lane. Major Defect	Patch Repair
5	2_Major	94		7' Small BVV. Moderate Defect	Patch Repair
5	2_Major	95		253.7' BSV. Major Defect	Patch Repair
5	2_Major	96		Continuous Fractures & Cracks. Major Defect	Reline Pipe
5	2_Major	97		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	98		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	101		Inspection Report shows 11' BVV. This is RPR (Patch Repair). Too Many Fractures & Cracks. Major Defect	Should Reline
5	2_Major	102		Cracks & Fractures . Major Defect	Reline Pipe
5	2_Major	103		Inspection Report shows 77.3' & 115.6' BVV. Those are FM and we changed them. Cracks & Fractures, Major Defect	Reline Pipe
5	2_Major	104		Major	Reline Pipe
5	2_Major	105		Major	Reline Pipe
5	2_Major	106		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	107		Cracks & Fractures. Major Defect	Should Reline
5	2_Major	108		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	111		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	112		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	113		Too many Cracks . Major Defect	Should Reline
5	2_Major	114	Repaired cracked pipe at joint.	Fractures & Cracks. Major Defects.	Should Reline
5	2_Major	115		Too Many Crack. Major Defect	Reline Pipe
5	2_Major	116		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	117		Cracks & Fractures. Major Defect	Reline Pipe
5	2_Major	118		Cracks & Fractures. Major Defect	Should Reline
5	2_Major	119		Too Many Crack. Major Defect	Reline Pipe
5	2_Major	120		300.7' Small BVV, end of the Sewer Lane. Major Defect	Patch Repair
4	3_Moderate	1	

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer ID | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | VV | Hole H SV | VV | Joint J O S | M | L | S | M | L | A | Deformed D | V | H | Collapsed Pipe X | P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | AE B | AE % | AE L | AE % | Other Z | Other % | Roots (R) Fine (F) B | L | J | Tap (T) C | B | L | J | Medium (M) C | B | L | J | Ball (B) C | B | L | J | Infiltration I G | D | R | W | Obstacles OB C | Z | Other % | Vermin C | V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | FL | BI | BD | Line L D | L | U | R | LD | RD | Intruding Seal Material IS SRH | SRB | SRL | Z | Miscellaneous M SA | CU | MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | C M | S H | Fracture F L | C M | S H | Broken B SV | Hole H VV | SV VV | Joint O S | M L | S M | L A | Deformed D V | Collapsed/ Flat D H | Protruding Pipe X P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Roots (R) AE B | AE % | AE L | Other % | Other Z | Other % | Fine (F) B | Fine (F) L | Tap (T) J | Tap (T) C | Medium (M) B | Medium (M) L | Medium (M) J | Ball (B) C | Ball (B) B | Ball (B) L | Ball (B) J | Infiltration I C | Obstacles O G | Obstacles O D | Obstacles O R | Obstacles Other W | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | L LD | L RD | Intruding Seal Material IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Features | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Crack F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint J: O (S M L) | Joint J: S (S M L) | Joint J: S (L A V H P) | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L U | Line L R | Line L LD | Line L RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MO | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer I.D.	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Pipe Length (ft)	Pipe Length - CCTV (ft)
4	3_Moderate	98					2	2000				Y	PARADE		4/18/2006	9296	9291	MHM990027	MHM990022	D/S	3452	SPM990030	8	VCP			300	296.6
1	3_Moderate	99				9		5				x	12635 Main St.		2/19/2004			MHO110004	MHO110003-A	US		SPO110003-A	8	VCP	3		112	112
2	3_Moderate	99					G004	1				Y	EASEMENT		7/15/2005	8033	8034	MHK060002	MHK060003	D/S	1886	SPK060026	8	VCP			285	295.6
3	3_Moderate	99	2017-03-15		PPT		36	39					VONS		8/28/2007	10104	10105	MHM060039	MHM060040	D/S	4700	SPM060040	8	VCP			325	334
4	3_Moderate	99					P-COUNTY 3C	9				Y	GILBERT		10/12/2007	8942	9343	MHL030040	MHL030037	U/S	4060	SPL030007	10	VCP			300	328.3
1	3_Moderate	100				12		13				x	13421 Adland St.		2/27/2004	11205	11204	MHO140016	MHO140015	US	2529	SPO140053	8	VCP	3		305	306
2	3_Moderate	100					R022	1					ZETA ST		9/6/2005	12605	12606	MHQ100028	MHQ100027	D/S	5582	SPQ100002	8	VCP			320	321.5
3	3_Moderate	100	2017-01-24		PPT		38	3					FLAMINGO ALLEY		8/29/2007	10268	10269	MHM070001	MHM080007	D/S	4551	SPM080007	8	VCP			310	321
4	3_Moderate	100					13	2369				Y	KATELLA		10/20/2006	9631	9632	MHL050054	MHL050056	D/S	4071	SPL050029	12	VCP			236	430.3
1	3_Moderate	101		X		5		9				x	12362 Mc Leod St.		2/9/2004	11209	11210	MHO100018	MHO100019	DS	2386	SPO100019	8	VCP	3		273	274
2	3_Moderate	101					G032	10					NIETA DR		8/31/2005	13061	13062	MHQ090040	MHQ090041	D/S	6267	SPQ090036	8	VCP			15	354.3
3	3_Moderate	101			PPT		38	9					FLAMINGO		8/30/2007	10275	10276	MHM070002	MHM080013	D/S	4648	SPM080015	8	VCP			540	540
4	3_Moderate	101					13	2369				Y	KATELLA		10/20/2006	9632	9633	MHL050054	MHL050056	D/S	4072	SPL050030	12	VCP			185	430.3
1	3_Moderate	102				26		2					13311 Ontario Dr.		3/19/2004	12081	12082	MHM140017	MHM140018	DS	2518	SPM140041	8	VCP			320	322
2	3_Moderate	102					G026	7					DEBBIE LN		8/22/2005	13083	13082	MHR080014	MHR080013	U/S	5710	SPR080022	8	VCP			109	108.8
3	3_Moderate	102			PPT		38	1				Y	FLAMINGO ALLEY		8/29/2007	9624	9625	MHM070006	MHM070007	D/S	5044	SPM070010	8	VCP			304	306
4	3_Moderate	102					1	1936				Y	STONYBROOK		4/11/2006	9291	9159	MHM990022	MHM990021	U/S	5028	SPM990033	8	VCP			280	294.0
2	3_Moderate	103					G018	16				Y	ADAH ST		8/4/2005	7975	7976	MHK050038	MHK050039	D/S	1831	SPK050018	8	VCP			360	362.3
3	3_Moderate	103	2017-08-09		PPT		38	2					FLAMINGO ALLEY		8/29/2007	9625	10268	MHM070007	MHM070001	D/S	3697	SPM070037	8	VCP			295	299
4	3_Moderate	103					17	2486				Y	GILBERT		1/25/2007	9285	9286	MHL000003	MHL000004	D/S	3437	SPL000003	8	VCP			290	302.7
1	3_Moderate	104		X		42		13				x	8803 Garden Grove Blvd.		4/19/2004	8401	8402	MHK130003	MHK130004	DS	3377	SPK130006	8	VCP	3		347	347
2	3_Moderate	104					G028	9					CHAPMAN AV		8/25/2005	12920	12921	MHP090020	MHP090021	D/S	6259	SPP090022	12	VCP			155	152.1
3	3_Moderate	104	2017-06-20		PPT		38	8					FLAMINGO		8/30/2007	9626	10275	MHM070008	MHM070002	D/S	5045	SPM070011	8	VCP			255	265
4	3_Moderate	104					13	2368				Y	KATELLA		10/20/2006	9631	8333	MHL050054	MHL050053	U/S	4075	SPL050035	12	VCP			415	431.7
2	3_Moderate	105					M018	14				Y	COLLEGE AV		9/12/2005	12516	12519	MHQ110031	MHQ110034	D/S	4137	SPQ110013	8	VCP			410	401.5
3	3_Moderate	105	2017-08-16		PPT		37	35					SHANNON		8/30/2007	10086	10087	MHM070049	MHM070050	D/S	4682	SPM070056	8	VCP			295	297
4	3_Moderate	105					2	2057				Y	ROSEBAY		5/1/2006	9156	9155	MHM990019	MHM980002	U/S	4373	SPM990001	8	VCP			293	502.3
2	3_Moderate	106					G031	1					JACALENE LN		8/30/2005	12828	12829	MHQ090021	MHQ090022	D/S	6455	SPQ090054	8	VCP			225	235.7
3	3_Moderate	106	2017-08-29		PPT		39	16					SHANNON		9/6/2007	10088	10087	MHM070051	MHM070050	U/S	4683	SPM070057	8	VCP			295	298
4	3_Moderate	106					2	2057				Y	ROSEBAY		5/1/2006	9157	9156	MHM990019	MHM980002	U/S	4374	SPM990002	8	VCP			214	502.3
1	3_Moderate	107		X		4		8				x	12422 Lee Ln.		2/6/2004	11860	11029	MNE14021	MNE13010	DS	3796	SPP100023	8	VCP	3		265	266
2	3_Moderate	107					G046	8				Y	WILLOWOOD AV		10/10/2005	12720	12721	MHS100034	MHS100035	DS	6498	SPS100016	8	VCP			285	288.6
3	3_Moderate	107			PPT		37	38					ORANGEWOOD		8/30/2007	10098	10099	MHM070069	MHM070070	D/S	4693	SPM070060	8	VCP			315	332
4	3_Moderate	107					1	1800				Y	GREENWICH		3/29/2006	9166	9172	MHM990007	MHM990013	U/S	4388	SPM990016	8	VCP			312	308.5
1	3_Moderate	108		X				18					8841 Woolley Ln.		4/1/2004	8388	8389	MHK120003	MHK120004	DS	3362	SPK120006	8	VCP			271	269
2	3_Moderate	108					M004	4				Y	HOMEWAY DR		8/8/2005	10835	10827	MHL060017	MHL070034	D/S	5227	SPL060032	8	VCP			205	204.0
3	3_Moderate	108			PPT		37	39					ORANGEWOOD		8/30/2007	10099	10075	MHM070070	MHL070045	D/S	4694	SPM070061	8	VCP			345	332
4	3_Moderate	108					10	2328				Y	HARLE		9/26/2006	8952	8953	MHM030028	MHM030037	D/S	3664	SPM030040	8	VCP			350	694.4
1	3_Moderate	109		X		31		4					13211 Hazel St.		3/30/2004	11568	11569	MHL130040	MHL140005	DS	3105	SPL140029	8	VCP			342	340
2	3_Moderate	109					G017	3					LA GRAND AV		8/3/2005	0	0	MHK050010	MHK050011	D/S	5939	SPK050041	8	VCP			300	300.8
3	3_Moderate	109	2017-09-06		PPT		38	11					CANARY		8/30/2007	9606	9607	MHM080014	MHM080015	D/S	4651	SPM080017	8	VCP			250	270
4	3_Moderate	109					10	2328				Y	HARLE		9/26/2006	8953	8942	MHM030028	MHM030037	D/S	3665	SPL030006	8	VCP			340	694.4
1	3_Moderate	110		X		29		27				x	8782 Dakota Ave.		3/29/2004	11578	11609	MHK140006	MHK140007	DS	2800	SPK140023	8	VCP	3		267	270
2	3_Moderate	110					G038	2				Y	KATHY LN		9/12/2005	11718	11719	MHQ110009	MHQ110010	D/S	6289	SPQ110043	8	VCP			305	301.3
3	3_Moderate	110	2017-09-07		PPT		38	13					HUMMINGBIRD		8/30/2007	9607	9608	MHM080015	MHM080016	D/S	4652	SPM080018	8	VCP			210	208
4	3_Moderate	110					3	2200				Y	STONYBROOK		6/16/2006	9292	9293	MHM990023	MHL990005	D/S	3442	SPM990022	8	VCP			290	568.6
1	3_Moderate	111				1		3				x	12082 Shady Acre St.		2/3/2004	11151	11152	MNW24026	MNW24027	DS	2570	SPO090033	8	VCP	3		310	316
2	3_Moderate	111					R009	1				Y	MURLINE DR		8/9/2005	10115	10116	MHL050019	MHL050020	D/S	4704	SPL050039	8	VCP			292	292.7
3	3_Moderate	111	2017-09-19		PPT		51	41					BLUEJAY		12/27/2007	9614	9610	MHM080020	MHM080018	U/S	4655	SPM080021	8	VCP			235	251
4	3_Moderate	111					3	2200				Y	STONYBROOK		6/16/2006	9162	9157	MHM990023	MHL990005	D/S	4378	SPM990006	8	VCP			190	568.6
1	3_Moderate	112				3		21				x	10552 Mahalo Wy.		2/6/2004	11224	11225	MNW13037	MNW13038	DS	2559	SPO100026	8	VCP	3		265	263
2	3_Moderate	112					R051	4					HARBOR BLVD		11/2/2005	12743	12744	MHS110001	MHS100001	D/S	5652	SPS110012	8	VCP			334	330.0
3	3_Moderate	112			PPT		35	2					CHAPMAN SHOP CENTER		8/16/2007	9621	9622	MHM080035	MHM080036	D/S	5040	SPM080031	8	VCP			375	51
4	3_Moderate	112					MIXED P COUNTY 2	6				Y	RUSTIC		11/3/2007	9637	14601	MHL040023	MHL050055	D/S	8361	SPL040023	8	VCP			219	204.0
1	3_Moderate	113				43		5					8504 Garden Grove Blvd.		4/21/2004	7670	7716	MHK130034	MHJ130001	DS	827	SPJ130019	8	VCP			331	331
2	3_Moderate	113					R029	8					9TH ST		9/20/2005	12528	12529	MHP110025	MHP110026	D/S	6052	SPP110003	8	VCP			310	318.8
3	3_Moderate	113			PPT		51	37					CHAPMAN		12/27/2007	10049	10048	MHM090021	MHM090020	U/S	4189	SPM090022	8	VCP			160	157
4	3_Moderate	113					MIXED P COUNTY 2	6				Y	RUSTIC		11/3/2007	14601	9632	MHL040023	MHL050055	D/S	8363	SPL040023	8	VCP			45	204.0
2	3_Moderate	114					G024	9					9TH ST		8/18/2005	12995	12996	MHP070025	MHP070026	D/S	6318	SPP070004	8	VCP			125	134.1
3	3_Moderate	114	2017-11-01		GGSD		24	785				Y	MALLARD		10/5/2004	10537	10536	MHM150010	MHM150008	U/S	2027	SPM150005	8	VCP			330	324
4	3_Moderate	114					9	2314				Y	CHANTICLEER		9/19/2006	9205	9206	MHM020005	MHM020008	D/S	4510	SPM020012	8	VCP			140	598.3
1	3_Moderate	115		X		13		12				x	10791 Acacia Pkwy.		3/1/2004	11837	11838	MHO120010	MHO120011	DS	5399	SPO120009	6	VCP	2		140	145
2	3_Moderate	115					R064	2				Y	EASEMENT		12/5/2005	6695	14605	MHS130019	MHS130020	D/S	8375	SPS130005	8	VCP			313	314.9
3	3_Moderate	115	2018-01-11		GGSD		24	808					WOODBURY		10/14/2004	10546	10582	MHM150021	MHM150020	U/S	2454	SPM150023	8	VCP/PVC			318	315
4	3_Moderate	115					9	2314				Y	CHANTICLEER		9/19/2006	9206	9207	MHM020005	MHM020008	D/S	4511	SPM020013	8	VCP			150	598.3
1	3_Moderate	116		X		25		7					9211 Stanford Ave.		3/18/2004	9385	8485	MHL120020	MHL120021	DS	3145	SPL120019	8	VCP			316	317
2	3_Moderate	116					M010	2				Y	MORGAN LN		8/22/2005	13135	13136	MHQ080037	MHQ080038	D/S	5846	SPQ080046	8	VCP			330	330.4
3	3_Moderate	116			GGSD		24	824					BLAKE		10/19/2004	10549	10583	MHM160008	MHM160007	U/S	2455	SPM160019	8	PVC/CVCP			319	316
4	3_Moderate	116					9	2314				Y	CHANTICLEER		9/19/2006	9207	9344	MHM020005	MHM020008	D/S	5034	SPM020045	8	VCP			295	598.3
2	3_Moderate	117					G034	8				Y	FREDRICK DR		9/2/2005	12825	12826	MHQ090016	MHQ090017	D/S	6453	SPQ090052	8	VCP			385	385.6
3	3_Moderate	117			GGSD		25	841					ERIN		10/26/2004	10549	10552	MHM160008	MHM160012	D/S	2196	SPM160004	8	PVC/PVC			280	280
4	3_Moderate	117					3	2145	3	2193	Y	HILLVIEW		5/4/2006	9302	9301	MHM990033	MHM990032	U/S	3451	SPM990029	8	VCP			184	184.0
1	3_Moderate	118		X		16		5				x	13341 Westlake St.		3/3/2004	11107	11109	MHO140036	MHO140038	DS	2358	SPO140023	8	VCP	3		395	393
2	3_Moderate	118					R003	8					MAGNOLIA ST		7/27/2005	10817	10799	MHL070010	MHL080027	D/S	4832	SPL080038	8	VCP			375	368.7

Phase	Priority	Structural Defect Coding: Crack C	Crack M	Crack S	Crack H	Fracture F	Fracture L	Fracture C	Fracture M	Fracture S	Fracture H	Broken B	Broken SV	Hole H	Hole VV	Hole SV	Joint O	Joint S	Joint M	Joint L	Joint S	Joint M	Joint L	Joint A	Deformed D	Collapsed/Pipe X	Collapsed/Pipe V	Collapsed/Pipe H	Collapsed/Pipe P	Surface Damage S	Lining Failure LF	Point Repair RP	Sags S	Sags WL	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
4	3_Moderate	2		4																														6	16	2.67
1	3_Moderate	1				1	1	2																											15	3.00
2	3_Moderate	1	1	1													1																13	17	35	
3	3_Moderate					1																												1	2	2.00
4	3_Moderate	4	2																															6	10	1.67
1	3_Moderate	1		2		1	1																											15	2.14
2	3_Moderate	1		2																													13	16	34	
3	3_Moderate					1		2																										2	3	11	3.67
4	3_Moderate	5	1	1																														7	14	2.00
1	3_Moderate	2	3			2																													15	2.50
2	3_Moderate	3	2			10	1																											16	33	
3	3_Moderate					2	1																											3	8	2.67
4	3_Moderate	5	1	1																														7	14	2.00
1	3_Moderate	1	1	4																															14	2.33
2	3_Moderate	1	1	1		13											1																	16	33	
3	3_Moderate	2	5	4																														1	3	3.00
4	3_Moderate	8	1																															9	17	1.89
2	3_Moderate	4	1	2	1												1																	12	32	
3	3_Moderate	1	2	1																														1	3	3.00
4	3_Moderate	1	1	4																														1	1	2.33
1	3_Moderate	1	2	1																															14	32	
2	3_Moderate	1	2	1																															14	32	
3	3_Moderate					1																												1	2	2.00
4	3_Moderate	2	1																															3	5	1.67
1	3_Moderate	1	1	2																															14	2.33
2	3_Moderate	1	1	3																															14	32	
3	3_Moderate					1	1																											1	2	2.00
4	3_Moderate	2	1	1																														1	1	2.33
1	3_Moderate	1	1	2																															14	32	
2	3_Moderate	1	1	2																															14	32	
3	3_Moderate					1																												1	2	2.00
4	3_Moderate	2	1	1																														3	5	1.67
1	3_Moderate	1	1	2																															14	2.33
2	3_Moderate	1	3	2																															14	32	
3	3_Moderate					1																												1	2	2.00
4	3_Moderate	2	1	1																														2	4	2.00
1	3_Moderate	1	1	2																															13	2.60
2	3_Moderate	1	3	5																															15	31	
3	3_Moderate					1																												1	3	3.00
4	3_Moderate	2	1	1																														2	4	2.00
1	3_Moderate	1	1	2																															13	28	2.15
2	3_Moderate	1	1	9		1																													12	33	
3	3_Moderate					1																												1	2	2.00
4	3_Moderate	8	1	2																															11	23	2.09
1	3_Moderate	4				1	1																												14	2.80	
2	3_Moderate		4	4		8																													16	32	
3	3_Moderate	3	2			1																													1	2	2.00
4	3_Moderate	1	1	1																															2	4	2.00
1	3_Moderate	1	1	2																															13	2.17	
2	3_Moderate	5	3	2		2	3																												15	31	
3	3_Moderate																1																		1	3	3.00
4	3_Moderate	2	1	1																															2	4	2.00
2	3_Moderate	1	2	5			3																												11	31	
3	3_Moderate																1																		1	3	3.00
4	3_Moderate	1	1	2																															8	16	2.00
1	3_Moderate	3	2			1																													13	2.60	
2	3_Moderate	1	9			1																													11	31	

Phase	Priority	Operational and Maintenance: Deposits AGS	Deposits AE B	Deposits AE %	Deposits AE L	Deposits AE %	Deposits Other Z	Deposits Other %	Roots (R) Fine (F) B	Roots (R) Fine (F) L	Roots (R) Fine (F) J	Roots (R) Tap (T) C	Roots (R) Tap (T) B	Roots (R) Tap (T) L	Roots (R) Tap (T) J	Roots (R) Medium (M) C	Roots (R) Medium (M) B	Roots (R) Medium (M) L	Roots (R) Medium (M) J	Roots (R) Ball (B) C	Roots (R) Ball (B) B	Roots (R) Ball (B) L	Roots (R) Ball (B) J	Infiltration I	Obstacles OB	Obstacles Other C	Obstacles Other Z	Obstacles Other %	Vermin V	Vermin C	Vermin R	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index
4	3_Moderate	98	47																												145	290	2.00
1	3_Moderate															1															11	183	2
2	3_Moderate	3							1																						4	8		
3	3_Moderate																														0	0	0.00	
4	3_Moderate																											30			86	142	1.65	
1	3_Moderate								3	1		1	1																		0	0	0.00	
2	3_Moderate	34								23							2														25	31		
3	3_Moderate	11	3.67													2															2	6	3.00	
4	3_Moderate	85					33																					6			124	275	2.22	
1	3_Moderate																														3	3	0.35	
2	3_Moderate	33				2	5.00			2																					4	8		
3	3_Moderate	8	2.67							2																					2	2	1.00	
4	3_Moderate	85					33																					6			124	275	2.22	
1	3_Moderate	33																													6	8	0.65	
2	3_Moderate	33								1																					1	1		
3	3_Moderate	33															1														2	5	2.50	
4	3_Moderate	50	72																												122	244	2.00	
1	3_Moderate	30																													63	153	2.43	
2	3_Moderate	30					30																					3			6	8	1.33	
3	3_Moderate	147					52																								199	450	2.26	
4	3_Moderate	86					10																								96	202	2.10	
1	3_Moderate	50	72																												122	244	2.00	
2	3_Moderate	10	5.00	2	5.00																										12	24		
3	3_Moderate	33																													0	0	0.00	
4	3_Moderate	147					52																								199	450	2.26	
1	3_Moderate	113	5.00																												113	226		
2	3_Moderate	33																													0	0	0.00	
3	3_Moderate	33																													0	0	0.00	
4	3_Moderate	147					52																								199	450	2.26	
1	3_Moderate	33																													0	0	0.00	
2	3_Moderate	33																													0	0	0.00	
3	3_Moderate	60	2													1															1	1	1.00	
4	3_Moderate	147					52																								199	450	2.26	
1	3_Moderate	33																													0	0	0.00	
2	3_Moderate	33																													0	0	0.00	
3	3_Moderate	33																													0	0	0.00	
4	3_Moderate	147					52																								199	450	2.26	
2	3_Moderate	11	31			48	52	5.00	4	40.00	3	5.00		1	5													2			116	229		
3

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Crack C | Crack L | Crack C | Crack M | Crack S | Crack H | Fracture F | Fracture L | Fracture C | Fracture M | Fracture S | Fracture H | Broken B | Broken SV | Hole H | Hole VV | Hole SV | Joint O | Joint S | Joint M | Joint L | Joint S | Joint M | Joint L | Joint A | Joint V | Joint H | Joint P | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Medium (M) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin V | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line D | Line L | Line U | Line R | Intruding Seal Material I LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
|---|---|---

Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	General: Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location: Street Name	CCTV Date	Existing MH ID: Start	Existing MH ID: End	Previous MH ID: Start	Previous MH ID: End	Direction of Camera	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID	Pipe: Size (in)	Pipe: Material	Pipe: Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)
5	3_Moderate	139			PPT		MAP 2 July-3	7				Y	MEADE STREET	6/26/2012	9600	9601	MHL100034	MHL100035	D/S	3324	SPL100016	8	VCP			368	371.6
1	3_Moderate	140				17		1				x	9922 Stanford Ave.	3/4/2004	10729	11329	MHM120007	MHM120001	DS	2732	SPM120017	8	VCP	3		385	364
2	3_Moderate	140					R012	12					WAVERLY DR	8/15/2005	12947	12949	MHP080018	MHP080021	D/S	6198	SPP080014	8	VCP			288	289.0
3	3_Moderate	140			PPT		32	20					GERALDINE	8/9/2007	10200	9674	MHN070025	CON070003	U/S	4226	SPN070050	8	VCP			156	151
4	3_Moderate	140					MIXED 2	2462				Y	GARZA	1/9/2006	8335	8334	MHL040013	MHL040011	U/S	4924	SPL040011	8	VCP			307	607.8
5	3_Moderate	140		X	PPT		MAP 2 July-3	14				Y	JOSEPHINE STREET	6/28/2012	8390	8393	MHK120005	MHK120008	D/S	3364	SPK120008	8	Clay Tile			332	330.1
1	3_Moderate	141					G007	11				Y	DALE ST	7/20/2005	8513	8514	MHK070043	MHK070044	D/S	1999	SPK070046	8	VCP			365	368.0
3	3_Moderate	141			PPT		35	7					GARDEN	8/16/2007	10201	10202	MHN070026	MHN070027	D/S	5390	SPN070029	8	VCP			250	262
4	3_Moderate	141					MIXED 2	2462				Y	GARZA	1/9/2006	8336	8335	MHL040013	MHL040011	U/S	5018	SPL040012	8	VCP			307	607.8
5	3_Moderate	141		X	PPT		MAP 2 July-4	2				Y	LOUISE STREET	6/28/2012	8429	8430	MHK120031	MHK120032	D/S	3407	SPK120033	8	Clay Tile			332	321.9
2	3_Moderate	142					M015	1					BECK AV	9/6/2005	12185	12186	MHR100032	MHR100033	D/S	5922	SPR100024	8	VCP			311	313.9
3	3_Moderate	142			PPT		35	6					GARDEN	8/16/2007	10202	10203	MHN070027	MHN070028	D/S	5484	SPN070030	8	VCP			250	247
4	3_Moderate	142					6	2262				Y	HERTHA LN	8/11/2006	9200	9199	MHM010038	MHM010036	U/S	4505	SPM010022	8	VCP			300	318.1
5	3_Moderate	142			PPT		MAP 3-B3-2	25					COMSTOCK ROAD	8/8/2012	11683	12807	MHQ100014	MHQ100015	U/S	6461	SPQ100043	8	VCP			380	380.3
1	3_Moderate	143		X		3		15				x	10541 Halelani St.	2/6/2004	11217	11218	MNW13030	MNW13031	DS	2394	SPO100022	8	VCP	3		265	264
2	3_Moderate	143					R048	14				Y	ROCKINGHORSE RD	11/1/2005	10910	10911	MHQ130031	MHQ130032	D/S	4466	SPQ130031	8	VCP		13	230	226.6
3	3_Moderate	143			PPT		35	3					HILL	8/16/2007	10203	10204	MHN070028	MHN070029	D/S	5485	SPN070031	8	VCP			285	287
4	3_Moderate	143					MIXED P COU NTY 2	2				Y	POONA ALLEY	11/3/2007	9270	9271	MHM020037	MHM020038	D/S	4366	SPM020004	8	VCP			230	227.9
1	3_Moderate	144				23		17				x	12872 Hazel Ave.	3/17/2004	8496	8497	MHL120030	MHL120031	DS	3156	SPL120029	8	VCP	3		303	304
2	3_Moderate	144					G040	5				Y	9TH ST	9/14/2005	12539	12540	MHP090001	MHP100035	D/S	6055	SPP100001	10	VCP		13	300	313.6
3	3_Moderate	144			PPT		35	4					HILL	8/16/2007	10204	10205	MHN070029	MHN070030	D/S	5486	SPN070032	8	VCP			243	244
4	3_Moderate	144					5	2235				Y	MILENBURG	7/18/2006	9336	9337	MHM010012	MHM010014	DS	3482	SPM010033	8	VCP			260	522.9
5	3_Moderate	144		X	PPT		MAP 3-6	15				Y	ACACIA PARKWAY	7/26/2012	11838	13491	MHO120011	MHO120012	D/S	5400	SPO120010	8	Clay Tile		1	355	513.8
1	3_Moderate	145		X		3		19				x	12271 Moana St.	2/6/2004	11221	11222	MNW13034	MNW13035	DS	2398	SPO100023	8	VCP	3		290	325
2	3_Moderate	145					G031	9				Y	JOHN AV	8/30/2005	12473	12567	MHQ090026	MHQ090029	D/S	4766	SPQ090030	8	VCP		13	290	288.6
3	3_Moderate	145	2018-10-31		PPT		49	47					GERALDINE	10/24/2007	10209	10210	MHN070033	MHN070034	D/S	4036	SPN070038	8	VCP			249	245
4	3_Moderate	145					5	2235				Y	MILENBURG	7/18/2006	9335	9336	MHM010012	MHM010014	D/S	3483	SPM010034	8	VCP			240	522.9
5	3_Moderate	145		X	PPT		MAP 3-6	13				Y	MAIN STREET	7/27/2012	11749	11750	MHO120001	MHP120037	D/S	4404	SPO120001	10	Clay Tile			335	332.4
1	3_Moderate	146		X		25		10					12686 Lucille Ave.	3/18/2004	9369	8485	MHL110047	MHL120021	DS	3206	SPL110049	8	VCP			253	242
2	3_Moderate	146					R039	9				Y	ALLEY	9/30/2005	12663	12664	MHT100045	MHT100046	D/S	3924	SPT100041	8	VCP		13	400	400.3
3	3_Moderate	146	2019-01-29		PPT		31	39					McMICHAEL	8/8/2007	10217	10218	MHN070036	MHN070037	D/S	4039	SPN070041	8	VCP			328	330
4	3_Moderate	146					5	2230				Y	GUINIDA	7/17/2006	9330	9331	MHM010005	MHM010006	D/S	3475	SPM010027	8	VCP			328	295.4
5	3_Moderate	146			PPT		MAP 3-B3-5	6				Y	COLLEGE AVENUE	8/31/2012	11649	11650	MHR110013	MHR110014	D/S	6083	SPR110030	8	VCP			325	332.6
1	3_Moderate	147				35		26					13230 Coast St.	4/13/2004	7108	13416	MHJ140005	MHJ140030	DS	6836	SPJ140031	10	VCP			280	281
2	3_Moderate	147					R030	5					9TH ST	9/21/2005	12483	12484	MHP120002	MHQ120006	D/S	5589	SPP120003	8	VCP		13	330	341.6
3	3_Moderate	147	2019-04-17				31	40					McMICHAEL	8/8/2007	10218	10219	MHN070037	MHN070038	D/S	4040	SPN070042	8	VCP			328	330
4	3_Moderate	147					MIXED 3	2488				Y	BALL RD	1/25/2007	9318	9319	MHM000017	MHM000018	D/S	3466	SPM000009	8	VCP			250	243.0
5	3_Moderate	147			PPT		1	3				Y	LAURELTON AVENUE	5/15/2012	8274	8275	MHG090011	MHG090012	D/S	1063	SPG090015	8	VCP			350	349.7
1	3_Moderate	148				35		26					13230 Coast St.	4/13/2004	13416	7116	MHJ140005	MHJ140030	DS	6837	SPJ140031	10	VCP			280	281
2	3_Moderate	148					R046	14				Y	PEARCE AV	10/28/2005	12770	12771	MHR140005	MHR140006	D/S	6479	SPR140006	8	VCP		13	310	310.4
3	3_Moderate	148	2019-07-30		PPT		30	9					FAYE	8/1/2007	9851	9853	MHN080005	MHN080007	D/S	4147	SPN080005	8	VCP			300	302.2
4	3_Moderate	148					2	1963				Y	PARADE	4/18/2006	9295	9294	MHM990026	MHM990025	U/S	3446	SPM990024	8	VCP			287	284.8
5	3_Moderate	148			PPT		MAP 3-B3-2	11				Y	DEANANN PLACE	8/10/2012	11300	11301	MHN140018	MHN140019	D/S	2899	SPN140007	8	VCP			300	300.1
1	3_Moderate	149				20		10					12642 Lucille Ave.	3/10/2004	9367	9368	MHL110045	MHL110046	DS	3204	SPL110047	8	VCP			300	301
2	3_Moderate	149					G016	10					WASCO RD	8/2/2005	8050	7973	MHK050030	MHK050031	D/S	2428	SPK050046	8	VCP			285	300.8
3	3_Moderate	149	2019-06-04		PPT		37	25					SEACREST	8/29/2007	9867	9847	MHN080025	MHN090009	D/S	5881	SPN080025	8	VCP			325	310
4	3_Moderate	149					P COU NTY	5				Y	CAMPUS	10/11/2007	9170	9169	MHM990006	MHM990010	U/S	4385	SPM990013	8	VCP		9	99	419.2
5	3_Moderate	149		X	PPT		MAP 2-1-4	15				Y	FAYE AVE	7/17/2012	11273	11274	MHN090018	MHN090019	D/S	2557	SPN090016	8	VCP			286	292.2
1	3_Moderate	150		X		7A		12					11082 Walnut	2/19/2004	11785	11766	MHP100034	MHP110016	DS	5117	SPP100041	6	VCP			270	268
2	3_Moderate	150					M014	7					TWINTREE AV	9/2/2005	12115	12171	MHR100025	MHR100022	D/S	6033	SPR100034	8	VCP			135	134.4
3	3_Moderate	150			PPT		32	3					EDGEWOOD	8/8/2007	9967	9966	MHN080030	MHN080029	U/S	5371	SPN080030	8	VCP			290	291
4	3_Moderate	150					P COU NTY	5				Y	CAMPUS	10/11/2007	9165	9170	MHM990006	MHM990010	U/S	4386	SPM990014	8	VCP		9	323	419.2
5	3_Moderate	150		X	PPT		MAP 3-5	12				Y	MCLEOD STREET	7/24/2012	11210	11147	MHO100019	MHO110030	D/S	2387	SPO100020	8	Clay Tile			270	267.1
1	3_Moderate	151				19		9				x	12041 Melody Dr.	3/8/2004	8448	8449	MHM120029	MHM120030	DS	3108	SPM120030	8	VCP	3		180	181
2	3_Moderate	151					G058	10				Y	HASTER ST	12/13/2005	13009	13004	MHS080007	MHT090039	D/S	6098	SPT080008	10	VCP			305	310.9
3	3_Moderate	151			PPT		32	5					EDGEWOOD	8/8/2007	9970	9971	MHN080034	MHN080035	D/S	5375	SPN080034	8	VCP			345	353
4	3_Moderate	151					17	2479				Y	GILBERT	1/18/2007	9281	9282	MHL990004	MHL990005	D/S	3682	SPL990005	8	VCP			255	251.8
5	3_Moderate	151			PPT		MAP 2 July-2	5				Y	BIXBY AVE	6/25/2012	9024	9026	MHL090022	MHL090024	D/S	3337	SPL090020	8	VCP			282	283.9
1	3_Moderate	152				51		2					12401 Jerome St.	5/20/2004	9595	9566	MHL100029	MHL110006	DS	3319	SPL100011	8	VCP			334	327
2	3_Moderate	152					R047	9				Y	ALLEY	10/31/2005	10902	11421	MHQ130022	COQ130002	U/S	3708	SPQ130001	8	VCP			140	136.1
3	3_Moderate	152			PPT		37	26					MELODY PARK	8/30/2007	9978	9979	MHN080042	MHN080043	D/S	5383	SPN080042	8	VCP			210	214
4	3_Moderate	152					1	1722				Y	COLONY	3/15/2006	9168	9167	MHM990009	MHM990008	U/S	4383	SPM990011	8	VCP			98	97.0
1	3_Moderate	153				17		9				x	12681 Lanakila Ln.	3/5/2004	10753	11551	MHM110038	MHM110039	DS	2671	SPM110027	8	VCP	3		192	191
2	3_Moderate	153					R001	7				Y	FERRIS LN	7/25/2005	10141	10793	MHL080019	MHL080021	D/S	5942	SPL080039	8	VCP			305	297.4
3	3_Moderate	153			PPT		45	51					CHAPMAN	10/8/2007	9845	9846	MHN090007	MHN090008	D/S	4178	SPN090010	15	VCP			252	253
4	3_Moderate	153					5	2236				Y	MILENBURG	7/19/2006	9337	9328	MHM010014	MHM010003	D/S	3484	SPM010035	8	VCP			270	266.9
5	3_Moderate	153		X	PPT		MAP 2-2-1	2					LARSON AVENUE	7/5/2012	7673	7676	MHK130037	MHK130040	D/S	710	SPK130038	8	Clay Tile			260	254.3
1	3_Moderate	154		X		37		5					8262 Stanford Ave.	4/8/2004	7712	7713	MHJ120025	MHJ120026	DS	745	SPJ120017	8	VCP			132	141
2	3_Moderate	154					R060	2				Y	HAVENWOOD DR	11/28/2005	11908	11909	MHP140010	MHP140011	D/S	4813	SPP140009	8	VCP		11	291	291.9
3	3_Moderate	154	2019-05-08		PPT		22	34					BONSER	7/5/2007	9422	9447	MHN100015	MHN100025	D/S	3500	SPN100051	8	VCP			350	359
4	3_Moderate	154					MIXED P COU NTY 1	9				Y	GILBERT	11/6/2007	8943	8944	MHL030038	MHL030039	D/S	3656	SPL030004	10	VCP			337	332.0
1	3_Moderate	155		X		40		29					13401 Wilson St.	4/16/2004	7689	7690	MHK140039	MHK150011	DS	720	SPK140036	8	VCP			380	378
2	3_Moderate	155					R015	4					CLIFFWOOD AV	8/22/2005	13046	13097	MHR070021	MHR070022	D/S	6019	SPR070028	8	VCP		11	323	320.4
3	3_Moderate	155			PPT		25	36					TYHURST	7/17/2007	9430	9446	MHN100023	MHN100024	D/S	3501	SPN100052	8	VCP			320	333
4	3_Moderate	155					5	2230				Y	GUINIDA	7/17/2006	9331	9326	MHM010006	MHL010005	D/S	3476	SPL010007	8	VCP			261	247.8
1	3_Moderate	156		X		19		4					9632 Stanford Ave.	3/8/2004	12029	12046	MHM120019	MHM110044	US	2497	SPM110049	8	VCP			335	344
2	3_Moderate	156	2016-05-18				M003	4					GILL DR	8/8/2005	10169	10170	MHL060014	MHL060015	D/S	3731	SPL060018	8	VCP			282	284.6
3	3_Moderate	156	2019-05-14		PPT		25	37					TYHURST	7/17/2007	9446	9447	MHN100024	MHN100025	D/S	3181	SPN100035	8	VCP			160	151
4	3_Moderate	156					4	2219				Y	HARVEST	7/5/2006	9309	9318	MHM000007	MHM000017	D/S	3469	SPM000011	8	VCP			328	325.0

Structural Defect Coding — Crack: C (L, C, M, S, H); Fracture: F (L, C, M, S, H); Broken: B (SV, VV); Hole: H (SV, VV); Joint: J (O: S, M, L; S: S, M, L); Deformed: D; Collapsed Pipe: C; Intruding Seal: X (A, V, H, P); Surface Damage: S; Lining Failure: LF; Point Repair: RP; Sags: S; WL

Phase	Priority	Ranking	Crack: L	C	M	S	H	Fracture: L	C	M	S	H	Broken: SV	VV	Hole: SV	VV	Joint: O: S	M	L	S: S	M	L	A	Deformed: V	H	Collapsed Pipe: P	Surface Damage: S	Lining Failure: LF	Point Repair: RP	Sags: S	WL
5	3_Moderate	139	8	27	19		1	2	6	7																					
1	3_Moderate	140	1	3	1				1																						
2	3_Moderate	140			1																									12	
3	3_Moderate	140							1																						
4	3_Moderate	140	6	3																											
5	3_Moderate	140	2	4	21		1	1	2	7																					
2	3_Moderate	141	2	2	4				4																						
4	3_Moderate	141	6	3																											
5	3_Moderate	141	2	4	8			2	7																						
2	3_Moderate	142	2	3	5				1																						
3	3_Moderate	142							1																						
4	3_Moderate	142		2	1																										
5	3_Moderate	142	1	2	4				7																						
1	3_Moderate	143		1	3																										
2	3_Moderate	143																												13	
3	3_Moderate	143						1	3																						
4	3_Moderate	143	9	1																											
1	3_Moderate	144	2		1			1																							
2	3_Moderate	144																												13	
3	3_Moderate	144							1																						
4	3_Moderate	144	4	1																											
5	3_Moderate	144	3	3	24			1	6																						
1	3_Moderate	145	2	2				2																							
2	3_Moderate	145																												13	
3	3_Moderate	145						1																							
4	3_Moderate	145	2	2				2	1																						
5	3_Moderate	145	13		3			19	5	6																					
1	3_Moderate	146	1	3																											
2	3_Moderate	146																												11	
3	3_Moderate	146						1																							
4	3_Moderate	146	3	3																											
5	3_Moderate	146	2		12				5																						
1	3_Moderate	147		1	3			1	1																						
2	3_Moderate	147																												13	
3	3_Moderate	147							1																						
4	3_Moderate	147	2	2				2																							
5	3_Moderate	147	17	1	6			12	2	6																					
1	3_Moderate	148	1	3																											
2	3_Moderate	148																												13	
3	3_Moderate	148						2	1																						
4	3_Moderate	148	2																												
5	3_Moderate	148	14		3		1	1	3	3																					
1	3_Moderate	149	2		1			1																							
2	3_Moderate	149	2	5	4				2																						
3	3_Moderate	149			1				1																						
4	3_Moderate	149	2																											9	
5	3_Moderate	149	23	13	25		3	1	1	2																					
1	3_Moderate	150	2		2																										
2	3_Moderate	150	4	3	4				1																						
3	3_Moderate	150															1														
4	3_Moderate	150	2																											9	
5	3_Moderate	150	11	1	15		1		5																						
1	3_Moderate	151		1					2																						
2	3_Moderate	151		5	3		1		2																						
3	3_Moderate	151							1																						
4	3_Moderate	151	3	2																											
5	3_Moderate	151	4	10	15			2	5	3	2																				
1	3_Moderate	152			1				1	1																					
2	3_Moderate	152	7		2				1								1														
3	3_Moderate	152							1																						
4	3_Moderate	152	4																												
1	3_Moderate	153			1			1	1																						
2	3_Moderate	153	5		5																										
3	3_Moderate	153							1																						
4	3_Moderate	153	5	1	2																										
5	3_Moderate	153	2		12				5																						
1	3_Moderate	154			1			1	1																						
2	3_Moderate	154			1																									11	
3	3_Moderate	154							1																						
4	3_Moderate	154	1	2																			1								
1	3_Moderate	155	1	1				1	1																						
2	3_Moderate	155			1																									11	
3	3_Moderate	155							2																						
4	3_Moderate	155	1	3				1	1																						
1	3_Moderate	156		2				1	1																						
2	3_Moderate	156	4	7	3																										
3	3_Moderate	156						1																							
4	3_Moderate	156	1	4	2																										

Operational and Maintenance — Deposits: AGS, B, %; AE: L, %; AE Other: L, %, Z, %; Roots (R): Fine (F): B, L, J, C; Tap (T): B, L, J, C; Medium (M): B, L, J, C; Ball (B): B, L, J, C; Infiltration: I: G, D, R, W; Obstacles: OB: C, Z, %; Other: C; Vermin: V: C, R

Phase	Priority	Ranking	Deposits: AGS	B	%	AE: L	%	AE Other: L	%	Z	%	Roots (R) Fine (F): B	L	J	C	Tap (T): B	L	J	C	Medium (M): B	L	J	C	Ball (B): B	L	J	C	Infiltration: I: G	D	R	W	Obstacles: OB: C	Z	%	Other: C	Vermin: V: C	R
5	3_Moderate	139	24																																	2	
1	3_Moderate	140																				1															
2	3_Moderate	140																																			
3	3_Moderate	140																																			
4	3_Moderate	140	30									4	1	31						4		1													2		
5	3_Moderate	140	30																	4		1													2		
1	3_Moderate	141	1	71	5.00			1	5.00			1	4																								
3	3_Moderate	141																																			
4	3_Moderate	141	30									4	1	31						4		1													2		
5	3_Moderate	141	23	64	2.78								1																								
2	3_Moderate	142																			1															
3	3_Moderate	142																																			
4	3_Moderate	142	105	12								2	6																					1	5		
5	3_Moderate	142											1																								
1	3_Moderate	143	1									34	1							2		1														
2	3_Moderate	143																		1																
3	3_Moderate	143																																			
4	3_Moderate	143	6	4									2																								
1	3_Moderate	144	8									8				6		1	1																7	
2	3_Moderate	144																																			
3	3_Moderate	144																																			
4	3_Moderate	144	130										1	3																							
5	3_Moderate	144	76	91	5.00	2	40.00									23				1	1	2												

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Crack C | Crack L | Crack C | Crack M | Crack S | Crack H | Fracture F | Fracture L | Fracture C | Fracture M | Fracture S | Fracture H | Broken B | Broken SV | Hole H | Hole VV | Hole SV | Hole VV | Joint O | Joint S | Joint M | Joint L | Joint S | Joint M | Joint L | Joint A | Deformed D | Deformed V | Collapsed/ Pip X | Collapsed/ Pip H | Collapsed/ Pip P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits Other % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Obstacles OB G | Obstacles OB D | Obstacles OB R | Obstacles OB W | Vermin V Other C | Vermin V Other Z | Vermin V Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Features | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C | Fracture F | Broken B | Hole H | Joint J | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits Other % | Deposits Other Z | Roots (R) Fine (F) % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles OB Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | L LD | Intruding Seal Material IS RD | IS SRH | IS SRB | IS SRL | Miscellaneous M Z | M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | Existing MH ID: CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer I.D. | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C: L | C: M | C: S | Fracture F: H | F: L | F: C | F: M | F: S | Broken B: H | Hole H: SV | Joint J: VV | J: SV | J: VV | J: O: S | J: S: M | J: S: L | J: S: M | J: S: L | J: A | J: V | J: H | J: P | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Fine (F) L | Fine (F) J | Roots (T) Tap C | Roots (T) Tap B | Roots (T) Tap L | Roots (T) Tap J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I: C | Obstacles OB: G | Obstacles OB: D | Obstacles OB: R | Vermin V: W | Obstacles Other: C | Obstacles Other: Z | Obstacles Other: % | Vermin Other: C | Vermin Other: R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T: FD | T: FL | T: BI | T: BD | Line L: D | L: L | L: U | L: R | L: LD | L: RD | Intruding Seal Material IS: SRH | IS: SRB | IS: SRL | IS: Z | Miscellaneous M: SA | M: CU | M: MO | Total Construction Features | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | | | | | | | Pipe | | | | | | | | | | | | | | | | | |

Phase	Priority	Ranking	Repair Completion Date	2018_Project	General: Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location: Street Name	CCTV Date	Existing MH ID: Start	Existing MH ID: End	Previous MH ID: Start	Previous MH ID: End	Direction of Camera	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID	Pipe: Size (in)	Pipe: Material	Pipe: Joint Length (ft)	Pipe: GIS Comment	Length (ft)	CCTV Length (ft)
2	3_Moderate	254					G050	5				Y	PALM ST	10/27/2005			MHR130004-A	MHR130005-A	D/S		SPR130004-A	8	VCP			281	281.4
3	3_Moderate	254			PPT		18	42					QUATRO	6/21/2007	7551	7536	MHR160023	MHR160019	U/S	577	SPR160030	8	VCP			265	262
5	3_Moderate	254			PPT		MAP 3-B3-2	24					MIRRILL STREET	8/8/2012	11684	11685	MHR100010	MHR100011	D/S	6165	SPR100038	8	VCP			351	337.6
1	3_Moderate	255				16		17					12681 Susan Ln.	3/4/2004	10746	10729	MHM110031	MHM120007	D/S	2664	SPM110020	8	VCP			300	336
2	3_Moderate	255					G050	6					PALM ST	10/27/2005			MHR130005-A	MHS140001-A	D/S		SPR130005-A	8	VCP			280	279.5
3	3_Moderate	255			PPT		27	12					HARBOR	7/20/2007	7553	7554	MHR160025	MHR160026	D/S	853	SPR160027	12	VCP			272	279
5	3_Moderate	255			PPT		MAP 3-B3-4	24					NEWHOPE STREET	8/29/2012	10864	10865	MHQ140013	MHQ140014	D/S	4802	SPQ140021	8	VCP			215	212.3
1	3_Moderate	256				18		1					13121 Cypress St.	3/5/2004	11170	11173	MHO130042	MHO130045	DS	2486	SPO130046	8	VCP			310	315
2	3_Moderate	256					G041	5					OTIS AV	9/23/2005	12735	12858	MHS090024	COS090002	U/S	6514	SPS090009	8	VCP			110	111.3
3	3_Moderate	256			PPT		51	3					HARBOR BLVD	12/22/2007	7554	7555	MHR160026	MHR160027	D/S	854	SPR160028	12	VCP			280	280
5	3_Moderate	256			PPT		MAP 2 July-2	3					FAUN LANE	6/21/2012	10797	10798	MHL080025	MHL080026	D/S	4340	SPL080025	8	VCP			300	302.5
1	3_Moderate	257				44		31					12765 Village Dr.	4/28/2004	12032	12031	MHM120022	MHM120021	U/S	2739	SPM120021	8	VCP			130	170
2	3_Moderate	257					G050	8				Y	MARBLE PL	10/27/2005	12758	12764	MHS130011	MHR130004-A	D/S	6527	SPS130017	8	VCP			405	395.9
3	3_Moderate	257			PPT		17	36					PARTRIDGE	6/18/2007	6722	6700	MHS140024	MHS130024	U/S	525	SPS140002	8	VCP			165	167
5	3_Moderate	257			PPT		MAP 3-B3-2	10					JESSICA DRIVE	8/10/2012	11112	11113	MHO140040	MHO140041	D/S	2361	SPO140027	8	VCP			255	245.1
1	3_Moderate	258				49		19					9391 Mayrene Dr.	5/18/2004	9569	9570	MHL110010	MHL110011	DS	3297	SPL110011	8	VCP			230	227
2	3_Moderate	258					G050	9				Y	FLINT PL	10/27/2005	12759	12765	MHS130012	MHR130005-A	D/S	6528	SPS130018	8	VCP			405	395.4
3	3_Moderate	258			PPT		18	2					REDBIRD	6/18/2007	6729	7438	MHS140034	MHS140035	D/S	547	SPS140029	8	VCP			240	242
5	3_Moderate	258			PPT		June Map 2 B1	75					VICILIA STREET	6/14/2012	7989	7990	MHK060008	MHK060009	D/S	1846	SPK060004	8	VCP			182	175.6
1	3_Moderate	259				4		16					11332 Lampson	2/10/2004	11028	11029	MHP110011	MHP110012	DS	5236	SPP110008	8	VCP			340	343
2	3_Moderate	259					M018	7					SAFFORD ST	9/12/2005	12493	12492	MHQ120026	MHQ120025	U/S	5597	SPQ120016	6	VCP			90	89.4
3	3_Moderate	259			PPT		16	32					ANABEL	6/14/2007	7468	7469	MHS160003	MHS160004	D/S	449	SPS160003	8	VCP			366	366
5	3_Moderate	259			PPT		MAP 3-B3-4	29					BANNER DRIVE	8/29/2012	11985	11988	MHR140029	MHR140032	D/S	3866	SPR140032	8	VCP			180	176.1
1	3_Moderate	260		X		27		9					12741 Gilbert St.	3/22/2004	8454	8453	MHL120001	MHL110001	US	3112	SPL120001	8	VCP			80	84
2	3_Moderate	260					R057	2					NINA PL	11/10/2005	11481	11464	MHQ140038	MHQ140004	D/S	4209	SPQ140019	8	VCP			275	274.6
3	3_Moderate	260			PPT		16	9					CLINTON	6/13/2007	7506	7507	MHS160017	MHS160018	D/S	480	SPS160026	8	VCP			328	336
5	3_Moderate	260			PPT		MAP 1	4					LAURELTON AVENUE	5/15/2012	8273	8274	MHG090010	MHG090011	D/S	1062	SPG090014	8	VCP			150	149.9
1	3_Moderate	261		X		30		15					8681 Trask	3/30/2004	7641	7642	MHK150003	MHK150004	DS	997	SPK150002	8	VCP			330	331
2	3_Moderate	261					R045	4				Y	HARBOR BLVD	10/27/2005	12139	12138	MHS090033	MHS090032	U/S	5832	SPS090021	8	VCP			320	319.5
3	3_Moderate	261			PPT		15	39					WESTMINSTER	6/11/2007	7483	7508	MHS170005	MHS170006	D/S	582	SPS170024	12	VCP			353	353
5	3_Moderate	261		X	PPT		MAP 4-B1-4	7					FLOWER STREET	9/18/2012	10480	10481	MHN150013	MHN150015	D/S	2227	SPN150009	8	VCP			400	404
1	3_Moderate	262		X		32		1					13431 Mickey St.	3/31/2004	11529	14107	MHL140025	MHL150007	DS	2703	SPL140011	8	VCP			250	246
2	3_Moderate	262					S006	11				Y	FOREST DR	10/18/2005	12692	12693	MHS120042	MHS120043	D/S	6376	SPS120018	8	VCP			240	231.6
3	3_Moderate	262			PPT		18	32					DOWNIE	6/20/2007	0	0	MHT140012	MHT140031	D/S		SPT140013	8	VCP			265	259
5	3_Moderate	262			PPT		MAP 4-B2-3	14					NEWLAND STREET	9/25/2012	6995	7006	MHK160015	MHK160015 A	D/S	337	SPK160015A	8	VCP			194	192.7
1	3_Moderate	263				36		12					12550 Monroe St.	4/7/2004	7701	7702	MHJ110002	MHJ110004	DS	734	SPJ110001	8	VCP			260	260
2	3_Moderate	263					S006	9				Y	FOREST DR	10/18/2005	12692	12094	MHS120042	MHS120041	U/S	6035	SPS120059	8	VCP			300	294.2
3	3_Moderate	263			PPT		20	5					RANCHERO	6/25/2007	14124	6674	MHT140020	MHT140019	U/S	7765	SPT140020	6	VCP			435	431
5	3_Moderate	263			PPT		MAP 2-2-2	22					DUDMAM DRIVE	7/16/2012	9089	9090	MHK100012	MHK100013	D/S	3551	SPK100012	8	Clay Tile			105	105.8
1	3_Moderate	264		X		40		33					Trask Ave./Wynant	4/16/2004	7070	7076	MHJ150003	MHJ150004	DS	769	SPJ150003	8	VCP			240	239.1
2	3_Moderate	264					G051	7				Y	MUSTANG DR	10/31/2005	11982	11981	MHR130016	MHR130015	U/S	3862	SPR130017	8	VCP			90	89.1
3	3_Moderate	264			PPT		18	25					ROBERTA	6/19/2007	6678	6677	MHT140023	MHT140022	U/S	506	SPT140023	8	VCP			120	113
5	3_Moderate	264		X	PPT		MAP 3-B5	4					SHERMAN AVENUE	9/19/2012	11876	11877	MHP130015	MHP130016	D/S	3906	SPP130008	6	VCP			250	254.9
1	3_Moderate	265				51		3					12331 Loraleen St.	5/20/2004	9591	9592	MHL100025	MHL100026	DS	3315	SPL100007	8	VCP			372	372
2	3_Moderate	265					R008	6				Y	ALWICK CR	8/8/2005	9745	9751	MHL050027	MHL050028	D/S	5560	SPL050033	8	VCP			366	358.2
3	3_Moderate	265			PPT		18	17					GLORIA	6/19/2007	6684	6683	MHT140029	MHT140028	U/S	510	SPT140028	8	VCP			208	212
5	3_Moderate	265			PPT		MAP 3-2	19					PALMA VISTA STREET	7/24/2012	13162	12792	MHP050006	MHP050004	U/S	5614	SPP050004	8	VCP			280	284
1	3_Moderate	266				20		7					12631 Barbara Ave.	3/10/2004	9363	9364	MHL110041	MHL110042	DS	3168	SPL110043	8	VCP			300	300
2	3_Moderate	266					R028	11					9TH ST	9/19/2005	12542	12544	MHP100037	MHP100039	D/S	6061	SPP100007	10	VCP			170	104.4
3	3_Moderate	266			PPT		19	2					GARDEN GROVE BLVD	6/21/2007	7036	7035	MHU130006	MHU130005	U/S	357	SPU130005	8	VCP			260	259
5	3_Moderate	266			PPT		MAP 3-B4-2	11					CHAPMAN AVE	10/2/2012	12959	12954	MHO090001	MHO090011	D/S	6298	SPO090001	15	VCP			50	46.7
1	3_Moderate	267		X		23		19					12562 Hazel Ave.	3/17/2004	9371	9370	MHL110049	MHL110048	US	3207	SPL110050	8	VCP			290	291
2	3_Moderate	267					R039	4				Y	ALLEY	9/30/2005	12678	12659	MHT090021	MHT100041	D/S	4034	SPT090033	8	VCP			150	146.6
3	3_Moderate	267			PPT		19	5					LEWIS	6/21/2007	7042	6627	MHU130011	MHU130016	D/S	364	SPU130012	8	VCP			291	293
5	3_Moderate	267			PPT		MAP 3-B3-4	1					JERRY LANE	8/30/2012	12548	12605	MHQ100026	MHQ100027	D/S	4763	SPQ100020	8	VCP			235	243
1	3_Moderate	268				40		21					13082 Monroe St.	4/15/2004	7721	7722	MHJ130012	MHJ130013	DS	785	SPJ130007	8	VCP			220	220
2	3_Moderate	268					R039	7					ALLEY	9/30/2005	12661	12662	MHT100043	MHT100044	D/S	3922	SPT100038	8	VCP			225	220.3
3	3_Moderate	268			PPT		19	23					LEWIS	6/22/2007	6629	6643	MHU140008	MHT140002	D/S	371	SPT140001	8	VCP			214	220
5	3_Moderate	268			PPT		MAP 3-B3-4	30					ROCKINGHORSE ROAD	8/28/2012	10913	10914	MHQ140025	MHQ140026	D/S	4469	SPQ140042	8	VCP			370	350.7
1	3_Moderate	269		X		12		19					13302 Benton St.	2/27/2004	11180	11181	MHO140043	MHO140045	DS	2274	SPO140034	8	VCP			170	331
2	3_Moderate	269					R040	4				Y	HASTER ST	10/3/2005	12680	12679	MHT090041	MHT090040	U/S	6362	SPT090037	8	VCP			385	384.7
5	3_Moderate	269			PPT		MAP 1	2	MAP 1	1			LAURELTON AVENUE	5/15/2012	8275	7330	MHG090012	MHG090013	D/S	1318	SPG090055	8	VCP			350	317.4
1	3_Moderate	270		X		13		18					10942 Lampson Ave.	3/2/2004	12304	11008	MHO110028	CO010001	US	3951	SPO110019	8	VCP			250	218
2	3_Moderate	270					M010	9				Y	CANDY LN	8/22/2005	13142	13143	MHQ080044	MHQ080045	D/S	5854	SPQ080054	8	VCP			230	233.2
5	3_Moderate	270			PPT		June Map 2 B1	82					ORANGEWOOD AVE	6/15/2012	7991	7992	MHK070015	MHK070016	D/S	1847	SPK070014	8	VCP			385	390.4
1	3_Moderate	271				45		28					Euclid St./Pinehurst Pvt.	5/5/2004	11745	11746	MHP120033	MHP120034	DS	4400	SPP120034	8	VCP			35	30
2	3_Moderate	271					S003	6					DUNKLEE AV	10/12/2005	12466	12409	MHT120013	MHT120014	D/S	4587	SPT120029	8	VCP			293	293.0
5	3_Moderate	271		X	PPT		MAP 3-5	11					FRIEDA PLACE	7/24/2012	11208	11134	MHO100017	MHO110016	D/S	2385	SPO100018	8	Clay Tile			259	256.1
1	3_Moderate	272				46		13					12241 Hester Pl.	5/7/2004	9491	9490	MHM100008	MHM100007	US	3577	SPM100011	8	VCP			95	102
2	3_Moderate	272					S002	10					ARLETTA CR	10/11/2005	12380	12381	MHT120018	MHT120019	D/S	5441	SPT120006	8	VCP			130	126.8
5	3_Moderate	272		X	PPT		MAP 2-2-1	1					LOUISE STREET	7/3/2012	8434	8432	MHK130009	MHK120034	U/S	3410	SPK120036	8	Clay Tile			311	318.4
1	3_Moderate	273		X		42		22					12843 Josephine St.	4/20/2004	8393	8399	MHK120008	MHK120016	DS	3367	SPK120011	8	VCP			325	325
5	3_Moderate	273			PPT		MAP 3-B3-2	15					CYPRESS STREET	8/10/2012	11168	11169	MHO130040	MHO130041	D/S	2585	SPO130044	8	VCP			360	360.4
1	3_Moderate	274				46		24					9771 Beverly Ln.	5/10/2004	9499	9498	MHM100018	MHM100017	US	3424	SPM100020	8	VCP			130	133
5	3_Moderate	274			PPT		MAP 3-2	6					EUCLID STREET	7/24/2012	13154	12795	MHO050001	COO050001	U/S	6603	SPO050021	8	VCP			135	136.3
1	3_Moderate	275				51		8					9262 Judy Ln.	5/21/2004	9016	9017	MHL090014	MHL090015	DS	3329	SPL090012	8	VCP			225	218
5	3_Moderate	275			PPT		MAP 3-B3-5	16					ORANGEWOOD AVE	8/31/2012	10373	10834	MHK070050	MHL070044	D/S	4784	SPK070051	8	VCP			36	33.7
1	3_Moderate	276				28		24		x			12833 Brookhurst Wy.	3/25/2004	11331	11332	MHM120003	MHM120004	DS	2816	SPM120003	10	VCP	4		235	245
5	3_Moderate	276			PPT		MAP 3-B3-1	21					LAMPSON AVENUE	8/2/2012	12588	12527	MHP110023	MHP110024	D/S	5092	SPP110023	6	Clay Tile			300	299.8
1	3_Moderate	277				49		1		x		x	9561 Bixby Ave.	5/14/2004	9526	9412	MHM100024	COM100001	US	3283	SPM100046	6	VCP	4		80	95

Structural Defect Coding: Crack (C: L, C, M, S, H); Fracture (F: L, C, M, S, H); Broken (B: SV); Hole (H: VV, SV, VV); Joint (J: O S, M, L, S, M, L, A, V, H, P); Deformed (D); Collapsed Pipe (X); Surface Damage (S); Lining Failure (LF); Point Repair (RP); Sags (S); WL

Phase	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
2		1	3	
3		2	6	3.00
5	4135	6	19	3.17
1			5	2.50
2		1	3	
3		3	8	2.67
5	4135	6	19	3.17
1			5	2.50
2		1	3	
3		1	4	4.00
5	4134	7	19	2.71
1			5	2.50
2		1	3	
3		1	3	3.00
5	4134	8	20	2.50
1			5	2.50
2		1	3	
3		1	4	4.00
5	4134	14	26	1.86
1			5	2.50
2		1	3	
3		1	4	4.00
5	4134	8	21	2.63
1			5	2.50
2		1	3	
3		1	3	3.00
5	4133	4	13	3.25
1			5	2.50
2		1	3	
3		1	2	2.00
5	4133	6	17	2.83
1			4	4.00
2		1	3	
3		1	4	4.00
5	4133	5	14	2.80
1			4	4.00
2		1	3	
3		1	4	4.00
5	4133	4	13	3.25
1			4	4.00
2		1	3	
3		2	6	3.00
5	4133	12	29	2.42
1			4	4.00
2		1	3	
3		1	4	4.00
5	4132	7	17	2.43
1			4	4.00
2		3	3	
3		1	4	4.00
5	4132	5	12	2.40
1			4	4.00
2		3	3	
3		2	3	1.50
5	4133	30	63	2.10
1			5	2.50
2		1	3	
3		1	2	2.00
5	4132	3	10	3.33
1			4	4.00
2		1	1	
5	4132	10	22	2.20
1			4	4.00
2		1	3	
3		1	4	4.00
5	4132	4	11	2.75
1			4	4.00
2		1	3	
3		1	4	4.00
5	4132	4	11	2.75
1			4	2.00
2		1	3	
3		1	4	4.00
5	4132	4	12	3.00
1			4	2.00
2		1	3	
3		1	3	3.00
5	4132	4	12	3.00
1			223	1.99

Operational and Maintenance: Deposits (AGS; AE B, %; AE L, %; Other Z, %); Roots (R): Fine (F) B, L, J, C; Tap (T) B, L, J, C; Medium (M) B, L, J, C; Ball (B) B, L, J, C; Infiltration (I) G, D, R, W; Obstacles (O) C, Z, %; Other C, R; Vermin (V)

Phase	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index
2		4	11	
3		0	0	0.00
5	312E	29	64	2.21
1			2	0.58
2		9	24	
3		0	0	0.00
5	0000	0	0	0.00
1			2	0.50
2		1	2	
3		0	0	0.00
5	1100	1	1	1.00
1			2	2.00
2		17	22	
3		0	0	0.00
5	1100	1	1	1.00
1			0	0.00
2		7	11	
3		1	1	1.00
5	0000			
1			0	0.00
2		0	0	
3		0	0	0.00
5	3100	2	8	4.00
1			0	0.00
2		4	5	
3		0	0	0.00
5	2D00	28	56	2.00
1			0	0.00
2		0	0	
3		0	0	0.00
5	2C00			
1			2	2.00
2		2	4	
3		0	0	0.00
5	0000	0	0	0.00
1			0	0.00
2		4	5	
3		0	0	0.00
5	0000	0	0	0.00
1			13	0.99
2		4	16	
3		0	0	0.00
5	0000	0	0	0.00
1			6	1.08
2		9	20	
3		0	0	0.00
5	4131	5	5	1.00
1			2	0.58
2		0	0	
3		0	0	0.00
5	0000	0	0	0.00
1			2	0.50
2		0	0	
3		0	0	0.00
5	0000	0	0	0.00
1			2	0.50
2		0	0	
3		0	0	0.00
5	0000	0	0	0.00
1			2	0.50
2		0	0	
3		0	0	0.00
5	0000	0	0	0.00
1			0	0.00

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)
5	3_Moderate	277			PPT		Map 1 May	20				Y	MANLEY STREET		5/17/2012	8633	8637	MHD090011	MHD090015	D/S	1925	SPD090010	8	VCP			259	256.3
5	3_Moderate	278			PPT		MAP 2-2-2	1				Y	GARDEN GROVE		7/3/2012	8434	8433	MHK130009	MHK130008	U/S	3411	SPK130021	8	Clay Tile			140	151.8
5	3_Moderate	280	2018-04-10	X	PPT		MAP 3-B3-1	18					ORA STREET		8/2/2012	11871	11851	MHP090012	MHP100009	D/S	3901	SPP100024	8	Clay Tile			315	316.5
5	3_Moderate	281			PPT		MAP 2-2-1	21					POES STREET		7/2/2012	8523	8712	MHJ070001	COJ070002	U/S	2009	SPJ070001	8	VCP			109	107.7
5	3_Moderate	282			PPT		MAP 3-B3-3	20					OAKWOOD STREET		8/22/2012	11852	11853	MHP100013	MHP100014	D/S	3788	SPP100015	8	VCP			394	399.4
5	3_Moderate	283		X	PPT		MAP 3-6	2					JERRY LANE		7/31/2012	11776	11778	MHP100025	MHP100027	D/S	4639	SPP100032	6	Clay Tile			230	222.7
5	3_Moderate	285		X	PPT		MAP 3-6	9	MAP 3-6	19	Y		ACACIA PARKWAY		7/27/2012	11734	11733	MHP120023	MHP120022	U/S	4298	SPP120026	6	Clay Tile			385	148
5	3_Moderate	286			PPT		MAP 3-B2-2	14				Y	JACALENE LANE		8/8/2012	13125	13123	MHQ080019	MHQ080017	U/S	5770	SPQ080036	6	VCP			160	165
5	3_Moderate	287			PPT		MAP 1-2	6				Y	KNOTT AVENUE		7/19/2012	8293	8294	MHG110047	MHG110048	D/S	927	SPG110003	8	Clay Tile			536	536.9
5	3_Moderate	288			PPT		MAP 1-2	2				Y	KNOTT STREET		7/24/2012	8294	8176	MHG110048	MHG110050	D/S	928	SPG110004	8	Clay Tile			120	131.8
5	3_Moderate	289			PPT		MAP 4-B1-6	7					BOLSA AVE ALLEY		10/3/2012	7301	6887	MHO200023	MHO200022	U/S	179	SPO200024	8	VCP			330	45.4
5	3_Moderate	290			PPT		MAP 3-B3-3	3					BANNER DRIVE		8/27/2012	10894	10895	MHQ140016	MHQ140017	D/S	4361	SPQ140038	8	VCP			240	248.7
5	3_Moderate	291			PPT		MAP 4-B3	5					MAGNOLIA STREET		9/26/2012	9077	9078	MHL100046	MHL100047	D/S	3538	SPL100047	8	VCP			20	40
5	3_Moderate	292			PPT		MAP 4-B2-1	21					PURDY STREET		9/7/2012	7617	7618	MHK150029	MHK150030	D/S	662	SPK150032	8	VCP			324	324.1
5	3_Moderate	293			PPT		MAP 2 July-4	19					CELLINI AVENUE		6/25/2012	10129	13900	MHL080008	MHL080005	D/S	3740	SPL080018	8	VCP			215	207.6
5	3_Moderate	294			PPT		MAP 2 July-4	12					COVEY		6/26/2012	9621	10064	MHM080035	MHM080034	U/S	3839	SPM080044	8	Clay Tile			400	326.4
5	3_Moderate	295			PPT		MAP 4-B2-1	12					RIATA STREET		9/10/2012	7605	7612	MHK150033	MHK160022	D/S	652	SPK150036	8	VCP			349	347.5
5	3_Moderate	296			PPT		May Folder 2	6					ACACIA AVE		5/29/2012	8817	8821	MHF120004	MHF120008	U/S	1643	SPF120036	8	VCP			299	300.7
5	3_Moderate	297			PPT		MAP 3-B3-3	25					TAFT STREET		8/22/2012	12299	12291	MHO150008	MHO150007	D/S	3946	SPO150003	8	VCP			10	0
5	3_Moderate	298			PPT		MAP 3-B5	21					CENTURY BOULEVARD		9/6/2012	12289	13224	MHO130034	MHO130900	U/S	6358	SPO130901	6	VCP			222	7.2
5	3_Moderate	299			PPT		MAP 3-B5	31					WEST STREET		9/5/2012	11700	12897	MHR120036	MHR120053	D/S	5819	SPR120063	12	VCP			18	10
5	3_Moderate	300			PPT		MAP 3-B5	23					EUCLID STREET		9/6/2012	11895	11896A	MHP130012	MHP130007	U/S	4447	SPP130029	12	VCP			20	13.6
5	3_Moderate	301		X	PPT		MAP 2-2-1	3					LARSON AVENUE		7/6/2012	7050	7051	MHJ130016	MHJ130017	D/S	790	SPJ130011	8	Clay Tile			100	72.3
5	3_Moderate	302			PPT		MAP 2-2-1	19					LORNA STREET		7/2/2012	8026	8023	MHK090016	MHK090015	U/S	1877	SPK090016	8	Clay Tile			170	168
5	3_Moderate	304			PPT		MAP 3-B3-2	18					BENTON STREET		8/8/2012	11182	11181	MHO140045	MHO140044	U/S	2275	SPO140035	8	VCP			160	328.6
5	3_Moderate	305			PPT		MAP 3-B5	7					NEWHOPE STREET		9/19/2012	13185	13184	MHQ130037	MHQ140039	D/S	5694	SPQ130042	6	VCP			363	360.7
5	3_Moderate	306		X	PPT		MAP 3-6	8					MARSHALL LANE		7/26/2012	12273	12313	MHO110012	MHO110011	U/S	5127	SPO110030	6	Clay Tile			315	368.8
5	3_Moderate	307			PPT		MAP 3-B4-2	14					CHAPMAN AVE		9/25/2012	13051	13052	MHR090008	MHR090009	D/S	6227	SPR090008	12	VCP			320	645.1
5	3_Moderate	308			PPT		MAP 4-B3	7				Y	LAMPSON AVE		9/23/2012	8694	8695	MHJ110013	MHJ110014	D/S	1814	SPJ110009	8	VCP			396	510.7
5	3_Moderate	309		X	PPT		MAP 2-1-2	17				Y	GILBERT STREET		7/11/2012	8457	8458	MHL120004	MHL130001	D/S	3116	SPL120005	8	VCP			323	325
5	3_Moderate	310			PPT		MAP 2 July-3	10					LORALEEN STREET		6/27/2012	9590	9591	MHL100024	MHL100025	D/S	3314	SPL100006	8	VCP			372	380.1
5	3_Moderate	311		X	PPT		MAP 3-B3-1	27				Y	CIVIC CENTER DRIVE		8/2/2012	11016	11017	MHP120013	MHP120014	D/S	5134	SPP120012	6	Clay Tile			332	328.6
5	3_Moderate	312			PPT		MAP 3-B2-3	14					CANDY LANE		8/16/2012	13086	13069	MHR080017	MHQ080051	D/S	5714	SPR080026	8	VCP			267	278.3
5	3_Moderate	313			PPT		MAP 2 July-2	6					BIXBY AVE		6/25/2012	9026	9564	MHL090024	MHL090040	D/S	3340	SPL090023	8	VCP			343	344.4
5	3_Moderate	315			PPT		June Map 2 B1	72					MACMURRAY STREET		6/14/2012	10283	10287	MHK050018	MHK050023	D/S	3775	SPK050033	8	VCP			200	203.4
5	3_Moderate	316			PPT		MAP 3-B2-2	11					LOARA STREET		8/13/2012	12925	12926	MHP070005	MHP080009	D/S	6176	SPP070007	8	VCP			380	405.1
5	3_Moderate	317			PPT		MAP 2 July-3	1					MAGNOLIA STREET		6/26/2012	10386	10844	MHL060039 A	MHL060039	D/S	5330	SPL060042	8	VCP			380	227.6
5	3_Moderate	318			PPT		June Map 2 B1	49					BROOKHURST STREET		6/12/2012	9147	9148	MHM030002	MHM030003	D/S	4369	SPM030004	8	VCP			300	302.7
5	3_Moderate	320			PPT		June Map 2 B1	16					CREW DR		6/7/2012	9234	9229	MHM030017	MHM030007	D/S	3604	SPM030020	8	VCP			375	376.6
5	3_Moderate	321	2017-04-11	X	PPT		MAP 2-1-4	4					LARSON AVE		7/17/2012	10705	11296	MHN130031	MHN130032	D/S	3082	SPN130041	6	VCP			360	257.4
5	3_Moderate	322			PPT		June Map 2 B1	76					WASCO ROAD		6/14/2012	8037	8040	MHK060007	MHK060012	D/S	1890	SPK060030	8	VCP			340	350.6
5	3_Moderate	323			PPT		MAP 3-3	9					DANIEL AVE		7/30/2012	12243	12229	MHQ070013	MHQ070017	D/S	6487	SPQ070022	8	VCP			285	290.5
5	3_Moderate	324			PPT		June Map 2 B1	14					THOMAS DR		6/6/2012	8948	8945	MHM030024	MHM030009	D/S	3660	SPM030036	8	VCP			363	365.3
5	3_Moderate	325			PPT		MAP 4-B2-2	6					WESTMINSTER BOULEVARD		9/21/2012	11044	11048	MHL170900	MHL170019	D/S	3046	SPL170900	8	VCP			6	58.2
5	3_Moderate	326			PPT		MAP 3-B2-6	12					CHOISSER ROAD		8/29/2012	12137	12097	MHS100050	MHS100010	D/S	5831	SPS100053	8	VCP			270	277.2
5	3_Moderate	327			PPT		June Map 2 B1	71					LA GRAND AVE		6/14/2012	10282	10338	MHK050013	MHK050014	D/S	3774	SPK050032	8	VCP			195	198.2
5	3_Moderate	328		X	PPT		MAP 4-B1-4	8					FLOWER STREET		9/18/2012	10479	10480	MHN150012	MHN150013	D/S	2226	SPN150008	8	VCP			180	176.5
5	3_Moderate	329			PPT		MAP 2 July-1	13					BROOKHURST STREET		6/20/2012	9961	9962	MHM090002	MHM090003	D/S	5367	SPM090004	8	VCP			226	235.9
5	3_Moderate	330			PPT		Map 1 May	70					ADAMS STREET		5/30/2012	7750	7751	MHE120006	MHE120007	D/S	1363	SPE120005	8	VCP			350	352.1
5	3_Moderate	331			PPT		June Map 2 B1	36					GARZA AVE		6/11/2012	8336	8337	MHL040013	MHL040014	D/S	5019	SPL040013	8	VCP			306	310.7
5	3_Moderate	332			PPT		MAP 3-B3-1	1					PICKETT LANE		8/8/2012	12546	12547	MHQ100024	MHQ100025	D/S	6062	SPQ100005	8	VCP			167	166.4
5	3_Moderate	333			PPT		MAP 3-B2-1	14					ROBERT LANE		8/2/2012	13200	13201	MHQ060008	MHQ060009	D/S	5977	SPQ060010	8	VCP			355	350.3
5	3_Moderate	334			PPT		June Map 2 B1	46					GILBERT STREET		6/11/2012	9728	9732	MHL050046	MHL050047	D/S	5055	SPL050002	8	VCP			160	164.9

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)

Structural Defect Coding: Crack (C: L, C, M, S, H); Fracture (F: L, C, M, S, H); Broken (B: SV, VV); Hole (H: SV, VV); Joint (J: O S, O M, O L, S S, S M, S L, A, V, H, P); Deformed (D); Collapsed Pipe (X); Surface Damage (S); Lining Failure (LF); Point Repair (RP); Slope (S); WL

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)
5	3_Moderate	335			PPT		MAP 3-B3-3	24					TAFT STREET		8/22/2012	12290	12291	MHO150007	MHO150006	D/S	3945	SPO150002	8	VCP			10	0
5	3_Moderate	336			PPT		MAP 3-B3-3	22					TAFT STREET		8/22/2012	12291	12290	MHO150006	MHO150008	D/S	3944	SPO150001	8	VCP			10	0
5	3_Moderate	337			PPT		MAP 3-B3-3	26					TAFT STREET		8/22/2012	12289	12290	MHO150005	MHO150006	D/S	3943	SPO150000	8	VCP			10	0
5	3_Moderate	338			PPT		MAP 3-B3-3	27					TAFT STREET		8/22/2012	12288	12289	MHO150004	MHO150005	D/S	3942	SPO149999	8	VCP			10	0
5	3_Moderate	339			PPT		MAP 3-B3-3	28					TAFT STREET		8/22/2012	12287	12288	MHO150003	MHO150004	D/S	3941	SPO149998	8	VCP			10	0
5	3_Moderate	340			PPT		MAP 3-B3-3	29					TAFT STREET		8/22/2012	12286	12287	MHO150002	MHO150003	D/S	3940	SPO149997	8	VCP			10	0
5	3_Moderate	341			PPT		MAP 3-B3-3	30					TAFT STREET		8/22/2012	12285	12286	MHO150001	MHO150002	D/S	3939	SPO149996	8	VCP			10	0
5	3_Moderate	342			PPT		MAP 3-B3-3	31					TAFT STREET		8/22/2012	12284	12285	MHO150000	MHO150001	D/S	3938	SPO149995	8	VCP			10	0
5	3_Moderate	343			PPT		MAP 3-B3-3	32					TAFT STREET		8/22/2012	12283	12284	MHO149999	MHO150000	D/S	3937	SPO149994	8	VCP			10	0
5	3_Moderate	344			PPT		MAP 3-B3-3	33					TAFT STREET		8/22/2012	12282	12283	MHO149998	MHO149999	D/S	3936	SPO149993	8	VCP			10	0
5	3_Moderate	345			PPT		MAP 3-B3-3	34					TAFT STREET		8/22/2012	12281	12282	MHO149997	MHO149998	D/S	3935	SPO149992	8	VCP			10	0
5	3_Moderate	346			PPT		MAP 3-B3-3	35					TAFT STREET		8/22/2012	12280	12281	MHO149996	MHO149997	D/S	3934	SPO149991	8	VCP			10	0
5	3_Moderate	347			PPT		MAP 3-B3-3	36					TAFT STREET		8/22/2012	12279	12280	MHO149995	MHO149996	D/S	3933	SPO149990	8	VCP			10	0
5	3_Moderate	348			PPT		MAP 3-B3-3	37					TAFT STREET		8/22/2012	12278	12279	MHO149994	MHO149995	D/S	3932	SPO149989	8	VCP			10	0
5	3_Moderate	349			PPT		MAP 3-B3-3	38					TAFT STREET		8/22/2012	12277	12278	MHO149993	MHO149994	D/S	3931	SPO149988	8	VCP			10	0
5	3_Moderate	350			PPT		MAP 3-B3-3	39					TAFT STREET		8/22/2012	12276	12277	MHO149992	MHO149993	D/S	3930	SPO149987	8	VCP			10	0
5	3_Moderate	351			PPT		MAP 3-B3-3	40					TAFT STREET		8/22/2012	12275	12276	MHO149991	MHO149992	D/S	3929	SPO149986	8	VCP			10	0
5	3_Moderate	352			PPT		MAP 3-B3-3	41					TAFT STREET		8/22/2012	12274	12275	MHO149990	MHO149991	D/S	3928	SPO149985	8	VCP			10	0
5	3_Moderate	353			PPT		MAP 3-B3-3	42					TAFT STREET		8/22/2012	12273	12274	MHO149989	MHO149990	D/S	3927	SPO149984	8	VCP			10	0
5	3_Moderate	354			PPT		MAP 3-B3-3	43					TAFT STREET		8/22/2012	12272	12273	MHO149988	MHO149989	D/S	3926	SPO149983	8	VCP			10	0
5	3_Moderate	355			PPT		MAP 3-B3-3	44					TAFT STREET		8/22/2012	12271	12272	MHO149987	MHO149988	D/S	3925	SPO149982	8	VCP			10	0
5	3_Moderate	356			PPT		MAP 3-B3-3	45					TAFT STREET		8/22/2012	12270	12271	MHO149986	MHO149987	D/S	3924	SPO149981	8	VCP			10	0
5	3_Moderate	357			PPT		MAP 3-B3-3	46					TAFT STREET		8/22/2012	12269	12270	MHO149985	MHO149986	D/S	3923	SPO149980	8	VCP			10	0
5	3_Moderate	358			PPT		MAP 3-B3-3	47					TAFT STREET		8/22/2012	12268	12269	MHO149984	MHO149985	D/S	3922	SPO149979	8	VCP			10	0
5	3_Moderate	359			PPT		MAP 3-B3-3	48					TAFT STREET		8/22/2012	12267	12268	MHO149983	MHO149984	D/S	3921	SPO149978	8	VCP			10	0
5	3_Moderate	360			PPT		MAP 3-B3-3	49					TAFT STREET		8/22/2012	12266	12267	MHO149982	MHO149983	D/S	3920	SPO149977	8	VCP			10	0
5	3_Moderate	361			PPT		MAP 3-B3-3	50					TAFT STREET		8/22/2012	12265	12266	MHO149981	MHO149982	D/S	3919	SPO149976	8	VCP			10	0
5	3_Moderate	362			PPT		MAP 3-B3-3	51					TAFT STREET		8/22/2012	12264	12265	MHO149980	MHO149981	D/S	3918	SPO149975	8	VCP			10	0
5	3_Moderate	363			PPT		MAP 3-B3-3	52					TAFT STREET		8/22/2012	12263	12264	MHO149979	MHO149980	D/S	3917	SPO149974	8	VCP			10	0
5	3_Moderate	364			PPT		MAP 3-B3-3	53					TAFT STREET		8/22/2012	12262	12263	MHO149978	MHO149979	D/S	3916	SPO149973	8	VCP			10	0
5	3_Moderate	365			PPT		MAP 3-B3-3	54					TAFT STREET		8/22/2012	12261	12262	MHO149977	MHO149978	D/S	3915	SPO149972	8	VCP			10	0
5	3_Moderate	366			PPT		MAP 3-B3-3	55					TAFT STREET		8/22/2012	12260	12261	MHO149976	MHO149977	D/S	3914	SPO149971	8	VCP			10	0
5	3_Moderate	367			PPT		MAP 3-B3-3	56					TAFT STREET		8/22/2012	12259	12260	MHO149975	MHO149976	D/S	3913	SPO149970	8	VCP			10	0
5	3_Moderate	368			PPT		MAP 3-B3-3	57					TAFT STREET		8/22/2012	12258	12259	MHO149974	MHO149975	D/S	3912	SPO149969	8	VCP			10	0
5	3_Moderate	369			PPT		MAP 3-B3-3	58					TAFT STREET		8/22/2012	12257	12258	MHO149973	MHO149974	D/S	3911	SPO149968	8	VCP			10	0
5	3_Moderate	370			PPT		MAP 3-B3-3	59					TAFT STREET		8/22/2012	12256	12257	MHO149972	MHO149973	D/S	3910	SPO149967	8	VCP			10	0
5	3_Moderate	371			PPT		MAP 3-B3-3	60					TAFT STREET		8/22/2012	12255	12256	MHO149971	MHO149972	D/S	3909	SPO149966	8	VCP			10	0
5	3_Moderate	372			PPT		MAP 3-B3-3	61					TAFT STREET		8/22/2012	12254	12255	MHO149970	MHO149971	D/S	3908	SPO149965	8	VCP			10	0
5	3_Moderate	373			PPT		MAP 3-B3-3	62					TAFT STREET		8/22/2012	12253	12254	MHO149969	MHO149970	D/S	3907	SPO149964	8	VCP			10	0
5	3_Moderate	374			PPT		MAP 3-B3-3	63					TAFT STREET		8/22/2012	12252	12253	MHO149968	MHO149969	D/S	3906	SPO149963	8	VCP			10	0
5	3_Moderate	375			PPT		MAP 3-B3-3	64					TAFT STREET		8/22/2012	12251	12252	MHO149967	MHO149968	D/S	3905	SPO149962	8	VCP			10	0
5	3_Moderate	376			PPT		MAP 3-B3-3	65					TAFT STREET		8/22/2012	12250	12251	MHO149966	MHO149967	D/S	3904	SPO149961	8	VCP			10	0
5	3_Moderate	377			PPT		MAP 3-B3-3	66					TAFT STREET		8/22/2012	12249	12250	MHO149965	MHO149966	D/S	3903	SPO149960	8	VCP			10	0
5	3_Moderate	378			PPT		MAP 3-B3-3	67					TAFT STREET		8/22/2012	12248	12249	MHO149964	MHO149965	D/S	3902	SPO149959	8	VCP			10	0
5	3_Moderate	379			PPT		MAP 3-B3-3	68					TAFT STREET		8/22/2012	12247	12248	MHO149963	MHO149964	D/S	3901	SPO149958	8	VCP			10	0
5	3_Moderate	380			PPT		MAP 3-B3-3	69					TAFT STREET		8/22/2012	12246	12247	MHO149962	MHO149963	D/S	3900	SPO149957	8	VCP			10	0
5	3_Moderate	381			PPT		MAP 3-B3-3	70					TAFT STREET		8/22/2012	12245	12246	MHO149961	MHO149962	D/S	3899	SPO149956	8	VCP			10	0
5	3_Moderate	382			PPT		MAP 3-B3-3	71					TAFT STREET		8/22/2012	12244	12245	MHO149960	MHO149961	D/S	3898	SPO149955	8	VCP			10	0
5	3_Moderate	383			PPT		MAP 3-B3-3	72					TAFT STREET		8/22/2012	12243	12244	MHO149959	MHO149960	D/S	3897	SPO149954	8	VCP			10	0
5	3_Moderate	384			PPT		MAP 3-B3-3	73					TAFT STREET		8/22/2012	12242	12243	MHO149958	MHO149959	D/S	3896	SPO149953	8	VCP			10	0
5	3_Moderate	385			PPT		MAP 3-B3-3	74					TAFT STREET		8/22/2012	12241	12242	MHO149957	MHO149958	D/S	3895	SPO149952	8	VCP			10	0
5	3_Moderate	386			PPT		MAP 3-B3-3	75					TAFT STREET		8/22/2012	12240	12241	MHO149956	MHO149957	D/S	3894	SPO149951	8	VCP			10	0
5	3_Moderate	387			PPT		MAP 3-B3-3	76					TAFT STREET		8/22/2012	12239	12240	MHO149955	MHO149956	D/S	3893	SPO149950	8	VCP			10	0
5	3_Moderate	388			PPT		MAP 3-B3-3	77					TAFT STREET		8/22/2012	12238	12239	MHO149954	MHO149955	D/S	3892	SPO149949	8	VCP			10	0
5	3_Moderate	389			PPT		MAP 3-B3-3	78					TAFT STREET		8/22/2012	12237	12238	MHO149953	MHO149954	D/S	3891	SPO149948	8	VCP			10	0
5	3_Moderate	390			PPT		MAP 3-B3-3	79					TAFT STREET		8/22/2012	12236	12237	MHO149952	MHO149953	D/S	3890	SPO149947	8	VCP			10	0
5	3_Moderate	391			PPT		MAP 3-B3-3	80					TAFT STREET		8/22/2012	12235	12236	MHO149951	MHO149952	D/S	3889	SPO149946	8	VCP			10	0
5	3_Moderate	392			PPT		MAP 3-B3-3	81					TAFT STREET		8/22/2012	12234	12235	MHO149950	MHO149951	D/S	3888	SPO149945	8	VCP			10	0
5	3_Moderate	393			PPT		MAP 3-B3-3	82					TAFT STREET		8/22/2012	12233	12234	MHO149949	MHO149950	D/S	3887	SPO149944	8	VCP			10	0
5	3_Moderate	394			PPT		MAP 3-B3-3	83					TAFT STREET		8/22/2012	12232	12233	MHO149948	MHO149949	D/S	3886	SPO149943	8	VCP			10	0
5	3_Moderate	395			PPT		MAP 3-B3-3	84					TAFT STREET		8/22/2012	12231	12232	MHO149947	MHO149948	D/S	3885	SPO149942	8	VCP			10	0
5	3_Moderate	396			PPT		MAP 3-B3-3	85					TAFT STREET		8/22/2012	12230	12231	MHO149946	MHO149947	D/S	3884	SPO149941	8	VCP			10	0
5	3_Moderate	397			PPT		MAP 3-B3-3	86					TAFT STREET		8/22/2012	12229	12230	MHO149945	MHO149946	D/S	3883	SPO149940	8	VCP			10	0
5	3_Moderate	398			PPT		MAP 3-B3-3	87					TAFT STREET		8/22/2012	12228	12229	MHO149944	MHO149945	D/S	3882	SPO149939	8	VCP			10	0
5	3_Moderate	399			PPT		MAP 3-B3-3	88					TAFT STREET		8/22/2012	12227	12228	MHO149943	MHO149944	D/S	3881	SPO149938	8	VCP			10	0
5	3_Moderate	400			PPT		MAP 3-B3-3	89					TAFT STREET		8/22/2012	12226	12227	MHO149942	MHO149943	D/S	3880	SPO149937	8	VCP			10	0
5	3_Moderate	401			PPT		MAP 3-B3-3	90					TAFT STREET		8/22/2012	12225	12226	MHO149941	MHO149942	D/S	3879	SPO149936	8	VCP			10	0
5	3_Moderate	402			PPT		MAP 3-B3-3	91					TAFT STREET		8/22/2012	12224	12225	MHO149940	MHO149941	D/S	3878	SPO149935	8	VCP			10	0
5	3_Moderate	403			PPT		MAP 3-B3-3	92					TAFT STRE

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer ID | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | Crack C C | Crack C M | Crack C S | Crack C H | Fracture F L | Fracture F C | Fracture F M | Fracture F S | Fracture F H | Broken B SV | Broken B VV | Hole H SV | Hole H VV | Joint O S | Joint J M | Joint J L | Joint J S | Joint J M | Joint J L | Joint J A | Deformed D | Collapsed Pipe V | Hole H | Pipe P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles OB Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line I D | Line I L | Line I U | Line I R | Line I LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer I.D.	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Pipe Length (ft)	Pipe CCTV Length (ft)
4	4_Minor	181					MIXED P COUNTY 3	2475				Y	RUSTIC		1/17/2007	9639	9638	MHL040026	MHL040025	U/S	5524	SPL040025	8	VCP			254	253.3
4	4_Minor	182					13	2384				Y	CANTON		10/26/2006	8973	8972	MHM040015	MHM040014	U/S	4412	SPM040038	8	VCP			280	279.8
4	4_Minor	183					13	2382				Y	BANTA		10/26/2006	8970	8969	MHM040012	MHM040011	U/S	3679	SPM040035	8	VCP			285	286.0
4	4_Minor	184					MIXED P COUNTY 2	3				Y	KENNELLY		11/3/2007	9337	9177	MHM010014	MHM010016	U/S	5033	SPM010039	8	VCP			385	384.4
4	4_Minor	185					4	2216				Y	MYSTIC		6/30/2006	9314	8985	MHM000013	MHM000021	U/S	4524	SPM000015	8	VCP			266	526.5
4	4_Minor	186					4	2216				Y	MYSTIC		6/30/2006	8985	9264	MHM000013	MHM000021	U/S	5417	SPM000020	8	VCP			266	526.5
4	4_Minor	187					3	2205				Y	YARDLEY		6/19/2006	9312	9313	MHM000011	MHM000013	D/S	3462	SPM000005	8	VCP			300	565.0
4	4_Minor	188					3	2205				Y	YARDLEY		6/19/2006	9313	9314	MHM000011	MHM000013	D/S	3463	SPM000006	8	VCP			268	565.0
4	4_Minor	189					8	2295				Y	BOUVAIS		8/30/2006	9346	9350	MHM020010	MHM020015	U/S	3490	SPM020036	8	VCP			398	401.8
4	4_Minor	190					5	2237				Y	GUINIDA		7/19/2006	9328	9327	MHM010003	MHM010001	U/S	3473	SPM010025	8	VCP			201	446.2
4	4_Minor	191					5	2237				Y	GUINIDA		7/19/2006	9327	9173	MHM010003	MHM010001	U/S	5030	SPM010036	8	VCP			244	446.2
4	4_Minor	192					6	2249				Y	GRAVIER		7/31/2006	9193	9192	MHM010031	MHM010029	U/S	4496	SPM010013	8	VCP			285	565.8
4	4_Minor	193					6	2249				Y	GRAVIER		7/31/2006	9194	9193	MHM010031	MHM010029	U/S	4497	SPM010014	8	VCP			284	565.8
4	4_Minor	194					P COUNTY	7				Y	BROOKHURST ALLEY		10/10/2007	9272	9275	MHM030004	MHM030032	U/S	3611	SPM030027	8	VCP			300	313.5
4	4_Minor	195					2	2100				Y	HARVEST		5/2/2006	9298	9297	MHM990030	MHM990028	U/S	3448	SPM990026	8	VCP			200	383.3
4	4_Minor	196					2	2100				Y	HARVEST		5/2/2006	9299	9298	MHM990030	MHM990028	U/S	3449	SPM990027	8	VCP			181	383.3
4	4_Minor	197					6	2248				Y	BIENVILLE		7/31/2006	9192	9196	MHM010029	MHM010033	U/S	4500	SPM010017	8	VCP			170	161.6
4	4_Minor	198					7	2266				Y	GUINIDA		8/14/2006	9188	9190	MHM010026	MHM010027	U/S	4494	SPM010011	8	VCP			112	123.0
4	4_Minor	199					5	2232				Y	BURGUNDY		8/18/2006	9175	9174	MHM010011	MHM010010	U/S	4390	SPM010002	8	VCP			298	297.1
4	4_Minor	200					MIXED 1	2397				Y	BALL RD		11/3/2006			MHM000015	MHM000025	U/S		SPM00017	8	VCP			266	266.4
4	4_Minor	201					MIXED 1	2397				Y	BALL RD		11/3/2006			MHM000015	MHM000025	U/S		SPM00022	8	VCP			266	266.4
4	4_Minor	202					6	2250		6	2263	Y	GRAVIER		7/31/2006	9194	9195	MHM010031	MHM010032	D/S	4498	SPM010015	8	VCP			284	280.5
4	4_Minor	203					8	2303				Y	LARRY		9/11/2006	9352	9773	MHM020017	MHM020019	U/S	3494	SPM020039	8	VCP			148	143.5
4	4_Minor	204					8	2292				Y	PALAIS		8/30/2006	9209	9208	MHM020012	MHM020011	U/S	4514	SPM020016	8	VCP			150	143.6
4	4_Minor	205					P COUNTY	15				Y	JEAN		10/8/2007	8351	8350	MHM040026	MHM040025	U/S	4421	SPM040047	8	VCP			190	199.6
4	4_Minor	206					P COUNTY 3A	7				Y	GILBERT		10/12/2007	0	0	MHL010003	MHL010006	U/S	3956	SPL010002	8	VCP			160	575.6
4	4_Minor	207					P COUNTY 3A	7				Y	GILBERT		10/12/2007	0	0	MHL010003	MHL010006	U/S	3957	SPL010003	8	VCP			160	575.6
4	4_Minor	208					P COUNTY 3A	7				Y	GILBERT		10/12/2007	0	0	MHL010003	MHL010006	U/S	5170	SPL010008	8	VCP			340	575.6
4	4_Minor	209					MIXED 3	2487				Y	BALL RD		1/25/2007	9318	9321	MHM000017	MHM000027	U/S	3472	SPM000013	8	VCP			110	116.2
4	4_Minor	210					P COUNTY	14				Y	ANTIGUA		10/9/2007	9189	9188	MHM020043	MHM010026	U/S	4493	SPM020007	8	VCP			290	298.1
4	4_Minor	211					4	2212				Y	HARVEST		6/27/2006	9308	9307	MHM000007	MHM000005	U/S	3459	SPM000002	8	VCP			335	671.9
4	4_Minor	212					4	2212				Y	HARVEST		6/27/2006	9309	9308	MHM000007	MHM000005	U/S	3460	SPM000003	8	VCP			340	671.9
4	4_Minor	213					8	2305				Y	HARRIET LN		9/11/2006	9352	9353	MHM020017	MHL020004	D/S	3492	SPM020038	8	VCP			280	583.0
4	4_Minor	214					8	2305				Y	HARRIET LN		9/11/2006	9353	9341	MHM020017	MHL020004	D/S	3493	SPL020008	8	VCP			291	583.0
4	4_Minor	215					MIXED P COUNTY 1	8				Y	GILBERT		11/6/2007	8944	9119	MHL030039	COL030001	D/S	4427	SPL030013	10	VCP			150	177.4
4	4_Minor	216					P COUNTY 3C	2				Y	GILBERT		10/14/2007	8981	8982	MHL030004	COL030001	D/S	4425	SPL030011	8	VCP			350	520.5
4	4_Minor	217					P COUNTY 3C	2				Y	GILBERT		10/14/2007	8982	9119	MHL030004	COL030001	D/S	4426	SPL030012	8	VCP			200	520.5
4	4_Minor	218					P COUNTY 3C	5				Y	BALL		10/14/2007	9316	9317	MHM000015	MHM010040	D/S	3468	SPM000010	8	VCP			45	61.6
4	4_Minor	219					P COUNTY 3C	5				Y	BALL		10/14/2007	9317	9320	MHM000015	MHM010040	D/S	3471	SPM010024	8	VCP			10	61.6
4	4_Minor	220					8	2307				Y	PATRICIA		9/11/2006	9353	9774	MHM020018	MHM020020	U/S	3495	SPM020040	8	VCP			150	143.1
4	4_Minor	221					P COUNTY	9				Y	CERRITOS		10/10/2007	9212	9269	MHM030036	MHM030033	U/S	3641	SPM030028	8	VCP			205	361.4
4	4_Minor	222					P COUNTY	9				Y	CERRITOS		10/10/2007	9145	9144	MHM030036	MHM030033	U/S	4271	SPM030001	8	VCP			50	361.4
4	4_Minor	223					P COUNTY	9				Y	CERRITOS		10/10/2007	9269	9145	MHM030036	MHM030033	U/S	4272	SPM030002	8	VCP			115	361.4
4	4_Minor	224					MIXED P COUNTY 1	7				Y	ENDRY		11/7/2007	8966	8967	MHM040009	MHM040010	D/S	3677	SPM040033	10	VCP			293	292.7
4	4_Minor	225					P COUNTY 4A	8					ENDRY		11/7/2007	8967	14505	MHM050045	MHM040010	D/S	3678	SPM040034	8	VCP			301	137.2
4	4_Minor	226					6	2247				Y	GRAVIER		7/31/2006	9192	9191	MHM010029	MHM010028	U/S	4495	SPM010012	8	VCP			310	310.1
4	4_Minor	227					P COUNTY 4A	1				Y	GILBERT		11/15/2007	9341	9340	MHL020003	MHL020004	U/S	4056	SPL020003	8	VCP			135	80.8
4	4_Minor	228					18	9					GILBERT		2/5/2007	9339	9338	MHL020001	MHL020002	U/S	3961	SPL020001	8	VCP			375	189.4
4	4_Minor	229					P COUNTY 3C	1				Y	CERRITOS		10/17/2007	8936	8937	MHM030042	MHM030043	D/S	3650	SPM030031	8	VCP			330	329.8
4	4_Minor	230					12	2364				Y	KATELLA		10/17/2006	9014	8959	MHL050051	MHL050050	U/S	5026	SPL050022	12	VCP			400	384.0
4	4_Minor	231					5	2229				Y	DE'STE		7/14/2006	9334	9333	MHM010005	MHM010008	U/S	3480	SPM010031	8	VCP			340	346.8
4	4_Minor	232					P COUNTY 3A	5				Y	GILBERT		10/14/2007	8980	8979	MHL030004	MHL030002	U/S	4423	SPL030009	8	VCP			256	472.6
4	4_Minor	233					P COUNTY 3A	5				Y	GILBERT		10/14/2007	8981	8980	MHL030004	MHL030002	U/S	4424	SPL030010	8	VCP			250	472.6
3	4_Minor	269			GGSD		29	1023					SANTA BARBARA		1/19/2005	8612	8611	MHD080010	MHD080009	U/S	1597	SPD080011	8	VCP			289	288
3	4_Minor	270			GGSD		30	1029				Y	SANTA MONICA		1/26/2005	7843	8615	MHD080013	MHD080014	U/S	1945	SPD080027	9	VCP			377	377
3	4_Minor	271			GGSD		30	1040				Y	SANTA RITA		1/31/2005	7845	8618	MHD080017	MHD080018	U/S	1946	SPD080028	8	VCP			373	371
3	4_Minor	272			GGSD		30	1039				Y	SANTA RITA		1/28/2005	8620	8619	MHD080020	MHD080019	U/S	1603	SPD080019	8	VCP			372	369
2	4_Minor	273					R001	3					ARDIS DR		7/25/2005	10792	10793	MHL080020	MHL080021	D/S	4335	SPL080020	8	VCP			356	354.5
3	4_Minor	274			GGSD		30	1043				Y	MANLEY		1/31/2005	8623	8620	MHD080020	MHD080024	U/S	1604	SPD080020	8	VCP			258	256
2	4_Minor	274					R009	6					DEWEY DR		8/9/2005	10120	10121	MHL050024	MHL050025	D/S	5179	SPL050044	8	VCP			318	316.7

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Structural Defect Coding: Crack C	Fracture F	Broken B	Hole H	Joint J	Deformed D	Collapsed Pipe X	Surface Damage S	Lining Failure LF	Point Repair RP	Sags WL	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
4	4_Minor	181															0	0	0.00
4	4_Minor	182															0	0	0.00
4	4_Minor	183			1												1	1	1.00
4	4_Minor	184			1												1	2	2.00
4	4_Minor	185															0	0	0.00
4	4_Minor	186															0	0	0.00
4	4_Minor	187															0	0	0.00
4	4_Minor	188															0	0	0.00
4	4_Minor	189			1												1	1	1.00
4	4_Minor	190				1											1	3	3.00
4	4_Minor	191				1											1	3	3.00
4	4_Minor	192															0	0	0.00
4	4_Minor	193															0	0	0.00
4	4_Minor	194															0	0	0.00
4	4_Minor	195			1												1	2	2.00
4	4_Minor	196			1												1	2	2.00
4	4_Minor	197															0	0	0.00
4	4_Minor	198			1												1	1	1.00
4	4_Minor	199															0	0	0.00
4	4_Minor	200															0	0	0.00
4	4_Minor	201															0	0	0.00
4	4_Minor	202															0	0	0.00
4	4_Minor	203															0	0	0.00
4	4_Minor	204															0	0	0.00
4	4_Minor	205															0	0	0.00
4	4_Minor	206			1												1	1	1.00
4	4_Minor	207			1												1	1	1.00
4	4_Minor	208			1												1	1	1.00
4	4_Minor	209															0	0	0.00
4	4_Minor	210															0	0	0.00
4	4_Minor	211															0	0	0.00
4	4_Minor	212															0	0	0.00
4	4_Minor	213															0	0	0.00
4	4_Minor	214															0	0	0.00
4	4_Minor	215															0	0	0.00
4	4_Minor	216															0	0	0.00
4	4_Minor	217															0	0	0.00
4	4_Minor	218				1											1	3	3.00
4	4_Minor	219				1											1	3	3.00
4	4_Minor	220															0	0	0.00
4	4_Minor	221															0	0	0.00
4	4_Minor	222															0	0	0.00
4	4_Minor	223															0	0	0.00
4	4_Minor	224															0	0	0.00
4	4_Minor	225															0	0	0.00
4	4_Minor	226			1												1	2	2.00
4	4_Minor	227			1												1	2	
4	4_Minor	228				1											1	1	1.00
4	4_Minor	229				1											1	1	1.00
4	4_Minor	230															0	0	0.00
4	4_Minor	231															0	0	0.00
4	4_Minor	232															0	0	0.00
4	4_Minor	233															0	0	0.00
3	4_Minor	269			1												1	2	2.00
3	4_Minor	270				1											1	1	1.00
3	4_Minor	271				1											1	1	1.00
3	4_Minor	272				1											1	1	1.00
2	4_Minor	273			4	5						7					16	37	
3	4_Minor	274				1											1	1	1.00
2	4_Minor	274			3	3		1				6					13	30	

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Operational and Maintenance: Deposits D AGS	Deposits D AE B	Deposits D AE %	Deposits D AE Other	Deposits D AE Other %	Roots (R) Fine (F)	Roots (R) Tap (T)	Roots (R) Medium (M)	Roots (R) Ball (B)	Infiltration I	Obstacles OB	Vermin V	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index
4	4_Minor	181														1		1	1	1.00
4	4_Minor	182								1								43	85	1.98
4	4_Minor	183								16		3	1					98	185	1.89
4	4_Minor	184						29		1	1					10		41	99	2.41
4	4_Minor	185														149		339	529	1.56
4	4_Minor	186														149		339	529	1.56
4	4_Minor	187														35		322	609	1.89
4	4_Minor	188														35		322	609	1.89
4	4_Minor	189								2		1						200	399	2.00
4	4_Minor	190						39										141	321	2.28
4	4_Minor	191						39										141	321	2.28
4	4_Minor	192						48								5		70	183	2.61
4	4_Minor	193						48								5		70	183	2.61
4	4_Minor	194								1								1	1	1.00
4	4_Minor	195								19		1				4		206	391	1.90
4	4_Minor	196								19		1				4		206	391	1.90
4	4_Minor	197						10	1	9								43	87	2.02
4	4_Minor	198														1		39	78	2.00
4	4_Minor	199								8								76	143	1.88
4	4_Minor	200								18		2				34		141	232	1.65
4	4_Minor	201								18		2				34		141	232	1.65
4	4_Minor	202						34		1						4		130	289	2.22
4	4_Minor	203						4								6		40	78	1.95
4	4_Minor	204						2										15	32	2.13
4	4_Minor	205																0	0	
4	4_Minor	206														35		65	95	1.46
4	4_Minor	207														35		65	95	1.46
4	4_Minor	208														35		65	95	1.46
4	4_Minor	209														36		36	36	1.00
4	4_Minor	210								1						2		81	159	1.96
4	4_Minor	211														24		161	298	1.85
4	4_Minor	212														24		161	298	1.85
4	4_Minor	213						17								33		220	424	1.93
4	4_Minor	214						17								33		220	424	1.93
4	4_Minor	215						55										55	165	3.00
4	4_Minor	216														5		31	57	1.84
4	4_Minor	217														5		31	57	1.84
4	4_Minor	218														3		10	17	1.70
4	4_Minor	219														3		10	17	1.70
4	4_Minor	220														16		77	138	1.79
4	4_Minor	221														3		89	175	1.97
4	4_Minor	222														3		89	175	1.97
4	4_Minor	223														3		89	175	1.97
4	4_Minor	224																75	150	2.00
4	4_Minor	225														46		44	88	2.00
4	4_Minor	226								11		1	1					74	140	1.89
4	4_Minor	227														4		30	56	1.87
4	4_Minor	228																0	0	
4	4_Minor	229										1						116	233	2.01
4	4_Minor	230														6		71	142	2.00
4	4_Minor	231						16								1		84	183	2.18
4	4_Minor	232								1						3		4	4	1.00
4	4_Minor	233								1						3		4	4	1.00
3	4_Minor	269								3								3	3	1.00
3	4_Minor	270						15						2	1			18	55	3.06
3	4_Minor	271						16		2				1				19	53	2.79
3	4_Minor	272								3								3	3	1.00
2	4_Minor	273								1		1						2	5	
3	4_Minor	274						3										11	25	2.27
2	4_Minor	274								1		1						2	4	

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Construction Features: Tap (Lateral) T FD	T FL	T BI	T BD	Line L D	L U	L R	L LD	L RD	Intruding Seal Material IS SRH	IS SRB	IS SRL	IS Z	Miscellaneous M SA	M CU	M MO	Total Construction Features	Reasons for Survey Aborted	GIS Identified Abandoned	Repair Description	Comments	Recommendations
4	4_Minor	181																			0					
4	4_Minor	182																			0					
4	4_Minor	183																			0					
4	4_Minor	184																			0					
4	4_Minor	185																			0					
4	4_Minor	186																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	187																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	188																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	189																			0					
4	4_Minor	190																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	191																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	192																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	193																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	194																			0					
4	4_Minor	195																			0				Multiple reaches were evaluated with one inspection. MHM990029 is Cleanout.	
4	4_Minor	196																			0				Multiple reaches were evaluated with one inspection. MHM990029 is Cleanout.	
4	4_Minor	197																			0					
4	4_Minor	198																			0					
4	4_Minor	199																			0					
4	4_Minor	200																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	201																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	202																			0					
4	4_Minor	203																			0					
4	4_Minor	204																			0					
4	4_Minor	205																			0					
4	4_Minor	206							2												6				Multiple reaches were evaluated with one inspection.	
4	4_Minor	207							2												6				Multiple reaches were evaluated with one inspection.	
4	4_Minor	208							2												6				Multiple reaches were evaluated with one inspection.	
4	4_Minor	209				1															3					
4	4_Minor	210																			0					
4	4_Minor	211																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	212																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	213																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	214																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	215							2												6					
4	4_Minor	216																			0				Multiple reaches were evaluated with one inspection. 520.5' MSA High Water Level); Upstream of siphon.	
4	4_Minor	217																			0				Multiple reaches were evaluated with one inspection. 520.5' MSA High Water Level); Upstream of siphon.	
4	4_Minor	218																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	219																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	220																			0					
4	4_Minor	221																			0				Multiple reaches were evaluated with one inspection.	
4	4_Minor	222																			0			

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer I.D. | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack: C L | C M | S H | Fracture: F L | C M | S H | Broken: B SV | Hole: H VV | Joint: SV VV | O S | J M | L S | M L | A V | Deformed: D H | Collapsed Pipe: X P | Surface Damage: S | Lining Failure: LF | Point Repair: RP | Sags: S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits: AGS | AE B | AE % | AE L | AE % | Other Z | Other % | Roots (R): Fine (F) B | Fine (F) L | Fine (F) J | Tap (T) C | Tap (T) B | Tap (T) L | Tap (T) J | Medium (M) C | Medium (M) B | Medium (M) L | Medium (M) J | Ball (B) C | Ball (B) B | Ball (B) L | Ball (B) J | Infiltration: I C | Obstacles: OB G | OB D | OB R | Vermin: V W | Other: O C | O Z | O % | O C | O R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral): T FD | T FL | T BI | T BD | Line: L D | L L | L U | L R | L LD | L RD | Intruding Seal Material: IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous: M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C | Fracture F | Broken B | Hole H | Joint J: O | J: M | J: L | J: S | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits Other % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin V | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T: FD | T: FL | T: BI | T: BD | Line L: D | L: L | L: U | L: R | Intruding Seal Material IS: LD | IS: RD | IS: SRH | IS: SRB | IS: SRL | IS: Z | Miscellaneous M: SA | M: CU | M: MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Rankning | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | VV | SV | Hole H VV | Joint O S | M | L | S J M | L | A | Deformed D | X | Collapsed Pipe V | H | Surface Damage P | Lining Failure S | Point Repair LF | RP | Sags S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | AE B | AE % | AE L | Other % | Other Z | Other % | Roots (R) Fine (F) B | L | J | Tap (T) C | B | L | J | Medium (M) C | B | L | J | Ball (B) C | B | L | J | Infiltration I C | G | D | R | W | Obstacles OB C | Z | Other % | Vermin V C | R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | FL | BI | BD | Line L D | L | U | R | Intruding Seal Material IS LD | RD | SRH | SRB | SRL | Z | Miscellaneous M SA | CU | MO | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Crack F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint O (S M L) | Joint S (S M L) | Joint J (S M L) | Joint L (A V H P) | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits D L | Deposits D % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | L LD | Intruding Seal Material IS RD | IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer I.D. | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack C | Fracture F | Broken B | Hole H | Joint J | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D AGS | Deposits D AE B | Deposits D AE % | Deposits D AE L | Deposits D AE % | Deposits D Other Z | Deposits D Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles OB Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | L LD | L RD | Intruding Seal Material IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Structural Defect Coding Crack C | Crack F | Fracture B | Broken H | Hole J | Joint D | Deformed X | Collapsed Pipe | Surface Damage | Lining Failure | Point Repair | Sags | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | L LD | L RD | Intruding Seal Material IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MO | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | VV | SV | Hole H VV | Joint J O S | M | L | S | M | L | A | Deformed D | Collapsed Pipe X | V | H | P | Surface Damage S | Lining Failure LF | Point Repair RP | Slope WL | S | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | AE B | % | AE L | % | AE Other Z | % | Roots (R) Fine (F) B | L | J | Tap (T) C | B | L | J | Medium (M) C | B | L | J | Ball (B) C | B | L | J | Infiltration I | C | G | D | R | W | Obstacles OB | C | Z | % | Vermin V | C | R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | FL | BI | BD | Line L D | L | U | R | LD | RD | Intruding Seal Material IS SRH | SRB | SRL | Z | Miscellaneous M SA | CU | MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | Hole H VV | SV | VV | Joint O S | M | L | J S | M | L | A | V | H | Deformed D | Collapsed/ Pipe X | P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Fine (F) L | Fine (F) J | Roots (R) Tap (T) C | Tap (T) B | Tap (T) L | Tap (T) J | Roots (R) Medium (M) C | Medium (M) B | Medium (M) L | Medium (M) J | Roots (R) Ball (B) C | Ball (B) B | Ball (B) L | Ball (B) J | Infiltration C | Infiltration G | Infiltration D | Infiltration R | Infiltration W | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line D | Line L | Line U | Line R | Intruding Seal Material LD | IS RD | IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B S | V | SV | VV | SV | Hole H VV | Joint J O S | M | L | S | M | L | A | V | H | P | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles O B | Obstacles O Other C | Obstacles O Other Z | Obstacles O Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | Intruding Seal Material IS LD | IS RD | IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | | | | | | | Pipe | | | | | | | | Structural Defect Coding | | | | | | | | | | | | | | | | | |

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Size (in) | Material | Joint Length (ft) | GIB Comment | Length (ft) | CCTV Length (ft) | Crack L | Crack C | Crack M | Crack S | Crack H | Fracture L | Fracture C | Fracture M | Fracture S | Fracture H | Broken S | Broken SV | Hole VV | Hole SV | Hole VV | Joint O | Joint S | Joint M | Joint L | Joint S | Joint M | Joint L | Joint A | Joint V | Joint H | Joint P | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags SG | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Medium (M) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I | Obstacles OB Other G | Obstacles OB Other D | Obstacles OB Other R | Obstacles OB Other W | Obstacles OB Other C | Obstacles OB Other Z | Obstacles OB Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Tap (Lateral) FD | Tap (Lateral) FL | Tap (Lateral) BI | Tap (Lateral) BD | Line D | Line L | Line U | Line R | Line LD | Intruding Seal Material RD | Intruding Seal Material SRH | Intruding Seal Material SRB | Intruding Seal Material SRL | Intruding Seal Material Z | Miscellaneous SA | Miscellaneous CU | Miscellaneous MC | Total Construction Feature | Reasons for Survey Aband | GIB Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | | | Pipe | | | | | | | | Structural Defect Coding | | | | | | | | | | | | | |

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| Phase | Priority | Ranking | Repair Completion Date | | 2018_Project | General | | | | | | | | | | | | | | | | | | Existing MH ID | | Previous MH ID | | Direction of Camera | Pipe | | | | | | Structural Defect Coding | | | | | | | | | | | | | | | | | |

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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Fracture F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint J: O (S M L) | Joint J: S (S M L) | Joint J (A V H P) | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID.	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)
2	4_Minor	896					M002	11					OMA PL		8/5/2005	10164	9672	MHL060009	COL060001	U/S	3723	SPL060010	8	VCP			106	96.0
2	4_Minor	897					M002	14				Y	OMA PL		8/5/2005	10166	10168	MHL060011	MHL060013	D/S	3728	SPL060015	8	VCP			279	279.8
2	4_Minor	898					M018	1					SAFFORD ST		9/12/2005	12487	12488	MHQ120020	MHQ120021	D/S	5592	SPQ120011	6	VCP			190	185.7
2	4_Minor	899					M011	3					ROBERT LN		8/25/2005	13133	13134	MHQ080035	MHQ080036	D/S	5843	SPQ080043	8	VCP			231	231.1
2	4_Minor	901					S003	8					DUNKLEE AV		10/12/2005	12411	12412	MHT120016	MHT120017	D/S	3991	SPT120016	8	VCP			292	288.7
2	4_Minor	902					R002	10				Y	TRISTAN DR	SANDALWOOD CR	7/26/2005	10794	10796	MHL080022	MHL080024	D/S	4337	SPL080022	8	VCP			320	322.6
2	4_Minor	903					S001	6					SORELL DR		10/10/2005	12109	12110	MHS110025	MHS110026	D/S	5707	SPS110025	8	VCP			255	250.5
2	4_Minor	904					R053	2					HARBOR BLVD		11/4/2005	11987	11986	MHR140031	MHR140030	U/S	3867	SPR140033	8	VCP			390	380.6
2	4_Minor	905					R068	6				Y	JOYZELLE AV		12/9/2005	13241	13242	MHR140037	MHR140038	D/S	6400	SPR140040	10	VCP			327	329.0
2	4_Minor	906					M001	14				Y	CERRITOS		8/4/2005	10860	10193	MHK060031	MHK060032	D/S	5930	SPK060023	8	VCP			280	275.8
4	5_O&M	234					P COU NTY	8				Y	CERRITOS		10/10/2007	9212	9213	MHM030036	MHM030039	D/S	4517	SPM030007	8	VCP			320	958.8
4	5_O&M	235					P COU NTY	8				Y	CERRITOS		10/10/2007	9213	9214	MHM030036	MHM030039	D/S	4518	SPM030008	8	VCP			320	958.8
4	5_O&M	236					P COU NTY	8				Y	CERRITOS		10/10/2007	9214	9215	MHM030036	MHM030039	D/S	4519	SPM030009	8	VCP			175	958.8
4	5_O&M	237					P COU NTY 3B	5				Y	CERRITOS		10/17/2007	8938	8939	MHM030044	MHL030040	D/S	3652	SPM030033	8	VCP			115	427.9
4	5_O&M	238					P COU NTY 3B	5				Y	CERRITOS		10/17/2007	8939	9343	MHM030044	MHL030040	D/S	3653	SPL030002	8	VCP			330	427.9
4	5_O&M	239					MIXE D P COU NTY 2	8				Y	CERRITOS		10/10/2007	9216	9217	MHM030039	MHM030041	D/S	3585	SPM030011	8	VCP			130	275.6
4	5_O&M	240					MIXE D P COU NTY 2	8				Y	CERRITOS		10/10/2007	9215	9216	MHM030039	MHM030041	D/S	4520	SPM030010	8	VCP			144	275.6
4	5_O&M	241					P COU NTY 3C	1				Y	CERRITOS		10/17/2007	8937	8938	MHM030043	MHM030044	D/S	3651	SPM030032	8	VCP			215	220.0
4	5_O&M	242					P COU NTY 3C	1				Y	CERRITOS		10/17/2007	9217	8936	MHM030041	MHM030042	D/S	5411	SPM030041	8	VCP			200	198.4
4	5_O&M	243					MIXE D P COU NTY 2	5				Y	BANTA		11/3/2007	8964	8971	MHL040006	MHM040013	U/S	4411	SPM040037	8	VCP			272	272.9
4	5_O&M	244					S	2306				Y	HARRIET LN		9/11/2006	9352	9351	MHM020017	MHM020016	U/S	3491	SPM020037	8	VCP			69	66.4
4	5_O&M	245					P COU NTY 3B	7				Y	JEAN		10/17/2007	8351	8349	MHM040026	MHM040020	D/S	4422	SPM040048	8	VCP			30	31.9
4	5_O&M	246					P COU NTY	13				Y	RANDOM		10/9/2007	9288	9117	MHM990016	COM990002	U/S	4254	SPM990019	8 & 6	VCP			80	83.1
3	5_O&M	373			GGSD		S	1022					SANTA CATALINA		1/18/2005	7837	7964	MHD080001	MHD080002	D/S	1943	SPD080025	8	VCP			298	297
3	5_O&M	374			GGSD		S	1021					SANTA CATALINA		1/18/2005	7965	7964	MHD080003	MHD080002	U/S	1591	SPD080005	8	VCP			298	295
3	5_O&M	375			GGSD		S	1044				Y	BARTLETT		1/31/2005	7967	7963	MHD080005	MHD070001	U/S	1590	SPD080004	8	VCP			119	116
3	5_O&M	376			GGSD		MIXE D 1	1024					SANTA BARBARA		1/9/2005	7841	7840	MHD080006	MHE080027	U/S	1451	SPD080003	8	VCP			299	294
3	5_O&M	377			GGSD		S	1044				Y	BARTLETT		1/31/2005	8612	7967	MHD080010	MHD080005	U/S	1594	SPD080008	8	VCP			308	307
3	5_O&M	378			GGSD		S	1037				Y	SANTA MONICA		1/27/2005	8615	8616	MHD080014	MHD080015	U/S	1599	SPD080015	8	VCP			344	341
3	5_O&M	379			GGSD		S	1038				Y	SANTA MONICA		1/27/2005	8616	8617	MHD080015	MHD080016	U/S	1600	SPD080016	8	VCP			344	338
3	5_O&M	380			GGSD		S	1042				Y	SANTA RITA		1/31/2005	7845	7844	MHD080017	MHE080029	D/S	1453	SPE080037	8	VCP			269	266
3	5_O&M	381			GGSD		S	1039				Y	SANTA RITA		1/29/2005	8618	8619	MHD080019	MHD080018	U/S	1602	SPD080018	8	VCP			372	368
3	5_O&M	382			GGSD		S	1043				Y	MANLEY		1/31/2005	8620	8617	MHD080020	MHD080016	U/S	1601	SPD080017	8	VCP			258	257
3	5_O&M	383			GGSD		S	1052				Y	HOLLAND		2/7/2005	7847	8625	MHD090001	MHD090002	U/S	1948	SPD090023	8	VCP			350	348
3	5_O&M	384			GGSD		S	1052				Y	HOLLAND		2/7/2005	8625	8626	MHD090002	MHD090003	U/S	1608	SPD090002	8	VCP			350	349
3	5_O&M	385			GGSD		S	1046				Y	HOLLAND		2/2/2005	8628	8627	MHD090005	MHD090004	U/S	1610	SPD090004	10	VCP			300	297
3	5_O&M	386			GGSD		S	1054				Y	VANGUARD		2/8/2005	8629	8630	MHD090007	MHD090008	U/S	1611	SPD090006	8	VCP			333	332
3	5_O&M	387			GGSD		S	1061				Y	VANGUARD		2/9/2005	8630	8631	MHD090009	MHD090008	D/S	1612	SPD090007	8	VCP			333	328
3	5_O&M	388			GGSD		S	1062				Y	MANLEY		2/9/2005	8631	8632	MHD090009	MHD090010	D/S	1923	SPD090008	8	VCP			259	254
3	5_O&M	389			GGSD		S	1074				Y	BELGRAVE		2/17/2005	8637	8644	MHD090015	MHD090023	D/S	1712	SPD090014	12	VCP			256	254
3	5_O&M	390			GGSD		S	1082				Y	AMY		3/7/2005	8638	8639	MHD090016	MHD090017	U/S	1927	SPD090015	8	VCP			290	288
3	5_O&M	391			GGSD		S	1082				Y	AMY		3/7/2005	8640	8639	MHD090017	MHD090018	U/S	1928	SPD090016	8	VCP			290	287
3	5_O&M	392			GGSD		S	1081				Y	LAURELTON		3/3/2005	8641	8642	MHD090020	MHD090021	U/S	1930	SPD090018	8	VCP			243	239
3	5_O&M	393			GGSD		S	1081				Y	LAURELTON		3/3/2005	8642	8643	MHD090021	MHD090022	U/S	1931	SPD090019	8	VCP			243	240
3	5_O&M	394			GGSD		S	1079				Y	CASPER		3/3/2005	8643	8640	MHD090022	MHD090018	U/S	1929	SPD090017	8	VCP			258	257
3	5_O&M	395			GGSD		S	1079				Y	CASPER		3/3/2005	8644	8643	MHD090023	MHD090022	U/S	1932	SPD090020	8	VCP			260	258
3	5_O&M	396			GGSD		S	1084				Y	BELGRAVE		3/7/2005	8645	8646	MHD090024	MHD090025	D/S	1714	SPD090022	10	VCP			350	349
3	5_O&M	397			GGSD		S	1084				Y	BELGRAVE		3/7/2005	8646	7856	MHD090025	MHD090029	D/S	1716	SPD090027	10	VCP			350	348
3	5_O&M	398			GGSD		S	1090				Y	AMY		3/24/2005	7853	8638	MHD090027	MHD090016	U/S	1950	SPD090025	8	VCP			370	350
3	5_O&M	399			GGSD		S	1147					HUNTLEY		4/27/2005	7798	7832	MHD100004	MHE100001	U/S	1421	SPE100040	8	VCP			370	369
3	5_O&M	400			GGSD		S	1147					HUNTLEY		4/27/2005	7905	7798	MHD100005	MHD100004	U/S	1934	SPD100025	8	VCP			370	365
3	5_O&M	401			GGSD		S	1161				Y	CASPER		5/8/2005	7908	7907	MHD100008	MHD100007	U/S	1543	SPD100006	8	VCP			305	304
3	5_O&M	402			GGSD		S	1157				Y	EDEN CIR		5/4/2005	7909	7910	MHD100009	MHD100010	D/S	1545	SPD100008	8	VCP			92	88
3	5_O&M	403			GGSD		S	1156				Y	LUDLOW		5/3/2005	7910	7912	MHD100010	MHD100012	D/S	1546	SPD100009	8	VCP			278	276
3	5_O&M	404			GGSD		S	1152				Y	LUDLOW		5/3/2005	7910	7799	MHD100010	MHE100004	U/S	1935	SPD100026	8	VCP			346	343
3	5_O&M	405			GGSD		S	1158				Y	HELENE CIR		5/4/2005	7912	7911	MHD100012	MHD100011	U/S	1547	SPD100010	8	VCP			198	197
3	5_O&M	406			GGSD		S	1156				Y	LUDLOW		5/3/2005	7912	7914	MHD100012	MHD100014	D/S	1548	SPD100011	8	VCP			266	265
3	5_O&M	407			GGSD		S	1159				Y	VERA CIR		5/4/2005	7914	7913	MHD100014	MHD100013	U/S	1558	SPD100012	8	VCP			309	305
3	5_O&M	408			GGSD		S	1161				Y	CASPER		5/8/2005	7915	7908	MHD100015	MHD100008	U/S	1544	SPD100007	8	VCP			304	300
3	5_O&M	409			GGSD		S	1160				Y	LUDLOW		5/3/2005	7915	7914	MHD100015	MHD100014	U/S	1559	SPD100013	8	VCP			139	168
3	5_O&M	410			GGSD		S	1171				Y	CASPER		5/12/2005	7916	7915	MHD100016	MHD100015	U/S	1560	SPD100014	8	VCP			255	255
3	5_O&M	411			GGSD		S	1171				Y	CASPER		5/12/2005	7917	7916	MHD100017	MHD100016	U/S	1561	SPD100015	8	VCP			102	99
3	5_O&M	412			GGSD		S	1361					CERULEAN		6/7/2005	7807	7928	MHD100025	MHD110004	D/S	1937	SPD100028	8	VCP			299	299
3	5_O&M	413			GGSD		PS A	3					MANLEY		11/29/2007	7926	7927	MHD110002	MHD110003	D/S	1754	SPD110004	10	VCP			218	216
3	5_O&M	414			GGSD		S	1196					CERULEAN		6/1/2005	7930	7929	MHD110006	MHD110005	U/S	1567	SPD110007	8	VCP			350	347
3	5_O&M	415			GGSD		S	1197					CASPER		6/2/2005	7931	7930	MHD110007	MHD110006	U/S	1568	SPD110008	8	VCP			205	204
3	5_O&M	416			GGSD		S	1352					STANFORD		6/6/2005	7933	7932	MHD110010	MHD110009	U/S	1570	SPD110010	8	VCP			350	346
3	5_O&M	417			GGSD		S	1197					CASPER		6/2/2005	7935	7931	MHD110012	MHD110007	U/S	1569	SPD110009	8	VCP			203	201
3	5_O&M	418			GGSD		S	1355					STANFORD		6/7/2005	7935	7936	MHD110012	MHD110013	D/S	1573	SPD110013	8	VCP			256	253
3	5_O&M	419			GGSD		S	1355					STANFORD		6/7/2005	7936	8667	MHD110013	MHD110015	D/S	1756	SPD110014	8	VCP			302	300
3	5_O&M	420			GGSD		S	1383					BARTLETT		6/21/2005	8667	7937	MHD110014	MHD110015	U/S	1574	SPD110015	8	VCP			260	258
3	5_O&M	421			GGSD		S	1383					BARTLETT		6/22/2005	8660	8667	MHD110015	MHD110022	U/S	1763	SPD110030	8	VCP			262	261
3	5_O&M	422			GGSD		S	1370					PARK		6/8/2005	7941	7940	MHD110020	MHD110019	U/S	1576	SPD110018	8	VCP			256	254

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID.	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)

Structural Defect Coding: Crack (C: L, C, M, S, H); Fracture (F: L, C, M, S, H); Broken (B: SV, VV); Hole (H: SV, VV); Joint (J: O: S, M, L; S: S, M, L; A); Deformed (D); Collapsed Pipe (X: V, H, P); Surface Damage (S); Lining Failure (LF); Point Repair (RP); Sags (WL: S)

Operational and Maintenance: Deposits (D: AGS; AE: B, %; AE: L, %; Other: Z, %); Roots (R: Fine (F): B, L, J; Tap (T): C, B, L, J; Medium (M): C, B, L, J; Ball (B): C, B, L, J); Infiltration (I: C, G, D, R, W); Obstacles (OB: C, Z; Other: %); Vermin (V: C, R)

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Structural Defect Coding: Crack C L | C C | C M | C S | C H | Fracture F L | F C | F M | F S | F H | Broken B SV | B VV | Hole H SV | H VV | Joint J O S | J O M | J O L | J S S | J S M | J S L | J A | Deformed D | Collapsed Pipe X V | X H | X P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL S | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D AGS | D AE B | D AE % | D AE L | D AE % | D Other Z | D Other % | Roots (R) Fine (F) B | F L | F J | Roots (R) Tap (T) C | T B | T L | T J | Roots (R) Medium (M) C | M B | M L | M J | Roots (R) Ball (B) C | B B | B L | B J | Infiltration I C | I G | I D | I R | I W | Obstacles OB C | OB Z | OB Other % | Vermin V C | V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Existing Sewer ID	Previous Sewer ID	Size (in)	Material	Joint Length (ft)	GIB Comment	Length (ft)	CCTV Length (ft)
3	5_O&M	527			PPT		52	18						CERULEAN AVE	12/27/2007	7830	7904	MHE110016	MHE110015	U/S	1537	SPE110061	8	VCP			350	350
3	5_O&M	528			PPT		52	9						TIFFANY AVE	12/22/2007	7827	7828	MHE110018	MHE120001	D/S	1793	SPE110047	12	VCP			160	84
3	5_O&M	529			GGSD		P3-1	2						TAYLOR	10/27/2007	7423	7424	MHE110026	MHF120016	D/S	1267	SPF110017	8	VCP			305	351
3	5_O&M	530			GGSD		52	1661						ADAMS	12/14/2005	8924	8925	MHE110034	MHE110035	D/S	1350	SPE110008	8	VCP			212	210
3	5_O&M	531			GGSD		52	1661						ADAMS	12/14/2005	8925	8927	MHE110035	MHE110037	D/S	1351	SPE110009	8	VCP			351	352
3	5_O&M	532			GGSD		P6	8						CRESENT	12/1/2007	8927	8926	MHE110037	MHE110036	U/S	1352	SPE110010	8	VCP			180	177
3	5_O&M	533			GGSD		P3-2	7						ADAMS	9/20/2007	8928	8934	MHE110038	MHE110047	D/S	1354	SPE110012	8	VCP			122	137
3	5_O&M	534			GGSD		P4 A-1	9						CHASE	11/6/2007	8930	8929	MHE110041	MHE110040	U/S	1355	SPE110013	8	VCP			161	160
3	5_O&M	535			GGSD		P4 A-1	12						CHASE	11/1/2007	8930	8931	MHE110041	MHE110044	D/S	1356	SPE110014	8	VCP			258	255
3	5_O&M	536			GGSD		P3-2	9						TRINETTE	9/24/2007	8834	8930	MHE110042	MHE110041	D/S	1406	SPE110031	8	VCP			205	205
3	5_O&M	537			GGSD		P2	1						CERULEAN	9/20/2007	8931	8838	MHE110044	MHE110043	U/S	1407	SPE110032	8	VCP			166	167
3	5_O&M	538			GGSD		P4 A-1	11						CHASE	11/1/2007	8931	7752	MHE110044	MHE110050	D/S	1388	SPE110028	8	VCP			210	254
3	5_O&M	539			GGSD		P2	1						CERULEAN	9/20/2007	8932	8931	MHE110045	MHE110044	U/S	1357	SPE110015	8	VCP			213	257
3	5_O&M	540			GGSD		P2	2						CERULEAN	9/20/2007	8933	8932	MHE110045	MHE110046	U/S	1358	SPE110016	8	VCP			200	201
3	5_O&M	541			GGSD		P2	2						CERULEAN	9/20/2007	8933	8934	MHE110046	MHE110047	D/S	1359	SPE110017	8	VCP			180	179
3	5_O&M	542			GGSD		P4 A-1	7						LONGDEN	11/10/2007	8841	8840	MHE110049	MHE120008	U/S	1637	SPE120001	8	VCP			347	343
3	5_O&M	543			GGSD		P4 A-1	6						STANFORD	11/10/2007	8839	8840	MHE110049	MHF110045	D/S	1636	SPF110039	8	VCP			258	255
3	5_O&M	544			GGSD		P4 A-1	10						CHASE	11/1/2007	7752	7753	MHE110050	MHE120011	D/S	1365	SPE120007	8	VCP			350	346
3	5_O&M	545			GGSD		P1	11						SPRING	8/14/2007	7756	8932	MHE110051	MHE110045	U/S	1386	SPE110026	8	VCP			210	257
3	5_O&M	546			GGSD		P1	7						STANFORD	8/21/2007	7760	7756	MHE110052	MHE110051	U/S	1387	SPE110027	8	VCP			213	258
3	5_O&M	547			GGSD		P1	6		P1	9	Y		OLIVE ST	8/21/2007	7760	7761	MHE110052	MHE120017	D/S	1373	SPE110021	8	VCP			189	159
3	5_O&M	548			GGSD		P2	10						ALONZO COOK	9/17/2007	7770	7769	MHE110057	MHE110055	U/S	1381	SPE110024	8	VCP			175	172
3	5_O&M	549			GGSD		P3-2	8						ALLEY WEST OF ADAMS	10/2/2007	8922	8921	MHE110060	MHE110059	U/S	2126	SPE110004	8	VCP			350	326
3	5_O&M	550			GGSD		P1	5						ADAMS	8/21/2007	7751	7765	MHE120007	MHE120021	D/S	1364	SPE120006	8	VCP			350	5
3	5_O&M	551			GGSD		P1	12					Y	CHASE	8/14/2007	7753	7754	MHE120011	MHE120012	D/S	1366	SPE120008	8	VCP			350	349
3	5_O&M	552			GGSD		P1	11						SPRING	8/14/2007	7757	7756	MHE120014	MHE110051	U/S	1369	SPE110020	8	VCP			352	352
3	5_O&M	553			GGSD		P1	10					Y	SPRING		7757	7758	MHE120014	MHE120015	D/S	1370	SPE120011	8	VCP			350	351
3	5_O&M	554			GGSD		P1	10						SPRING	8/14/2007	7758	7759	MHE120015	MHE120016	D/S	1371	SPE120012	8	VCP			35	31
3	5_O&M	555			GGSD		P1	3						ANTHONY	8/22/2007	7759	7755	MHE120016	MHE120013	U/S	1368	SPE120010	8	VCP			258	41
3	5_O&M	556			GGSD		P1	8					Y	OLIVE ST	8/16/2007	7763	7762	MHE120018	MHE120019	U/S	1375	SPE120015	8	VCP			350	319
3	5_O&M	557			GGSD		P1	3						ANTHONY	8/22/2007	7764	7759	MHE120020	MHE120016	U/S	1372	SPE120013	8	VCP			204	257
3	5_O&M	558			GGSD		P1	1						ANTHONY	8/22/2007	7764	7765	MHE120020	MHE120021	D/S	1377	SPE120017	8	VCP			258	25
1	5_O&M	559				10		23					x	10222 Larson	2/23/2004	11286	11287	NHN130021	MHN130022	DS	2886	SPN130018	6	VCP	2		365	365
3	5_O&M	559			GGSD		P2	9						DAVID WEBSTER	9/17/2007	7771	7897	MHE120024	MHE120023	U/S	1962	SPE120034	8	VCP			235	230
1	5_O&M	560				24		23					x	9452 Russell	3/18/2004	12072	12073	MHM140009	MHM140010	DS	2510	SPM140033	8	VCP	5		388	388
3	5_O&M	560			GGSD		P2	13						ALONZO COOK	8/22/2007	7773	7772	MHE120028	MHE120026	U/S	1384	SPE120021	8	VCP			290	248
1	5_O&M	561				29		6					x	9750 Trask Ave.	3/26/2004	12014	12018	MHM150004	MHM150005	DS	2864	SPM150002	18	VCP	5		300	295
3	5_O&M	561			GGSD		P2	5						EDWARD WARE	9/18/2007	7773	7899	MHE120028	MHE120027	U/S	1646	SPE120036	8	VCP			235	235
1	5_O&M	562				24		21					x	9452 Imperial	3/18/2004	12068	12069	MHM140006	MHM140007	DS	2507	SPM140030	8	VCP	5		370	372
3	5_O&M	562			GGSD		P2	13						ALONZO COOK	8/22/2007	0	0	MHE120030	MHE120028	U/S	1385	SPE120022	8	VCP			281	280
1	5_O&M	563				12		17					x	12692 Nutwood St.	2/27/2004	11146	11120	MHN110040	MHN120001	DS	2383	SPN110007	8	VCP	3		322	114
3	5_O&M	563			GGSD		40	1429						MIRANDA	7/20/2005	8807	8806	MHF080003	MHF080002	U/S	1258	SPF080053	8	VCP			266	264
1	5_O&M	564		X		7A		7					x	12681Pine St.	2/16/2004	0	0	MHP110005	MHP110006	DS	4630	SPP110032	6	VCP	3		135	148
3	5_O&M	564			GGSD		43	1508						CHAPMAN	10/3/2005	8299	8297	MHF080005	MHG080008	U/S	1093	SPG080019	8	VCP			314	312
1	5_O&M	565		X		13		11						10791 Acacia Pkwy.	3/1/2004	11837	13389	MHO120010	MHO120009	US	5121	SPO120008	6	VCP			400	159
3	5_O&M	565			GGSD		43	1507						CHAPMAN	10/3/2005	7360	7361	MHF080007	MHF080007	D/S	1179	SPF080005	8	VCP			328	326
1	5_O&M	566		X		4		9					x	11151 Pine	2/6/2004	11774	11775	MNE14023	MNE14024	DS	4794	SPP100030	8	VCP	3		530	538
3	5_O&M	566			GGSD		43	1507						CHAPMAN	10/3/2005	7361	7386	MHF080008	MHF080053	D/S	1180	SPF080006	8	VCP			328	322
1	5_O&M	567		X		4		15					x	12372 Pine St.	2/10/2004	11775	11764	MHP100024	MHP100014	DS	4795	SPP100031	8	VCP	3		600	599
3	5_O&M	567			GGSD		43	1507						SANTA RITA	10/12/2005	8321	7362	MHF080012	MHF080013	D/S	1304	SPF080035	8	VCP			198	193
1	5_O&M	568				26		23						Alley Between Central&Imperial	3/29/2004	11518	11519	MHL130027	MHL130028	DS	2693	SPL130018	8	VCP			240	239
3	5_O&M	568			GGSD		P2	13						SANTA RITA	10/12/2005	7362	7368	MHF080013	MHF080020	D/S	1181	SPF080007	8	VCP			262	262
1	5_O&M	569				50		14	50		15			12631 Loraleen St.	5/19/2004	9586	9587	MHL110026	MHL110027	DS	3312	SPL110028	8	VCP			340	342
3	5_O&M	569			GGSD		43	1493						SANTA CATALINA	9/26/2005	7364	7363	MHF080016	MHF080014	U/S	1182	SPF080008	8	VCP			362	360
1	5_O&M	570				21		11					x	13093 Nelson	3/15/2004	0	0	MHO130037	MHO130006	DS	3953	SPO130029	6	VCP	4		551	551
3	5_O&M	570			GGSD		43	1492						SANTA CATALINA	9/26/2005	7364	8754	MHF080016	MHF080015	U/S	1302	SPF080033	8	VCP			100	178
1	5_O&M	571				32		25					x	10082 Flower	4/2/2004	11296	11297	MHN130032	MHN130035	DS	2895	SPN130027	8	VCP	5		325	324
3	5_O&M	571			GGSD		41	1459						ONYX	8/26/2005	7371	7372	MHF080022	MHF080023	D/S	1190	SPF080016	8	VCP			332	328
1	5_O&M	572				17		11						9591 Halekulani Dr.	3/5/2004	8459	8445	MHM110045	COM110002	US	3117	SPM110050	8	VCP			125	113
3	5_O&M	572			GGSD		40	1450						SANTA CATALINA	8/23/2005	7374	7373	MHF080025	MHF080024	U/S	1192	SPF080018	8	VCP			285	284
1	5_O&M	573	2019-07-09			47		6						12552 Oceanbreeze Dr.	5/10/2004	9509	9510	MHM110017	MHM110018	DS	3431	SPM110034	8	VCP			225	223
3	5_O&M	573			GGSD		40	1450						SANTA CATALINA	8/23/2005	7375	7374	MHF080026	MHF080025	U/S	1193	SPF080019	8	VCP			285	282
1	5_O&M	574				1		11					x	10602 Paladium Ave.	2/4/2004	11155	11156	MNW24030	MNW24031	DS	2574	SPO090037	8	VCP	3		264	266
3	5_O&M	574			GGSD		42	1488						AMETHYST	9/23/2005	7376	7382	MHF080027	MHF080041	D/S	1203	SPF080029	8	VCP			308	306
1	5_O&M	575		X		39		4						8121 Bestel	4/13/2004	7084	7083	MHJ140032	MHJ140031	US	819	SPJ140028	8	VCP			170	160
3	5_O&M	575			GGSD		42	1465						JASPER	9/9/2005	7378	7375	MHF080029	MHF080026	U/S	1194	SPF080020	8	VCP			254	252
1	5_O&M	576		X		32		7					x	12522 Aristocrat Ave.	3/31/2004	8379	8380	MHK110095	MHK110006	DS	3350	SPK110004	8	VCP	3		355	355
3	5_O&M	576			GGSD		42	1466						SANTA BARBARA	9/9/2005	7378	7377	MHF080029	MHF080028	U/S	1196	SPF080022	8	VCP			193	191
1	5_O&M	577				26		21						13200 Casa Linda	3/29/2004	12093	11519	MHL130021	MHL130028	DS	2687	SPL130012	8	VCP			390	398
3	5_O&M	577			GGSD		42	1467						SANTA BARBARA	9/9/2005	7378	8767	MHF080029	MHF080030	D/S	1648	SPF080054	8	VCP			193	192
1	5_O&M	578				32		2						9103 Bestel Ave.	3/31/2004	11537	11536	MHL140027	MHL140026	U/S	2704	SPL140012	8	VCP			315	318
3	5_O&M	578			GGSD		42	1467						SANTA BARBARA	9/9/2005	8767	8768	MHF080030	MHF080031	D/S	1323	SPF080037	8	VCP			193	190
1	5_O&M	579				24		27						13461 Shapell	3/18/2004	12079	12080	MHM140016	MHM150001	DS	2517	SPM140040	8	VCP			163	158
3	5_O&M	579			GGSD		42	1470					Y	TURQUOISE	9/12/2005	8769	8768	MHF080032	MHF080031	U/S	1324	SPF080038	8	VCP			308	306
1	5_O&M	580				32		4						9036 Bestel Ave.	3/31/2004	11622	11588	MHL140028	MHL140013	DS	2802	SPL140043	8	VCP			250	249
3	5_O&M	580			GGSD		42	1470					Y	TURQUOISE	9/12/2005	8771	8769	MHF080034	MHF080032	U/S	1325	SPF080039	8	VCP			308	305
1	5_O&M	581				22		23					x	10512 Nutwood St.	3/15/2004			MHN120006-A	MHN130001	DS		SPN120009-A	10	VCP	5		294	294
3	5_O&M	581			GGSD		42	1471						SANTA RITA	9/12/2005	8771	8770	MHF080034	MHF080033	U/S	1230	SPF080040	8	VCP			100	62
1	5_O&M	582		X		38		11						13382 Wynant Dr.	4/13/2004	7065	7064	MHJ140013	MHJ140012	US	804	SPJ140013	8	VCP			295	294
3	5_O&M	582			GGSD		41	1463						GARNET	8/30/2005	8773	8774	MHF080036	MHF080037	D/S	1233	SPF080043	8	VCP			192	188
1	5_O&M	583		X		26		22						Alley Between Central&Imperial	3/29/2004	11519	11545	MHL130028	MHL140036	DS	2694	SPL140002	8	VCP			180	178
3	5_O&M	583			GGSD		42	1471						SANTA RITA	9/12/2005	8774	8771	MHF080037	MHF080034	U/S	1231	SPF080041	8	VCP			257	255
1	5_O&M	584				47		16					x	9562 Lenore Dr.	5/11/2004	9516	9410	MHM110024	COM110003	US	2988	SPM110042	6	VCP	4		190	178
3	5_O&M	584			GGSD		42	1471						SANTA RITA	9/12/2005	7381	8774	MHF080040	MHF080037	U/S	1649	SPF080055	8	VCP			258	256
1	5_O&M	585		X		33		15						12571 Josephine St.	4/1/2004	8376	8375	MHK110002	MHK110001	US	3346	SPK110001	8	VCP			344	344
3	5_O&M	585			GGSD		42	1473						SANTA RITA	9/12/2005	7381	7383	MHF080040	MHF080042	D/S	1199	SPF080025	8	VCP			257	255
1	5_O&M	586				30		1						Alley by Central Ave.	3/29/2004	11516	11517	MHL130025	MHL130026	DS	2691	SPL130016	8	VCP			525	259
3	5_O&M	586			GGSD		42	1488						AMETHYST	9/23/2005	7382	7383	MHF080041	MHF080042	D/S	1200	SPF080026	8	VCP			308	303
1	5_O&M	587		X		40		30					x	13472 Jefferson St.	4/16/2004	7060	7059	MHJ150001	MHJ140007	US	798	SPJ140007	8	VCP	3		360	350
3	5_O&M	587			GGSD		42	1473						SANTA RITA	9/12/2005	7383	7384	MHF080042	MHF080043	D/S	1201	SPF080027	8	VCP			248	246
1	5_O&M	588				50		13						12631 Loraleen St.	5/19/2004	9586	9585	MHL110026	MHL110025	US	3311	SPL110027	8	VCP			347	347
3	5_O&M	588			GGSD		41	1455						CHAPMAN	8/25/2005	8782	7385	MHF080051	MHF080052	D/S	1758	SPF080057	8	VCP			350	347
1	5_O&M	589				40		26						8152 Larson Ave.	4/15/2004	7053	7054	MHJ130019	MHJ130020	DS	793	SPJ130014	8	VCP			130	149
3	5_O&M	589			GGSD		41	1455						CHAPMAN	8/25/2005	7385	7386	MHF080052	MHF080053	D/S	1692	SPF080030	8	VCP			350	198
1	5_O&M	590				35		13						13120 Newland	4/12/2004	7656	7657	MHK130028	MHK130029	DS	694	SPK130030	8	VCP			180	189
3	5_O&M	590			GGSD		48	1582						SPRINGDALE FRONTAGE	11/4/2005	7354	7355	MHF090004	MHF090005	D/S	1176	SPF090003	8	VCP			253	251
1	5_O&M	591				3		10						12251 Nutwood St.	2/5/2004	11215	11218	MNW13028	MNW13031	DS	2392	SPN100001	8	VCP			130	123

Structural Defect Coding

Crack C							Fracture F							Broken B		Hole H		Joint J												Deformed D		Collapsed Pipe X		Surface Damage S		Lining Failure		Point Repair		Sags	
L	C	M	S	H	L	C	M	S	H	L	C	M	S	H	SV	VV	SV	VV	O S	M	L	S M	L	A	V	H	P	S	LF	RP	S	WL

Pipe

PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
0	0	0.00	
0	0	0.00	
0	0	0.00	

Phase	Priority	Ranking	Repair Completion Date	2018_Project	General: Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location: Street Name	CCTV Date	Existing MH ID: Start	Existing MH ID: End	Previous MH ID: Start	Previous MH ID: End	Direction of Camera	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID	Pipe: Size (in)	Pipe: Material	Pipe: Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)
3	5_O&M	591			PPT		50	36					SPRINGDALE ST	12/21/2007	7356	7357	MHF090010	MHF090011	D/S	1781	SPF090004	12	VCP			297	294
1	5_O&M	592		X		10		11					Easement	2/20/2004	11748	11747	MHP120035	MHP120036	DS	4402	SPP120036	8	VCP			200	191
3	5_O&M	592			GGSD		45	1535				Y	CHAPMAN	10/17/2005	8733	8732	MHF090014	MHF090013	U/S	1287	SPF090010	8	VCP			260	258
1	5_O&M	593				35		7					8642 Stanford Ave.	4/2/2004	8423	8422	MHK120025	MHK120024	US	3400	SPK120026	8	VCP			140	155
3	5_O&M	593			GGSD		45	1535				Y	CHAPMAN	10/17/2005	8734	8733	MHF090015	MHF090014	U/S	1288	SPF090011	8	VCP			250	250
1	5_O&M	594		X		45		20				x	12730 Pinehurst Pvt.	5/4/2004	0	0	MHP110039	MHP110006	US	4627	SPP110029	8	VCP	6		140	133
3	5_O&M	594			GGSD		45	1535				Y	CHAPMAN	10/17/2005	8735	8734	MHF090016	MHF090015	U/S	1289	SPF090012	8	VCP			30	48
1	5_O&M	595				33		20					8941 Anthony Ave.	4/1/2004	8374	8396	MHK120012	MHK120013	DS	3383	SPK120020	8	VCP			220	220
3	5_O&M	595			GGSD		45	1536					CHAPMAN	10/17/2005	8735	8736	MHF090016	MHF090017	D/S	1290	SPF090013	8	VCP			314	310
1	5_O&M	596				50		16					12561 Loraleen St.	5/19/2004	9587	9588	MHL110027	MHL110028	DS	3313	SPL110029	8	VCP			340	344
3	5_O&M	596			GGSD		45	1536					CHAPMAN	10/17/2005	8736	8658	MHF090017	MHF090018	D/S	1658	SPF090050	8	VCP			350	349
1	5_O&M	597				48		16					12282 Lambert Cir.	5/13/2004	9529	9528	MHM100027	MHM100026	US	3233	SPM100029	8	VCP			315	324
3	5_O&M	597			GGSD		45	1537					CHAPMAN	10/17/2005	8844	8845	MHF090019	MHF090020	D/S	1644	SPF090032	8	VCP			155	186
1	5_O&M	598				48		18					Rea Cir.	5/14/2004	9531	9530	MHM100029	MHM100028	US	3235	SPM100031	8	VCP			240	262
3	5_O&M	598			GGSD		45	1537					CHAPMAN	10/17/2005	8845	8846	MHF090020	MHF090021	D/S	1645	SPF090033	8	VCP			350	347
1	5_O&M	599				12		8					13351 Westlake St.	2/26/2004	11105	11110	MHO140034	MHO140039	DS	2838	SPO140021	12	VCP			365	366
3	5_O&M	599			GGSD		46	1543					VANGUARD	10/20/2005	8847	8659	MHF090022	MHF090023	U/S	1497	SPF090047	8	VCP			282	280
1	5_O&M	600				26		24					Alley By Central	3/29/2004	11514	11515	MHL130023	MHL130024	DS	2689	SPL130014	8	VCP			70	59
3	5_O&M	600			GGSD		46	1540					EMERALD	10/18/2005	8848	8846	MHF090024	MHF090021	U/S	1485	SPF090034	8	VCP			254	251
1	5_O&M	601	2015-01-26	X		14		10	14		11		10222 Central Ave.	3/1/2004	11292	11293	MHN140003	MHN140004	DS	2326	SPN140002	6	VCP			355	368
3	5_O&M	601			GGSD		46	1539					VANGUARD	10/18/2005	8848	8847	MHF090024	MHF090023	U/S	1486	SPF090035	8	VCP			350	347
1	5_O&M	602		X		18		9				x	13262 Cypress	3/8/2004	11194	11196	MHO140006	MHO140008	DS	2289	SPO140044	8	VCP	4		340	337
3	5_O&M	602			GGSD		46	1541					EMERALD	10/18/2005	8848	8849	MHF090024	MHF090025	D/S	1487	SPF090036	8	VCP			120	119
1	5_O&M	603				18		10				x	13340 Cypress	3/8/2004	11196	11198	MHO140008	MHO140010	DS	2291	SPO140046	8	VCP	3		280	279
3	5_O&M	603			GGSD		46	1541					EMERALD	10/18/2005	8849	8850	MHF090025	MHF090026	D/S	1488	SPF090037	8	VCP			350	349
1	5_O&M	604		X		43		3					Easement\13071 Coast St.	4/21/2004	7111	7110	MHJ130029	MHJ130028	US	846	SPJ130028	8	VCP			310	194
3	5_O&M	604			GGSD		MIXED 1	1565				Y	TOPAZ	10/27/2005	8743	8744	MHF090033	MHF090034	D/S	1297	SPF090020	8	VCP			326	321
1	5_O&M	605		X		32		8					12582 Aristocrat Ave.	3/31/2004	8380	8384	MHK110006	MHK110013	DS	3351	SPK110005	8	VCP			355	357
3	5_O&M	605			GGSD		MIXED 1	1561				Y	TURQUOISE	10/27/2005	8854	8853	MHF090038	MHF090037	U/S	1492	SPF090041	8	VCP			210	210
1	5_O&M	606		X		32		21					8802 Acacia Ave.	4/1/2004	8392	8393	MHK120007	MHK120008	DS	3366	SPK120010	8	VCP			300	301
3	5_O&M	606			GGSD		MIXED 1	1561				Y	TURQUOISE	10/27/2005	8855	8854	MHF090039	MHF090038	U/S	1493	SPF090042	8	VCP			350	348
1	5_O&M	607		X		30		11					9140 Imperial	3/30/2004	11544	11545	MHL140035	MHL140036	DS	2712	SPL140020	8	VCP			275	226
3	5_O&M	607			GGSD		MIXED 1	1558					EMERALD	10/26/2005	8856	8850	MHF090040	MHF090026	U/S	1489	SPF090038	8	VCP			350	348
1	5_O&M	608				46		21					9902 Beverly Ln.	5/7/2004	9496	9504	MHM100015	MHM100014	US	3429	SPM100023	8	VCP			325	336
3	5_O&M	608			PPT		50	33					BELGRAVE EASEMENT	12/21/2007	8856	8857	MHF090040	MHF090041	D/S	1495	SPF090044	8	VCP			226	163
1	5_O&M	609		X		18		4					10401 Mildred Ave.	3/5/2004	11172	11171	MHO130044	MHO130043	US	2487	SPO130047	8	VCP			285	287
3	5_O&M	609			GGSD		MIXED 1	1560				Y	AMY	10/27/2005	8859	8853	MHF090045	MHF090037	U/S	1498	SPF090048	8	VCP			309	299
1	5_O&M	610				4		13					11041 Jerry Ln.	2/10/2004	11778	11777	MHP100027	MHP100026	US	4640	SPP100033	6	VCP			285	285
3	5_O&M	610			GGSD		MIXED 1	1562				Y	DIAMOND	10/27/2005	0	0	MHF090050	MHF090048	U/S	1789	SPF090025	18	VCP			281	277
1	5_O&M	611				47		17					12424 Lambert Cir.	5/11/2004	9543	9542	MHM100036	MHM100035	US	3274	SPM100038	8	VCP			285	281
3	5_O&M	611			GGSD		MIXED 1	1563				Y	DIAMOND	10/27/2005	8751	8750	MHF090050	MHF090049	U/S	1299	SPF090026	8	VCP			150	147
1	5_O&M	612				19		7					9741 Stanford Ave.	3/8/2004	10741	11550	MHM120017	MHM120018	DS	3073	SPM120034	8	VCP			205	188
3	5_O&M	612			GGSD		50	1617					POPLAR	11/14/2005	7393	7392	MHF100002	MHF100001	U/S	1206	SPF100003	8	VCP			173	178
1	5_O&M	613		X		39		7					13252 Monroe St.	4/13/2004	7071	7725	MHJ140017	MHJ140006	US	677	SPJ140005	8	VCP			165	159
3	5_O&M	613			GGSD		50	1620					PICKETT	11/15/2005	7395	7396	MHF100004	MHF100005	D/S	1209	SPF100006	8	VCP			277	271
1	5_O&M	614		X		38		8					13340 Wynant Dr.	4/13/2004	7063	7064	MHJ140011	MHJ140012	DS	803	SPJ140012	8	VCP			135	143
3	5_O&M	614			GGSD		50	1621					TOPAZ	11/15/2005	7402	7401	MHF100008	MHF100009	U/S	1215	SPF100011	8	VCP			213	253
1	5_O&M	615				32		26					8891 Anthony Ave.	4/2/2004	8396	8397	MHK120013	MHK120014	DS	3370	SPK120014	8	VCP			220	222
3	5_O&M	615			GGSD		50	1621					TOPAZ	11/15/2005	7403	7402	MHF100009	MHF100010	U/S	1216	SPF100012	8	VCP			256	255
1	5_O&M	616				35		18					8532 Emerson Cr.	4/12/2004	7094	7633	MHK130026	MHK130025	US	831	SPK130049	8	VCP			325	321
3	5_O&M	616			GGSD		51	1631					HUNTLEY	11/30/2005	8785	8786	MHF100013	MHE100023	D/S	1237	SPF100016	8	VCP			350	344
1	5_O&M	617				49		23					12592 Ohmer Wy.	5/18/2004	9574	9575	MHL110014	MHL110015	DS	3301	SPL110016	8	VCP			250	248
3	5_O&M	617			GGSD		51	1651					DUDMAN	12/8/2005	8792	8793	MHF100018	MHF100019	D/S	1245	SPF100021	8	VCP			350	350
1	5_O&M	618		X		32		6					12672 Magnolia	3/31/2004	9377	8487	MHL110055	MHL120023	DS	3214	SPL110056	8	VCP			381	381
3	5_O&M	618			GGSD		51	1651					DUDMAN	12/8/2005	8793	8794	MHF100019	MHE100026	D/S	1246	SPF100022	8	VCP			350	344
1	5_O&M	619		X		44		7					13112 Magnolia Ave.	4/26/2004	11592	11584	MHL130049	MHL130043	US	2957	SPL130039	8	VCP			218	224
3	5_O&M	619			GGSD		51	1623					RICHMOND	11/15/2005	8795	8796	MHF100020	MHF100021	D/S	1248	SPF100023	8	VCP			350	349
1	5_O&M	620				30		7					10361 Garden Grove Blvd.	3/30/2004				MHN130010	MHN130011	DS		SPN130008	8	VCP			456	456
3	5_O&M	620			GGSD		51	1630					LUDLOW	11/30/2005	8797	8798	MHF100023	MHF100022	D/S	1250	SPF100025	8	VCP			350	347
1	5_O&M	621				24		18					13060 Flower St.	3/18/2004	11295	11296	MHN130030	MHN130032	DS	2894	SPN130026	8	VCP			325	325
3	5_O&M	621			GGSD		51	1630					LUDLOW	11/30/2005	8798	8799	MHF100024	MHF100023	D/S	1251	SPF100026	8	VCP			350	348
1	5_O&M	622				21		9					10352 Trask	3/9/2004	11201	11206	MHO150005	MHO150006	DS	2854	SPO150025	15	VCP			310	331
3	5_O&M	622			PPT		50	8					LAMPSON	12/19/2007	7390	7389	MHF110002	MHF110001	U/S	1301	SPF110026	8	VCP			356	328
1	5_O&M	623				4		6					12352 Elmwood	2/6/2004	12317	11763	MNE14012	MNE13011	DS	4638	SPP100028	6	VCP			651	651
3	5_O&M	623			PPT		50	11				Y	LAMPSON	12/19/2007	7397	7391	MHF110004	MHF110003	U/S	1205	SPF110003	8	VCP			84	85
1	5_O&M	624		X		40		24					8172 Larson Ave.	4/15/2004	7052	7051	MHJ130018	MHJ130017	US	791	SPJ130012	8	VCP			200	77
3	5_O&M	624			PPT		50	27					TOPAZ ST	12/21/2007	7398	7399	MHF110005	MHF100006	D/S	1212	SPF100008	8	VCP			168	169
1	5_O&M	625				38		19					13351 Monroe St.	4/14/2004	7072	7624	MHJ140018	COJ140001	US	810	SPJ140019	8	VCP			320	115
3	5_O&M	625			GGSD		P3-1	7					AMETHYST	10/23/2007	7409	7408	MHF110013	MHF110014	U/S	1219	SPF110007	8	VCP			300	297
1	5_O&M	626				33		3	33	4	x		8788 Oakdale Dr.	3/31/2004	11621	11604	MHK130018	MHK130019	DS	2799	SPK130020	8	VCP	5		229	228
3	5_O&M	626			GGSD		P4 A-1	8					KENNELY	11/6/2007	7409	7410	MHF110014	MHF110015	D/S	1220	SPF110008	8	VCP			231	229
1	5_O&M	627				44		1					12862 Magnolia Ave.	4/23/2004	9357	9358	MHL120036	MHL120037	DS	3163	SPL120035	8	VCP			303	304
3	5_O&M	627			GGSD		P4 A-2	3					TRINETTE	10/29/2007	7429	7414	MHF110021	MHF110027	U/S	1284	SPF110025	8	VCP			170	168
1	5_O&M	628				25		21				x	8932 Ann Cross Dr.	3/18/2004	8405	8383	MHK110011	MHK110012	DS	3356	SPK110010	8	VCP	5		230	240
3	5_O&M	628			GGSD		P4 A-2	3					TRINETTE	10/29/2007	7415	7414	MHF110021	MHF110022	U/S	1228	SPF110013	8	VCP			30	300
1	5_O&M	629				35		19					8532 Emerson Cr.	4/12/2004	7094	7655	MHK130026	MHK130027	DS	692	SPK130028	8	VCP			205	209
3	5_O&M	629			GGSD		P3-1	7					AMETHYST	10/23/2007	7416	7408	MHF110023	MHF110013	U/S	1281	SPF110022	8	VCP			233	231
1	5_O&M	630				50		1					12702 Loraleen St.	5/18/2004	9585	9584	MHL110025	MHL110024	US	3310	SPL110026	8	VCP			70	83
3	5_O&M	630			GGSD		P4 A-2	3					TRINETTE	10/29/2007	7416	7415	MHF110023	MHF110022	U/S	1229	SPF110014	8	VCP			300	299
1	5_O&M	631				48		10					12181 Carthay Cir.	5/13/2004	9550	9525	MHM090024	MHM100023	DS	3282	SPM090025	8	VCP			260	260
3	5_O&M	631			GGSD		P3-1	7					AMETHYST	10/23/2007	7417	7416	MHF110024	MHF110023	U/S	1262	SPF110015	8	VCP			258	257
1	5_O&M	632				17		10					9591 Halekulani Dr.	3/5/2004	8459	8446	MHM110045	COM110001	US	3118	SPM110051	8	VCP			171	170
3	5_O&M	632			GGSD		P3-2	1					AMETHYST	10/22/2007	7418	7417	MHF110025	MHF110014	U/S	1263	SPF110016	8	VCP			281	310
1	5_O&M	633				48		12					9731 Lampson Ave.	5/13/2004	9486	9505	MHM110010	MHM110011	DS	4247	SPM110054	10	VCP			335	337
3	5_O&M	633			GGSD		P3-2	2					AMETHYST	10/22/2007	7418	7419	MHF110025	MHF120013	D/S	1264	SPF120007	8	VCP			350	350
1	5_O&M	634				15		3					13120 Hope	3/3/2004	11287	11289	MHN130022	MHN130024	DS	2888	SPN130020	8	VCP			325	327
3	5_O&M	634			GGSD		P3-1	6					CERULEAN	10/23/2007	7431	7423	MHF110026	MHF110029	U/S	1283	SPF110024	8	VCP			258	256
1	5_O&M	635				4		14					11141 Jerry Ln.	2/10/2004	11774	11773	MHP100023	MHP100022	US	4793	SPP100029	6	VCP			135	113
3	5_O&M	635			GGSD		P3-1	4					SYLVAN ST	10/23/2007	7430	7429	MHF110028	MHF110027	U/S	1271	SPF110018	8	VCP			256	254
1	5_O&M	636		X		21		15					12951 Garden Grove Blvd.	3/15/2004	11897	13188	MHP130008	MHP130012	US	4930	SPP130001	12	VCP			225	225
3	5_O&M	636			GGSD		P3-1	5					CERULEAN	10/23/2007	7430	7431	MHF110028	MHF110029	D/S	1272	SPF110019	8	VCP			254	254
1	5_O&M	637		X		31		11					8940 Bestel Ave.	3/30/2004	11565	11085	MHL140003	COL140002	US	3100	SPL140026	8	VCP			120	118

Structural Defect Coding — Crack: C (L, C, M, S, H); Fracture: F (L, C, M, S, H); Broken: B (SV, VV); Hole: H (SV, VV); Joint: J (O: S, M, L; S: S, M, L, A); Deformed: D; Collapsed Pipe: X (V, H, P); Surface Damage: S; Lining Failure: LF; Point Repair: RP; Slope: S; WL

Phase	Priority	Ranking	Repair Completion Date	2018_Project	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Repair Description	Comments	Recommendations
3	5_O&M	591				0	0	0.00		0	0	0.00		MSA = Debris	
1	5_O&M	592		X		0	0	0.00		14	0	0.64			Cut roots, Repair lateral
3	5_O&M	592				0	0	0.00		31	37	1.19			
1	5_O&M	593				0	0	0.00		14	0	0.79			Cut roots
3	5_O&M	593				0	0	0.00		34	42	1.24			
1	5_O&M	594		X		0	0	0.00		13	0.63				Fix Lat, Check flow capacity
3	5_O&M	594				0	0	0.00		45	56	2.24			
1	5_O&M	595				0	0	0.00		13	0.70				Cut roots
3	5_O&M	595				0	0	0.00		7	18	2.57			
1	5_O&M	596				0	0	0.00		13	0.70				Cut roots
3	5_O&M	596				0	0	0.00		2	4	2.00			
1	5_O&M	597				0	0	0.00		13	0.68				Cut roots
3	5_O&M	597				0	0	0.00		5	7	1.40			
1	5_O&M	598				0	0	0.00		13	0.74				Cut roots
3	5_O&M	598				0	0	0.00		24	40	1.67			
1	5_O&M	599				0	0	0.00		12	0.65				Clear deposit, Cut roots
3	5_O&M	599				0	0	0.00		3	4	1.33			
1	5_O&M	600				0	0	0.00		12	0.58				Clean grease
3	5_O&M	600				0	0	0.00		1	2	2.00			
1	5_O&M	601	2015-01-26	X		0	0	0.00		12	0.71		Replaced section of lateral under curb and water main crossing.		Cut roots
3	5_O&M	601				0	0	0.00		10	21	2.10			
1	5_O&M	602		X		0	0	0.00		12	0.82				Clr grease, Check flow capacity
3	5_O&M	602				0	0	0.00		16	32	2.00			
1	5_O&M	603				0	0	0.00		10	0.68				Clr grease, Check flow capacity
3	5_O&M	603				0	0	0.00		21	42	2.00			
1	5_O&M	604		X		0	0	0.00		10	0.60				Cut roots
3	5_O&M	604				0	0	0.00		110	208	1.89			
1	5_O&M	605		X		0	0	0.00		10	0.64				Cut roots
3	5_O&M	605				0	0	0.00		36	62	1.72			
1	5_O&M	606		X		0	0	0.00		10	0.64				Cut roots
3	5_O&M	606				0	0	0.00		117	198	1.69			
1	5_O&M	607		X		0	0	0.00		10	0.68				Cut roots
3	5_O&M	607				0	0	0.00		1	2	2.00			
1	5_O&M	608				0	0	0.00		10	0.64				Cut roots
3	5_O&M	608				0	0	0.00		1	2	2.00			
1	5_O&M	609		X		0	0	0.00		10	0.60				Cut roots
3	5_O&M	609				0	0	0.00		64	108	1.69			
1	5_O&M	610				0	0	0.00		9	0.71				Cut roots
3	5_O&M	610				0	0	0.00		47	81	1.72			
1	5_O&M	611				0	0	0.00		9	0.71				Cut roots
3	5_O&M	611				0	0	0.00		82	127	1.55			
1	5_O&M	612				0	0	0.00		8	0.75				Cut roots
3	5_O&M	612				0	0	0.00		4	5	1.25			
1	5_O&M	613		X		0	0	0.00		8	0.69				Check flow capacity
3	5_O&M	613				0	0	0.00		5	12	2.40			
1	5_O&M	614		X		0	0	0.00		8	0.63				Cut roots
3	5_O&M	614				0	0	0.00		1	2	2.00			
1	5_O&M	615				0	0	0.00		8	0.63				Cut roots
3	5_O&M	615				0	0	0.00		1	2	2.00			
1	5_O&M	616				0	0	0.00		8	0.69				Cut roots
3	5_O&M	616				0	0	0.00		1	1	1.00			
1	5_O&M	617				0	0	0.00		8	0.63				Cut roots
3	5_O&M	617				0	0	0.00		2	4	2.00			
1	5_O&M	618		X		0	0	0.00		8	0.68				Clean grease
3	5_O&M	618				0	0	0.00		7	13	1.85			
1	5_O&M	619		X		0	0	0.00		8	0.74				Cut roots
3	5_O&M	619				0	0	0.00		5	11	2.20			
1	5_O&M	620				0	0	0.00		8	0.74				Replace and upsize pipe
3	5_O&M	620				0	0	0.00		1	2	2.00			
1	5_O&M	621				0	0	0.00		8	0.75				Check flow capacity
3	5_O&M	621				0	0	0.00		3	6	2.00			
1	5_O&M	622				0	0	0.00		8	0.68				Check flow capacity
3	5_O&M	622				0	0	0.00		1	2	2.00		MSA = end of pipe	
1	5_O&M	623				0	0	0.00		7	0.72				Cut roots
3	5_O&M	623				0	0	0.00		15	30	2.00		DAE 40% of the cross sectional area	
1	5_O&M	624		X		0	0	0.00		7	0.68				Cut roots
3	5_O&M	624				0	0	0.00		1	2	2.00			
1	5_O&M	625				0	0	0.00		7	0.59				Cut roots
3	5_O&M	625				0	0	0.00		61	123	2.02			
1	5_O&M	626				0	0	0.00		7	0.81				Clear deposit, Clear OB
3	5_O&M	626				0	0	0.00		44	88	2.00			
1	5_O&M	627				0	0	0.00		6	0.62				Cut roots
3	5_O&M	627				0	0	0.00		33	66	2.00			
1	5_O&M	628				0	0	0.00		6	0.62				Clear obstacles
3	5_O&M	628				0	0	0.00		60	120	2.00			
1	5_O&M	629				0	0	0.00		6	0.69				Clean grease, Cut roots
3	5_O&M	629				0	0	0.00		46	92	2.00			
1	5_O&M	630				0	0	0.00		6	0.70				Cut roots
3	5_O&M	630				0	0	0.00		59	118	2.00			
1	5_O&M	631				0	0	0.00		6	0.62				Cut roots
3	5_O&M	631				0	0	0.00		44	88	2.00			
1	5_O&M	632				0	0	0.00		6	0.70				Cut roots
3	5_O&M	632				0	0	0.00		60	120	2.00			
1	5_O&M	633				0	0	0.00		6	0.62				Cut roots
3	5_O&M	633				0	0	0.00		45	90	2.00			
1	5_O&M	634				0	0	0.00		6	0.62				Cut roots
3	5_O&M	634				0	0	0.00		29	58	2.00		MHF110028 corrected to MHF110029	
1	5_O&M	635				0	0	0.00		6	0.69				Cut roots
3	5_O&M	635				0	0	0.00		6	12	2.00			
1	5_O&M	636		X		0	0	0.00		5	0.65				Cut roots
3	5_O&M	636				0	0	0.00		14	28	2.00	

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | | 2018_Project | General | | | | | | | | | | | | | | Existing MH ID | | Previous MH ID | | Direction of Camera | Pipe | | | | | | | Structural Defect Coding | | | | | | | | | | | | | |

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer ID | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack C | Fracture F | Broken B | Hole H | Joint J | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles OB Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L L | L U | L R | L LD | L RD | Intruding Seal Material IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Features | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding (Crack C, Fracture F, Broken B, Hole H, Joint J, Deformed D, Collapsed Pipe X, Surface Damage S, Lining Failure LF, Point Repair RP, Sags WL) | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits (AGS, AE B, AE %, AE L, AE %, Other Z, Other %); Roots (R) Fine (F) B, L, J, C; Tap (T) B, L, J, C; Medium (M) B, L, J, C; Ball (B) B, L, J, C; Infiltration I; Obstacles OB G, D, R, W; Other O Z, Other O %; Vermin V C, R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD, FL, BI, BD; Line L D, L, U, R, LD, RD; Intruding Seal Material IS SRH, SRB, SRL; Miscellaneous M Z, SA, CU, MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Repair Description	Comments	Recommendations
1	5_O&M	725				24		28						9432 Sousa	3/18/2004	12078	12079	MHM140015	MHM140016	DS	2516	SPM140039	8	VCP			359	358			0	0.00	1		2	0.56			Clean grease
3	5_O&M	725			PPT		48	27				Y	WESTERN		10/31/2007	7199	7197	MHI090002	MHI100001	U/S	1070	SPI090007	8	VCP			147	140		0	0	0.00	3		6	2.00			
5	5_O&M	725			PPT		Map 1 May	75						ANTHONY AVE	5/31/2012	7422	7428	MHF120032	MHF120020	D/S	1699	SPF120015	10	VCP			300	304.5	0000	0	0	0.00		61	122	2.00	2K00		
1	5_O&M	726		X		3		11						12291 Nutwood St.	2/5/2004	11218	11219	MNW13031	MNW13032	DS	2395	SPN100002	8	VCP			205	208			0	0.00		1	2	0.56			Cut roots
3	5_O&M	726			PPT		48	37						WESTERN EASEMENT	10/31/2007	7204	7205	MHI090007	MHI090008	D/S	1076	SPI090013	8	VCP			300	298			0	0.00		54	216	4.00		Pipe SPH090013 corrected to SPI090013	
5	5_O&M	726			PPT		Map 1 May	60						TUNSTALL STREET	5/25/2012	7815	7816	MHE110006	MHE110007	D/S	1437	SPE110037	8	VCP			314	311.6	0000	0	0	0.00		61	122	2.00	2K00		
1	5_O&M	727				11		2						12330 Nutwood St.	2/20/2004	11220	11225	MHN100004	MHN100005	DS	2397	SPN100004	8	VCP			35	34			0	0.00	1		2	0.56			Clean grease
3	5_O&M	727			PPT		48	34						WESTERN	10/31/2007	7206	7205	MHI090009	MHI090008	U/S	1077	SPI090014	8	VCP			50	56			0	0.00		2	8	4.00		Pipe SPH090014 corrected to SPI090014	
5	5_O&M	727			PPT		Map 1 May	26						PICKETT AVENUE	5/21/2012	8787	7399	MHF100014	MHF100006	U/S	1651	SPF100030	8	VCP			315	312	0000	0	0	0.00		60	120	2.00	2K00		
1	5_O&M	728				8		5						12422 Groveview St.	2/17/2004	10701	10700	MHN100044	MHN100043	US	2633	SPN100046	8	VCP			193	122			0	0.00	1		2	0.56			Clean grease
3	5_O&M	728			PPT		48	21						CHAPMAN	10/30/2007	8073	8074	MHI090030	MHI090031	D/S	1725	SPI090025	15	VCP			370	401			0	0.00		1	3	3.00			
5	5_O&M	728			PPT		MAP 2 July 4	20						CELLINI AVENUE	6/25/2012	10127	10128	MHL080006	MHL080007	D/S	5181	SPL080007	8	VCP			280	279.6	0000	0	0	0.00	1	55	3	2J13	59	115	1.95		
1	5_O&M	729				5		15						12551 Kengsington Ln.	2/10/2004	11257	11256	MHN110005	MHN110004	US	2542	SPN110010	8	VCP			180	195			0	0.00		1	2	0.56			Cut roots
3	5_O&M	729			PPT		40	17				Y		VILLAGE CENTER DR	9/11/2007	7137	7123	MHI120003	COI120001	U/S	1152	SPI120001	8	VCP			30	27			0	0.00	1		2	2.00		MSA = Pipe size. Inspection stopped just short of U/S MH.	
5	5_O&M	729			PPT		May Folder 2	3						ACACIA AVE	5/29/2012	7954	7955	MHD120013	MHD120014	D/S	1583	SPD120006	8	VCP			265	266.1	0000	0	0	0.00		52	104	2.00	2I00		
1	5_O&M	730				8		8						10101 Lampson Ave.	2/17/2004	10683	10684	MHN110020	MHN110021	DS	2944	SPN110027	8	VCP			345	240			0	0.00		1	2	0.58			Cut roots
3	5_O&M	730			PPT		20	17						BLOSSOM	6/25/2007	8012	7986	MHK090005	MHL090002	U/S	1884	SPK090024	8	VCP			356	353			0	0.00			2	2.00	3		
5	5_O&M	730			PPT		Map 1 May	61						BELGRAVE AVENUE	5/29/2012	8744	8852	MHF090034	MHF090036	D/S	1659	SPF090051	8	VCP			260	258.2	0000	0	0	0.00		51	102	2.00	2I00		
1	5_O&M	731		X		44		23						12672 Brookhurst St.	4/27/2004	10695	10694	MHN110031	MHN110030	US	2629	SPN110037	8	VCP			95	92			0	0.00			2	0.44			Replace pipe
3	5_O&M	731			PPT		21	11	53	11	Y		AMY		6/28/2007	8029	8030	MHK090024	MHK090025	D/S	1882	SPK090021	8	VCP			295	284			0	0.00			48	12	4.00		Obstacles at 9 ft	Clean debris at 9 ft or spot repair
5	5_O&M	731			PPT		May Folder 2	12						ANTHONY AVE	5/29/2012	7755	8843	MHE120013	MHE120010	U/S	1408	SPE120024	8	VCP			350	261	0000	0	0	0.00		50	100	2.00	2I00		
1	5_O&M	732				22		21						10401 Nutwood St.	3/15/2004	13393	11125	MHN120006	MHN120004	US	2807	SPN120004	8	VCP			330	9			0	0.00			2	0.56			Additional investigation
3	5_O&M	732			PPT		21	17						BARR	6/29/2007	8692	8691	MHK090036	MHK090035	U/S	1811	SPK090043	8	VCP			95	192			0	0.00		1	2	2.00			
5	5_O&M	732			PPT		Map 1 May	14						SANTA BARBARA AVENUE	5/17/2012	7785	8884	MHE080007	MHE080008	D/S	1402	SPE080032	8	VCP			275	273	0000	0	0	0.00		49	98	2.00	2H00		
1	5_O&M	733				45		14						Garden Grove Blvd.	4/30/2004			MHN130008	MHN130010	DS		SPN130006	8	VCP			19	19			0	0.00			2	0.56			-
3	5_O&M	733			PPT		20	11						PENTAGON	6/25/2007	9086	9085	MHK100007	MHK100006	U/S	3545	SPK100006	8	VCP			378	377			0	0.00		1	1	1.00			
5	5_O&M	733			PPT		Map 1 May	84						LAMPLIGHTER STREET	5/31/2012	7736	7740	MHG110014	MHG110016	D/S	1139	SPG110041	8	VCP			256	258.1	0000	0	0	0.00		48	96	2.00	2H00		
3	5_O&M	734			PPT		21	25						LOUISE	6/29/2007	8678	8679	MHK100020	MHK100021	D/S	1985	SPK100025	8	VCP			245	244			0	0.00		3	3	1.00			
5	5_O&M	734			PPT		Map 1 May	83						LAMPLIGHTER STREET	5/31/2012	7740	7741	MHG110016	MHG110027	D/S	1143	SPG110045	8	VCP			258	260.7	0000	0	0	0.00		48	96	2.00	2H00		
1	5_O&M	735				15		8						13230 Hope	3/4/2004	11293	11308	MHN140004	MHN140025	DS	2892	SPN140004	8	VCP			320	315			0	0.00		1	2	0.58			Cut roots
3	5_O&M	735			PPT		21	27						LOUISE	6/29/2007	8680	8681	MHK100022	MHK100023	D/S	1987	SPK100027	8	VCP			250	251			0	0.00		1	2	2.33			
5	5_O&M	735			PPT		Map 1 May	58						CERUIEAN AVENUE	5/25/2012	7814	7821	MHE110005	MHE110009	U/S	1536	SPE110060	8	VCP			213	255.4	0000	0	0	0.00		47	94	2.00	2H00		
1	5_O&M	736				15		6						9890 Central Ave.	3/3/2004	10713	10712	MHN140009	MHN140008	US	2639	SPN140027	8	VCP			390	392			0	0.00		1	2	0.44			Cut roots
3	5_O&M	736			PPT		22	7						ENAULT	7/2/2007	8682	8683	MHK100024	MHK100025	D/S	1989	SPK100029	8	VCP			410	406			0	0.00		1	1	1.00			
5	5_O&M	736			PPT		MAP 4-B1-2	12						WARD STREET	9/10/2012	7306	7308	MHO210017	MHO220005	D/S	395	SPO220018	8	VCP			272	275.8	0000	0	0	0.00		47	94	2.00	2H00		134.1' Unmapped MH	
1	5_O&M	737				10		17						10731 Pearl	2/23/2004	12268	12269	MHO120021	MHO120024	DS	4926	SPO120018	12	VCP			11	4			0	0.00			2	0.56			Additional investigation
3	5_O&M	737			PPT		19	35						HAGA	6/23/2007	9110	9108	MHK100033	MHK100031	U/S	3251	SPK100036	8	VCP			339	344			0	0.00		1	10	11	4	4.00	1		
5	5_O&M	737			PPT		June Map 1	15						CHAPMAN AVE	6/21/2012	8364	8363	MHI090926	MHJ090910	U/S	2450	SPJ090910	15	VCP			179	229.4	0000	0	0	0.00		45	90	2.00	2H00		
1	5_O&M	738				10		15						10592 Westlake	2/23/2004	0	0	MHO130019	MHO130052	DS	2833	SPO130017	12	VCP			490	504			0	0.00		1	2	0.56			Cut roots
3	5_O&M	738			PPT		19	38						HAGA	6/23/2007	9110	9109	MHK100033	MHK100032	U/S	3252	SPK100037	8	VCP			380	366			0	0.00		2	8	4.00			
5	5_O&M	738			PPT		Map 1 May	18						LAURELTON AVENUE	5/17/2012	8641	7855	MHD090020	MHD090019	D/S	1951	SPD090026	8	VCP			350	349	0000	0	0	0.00		45	90	2.00	2H00		
1	5_O&M	739				13		3						13211 Nelson St.	3/1/2004	11098	11097	MHO130027	MHO130026	US	2354	SPO130023	8	VCP			150	149			0	0.00		1	2	0.56			Cut roots
3	5_O&M	739			PPT		39	11						SHANNON	9/6/2007	10143	10144	MHL070002	MHL070003	D/S	5193	SPL070008	8	VCP			342	344			0	0.00		1	3	3.00			
5	5_O&M	739			PPT		MAP 2 July 1	3						CHAPMAN AVE	6/19/2012	10325	10361			D/S	7423	new	8	VCP			198	204.2	0000	0	0	0.00		40			2G00	40	80	2.00
1	5_O&M	740				16		7						13401 Westlake St.	3/3/2004	11109	11110	MHO140038	MHO140039	DS	2360	SPO140025	8	VCP			20	12			0	0.00			2	0.56			ok
3	5_O&M	740			PPT		51							MAGNOLIA	12/28/2007	7986	8704	MHL090002	COL090001	U/S	672	SPL090038	8	VCP			125	111			0	0.00			6	4	4.00		MSA = Rocks (5%)	
5	5_O&M	740			PPT		June Map 2 B1	58						BROOKHURST STREET	6/13/2012	9143	9144	MHM020027	MHM030033	D/S	4270	SPM020003	8	VCP			200	201.3	0000	0	0	0.00		40	80	2.00	2G00		
1	5_O&M	741				18		3						13242 Cypress St.	3/5/2004	11193	11194	MHO140005	MHO140006	DS	2288	SPO140043	8	VCP			225	233			0	0.00		1	2	0.56			Cut roots
3	5_O&M	741			PPT		25	6						CUNNINGHAM	7/13/2007	9069	9068	MHL100043	MHL090029	U/S	3529	SPL090032	8	VCP			300	305			0	0.00		2	4	2.00	1		
5	5_O&M	741			PPT		Map 1 May	64						AMY AVENUE	5/29/2012	8859	8747	MHF090045	MHF090046	D/S	1660	SPF090052	8	VCP			350	345.9	0000	0	0	0.00		40	80	2.00	2G00		
1	5_O&M	742				16		8						10422 Luders Ave.	3/3/2004	11199	11200	MHO140011	MHO140012	DS	2293	SPO140049	8	VCP			380	375			0	0.00		1	2	0.56			Cut roots
3	5_O&M	742			PPT		23	18						LAMPSON	7/7/2007	9589	9111	MHL110029	MHL110030	D/S	4246	SPL110031	12	VCP			280	210			0	0.00			11	4	4.00			
5	5_O&M	742			PPT		Map 1 May	37						OWEN STREET	5/21/2012	8800	8799	MHF100025	MHF100024	U/S	1252	SPF100027	8	VCP			213	253.9	0000	0	0	0.00		36	72	2.00	2F00		
1	5_O&M	743				18		13						10590 Trask	3/8/2004	11111	11115	MHO150009	MHO150010	DS	2851	SPO150004	15	VCP			265	265			0	0.00	1		2	0.58			Clean grease
3	5_O&M	743			PPT		1	9						LINNERT	3/22/2007	10606	10607	MHL150027	MHL160003	D/S	2605	SPL160004	8	VCP			325	328			0	0.00		1	1	1.00			
5	5_O&M	743			PPT		June Map 1	9						VALLEY VIEW EASEMENT	6/8/2012	8670	8669	MHE120033	MHE120034	D/S	2120	SPE120030	10	VCP			390	343.8	0000	0	0	0.00		36	72	2.00	2F00		
1	5_O&M	744				2		23						12352 Oakwood	2/5/2004	11853	11857	14014	14018	DS	3789	SPP100016	8	VCP			135	133			0	0.00		1	2	0.44			Cut roots
3	5_O&M	744			PPT		1	10						LINNERT	3/22/2007	10607	11032	MHL160003	MHL160015	D/S	2606	SPL160005	8	VCP			325	325			0	0.00		1	1	1.00	1		
5	5_O&M	744			PPT		Map 1 May	66						ADAMS STREET	5/30/2012	8927	8928	MHE110037	MHE110038	D/S	1353	SPE110011	8	VCP			238	223.7	0000	0	0	0.00		34			2E00	34	68	2.00
1	5_O&M	745		X		7A		19						11022 Acacia	2/19/2004	11734	11737	MHP120023	MHP120039	US	4300	SPP120028	8	VCP			300	15			0	0.00			2	0.58			Replace pipe
3	5_O&M	745			PPT		32	16						ALDGATE	8/9/2007	9719	9718	MHM050006	MHM050005	U/S	4578	SPM050006	8	VCP			205	202			0	0.00		1	2	2.00			
5	5_O&M	745			PPT		Map 1 May	72						ANTHONY AVE	5/30/2012	7766	7774	MHE120022	MHE120030	D/S	1748	SPE120019	10	VCP			171	174.8	0000	0	0	0.00		31	62	2.00	2E00		
1	5_O&M	746				10		6						Stanford Ave.	2/20/2004	11739	11741	MHP120028	MHP120030	DS	4301	SPP120029	8	VCP			128	130			0	0.00		1	2	0.44			Cut roots
3	5_O&M	746			PPT		32	25						GARDENAIRE	8/10/2007	9721	9720	MHM050009	MHM050008	U/S	4579	SPM050007	8	VCP			214	217			0	0.00		1	3	3.00	2		
5	5_O&M	746			PPT		Map 1 May	76						SYLVAN STREET EASEMENT	5/31/2012	8726	8727	MHF120027	MHF120028	D/S	1702	SPF120024	10	VCP			150	152	0000	0	0	0.00		30	60	2.00	2E00		
1	5_O&M	747				10		8						Stanford Ave.	2/20/2004	11741	11743	MHP120030	MHP120031	DS	4303	SPP120031	8	VCP			270	272			0	0.00			2	0.52			Cut roots
3	5_O&M	747			PPT		32	26						GARDENAIRE	8/10/2007	10250	10256	MHM050011	MHM050017	D/S	4537	SPM050023	8	VCP			215	201			0	0.00			0	0.00		MSA = Debris	
5	5_O&M	747			PPT		MAP 4-B2-2	4						WARD STREET	9/21/2012	7308	7309	MHO220005	MHO220006	D/S	397	SPO220020	8	VCP			181	171.1	0000	0	0	0.00	28		56	2.00	2D00		
1	5_O&M	748		X		45		29						Euclid St./Pinehurst Pvt.	5/5/2004	0	0	MHP120034	MHP120035	DS	4401	SPP120035	8	VCP			55	43			0	0.00			2	0.83			ok

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Crack F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint O (S M L) | Joint J (S M L) | Joint S (S M L) | Joint L | Joint A | Deformed D | Collapsed Pipe X (V H P) | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL (S) | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other C | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles OB Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
|---|---|---

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | VV | Hole H SV | VV | Joint J O VV | S | M | L | S | M | L | A | Deformed D V | H | Collapsed Pipe D X | P | Surface Damage S | Lining Failure LF | Point Repair RP | Slope WL S | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D AGS | AE B | % | AE L | % | Other Z | % | Roots (R) Fine (F) B | L | J | Tap (T) C | B | L | J | Medium (M) C | B | L | J | Ball (B) C | B | L | J | Infiltration I C | G | D | R | W | Obstacles OB C | Z | Other % | C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | FL | BI | BD | Line L D | L | U | R | LD | RD | Intruding Seal Material IS SRH | SRB | SRL | Z | Miscellaneous M SA | CU | MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer I.D. | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack C | Fracture F | Broken B | Hole H | Joint O | Joint J | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits Other % | Deposits Other Z | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration C | Infiltration G | Infiltration D | Infiltration R | Infiltration W | Obstacles Obs C | Obstacles Obs Z | Obstacles Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | T FL | T BI | T BD | Line L D | L U | L R | L LD | L RD | Intruding Seal Material IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Feature | Reasons for Survey Aband. | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Length (ft)	CCTV Length (ft)
2	5_O&M	978					R041	10				Y	GREENTREE AV		10/4/2005	12615	12616	MHT100011	MHT100012	D/S	5245	SPT100007	8	VCP			100	100.6
2	5_O&M	979					G042	10					SPINNAKER ST		10/4/2005	12387	12388	MHT110007	MHT110008	D/S	5448	SPT110006	8	VCP			165	164.2
2	5_O&M	980					M019	12				Y	EMRYS AV		9/13/2005	12167	14372	MHR110033	MHR110017	D/S	5910	SPR110010	8	VCP			245	245.0
2	5_O&M	981					R019	7				Y	CHAPMAN AV		8/30/2005	13030	13031	MHR090032	MHR090033	D/S	6224	SPR090005	12	VCP			294	305.6
2	5_O&M	982					S006	8					ASPENWOOD AV		10/18/2005			MHS120029	MHS120030	D/S		SPS120038	8	VCP			324	323.8
2	5_O&M	983					G043	2				Y	BLUE SPRUCE AV		10/5/2005	12391	12400	MHT110011	MHT110020	D/S	5546	SPT110011	8	VCP			385	389.1
2	5_O&M	984					G020	12				Y	MAC MURRAY ST		8/8/2005	10858	10859	MHK060029	MHK060030	D/S	5345	SPK060016	8	VCP			227	225.8
2	5_O&M	985					R063	1				Y	TRASK AV		12/1/2005	10905	10906	MHQ150002	MHQ150003	D/S	3897	SPQ150024	12	VCP			115	117.3
2	5_O&M	986					M001	4				Y	BOWLES AV		8/4/2005	10327	10849	MHK060017	MHK060020	D/S	5938	SPK060040	8	VCP			175	202.8
2	5_O&M	987					G013	7				Y	MARYLEE DR		7/28/2005	8062	8063	MHK080038	MHK080047	D/S	1913	SPK080038	8	VCP			295	295.6
2	5_O&M	988					R017	10					WEST ST		8/26/2005	13066	13067	MHQ080048	MHQ080049	D/S	6106	SPQ080030	10	VCP			194	190.2
2	5_O&M	989					R038	1					ALLEY		9/29/2005	12628	12629	MHT090011	MHT090012	D/S	5256	SPT090003	8	VCP			200	200.4
2	5_O&M	990					R069	1				Y	EASEMENT		12/9/2005	12625	12626	MHT100026	MHT100027	D/S	5254	SPT100016	8	VCP			365	367.1
2	5_O&M	991					G043	13				Y	ARLETTA CR		10/5/2005	12402	12467	MHT110022	MHT110023	D/S	3979	SPT110024	8	VCP			350	349.6
2	5_O&M	992					R028	8				Y	9TH ST		9/19/2005	12534	12535	MHQ110046	MHQ110047	D/S	6577	SPQ110025	10	VCP			330	337.5
2	5_O&M	993					S006	10					FOREST DR		10/18/2005	12094	12757	MHS120041	MHS120040	U/S	5661	SPS120048	8	VCP			80	79.7
2	5_O&M	994					R042	4				Y	EASEMENT		10/24/2005	12451	12452	MHS120036	MHS120037	D/S	4979	SPS120044	10	VCP			160	157.7
2	5_O&M	995					R038	8				Y	EASEMENT		9/29/2005	12844	12632	MHT090018	MHT090019	D/S	6538	SPT090042	8	VCP			120	126.2
2	5_O&M	996					R041	15				Y	SALERNO ST		10/4/2005	12622	12623	MHT100018	MHT100019	D/S	5252	SPT100014	8	VCP			150	137.5
2	5_O&M	998					R032	2				Y	GARDEN GROVE BLVD		9/23/2005			MHR120030	MHR120031	D/S		SPR120010	10	VCP			105	104.7
2	5_O&M	999					G013	1				Y	MACALPINE RD		7/28/2005	8007	8059	MHK080034	MHK080035	D/S	2411	SPK080054	8	VCP			313	318.0
2	5_O&M	1000					R002	3				Y	CELLINI AV		7/26/2005	10128	10129	MHL080007	MHL080008	D/S	5182	SPL080008	8	VCP			190	189.2
2	5_O&M	1001					R057	1					NINA PL		11/10/2005	11462	11464	MHQ130016	MHQ140004	D/S	3821	SPQ130018	8	VCP			570	575.6
2	5_O&M	1002					R046	4					PALM ST		10/28/2005	12766	12767	MHR140001	MHR140002	D/S	6475	SPR140002	8	VCP			145	142.1
2	5_O&M	1003					G012	13					MACKAY ST		7/27/2005	8056	8057	MHK080031	MHK080032	D/S	1907	SPK080032	8	VCP			380	383.7
2	5_O&M	1004					G044	2					AUDREYCR		10/6/2005	12420	12421	MHT110024	MHT110025	D/S	4094	SPT110029	8	VCP			350	351.9
2	5_O&M	1005					G002	1				Y	MOSSLER ST		7/13/2005	8575	8574	MHJ070013	MHJ070012	U/S	2073	SPJ070013	8	VCP			111	112.9
2	5_O&M	1006					R068	2				Y	HARBOR BLVD		12/9/2005	13236	13235	MHR130026	MHR130025	U/S	6394	SPR130025	10	VCP			40	41.5
2	5_O&M	1007					G058	4				4	EASEMENT		12/12/2005	12454	12456	MHS120039	MHS120046	D/S	4982	SPS120047	10	VCP			60	52.1
2	5_O&M	1008					G043	5					TWINLEAF CR		10/5/2005	12396	12397	MHT110016	MHT110017	D/S	3972	SPT110017	8	VCP			198	199.2
2	5_O&M	1009					S006	6					ASPENWOOD AV		10/18/2005	12691	11632	MHS120023	MHS120024	D/S	6375	SPS120017	8	VCP			200	199.9
2	5_O&M	1010					R024	12				Y	KATHY LN		9/9/2005	11715	11717	MHQ110006	MHQ110008	D/S	6286	SPQ110040	8	VCP			140	140.7
2	5_O&M	1011					G013	4				Y	MACALPINE RD		7/28/2005	8061	8062	MHK080037	MHK080038	D/S	1912	SPK080037	8	VCP			282	282.7
2	5_O&M	1012					G034	4				Y	ROBERT LN		9/2/2005	12824	12823	MHQ090015	MHQ090014	U/S	6420	SPQ090050	8	VCP			165	167.4
2	5_O&M	1013					M005	12				Y	VONS DR		8/10/2005	10837	10337	MHL060032	MHL060031	U/S	5948	SPL060046	8	VCP			81	80.7
2	5_O&M	1014					G043	4					HEATHER CR		10/5/2005	12394	12395	MHT110014	MHT110015	D/S	5550	SPT110015	8	VCP			195	196.0
2	5_O&M	1015					G049	5					GRANITE PL		10/26/2005	13249	14061	MHS130009	MHR130002-A	D/S	6525	SPR130014	8	VCP			390	377.8
2	5_O&M	1016					R032	4				Y	GARDEN GROVE BLVD		9/23/2005			MHR120032	MHR120033	D/S		SPR120033	10	VCP			58	57.9
2	5_O&M	1017					G045	4				Y	EASEMENT		10/7/2005	12655	12656	MHT100037	MHT100038	D/S	3916	SPT100032	8	VCP			430	419.9
2	5_O&M	1018					R042	6				Y	GARDEN GROVE BLVD		10/24/2005	12437	13228	MHS120050	MHT120027	U/S	4972	SPS120027	10	VCP			487	385.0
2	5_O&M	1019					G044	3				Y	ANETTA CR		10/6/2005	12422	12368	MHT110026	COT110003	U/S	4471	SPT110031	8	VCP			130	133.1
2	5_O&M	1020					R039	11				Y	ANZIO ST		9/30/2005	12635	12624	MHT090024	MHT100020	D/S	5262	SPT090009	8	VCP			395	390.1
2	5_O&M	1021					G008	8					TWANA DR		7/21/2005	8500	8508	MHK080039	MHK080041	D/S	2084	SPK080042	8	VCP			360	364.0
2	5_O&M	1022					R017	7					WEST ST		8/26/2005	13065	13066	MHQ080047	MHQ080048	D/S	6105	SPQ080029	10	VCP			135	138.2
2	5_O&M	1023					G012	11					MARYLEE DR		7/27/2005	8055	8058	MHK080029	MHK080033	D/S	1906	SPK080031	8	VCP			300	304.2
2	5_O&M	1024					G044	1					AUDREY CR		10/6/2005	12420	12367	MHT110024	COT110004	U/S	4093	SPT110028	8	VCP			130	133.3
2	5_O&M	1025					R024	6				Y	STRATHMORE DR		9/9/2005	11728	11729	MHQ110019	MHQ110020	D/S	6330	SPQ110053	8	VCP			360	356.2
2	5_O&M	1026					G012	5					MACDUFF ST		7/27/2005	8003	8004	MHK080026	MHK080027	D/S	1860	SPK080028	8	VCP			266	284.4
2	5_O&M	1027					S004	3					FALLINGLEAF CR		10/13/2005	12685	12686	MHS120017	MHS120018	D/S	6369	SPS120011	8	VCP			120	173.7
2	5_O&M	1028					G005	10					VICLIA ST		7/18/2005	8008	8009	MHK070025	MHK070026	D/S	1862	SPK070024	8	VCP			328	328.9
2	5_O&M	1030					G021	9					JACALENE LN		8/15/2005	13193	13192	MHQ070040	MHQ070038	U/S	5969	SPQ070045	8	VCP			230	234.3
2	5_O&M	1031					G050	2	G050	3			PALM ST		10/27/2005			MHR130002-A	MHR130003-A	D/S		SPR130002-A	8	VCP			282	282.2
2	5_O&M	1032					R040	3					ALLEY		10/3/2005	12654	12655	MHT100036	MHT100037	D/S	3915	SPT100031	8	VCP			215	207.9
2	5_O&M	1033					R060	5				Y	NEWHOPE ST		11/28/2005	11456	11446	MHQ130010	MHQ130002	D/S	5281	SPQ130020	6	VCP			270	278.7
2	5_O&M	1034					G020	13					MAC MURRAY ST		8/8/2005	10859	10860	MHK060030	MHK060031	D/S	5346	SPK060017	8	VCP			275	287.6
2	5_O&M	1035					R040	8					DAWN AV		10/3/2005	12609	12610	MHT100005	MHT100006	D/S	5360	SPT100020	8	VCP			262	250.8
2	5_O&M	1036					G004	11					MOEN ST		7/15/2005	8544	8545	MHJ080010	MHJ080011	D/S	2044	SPJ080011	8	VCP			195	198.1
2	5_O&M	1037					G005	4					NEARING DR		7/18/2005	8583	8539	MHJ070021	MHJ080006	D/S	2401	SPJ070022	8	VCP			150	299.3
2	5_O&M	1038					G001	5					ORANGEWOOD AV		7/12/2005	8567	8715	MHJ070005	COJ070001	U/S	2065	SPJ070005	8	VCP			30	222.8
2	5_O&M	1039					G014	6					CHAPMAN AV		7/29/2005	8519	8520	MHK090042	MHK090043	D/S	2005	SPK090027	8	VCP			300	302.3
2	5_O&M	1040					G044	5					ADRIAN CR		10/6/2005	12424	12369	MHT110028	COT110002	U/S	4474	SPT110034	8	VCP			130	131.4
2	5_O&M	1041					R056	4					SAFFORD ST		11/9/2005	11457	11458	MHQ130011	MHQ130012	D/S	3816	SPQ130013	6	VCP			340	343.7
2	5_O&M	1042					R040	12					SALERNO ST		10/3/2005	12638	12639	MHT090027	MHT090028	D/S	5265	SPT090012	8	VCP			105	106.1
2	5_O&M	1043					G009	13					SANDY DR		7/22/2005	8565	8714	MHJ080032	COJ080001	U/S	2063	SPJ080024	8	VCP			120	118.9
2	5_O&M	1044					G012	8					MARYLEE DR		7/27/2005	8005	8055	MHK080028	MHK080029	D/S	2409	SPK080052	8	VCP			285	303.8
2	5_O&M	1045					G034	11					STRATHMORE DR		9/2/2005	12803	12826	MHQ100009	MHQ090017-A	U/S	5754	SPQ100037	8	VCP			300	86.4
2	5_O&M	1046					G042	1					LAMPSON AV		10/4/2005	12373	12382	MHT100001	MHT100002	D/S	3982	SPT100019	8	VCP			430	437.1
2	5_O&M	1047					G043	10				Y	JETTY ST		10/5/2005	12397	12399	MHT110017	MHT110019	D/S	3973	SPT110018	8	VCP			155	256.9
2	5_O&M	1048					G044	6					ADRIAN CR		10/6/2005	12424	12425	MHT110028	MHT110029	D/S	4475	SPT110035	8	VCP			350	350.4
2	5_O&M	1049					R047	3					MARBLE CR		10/31/2005	12777	12778	MHR130011	MHR130012	D/S	6517	SPR130011	8	VCP			400	398.9
2	5_O&M	1051					R041	4				Y	SALERNO ST		10/4/2005	12613	12614	MHT090002	MHT100008	D/S	5243	SPT090002	8	VCP			245	234.9
2	5_O&M	1052					G009	10					ROCKVIEW DR		7/22/2005	8563	8562	MHJ080030	MHJ080029	U/S	2060	SPJ080021	8	VCP			145	120.8
2	5_O&M	1053					G013	6					MARYLEE DR		7/28/2005	8058	8062	MHK080033	MHK080038	D/S	1909	SPK080034	8	VCP			280	282.7
2	5_O&M	1054					G044	4					ANETTA CR		10/6/2005	12422	12423	MHT110026	MHT110027	D/S	4472	SPT110032	8	VCP			350	350.1
2	5_O&M	1055					G046	3				Y	HASTER ST		10/10/2005	12664	12665	MHT100046	MHT100047	D/S	3925	SPT100042	8	VCP			120	118.6
2	5_O&M	1056					M016	8					LEDA LN		9/8/2005	12161	12165	MHR100007	MHR110037	U/S	5095	SPR110014	6	VCP			319	248.8
2	5_O&M	1057					M022	6					CHAPMAN AV		10/26/2005	13023	13028	MHS090031	MHS090030	U/S	6221	SPS090033	12	VCP			30	22.6
2	5_O&M	1058					R017	12					WEST ST		8/26/2005	13068	13069	MHQ080050	MHQ080051	D/S	6108	SPQ080032	10	VCP			145	142.7
2	5_O&M	1059					R019	2				Y	CHAPMAN AV		8/30/2005			MHS090035	MHR090029	D/S		SPS090020	12	VCP			55	54.5
2	5_O&M	1060					R023	8					EMRYS AV		9/7/2005	11640	11642	MHR110003	MHR110005	D/S	6042	SPR110020	8	VCP			265	267.0
2	5_O&M	1061					G009	8					SOMERS DR		7/22/2005	8601	8593	MHJ080024	MHJ080025	D/S	2417	SPJ080028	8	VCP			313	312.7
2	5_O&M	1062					G021	11					EUDORA LN		8/15/2005	13120	13208	MHQ080008	COQ080003	U/S	6303	SPQ080001	8	VCP			200	201.4
2	5_O&M	1063					G050	7					PALM ST		10/27/2005	12761	12762	MHR130001	MHR130002	D/S	6407	SPR130001	8	VCP			265	259.0
2	5_O&M	1064					R037	14					ALLEY		9/28/2005	12843	12628	MHT090010	MHT090011	D/S	6537	SPT090041	8	VCP			200	199.7
2	5_O&M	1065					R039	12				Y	ANZIO ST		9/30/2005	12624	12645	MHT100020	MHT100021	D/S	6534	SPT100047	8	VCP			240	236.1
2	5_O&M	1066					S001	7					CHOISSER RD		10/10/2005	12110	12112	MHS110026	MHS110028	D/S	5708	SPS110026	8	VCP			278	277.4
2	5_O&M	1067					G014	7					DALE ST		7/29/2005	8711	8063	COK080001	MHK080047	D/S	1914	SPK080039	8	VCP			215	216.7
2	5_O&M	1069					G043	6					SANDALWOOD CR		10/5/2005	12398	12399	MHT110018	MHT110019	D/S	3974	SPT110019	8	VCP			197	197.9
2	5_O&M	1070					G043	11					JETTY ST		10/5/2005	12399	12400	MHT110019	MHT110020	D/S	3975	SPT110020	8	VCP			260	259.1
2	5_O&M	1071					G055	8				Y	GARDEN GROVE BLVD		12/7/2005	10874	10875	MHP130031	MHP130032	U/S	4963	SPP130022	10	VCP			35	28.4
2	5_O&M	1072					G058	9					HASTER ST		12/13/2005	13008	13009	MHS080006	MHS080007	D/S	6097	SPS080004	10	VCP			25	19.9
2	5_O&M	1073					R041	1					SALERNO ST		10/4/2005	12639	12637	MHT090028	MHT090026	U/S	5264	SPT090011	8	VCP	PRIVATE		130	130.1
2	5_O&M	1074					R065	3				Y	EASEMENT		12/8/2005	12834	12802	MHQ100045	MHQ100043	D/S	5478	SPQ100039	8	VCP			155	145.7
2	5_O&M	1075					S002	4					HEATHER AV		10/11/2005	12696	12697	MHS110004	MHS110005	D/S	6380	SPS110001	8	VCP			110	159.4
2	5_O&M	1076					G005	9					SALISH AV		7/18/2005	8008	8709	MHK070025	COK070003	U/S	2412	SPK070049	8	VCP			195	196.0
2	5_O&M	1077					G013	3					MACALPINE RD		7/28/2005	8061	8060	MHK080037	MHK080036	U/S	1911	SPK080036	8	VCP			310	302.8
2	5_O&M	1078					G042	2					LAUX CR		10/4/2005	12374	12383	MHT110001	MHT110002	D/S	3983	SPT110026	8	VCP			400	400.7
2	5_O&M	1079					G044	11					DUNKLEE AV		10/6/2005	12379	12466	MHT120012	MHT120013	D/S	5440	SPT120005	8	VCP			400	402.2
2	5_O&M	1080					M001	10					JOYZELLE AV		8/4/2005	10854	10857	MHK060025	MHK060028	D/S	5341	SPK060012	8	VCP			190	200.7
2	5_O&M	1081					R047	4					FLINT CR		10/31/2005	12779	12780	MHR140007	MHR140008	D/S	6519	SPR140008	8	VCP			400	399.7
2	5_O&M	1082					S001	1					LAUX AV		10/10/2005	12104	12105	MHS110020	MHS110021	D/S	5702	SPS110020	8	VCP			340	338.9
2	5_O&M	1083					G004	2					DALE ST		7/15/2005	8044	8045	MHJ060002	MHJ060003	D/S	1898	SPJ060003	8	VCP			269	272.5
2	5_O&M	1084					G012	4					MACDUFF ST		7/27/2005	8002	8003	MHK080025	MHK080026	D/S	1859	SPK080027	8	VCP			298	285.7

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Length (ft)	CCTV Length (ft)
2	5_O&M	1085					G050	1					PALM ST		10/27/2005			MHR130002-A	MHR130001-A	D/S		SPR130002-A	8	VCP			282	282.2
2	5_O&M	1086					G042	5					LAMPSON AV		10/4/2005	12375	12384	MHT100001	MHT100002	D/S	3981	SPT100019	8	VCP			430	437.1
2	5_O&M	1087					G043	9				Y	JETTY ST		10/5/2005	12400	12398	MHT110017	MHT110018	D/S	3972	SPT110018	8	VCP			155	256.9
2	5_O&M	1088					G044	7					ADRIAN CR		10/6/2005	12425	12423	MHT110028	MHT110029	D/S	4476	SPT110035	8	VCP			350	350.4
2	5_O&M	1089					R047	2					MARBLE CR		10/31/2005	12776	12777	MHR130011	MHR130012	D/S	6516	SPR130011	8	VCP			400	398.9
2	5_O&M	1090					R041	3				Y	SALERNO ST		10/4/2005	12614	12613	MHT090002	MHT090003	D/S	5244	SPT090002	8	VCP			245	234.9
2	5_O&M	1091					G009	9					ROCKVIEW DR		7/22/2005	8562	8563	MHJ080029	MHJ080030	U/S	2061	SPJ080021	8	VCP			145	120.8
2	5_O&M	1092					G013	5					MARYLEE DR		7/28/2005	8062	8058	MHK080034	MHK080033	D/S	1910	SPK080034	8	VCP			280	282.7
2	5_O&M	1093					G044	5					ANETTA CR		10/6/2005	12423	12424	MHT110027	MHT110026	D/S	4473	SPT110032	8	VCP			350	350.1
2	5_O&M	1094					G046	2				Y	HASTER ST		10/10/2005	12665	12664	MHT100047	MHT100046	D/S	3924	SPT100042	8	VCP			120	118.6
2	5_O&M	1095					M016	7					LEDA LN		9/8/2005	12165	12161	MHR100008	MHR100007	U/S	5094	SPR110014	6	VCP			319	248.8
2	5_O&M	1096					M022	5					CHAPMAN AV		10/26/2005	13028	13023	MHS090029	MHS090030	U/S	6222	SPS090033	12	VCP			30	22.6
2	5_O&M	1097					R017	11					WEST ST		8/26/2005	13069	13068	MHQ080049	MHQ080050	D/S	6107	SPQ080032	10	VCP			145	142.7
2	5_O&M	1098					R019	3				Y	CHAPMAN AV		8/30/2005			MHR090028	MHS090035	D/S		SPS090020	12	VCP			55	54.5
2	5_O&M	1099					R023	7					EMRYS AV		9/7/2005	11642	11640	MHR110004	MHR110003	D/S	6043	SPR110020	8	VCP			265	267.0
2	5_O&M	1100					G009	7					SOMERS DR		7/22/2005	8593	8601	MHJ080025	MHJ080024	D/S	2416	SPJ080028	8	VCP			313	312.7
2	5_O&M	1101					G021	10					EUDORA LN		8/15/2005	13208	13120	MHQ080003	MHQ080008	U/S	6304	SPQ080001	8	VCP			200	201.4
2	5_O&M	1102					G050	6					PALM ST		10/27/2005	12762	12761	MHR130002	MHR130001	D/S	6406	SPR130001	8	VCP			265	259.0
2	5_O&M	1103					R037	13					ALLEY		9/28/2005	12628	12843	MHT090011	MHT090010	D/S	6538	SPT090041	8	VCP			200	199.7
2	5_O&M	1104					R039	11				Y	ANZIO ST		9/30/2005	12645	12624	MHT100021	MHT100020	D/S	6535	SPT100047	8	VCP			240	236.1
2	5_O&M	1105					S001	6					CHOISSER RD		10/10/2005	12112	12110	MHS110027	MHS110026	D/S	5707	SPS110026	8	VCP			278	277.4
2	5_O&M	1106					G014	8					DALE ST		7/29/2005	8063	8711	MHK080046	COK080001	D/S	1915	SPK080039	8	VCP			215	216.7
2	5_O&M	1107					G043	7					JETTY ST		10/5/2005	12400	12398	MHT110020	MHT110018	D/S	3976	SPT110020	8	VCP			260	259.1
2	5_O&M	1108					G055	7				Y	GARDEN GROVE BLVD		12/7/2005	10875	10874	MHP130032	MHP130031	U/S	4962	SPP130022	10	VCP			35	28.4
2	5_O&M	1109					G058	8					HASTER ST		12/13/2005	13009	13008	MHS080007	MHS080006	D/S	6096	SPS080004	10	VCP			25	19.9
2	5_O&M	1110					R041	2					SALERNO ST		10/4/2005	12637	12639	MHT090026	MHT090028	U/S	5263	SPT090011	8	VCP			130	130.1
2	5_O&M	1111					R065	2				Y	EASEMENT		12/8/2005	12802	12834	MHQ100044	MHQ100045	D/S	5477	SPQ100039	8	VCP			155	145.7
2	5_O&M	1112					S002	3					HEATHER AV		10/11/2005	12697	12696	MHS110005	MHS110004	D/S	6379	SPS110001	8	VCP			110	159.4
2	5_O&M	1113					G005	8					SALISH AV		7/18/2005	8709	8008	MHK070026	MHK070025	U/S	2411	SPK070049	8	VCP			195	196.0
2	5_O&M	1114					G013	2					MACALPINE RD		7/28/2005	8060	8061	MHK080038	MHK080037	U/S	1910	SPK080036	8	VCP			310	302.8
2	5_O&M	1115					G042	3					LAUX CR		10/4/2005	12383	12374	MHT110002	MHT110001	D/S	3984	SPT110026	8	VCP			400	400.7
2	5_O&M	1116					G044	10					DUNKLEE AV		10/6/2005	12466	12379	MHT120013	MHT120012	D/S	5441	SPT120005	8	VCP			400	402.2
2	5_O&M	1117					M001	9					JOYZELLE AV		8/4/2005	10857	10854	MHK060026	MHK060025	D/S	5340	SPK060012	8	VCP			190

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Crack F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint O (S M) | Joint J (L S M L) | Joint S (A V H P) | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Slope S | Water WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits B | Deposits % | Roots (R) Fine (F) AE L | Roots (R) Fine (F) AE % | Roots (R) Fine (F) Other L | Roots (R) Fine (F) Other % | Roots (R) Fine (F) Other Z | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Medium (M) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration G | Infiltration D | Infiltration R | Infiltration W | Obstacles OB C | Obstacles OB Z | Obstacles OB % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Length (ft)	CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aborted	GIS Identified Abandoned	Repair Description	Comments	Recommendations
2	5_O&M	1191					S003	11						TWINTREE CR	10/12/2005	12647	12648	MHT100023	MHT100024	D/S	5364	SPT100024	8	VCP			127	129.9		0	0										2					
2	5_O&M	1192					R030	8				Y		WEST ST	9/21/2005	11638	11637	MHR120003	MHR120002	U/S	5682	SPR120015	10	VCP			286	285.1		0	0										2					
2	5_O&M	1193					S002	8						SUNGROVE ST	10/11/2005	12699	12700	MHS110007	MHS110008	D/S	6383	SPS110004	8	VCP			125	116.5		0	0										1					
2	5_O&M	1194					S004	6						ASPENWOOD AV	10/13/2005	12686	12687	MHS120018	MHS120019	D/S	6370	SPS120012	8	VCP			136	135.9		0	0										1					
2	5_O&M	1195					R024	13						LAMPSON AV	9/9/2005	11714	12850	MHQ110005	COQ110002	U/S	6284	SPQ110038	8	VCP			150	150.0		0	0										1					
2	5_O&M	1196					R038	7						ALLEY	9/29/2005	12845	12846	MHT090020	COT090001	U/S	4032	SPT090031	8	VCP			185	188.2		0	0										1					
2	5_O&M	1197					R042	3						EASEMENT	10/24/2005	12450	12451	MHS120035	MHS120036	D/S	4978	SPS120043	10	VCP			200	200.6		0	0										1					
2	5_O&M	1198					M001	6						BOWLES AV	8/4/2005	10850	10853	MHK060021	MHK060024	D/S	5337	SPK060008	8	VCP			190	201.0		0	0										1					
2	5_O&M	1199					R025	2						MORGAN LN	9/12/2005	11711	11712	MHQ110002	MHQ110003	D/S	6217	SPQ110034	8	VCP			240	236.8		0	0										1					
2	5_O&M	1200					R040	9						DAWN AV	10/3/2005	12610	12611	MHT100006	MHT100007	D/S	4864	SPT100004	8	VCP			254	253.6		0	0										1					
2	5_O&M	1201					M016	2						EMRYS AV	9/8/2005	12166	12167	MHR110032	MHR110033	D/S	5909	SPR110009	8	VCP			300	301.7		0	0										1					
2	5_O&M	1202					R024	5						STRATHMORE DR	9/9/2005	11727	11728	MHQ110018	MHQ110019	D/S	6329	SPQ110052	8	VCP			360	360.0		0	0										1					
2	5_O&M	1203					M024	6						CHAPMAN AV	10/28/2005	13062	13063	MHQ090043	MHQ090044	D/S	6268	SPQ090037	12	VCP			25	23.2		0	0															
2	5_O&M	1204					M022	10						CHAPMAN AV	10/26/2005	13059	13060	MHR090037	MHR080022	D/S	6234	SPR090027	15	VCP			35	34.9		0	0										1					
2	5_O&M	1205					S006	12						FOREST DR	10/18/2005	12693	12691	MHS120043	MHS120023	D/S	6377	SPS120019	8	VCP			45	44.1		0	0										1					
2	5_O&M	1206					M024	7				Y		CHAPMAN AV	10/28/2005	13055	13056	MHR080001	MHQ090054	D/S	6347	SPQ090033	18	VCP			81	80.1		0	0										1					
2	5_O&M	1207					R045	2						LAMPSON AV	10/27/2005	12377	12377	MHT100050	MHU100001	D/S	5083	SPT100003	12	VCP			142	140.7		0	0										1					
2	5_O&M	1208					R041	16						SALERNO ST	10/4/2005	12623	12645	MHT100019	MHT100021	D/S	6470	SPT100046	8	VCP			150	155.2		0	0										1					
2	5_O&M	1209					S004	13						ANZIO AV	10/13/2005	12633	12634	MHT090022	MHT090023	D/S	5260	SPT090007	8	VCP	PRIVATE		380	221.4		0	0										1					
2	5_O&M	1210					R032	8						GARDEN GROVE BLVD	9/23/2005	12838	12837	MHQ120053	MHQ120051	D/S	5745	SPQ120051	10	VCP			220	223.7		0	0										1					
2	5_O&M	1211					M022	11						CHAPMAN AV	10/26/2005	13060	13055	MHR080022	MHR080001	D/S	6266	SPR080010	15	VCP			280	247.0		0	0										1					
2	5_O&M	1212					R037	2						BANGOR ST	9/28/2005	12143	12145	MHS090015	MHS090017	D/S	5906	SPS090030	8	VCP			290	290.0		0	0										1					
2	5_O&M	1213					R035	2						GARDEN GROVE BLVD	9/27/2005	12580	12581	MHQ120047	MHQ120048	D/S	6587	SPQ120034	10	VCP			293	292.4		0	0										1					
2	5_O&M	1214					R066	1						HARBOR BLVD	12/8/2005	13237	13238	MHR130027	MHR130028	D/S	6396	SPR130027	10	VCP			329	329.3		0	0										1					
2	5_O&M	1215					M022	7						CHAPMAN AV	10/26/2005	13032	13057	MHR090034	MHR090035	D/S	6276	SPR090033	15	VCP			353	353.8		0	0										1					
2	5_O&M	1216					R013	5						JACELENE LN	8/17/2005	13124	13125	MHQ080018	MHQ080019	D/S	5771	SPQ080037	8	VCP			350	356.5		0	0										1					
2	5_O&M	1217					G059	1						CHAPMAN AV	12/13/2005	12985	12986	MHQ090060	MHP090031	D/S	6280	SPQ090009	18	VCP			400	402.1		0	0										1					
2	5_O&M	1218					M022	9						CHAPMAN AV	10/26/2005	13058	13059	MHR090036	MHR090037	D/S	6233	SPR090026	15	VCP			434	433.6		0	0										1					
4	6_No_Defect	247					5	2239		7	2279	Y		PERDIDO	7/19/2006	9179	9178	MHM010019	MHM010017	U/S	4391	SPM010003	8	VCP			378	655.4		0	0					0	0			0					Multiple reaches were evaluated with one inspection. Lengths are different.
4	6_No_Defect	248					5	2239		7	2279	Y		PERDIDO	7/19/2006	9180	9179	MHM010019	MHM010017	U/S	4392	SPM010004	8	VCP			284	655.4		0	0					0	0			0					Multiple reaches were evaluated with one inspection. Lengths are different.
4	6_No_Defect	249					4	2215				Y		YARDLEY	6/30/2006			MHM000013	MHM000015	D/S		SPM00007	8	VCP			530	530.0		0	0					0	0			0					Multiple reaches were evaluated with one inspection. 49' to 174' not clear. Must revideo
4	6_No_Defect	250					4	2215				Y		YARDLEY	6/30/2006			MHM000013	MHM000015	D/S		SPM00008	8	VCP			530	530.0		0	0					0	0			0					Multiple reaches were evaluated with one inspection. 49' to 174' not clear. Must revideo
4	6_No_Defect	251					P COUNTY 3C	10				Y		GILBERT	10/12/2007	9341	9342	MHL020004	MHL030040	D/S	4057	SPL020004	8	VCP			124	523.7		0	0					0	0			0					Multiple reaches were evaluated with one inspection. High Water Level. Video is blurry. Unable to see any defect. Must Revideo.
4	6_No_Defect	252					MIXED P COUNTY 1	11				Y		HARVEST	11/5/2007	9299	9292	MHM990030	MHM990023	D/S	3453	SPM990031	8	VCP			330	327.8		0	0					0	0			0					No Defect
4	6_No_Defect	253					MIXED P COUNTY 2	4				Y		BANTA	11/3/2007	8971	8970	MHM040013	MHM040012	U/S	4410	SPM040036	8	VCP			290	286.8		0	0					0	0			0					No Defect
4	6_No_Defect	254					17	2485				Y		GILBERT	1/25/2007	9285	9284	MHL000003	MHL000002	U/S	3439	SPL000005	8	VCP			260	268.2		0	0					0	0			0					No Defect. There is a MH @ 29.8'. GIS does not show this MH
4	6_No_Defect	255					18	2						DIXIE	5/3/2007	9228	9233	MHM030006	MHM030016	U/S	3603	SPM030019	8	VCP			375	233.9		0	0					0	0			0					No Defect. This inspection does not have DVD. We used Inspection Report
4	6_No_Defect	256					P COUNTY 3B	4				Y		SPAIN ST	10/17/2007	8941	8940	MHM030044	MHM020039	U/S	3654	SPM020043	6	VCP			90	141.8		0	0					0	0			0					Multiple reaches were evaluated with one inspection. No Defect
4	6_No_Defect	257					P COUNTY 3B	4				Y		SPAIN ST	10/17/2007	8938	8941	MHM030044	MHM020039	U/S	4256	SPM020044	6	VCP			30	141.8		0	0					0	0			0					Multiple reaches were evaluated with one inspection. No Defect
4	6_No_Defect	259					P COUNTY	12				Y		RANDOM	10/9/2007	9294	9118	MHM990025	COM990001	U/S	3445	SPM990023	8	VCP			110	119.4		0	0					0	0			0					No Defect
4	6_No_Defect	260					MIXED P COUNTY 1	4		MIXED P COUNTY 1	5	Y		PACIFIC	11/15/2007	9272	9148	MHM030004	MHM030003	U/S	3642	SPM030029	8	VCP			180	183	6 2 6 1 1	0	16	31	2 1 23 3 1		0	30	43	1.43		1	0				Defects documented November 2007. Pipe replaced in 2008. Priority adjusted to No Defect.
1	6_No_Defect	774				43		12						8042 Garden Grove Blvd.	4/22/2004			unmarked MH	COJ130001	DS		SPJ	8	VCP			357	357		0	0	0.00				0	0.00								
1	6_No_Defect	775				36		16						12701 Monroe St.	4/7/2004	7704	7703	MHJ110008	MHJ110006	US	736	SPJ110003	8	VCP			260	261		0	0	0.00				0	0.00								
1	6_No_Defect	776				36		15						8361 Cerulean Dr.	4/7/2004	7704	7091	MHJ110008	MHJ110007	US	825	SPJ110016	8	VCP			381	385		0	0	0.00				0	0.00								
1	6_No_Defect	777				37		3						8358 Stanford Ave.	4/8/2004	7706	7709	MHJ120023	MHJ120024	DS	739	SPJ120015	8	VCP			270	271		0	0	0.00				0	0.00								
1	6_No_Defect	778				36		17						8451 Stanford Ave.	4/7/2004	7651	7705	MHJ120021	MHJ120022	DS	826	SPJ120022	8	VCP			259	262		0	0	0.00				0	0.00								
1	6_No_Defect	779				43		6						8412 Garden Grove Blvd.	4/21/2004	7716	7717	MHJ130001	MHJ130002	DS	749	SPJ130003	8	VCP			332	332		0	0	0.00				0	0.00								
1	6_No_Defect	780				43		7						8342 Garden Grove Blvd.	4/21/2004	7717	7718	MHJ130002	MHJ130003	DS	750	SPJ130004	8	VCP			331	331		0	0	0.00				0	0.00								
1	6_No_Defect	781				43		15						8232 Garden Grove Blvd.	4/22/2004	7718	7719	MHJ130003	MHJ130004	DS	783	SPJ130005	8	VCP			331	332		0	0	0.00				0	0.00								
1	6_No_Defect	782			X	40		23						8222 Larson Ave.	4/15/2004	7050	7049	MHJ130016	MHJ130015	US	789	SPJ130010	6	VCP			30	34		0	0	0.00				0	0.00								
1	6_No_Defect	783				42		1						8092 Larson Ave.	4/16/2004	7056	7057	MHJ130022	MHJ130023	DS	796	SPJ130017	8	VCP			15	63		0	0	0.00				0	0.00								
1	6_No_Defect	784				45		1						8150 Garden Grove Blvd.	4/28/2004	7103	7104	MHJ130005	MHJ130006	DS	841	SPJ130021	8	VCP			158	132		0	0	0.00				0	0.00								
1	6_No_Defect	785				43		14						Coast St./Garden Grove Blvd.	4/22/2004	7104	13421	MHJ130006	MHJ130007	DS	6841	SPJ130022	10	VCP			306	308		0	0	0.00				0	0.00								The second pipe ID represents two current pipe IDs.
1	6_No_Defect	786				43		14						Coast St./Garden Grove Blvd.	4/22/2004	13420	7105	MHJ130006	MHJ130007	DS	6842	SPJ130022	10	VCP			306	308		0	0	0.00				0	0.00								The second pipe ID represents two current pipe IDs.
1	6_No_Defect	787				43		2						Easement/13062 Coast St.	4/21/2004	7105	7111	MHJ130007	MHJ130029	US	751	SPJ130029	8	VCP			50	53		0	0	0.00				0	0.00								
1	6_No_Defect	788			X	35		25						8002 Central Ave.	4/13/2004	7108	7048	MHJ140005	MHJ140004	US	673	SPJ140001	8	VCP			330	317		0	0	0.00				0	0.00								
1	6_No_Defect	789				35		21						8172 Central Ave.	4/12/2004	7046	7725	MHJ140002	MHJ140006	US	676	SPJ140004	8	VCP			82	88		0	0	0.00				0	0.00								
1	6_No_Defect	790				39		8						13252 Monroe St.	4/13/2004	7071	7072	MHJ140017	MHJ140018	DS	809	SPJ140018	8	VCP			379	382		0	0	0.00				0	0.00								
1	6_No_Defect	791			X	38		18						13441 Coast St.	4/13/2004	7114	7115	MHJ140026	MHJ150006	DS	754	SPJ140034	8	VCP			229	228		0	0	0.00				0	0.00								
1	6_No_Defect	792				39		3						13291 Coast St.	4/13/2004	7116	7117	MHJ140030	MHJ140034	DS	755	SPJ140035	10	VCP			254	261		0	0	0.00				0	0.00								
1	6_No_Defect	793				45		2						13331 Coast St.	4/28/2004			MHJ140034	MHJ140035	DS		SPJ140036	10	VCP			151	151		0	0	0.00				0	0.00								
1	6_No_Defect	794				45		4						Easement/Coast St.	4/28/2004			MHJ140036	MHJ150007	DS		SPJ140038	10	VCP			297	297		0	0	0.00				0	0.00								
1	6_No_Defect	795			X	40		32						Trask Ave./Sunnyvale	4/16/2004	7069	7070	MHJ150002	MHJ150003	DS	768	SPJ150002	8	VCP			250	250		0	0	0.00				0	0.00								
1	6_No_Defect	796			X	42		25						8032 Trask Ave.	4/20/2004	7115	7121	MHJ150006	MHJ150008	DS	775	SPJ150005	8	VCP			132	132		0	0	0.00				0	0.00								
1	6_No_Defect	797				45		6						Crosswalk-Trusk/Beach	4/28/2004			MHJ150008	MHJ150007	DS		SPJ150006	8	VCP			28	28		0	0	0.00				0	0.00								
1	6_No_Defect	798				25		16						12551 Agnes Stanley St.	3/18/2004	8381	8382	MHK110008	MHK110010	DS	3353	SPK110007	8	VCP			245	259		0	0	0.00				0	0.00								
1	6_No_Defect	799				27		5						8882 Ann Cross Dr.	3/22/2004	8383	8384	MHK110012	MHK110013	DS	3357	SPK110011	8	VCP			300	287		0	0	0.00				0	0.00								
1	6_No_Defect	800			X	32		9						12711 Aristocrat Ave.	3/31/2004	8385	8386	MHK110014	MHK120001	DS	3359	SPK110013	8	VCP			85	85		0	0	0.00				0	0.00								
1	6_No_Defect	801				25		14						8932 Mary Hill Dr.	3/18/2004	8403	8370	MHK110007	MHL110002	US	3379	SPK110021	8	VCP			190	192		0	0	0.00				0	0.00								
1	6_No_Defect	802				25		17						8972 Ernest Fulsom Dr.	3/18/2004	8371	8404	MHL110003	MHK110009	DS	3380	SPK110022	8	VCP			190	190		0	0	0.00				0	0.00								
1	6_No_Defect	803				25		20						8972 Ann Cross Dr.	3/18/2004	8372	8405	MHL110004	MHK110011	DS	3381	SPK110023	8	VCP			195	196		0	0	0.00				0	0.00								
1	6_No_Defect	804			X	33		26						12551 Lorna St.	4/2/2004	8408	8407	MHK110017	MHK110016	US	3385	SPK110025	8	VCP			316	315		0	0	0.00				0	0.00								
1	6_No_Defect	805			X	34		3						12750 Lorna St.	4/2/2004	8411	8410	MHK120020	MHK110019	US	3388	SPK110028	8	VCP			316	318		0	0	0.00				0	0.00								
1	6_No_Defect	806				32		27						12536 Adelle St.	4/2/2004	8415	8416	MHK110020	MHK110021	DS	3393	SPK110029	8	VCP			267	267		0	0	0.00				0	0.00								
1	6_No_Defect	807	2017-05-30			35		3						12641 Louise Cr.	4/2/2004	8418	8419	MHK110023	MHK110024	DS	3396	SPK110032	8	VCP			175	166		0	0	0.00				0	0.00								Found that there was no cookie in the pipe at the upstream end of a terminal manhole so we installed one.
1	6_No_Defect	808			X	35		1						12611 Trinette	4/2/2004	8419	8420	MHK110024	MHK110025	DS	3397	SPK110033	8	ACP			170	177		0	0	0.00				0	0.00								

Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Existing Sewer ID	Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
1	6_No_Defect	809				35		5					12591 Adelie St.		4/2/2004	8420	8421	MHK110025	MHK110026	DS	3398	SPK110034	8	VCP			350	350		0	0	0.00
1	6_No_Defect	810				32		17					8841 Woolley Ln.		4/1/2004	8388	8387	MHK120003	MHK120002	US	3361	SPK120005	8	VCP			75	79		0	0	0.00
1	6_No_Defect	811				32		20					8802 Acacia Ave.		4/1/2004	8392	8391	MHK120007	MHK120006	US	3365	SPK120009	8	VCP			301	301		0	0	0.00
1	6_No_Defect	812				42		10					12881 Josephine St.		4/19/2004	8399	8400	MHK120016	MHK120017	DS	3373	SPK120017	8	VCP			165	165		0	0	0.00
1	6_No_Defect	813				32		22					8972 Acacia Ave.		4/1/2004	8373	8394	MHK120009	MHK120010	DS	3382	SPK120019	8	VCP			255	255		0	0	0.00
1	6_No_Defect	814	2018-02-23	X		34		7					12870 Lorna St.		4/2/2004	8444	8406	MHK120023	COK120022	US	3384	SPK120021	8	VCP			330	136		0	0	0.00
1	6_No_Defect	815		X		35		8					12731 Adelie St.		4/2/2004	8423	8424	MHK120025	MHK120026	DS	3401	SPK120027	8	VCP			332	332		0	0	0.00
1	6_No_Defect	816				34		16					8561 Stanford Ave.		4/5/2004	8429	8428	MHK120031	MHK120030	US	3406	SPK120032	8	VCP			89	89		0	0	0.00
5	6_No_Defect	816			PPT		MAP 4-B2-2	1	MAP 4-B2-3	18			WARD STREET		9/21/2012	7313	7314	MHO220017	MHO220018	D/S	156	SPO220025	8	VCP			138	1.3	0000	0	0	0.00
1	6_No_Defect	817				34		4					8734 Stanford Ave.		4/2/2004	0	0	MHK120020	MHK120019	US	2977	SPK120041	8	VCP			140	203		0	0	0.00
5	6_No_Defect	817			PPT		MAP 3-2	11	MAP 3-2	12	Y		WAKEFIELD AVE		7/24/2012	12791	13157	MHP060002	MHP060003	D/S	6607	SPP060004	8	VCP			192	4.7	0000	0	0	0.00
1	6_No_Defect	818				29		10					8750 Brookdale Ave.		3/29/2004	11555	11556	MHL130032	MHK130013	DS	3091	SPK130001	8	VCP			152	156		0	0	0.00
1	6_No_Defect	819				29		15					8750 Oakdale Dr.		3/29/2004	11560	11621	MHL130036	MHK130018	DS	3095	SPK130002	8	VCP			175	177		0	0	0.00
5	6_No_Defect	819			PPT		MAP 3-B5	24	MAP 3-B5	25			EUCLID STREET		9/6/2012	11894	11895	MHP130007	MHP130006	U/S	4445	SPP130028	8	VCP			26	20	0000	0	0	0.00
1	6_No_Defect	820				29		16					13051 Yockey St.		3/29/2004	11598	11599	MHK130011	MHK130012	DS	2966	SPK130010	8	VCP			55	60		0	0	0.00
5	6_No_Defect	820			PPT		MAP 4-B1-6	5	MAP 4-B1-6	6			HARBOR BLVD		10/3/2012	7543	7542	MHR150015	MHR150014	U/S	593	SPR150013	12	VCP			32	30	0000	0	0	0.00
1	6_No_Defect	821				29		18					13111 Yockey St.		3/29/2004	11600	11601	MHK130014	MHK130015	DS	2968	SPK130012	8	VCP			50	56		0	0	0.00
5	6_No_Defect	821			PPT		MAP 2 July-1	11	MAP 2 July-1	15			MACNAB STREET		6/19/2012	10308	10298			U/S	3883 SIPHON		8	VCP			300	30	0000	0	0	0.00
1	6_No_Defect	822				44		6					13172 Yockey St.		4/23/2004	11603	11602	MHK130017	MHK130016	US	2970	SPK130014	8	VCP			145	141		0	0	0.00
5	6_No_Defect	822			PPT		MAP 3-B5	38					WEST STREET		9/4/2012	12901	11636	MHK120001	MHR120050	D/S	5861	SPR120057	12	VCP			8	4	0000	0	0	0.00
1	6_No_Defect	823				35		14					13167 Newland		4/12/2004	7657	7658	MHK130029	MHK130030	DS	695	SPK130031	8	VCP			160	151		0	0	0.00
5	6_No_Defect	823			PPT		MAP 3-B5	11					NELSON STREET		9/13/2012	13424	11327			D/S	6847	new	10	VCP			5	5	0000	0	0	0.00
1	6_No_Defect	824				35		15					13171 Newland		4/12/2004	7658	7659	MHK130030	MHK130031	DS	696	SPK130032	8	VCP			100	96		0	0	0.00
5	6_No_Defect	824			PPT		MAP 3-B3-4	26					NEWHOPE STREET		8/29/2012	13176	13175	MHQ140040	MHQ140042	D/S	5624	SPQ140049	8	VCP			12	5.1	0000	0	0	0.00
1	6_No_Defect	825				41		10					8612 Garden Grove Blvd.		4/20/2004	7668	7669	MHK130032	MHK130033	DS	706	SPK130034	8	VCP			331	336		0	0	0.00
5	6_No_Defect	825			PPT		MAP 3-B4-2	21					GARDEN GROVE BLVD		9/24/2012	12897	12898	MHR120049	MHR120053	D/S	5818	SPR120056	24	VCP			3	6.7	0000	0	0	0.00
1	6_No_Defect	826				43		4					8562 Garden Grove Blvd.		4/21/2004	7669	7670	MHK130033	MHK130034	DS	707	SPK130035	8	VCP			334	331		0	0	0.00
5	6_No_Defect	826			PPT		MAP 2-1-1	7					LAMPSON AVE		7/6/2012	9036	13623			D/S	7141	new	12	VCP			14	6.7	0000	0	0	0.00
1	6_No_Defect	827				40		16					13081 Wilson St.		4/15/2004	7675	7674	MHK130039	MHK130038	US	711	SPK130039	8	VCP			219	218		0	0	0.00
5	6_No_Defect	827			PPT		MAP 4-B3	16					CHAPMAN AVE		9/26/2012	14281	10051			U/S	7961	new	15	VCP			10	7	0000	0	0	0.00
1	6_No_Defect	828				40		15					13111 Wilson St.		4/15/2004	7676	7675	MHK130040	MHK130039	US	712	SPK130040	8	VCP			220	221		0	0	0.00
5	6_No_Defect	828			PPT		MAP 3-B3-4	27					NEWHOPE STREET		8/29/2012	11449	13176	MHQ140001	MHQ140040	D/S	5698	SPQ140052	8	VCP			7	7	0000	0	0	0.00
1	6_No_Defect	829		X		29		20					13371 Hale Ave.		3/29/2004	11577	11576	MHK140005	MHK140004	US	2953	SPK140001	8	VCP			190	190		0	0	0.00
5	6_No_Defect	829			PPT		MAP 4-B3	4					GARDEN GROVE BLVD		9/26/2012	8443	9392	MHK130010	MHK130045	D/S	2976	SPK130023	8	VCP			10	7.2	0000	0	0	0.00
1	6_No_Defect	830				31		23					13272 Yockey St.		3/31/2004	11606	11607	MHK140001	MHK140002	DS	7885	SPK140004	8	VCP			35	33		0	0	0.00
5	6_No_Defect	830			PPT		MAP 2-2-2	15					TRASK AVENUE		7/20/2012	8362	7885	MHK150903	MHK150009	D/S	2447	SPK150903	12	Clay Tile			4	7.7	0000	0	0	0.00
1	6_No_Defect	831				39		15					8651 Gloria Ave.		4/15/2004	7636	7634	MHK140016	MHK140014	US	681	SPK140009	8	VCP			215	222		0	0	0.00
5	6_No_Defect	831			PPT		June Map 1	4					SPRINGDALE STREET		6/7/2012	8757	8758	MHF100027	MHF100028	D/S	1965	SPF100002	10	VCP			10	9	0000	0	0	0.00
1	6_No_Defect	832				39		17					13381 Sheppard Cr.		4/15/2004	7635	7636	MHK140015	MHK140016	DS	992	SPK140010	8	VCP			220	221		0	0	0.00
5	6_No_Defect	832			PPT		June Map 1	12					WESTERN AVE EASEMENT		6/14/2012	7129	7130	COI080003	COI080004	U/S	778	SPI080004	6	VCP			420	9.7	0000	0	0	0.00
1	6_No_Defect	833				39		16					8651 Gloria Ave.		4/15/2004	7636	7637	MHK140016	MHK140017	DS	993	SPK140011	8	ACP			215	202		0	0	0.00
5	6_No_Defect	833			PPT		MAP 4-B3	1					MAGNOLIA STREET		9/26/2012	11591	11597	MHL150004	MHL150005	D/S	3031	SPL150034	18	VCP			20	10	0000	0	0	0.00
1	6_No_Defect	834		X		39		18					Gloria Awe. Easement		4/15/2004	7638	7637	MHK140018	MHK140017	US	994	SPK140012	8	VCP			50	41		0	0	0.00
5	6_No_Defect	834			PPT		MAP 2-2-2	13					TRASK AVENUE		7/20/2012	8360	8361	MHK150901	MHK150902	D/S	2445	SPK150901	12	Clay Tile			8	10.2	0000	0	0	0.00
1	6_No_Defect	835				41		11					8598 Edgebrook Dr.		4/21/2004	7647	7648	MHK140024	MHK140025	DS	1002	SPK140016	8	VCP			106	106		0	0	0.00
5	6_No_Defect	835			PPT		MAP 3-B5	17					NELSON STREET		9/6/2012	13390	13391			D/S	6811	SPO120029	8	VCP			12	11.4	0000	0	0	0.00
1	6_No_Defect	836		X		41		12					8589 Edgebrook Dr.		4/21/2004	0	0	MHK140025	MHK140026	DS	1003	SPK140017	8	VCP			184	182		0	0	0.00
5	6_No_Defect	836			PPT		MAP 4-B1-5	5					BROOKHURST STREET		9/26/2012	10527	11366	MHN170020	MHN170909	D/S	3069	SPN170903	8	VCP			4	12	0000	0	0	0.00
1	6_No_Defect	837				41		13					8523 Edgebrook Dr.		4/21/2004	0	0	MHK140026	MHK140027	DS	688	SPK140018	8	VCP			124	127		0	0	0.00
5	6_No_Defect	837			PPT		MAP 4-B1-5	6					BROOKHURST STREET		9/26/2012	10523	11369	MHN160018	MHN160902	D/S	2756	SPN160903	8	VCP			204	12	0000	0	0	0.00
1	6_No_Defect	838				39		10					Newland St.		4/15/2004	7660	7661	MHK140009	MHK140010	DS	698	SPK140024	8	VCP			296	301		0	0	0.00
5	6_No_Defect	838			PPT		MAP 3-B4-2	7					HARBOR BLVD		10/3/2012	7015	12784			D/S	7662	new	8	VCP			14	12	0000	0	0	0.00
1	6_No_Defect	839				39		11					13252 Newland		4/15/2004	7661	7662	MHK140010	MHK140011	DS	699	SPK140025	8	VCP			30	34		0	0	0.00
5	6_No_Defect	839			PPT		MAP 3-B4-2	22					GARDEN GROVE BLVD		9/24/2012	13661	12897			D/S	7182	new	24	VCP			9	12.2	0000	0	0	0.00
1	6_No_Defect	840				39		21					13456 Newland		4/15/2004			MHK150007A	MHK150007B	DS		SPK140029-A	8	PVC			65	65		0	0	0.00
5	6_No_Defect	840			PPT		MAP 4-B3	10					TRASK AVE		9/26/2012	11525	14108			D/S	8238	new	21	VCP			7	12.3	0000	0	0	0.00
1	6_No_Defect	841				41		14					8521 Edgebrook Dr.		4/21/2004	0	0	MHK140027	MHK140028	DS	834	SPK140039	8	VCP			57	55		0	0	0.00
5	6_No_Defect	841			PPT		MAP 4-B3	6					CHAPMAN AVE		9/26/2012	10051	13884			D/S	7510	new	12	PVC			25	12.7	0000	0	0	0.00
1	6_No_Defect	842				45		31					13471 Trask Ave.		5/5/2004	11611	11402	MHK150001	MHK150008	DS	3025	SPK150005	12	VCP			10	13		0	0	0.00
5	6_No_Defect	842			PPT		MAP 4-B3	8					CHAPMAN AVE		9/26/2012	14281	13884			D/S	7941	new	15	VCP			23	13	0000	0	0	0.00
1	6_No_Defect	843				40		2					13640 Yockey St.		4/14/2004	11616	11618	MHK150013	MHK150015	DS	2792	SPK150006	8	VCP			50	51		0	0	0.00
5	6_No_Defect	843			PPT		June Map 2 B1	34					PACIFIC AVE		6/8/2012	8355	8356	MHL030016	MHK030001	D/S	5517	SPK030001	8	VCP			15	15	0000	0	0	0.00
1	6_No_Defect	844				40		8					8712 Enloe Cir.		4/14/2004	11617	11087	MHK150014	COK150001	US	2793	SPK150007	8	PVC			90	91		0	0	0.00
5	6_No_Defect	844			PPT		MAP 3-B3-3	26					TAFT STREET		8/22/2012	12299	12298	MHO150008	MHO140023	U/S	3945	SPO140010	8	VCP			20	15.2	0000	0	0	0.00
1	6_No_Defect	845				40		9					8712 Enloe Cir.		4/14/2004	11617	11618	MHK150014	MHK150015	DS	2794	SPK150008	8	PVC			132	131		0	0	0.00
5	6_No_Defect	845			PPT		MAP 4-B1-5	4					NEWHOPE STREET		9/26/2012	6772	11482			U/S	6696	new	8	VCP			16	15.8	0000	0	0	0.00
1	6_No_Defect	846				40		5					13562 Yockey St.		4/14/2004	0	0	MHK150016	MHK15016-A	DS	2796	SPK150010	8	VCP			174	114		0	0	0.00
5	6_No_Defect	846			PPT		MAP 3-B4-2	6					JACALENE LANE		10/3/2012	14345	13217			D/S	8021	new	8	VCP			13	17.2	0000	0	0	0.00
1	6_No_Defect	847				40		6					13551 Yockey St.		4/14/2004			MHK150016-A	MHK15016-B	DS		SPK150010-A	8	VCP			110	110		0	0	0.00
5	6_No_Defect	847			PPT		MAP 3-B4-2	4					KATHY LANE		10/3/2012	14343	13219			D/S	8023	new	8	VCP			13	17.8	0000	0	0	0.00

Phase	Priority	Ranking	Repair Completion Date	2018_Project	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Repair Description	Comments	Recommendations
1	6_No_Defect	809				0	0	0.00			
1	6_No_Defect	810				0	0	0.00			
1	6_No_Defect	811				0	0	0.00			
1	6_No_Defect	812				0	0	0.00			
1	6_No_Defect	813				0	0	0.00			
1	6_No_Defect	814	2018-02-23	X		0	0	0.00	Replaced 4' of 8" VCP main in 2 pieces to get under the re-routed water service line.		
1	6_No_Defect	815		X		0	0	0.00			
1	6_No_Defect	816				0	0	0.00			
5	6_No_Defect	816			0000	0	0	0.00		1.3' MSA (SIPHON) & 0.1' From D/S MH MSA (SIPHON). Inspection couldn't completed.	
1	6_No_Defect	817				0	0	0.00			
5	6_No_Defect	817			0000	0	0	0.00		4.7' MSA (SIPHON).Also 0' From D/S MH MSA (SIPHON). Inspection Couldn't Completed. Inspection Report Shows Both side 100' inspection. We corrected them.	
1	6_No_Defect	818				0	0	0.00			
1	6_No_Defect	819				0	0	0.00			
5	6_No_Defect	819			0000	0	0	0.00		10' From both MH MSA (SIPHON). Inspection Couldn't completed	
1	6_No_Defect	820				0	0	0.00			
5	6_No_Defect	820			0000	0	0	0.00		15' From both MH MSA (SIPHON). Inspection couldn't completed	
1	6_No_Defect	821				0	0	0.00			
5	6_No_Defect	821			0000	0	0	0.00		15' MSA (SIPHON) & 15' From U/S MH MSA (SIPHON). Inspection Couldn't Completed	
1	6_No_Defect	822				0	0	0.00			
5	6_No_Defect	822			0000	0	0	0.00			
1	6_No_Defect	823				0	0	0.00			
5	6_No_Defect	823			0000	0	0	0.00			
1	6_No_Defect	824				0	0	0.00			
5	6_No_Defect	824			0000	0	0	0.00			
1	6_No_Defect	825				0	0	0.00			
5	6_No_Defect	825			0000	0	0	0.00			
1	6_No_Defect	826				0	0	0.00			
5	6_No_Defect	826			0000	0	0	0.00			
1	6_No_Defect	827				0	0	0.00			
5	6_No_Defect	827			0000	0	0	0.00			
1	6_No_Defect	828				0	0	0.00			
5	6_No_Defect	828			0000	0	0	0.00			
1	6_No_Defect	829		X		0	0	0.00			
5	6_No_Defect	829			0000	0	0	0.00			
1	6_No_Defect	830				0	0	0.00			
5	6_No_Defect	830			0000	0	0	0.00			
1	6_No_Defect	831				0	0	0.00			
5	6_No_Defect	831			0000	0	0	0.00			
1	6_No_Defect	832				0	0	0.00			
5	6_No_Defect	832			0000	0	0	0.00			
1	6_No_Defect	833				0	0	0.00			
5	6_No_Defect	833			0000	0	0	0.00			
1	6_No_Defect	834		X		0	0	0.00			
5	6_No_Defect	834			0000	0	0	0.00			
1	6_No_Defect	835				0	0	0.00			
5	6_No_Defect	835			0000	0	0	0.00			
1	6_No_Defect	836		X		0	0	0.00			
5	6_No_Defect	836			0000	0	0	0.00			
1	6_No_Defect	837				0	0	0.00			
5	6_No_Defect	837			0000	0	0	0.00			
1	6_No_Defect	838				0	0	0.00			
5	6_No_Defect	838			0000	0	0	0.00			
1	6_No_Defect	839				0	0	0.00			
5	6_No_Defect	839			0000	0	0	0.00			
1	6_No_Defect	840				0	0	0.00			
5	6_No_Defect	840			0000	0	0	0.00			
1	6_No_Defect	841				0	0	0.00			
5	6_No_Defect	841			0000	0	0	0.00			
1	6_No_Defect	842				0	0	0.00			
5	6_No_Defect	842			0000	0	0	0.00			
1	6_No_Defect	843				0	0	0.00			
5	6_No_Defect	843			0000	0	0	0.00			
1	6_No_Defect	844				0	0	0.00			
5	6_No_Defect	844			0000	0	0	0.00			
1	6_No_Defect	845				0	0	0.00			
5	6_No_Defect	845			0000	0	0	0.00			
1	6_No_Defect	846				0	0	0.00			
5	6_No_Defect	846			0000	0	0	0.00			
1	6_No_Defect	847				0	0	0.00			
5	6_No_Defect	847			0000	0	0	0.00			

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | VV | Hole H SV | VV | Joint J O S | M | L | S | M | L | A | Deformed D V | H | Collapsed Pipe X P | Surface Damage S | Lining Failure LF | Point Repair RP | Slope S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance Deposits AGS | Roots (R) AE B | % | AE L | % | Other Z | % | Fine (F) B | L | J | C | Tap (T) B | L | J | C | Medium (M) B | L | J | C | Ball (B) B | L | J | C | Infiltration I | Obstacles OB G | D | R | W | Vermin V Other C | Z | % | C | R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features T (Lateral) FD | FL | BI | BD | D | Line L | U | R | LD | RD | Intruding Seal Material IS SRH | SRB | SRL | Z | Miscellaneous M SA | CU | MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | Pipe | | | | | | | Structural Defect Coding | | | | | | | | | | | |

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Size (in) | Material | Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | AGS | Deposits B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I C | Obstacles OB G | Obstacles OB D | Obstacles OB R | Obstacles OB W | Obstacles Other C | Obstacles Other Z | Vermin V % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Pipe Length (ft)	Pipe CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aband	GIS Identified Abandoned	Repair Description	Comments	Recommendations
3	6_No_Defect	959			GGSD		38	1361						CERULEAN	6/7/2005	7806	7807	MHE100012	MHD100025	D/S	1429	SPE100048	8	VCP			347	345			0	0	0.00														
5	6_No_Defect	959			PPT		MAP 4-B1-6	16						HALA WAY	10/1/2012	11508	11507	MHQ160018	MHQ160017	U/S	4316	SPQ160002	8	VCP			165	169.4		0000	0	0	0.00		0000	0	0	0.00						U/S MH is CO		
1	6_No_Defect	960				30		4						10401 Garden Grove Blvd.	3/30/2004			MHN130002	MHN130003	DS		SPN130001	8	VCP			230	230			0	0	0.00														
3	6_No_Defect	960			GGSD		39	1388						ST MARK	6/27/2005	8878	8877	MHE100015	MHE100014	U/S	1509	SPE100023	8	VCP			374	376			0	0	0.00			0	0	0.00									
5	6_No_Defect	960			PPT		MAP 4-B1-1	5						CLINTON STREET	9/6/2012	7450	7451	MHS170026	MHS180001	D/S	431	SPS170006	8	VCP			165	169.8		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	961				45		13						Garden Grove Blvd.	4/30/2004			MHN130008	MHN130004	US		SPN130003	8	VCP			186	186			0	0	0.00			0	0	0.00									
3	6_No_Defect	961			PPT		50	12						VALLEY VIEW ALLEY	12/19/2007	0	0	MHE100019	MHE100020	D/S	1512	SPE100026	8	VCP			350	353			0	0	0.00			0	0	0.00									
5	6_No_Defect	961			PPT		MAP 3-B2-5	12						MORGAN LANE	8/27/2012	13135	13214	MHQ080037	COQ080002	U/S	5845	SPQ080045	8	VCP			167	170.6		0000	0	0	0.00		0000	0	0	0.00						U/S MH is CO		
1	6_No_Defect	962				30		6						10361 Garden Grove Blvd.	3/30/2004			MHN130009	MHN130010	DS		SPN130007	8	VCP			194	194			0	0	0.00			0	0	0.00									
3	6_No_Defect	962			GGSD		51	1647						CHASE	12/8/2005	8802	8803	MHE100028	MHE100029	D/S	1255	SPE100007	8	VCP			193	193			0	0	0.00			0	0	0.00									
5	6_No_Defect	962			PPT		MAP 4-B1-2	5						NOTTINGHAM AVE	9/10/2012	6876	7315	MHO220026	MHO220027	D/S	184	SPO220032	8	VCP			250	170.9		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	963				7A		13						10162 Hope	2/19/2004	11285	11287	MHN130020	MHN130022	DS	2885	SPN130017	8	VCP			320	325			0	0	0.00			0	0	0.00									
3	6_No_Defect	963			GGSD		52	1656						CHASE	12/13/2005	8786	8803	MHE100029	MHE100023	D/S	1238	SPE100002	8	VCP			84	82			0	0	0.00			0	0	0.00									
5	6_No_Defect	963			PPT		June Map 2 B1	90						MAGNOLIA STREET	6/15/2012	10374	10373	MHK060044	MHK070050	D/S	4785	SPK060044	8	VCP			193	173		0000					0000	0	0	0.00								
1	6_No_Defect	964				24		17						13000 Flower St.	3/18/2004	11294	11295	MHN130027	MHN130030	DS	2893	SPN130025	8	VCP			160	164			0	0	0.00			0	0	0.00									
3	6_No_Defect	964			GGSD		37	1183						HUNTLEY	5/23/2005	0	0	MHE100036	MHE100053	D/S	1954	SPE100053	8	VCP			260	80			0	0	0.00			0	0	0.00		1					MSA. After 39.8' there is no inspection on DVD. Reverse inspection needed.	
5	6_No_Defect	964			PPT		MAP 4-B1-4	17						RHONDA STREET	9/12/2012	6827	6779	MHO190011	COO190002	D/S	88	SPO190006	8	VCP			172	174.5		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	965				30		3						10401 Garden Grove Blvd.	3/30/2004			MHN130002	MHN130001	US		SPN130029	8	VCP			307	307			0	0	0.00			0	0	0.00									
3	6_No_Defect	965			GGSD		37	1176						RICHMOND	5/17/2005	7791	8871	MHE100042	MHE100041	U/S	1952	SPE100051	8	VCP			300	299			0	0	0.00			0	0	0.00									
5	6_No_Defect	965	2012-09-19		PPT		MAP 4-B1-6	24						CARDINAL CIR	9/28/2012	10920	10919	MHQ150033	MHQ150032	U/S	4851	SPQ150032	8	VCP			190	175.5		0000	0	0	0.00		0000	0	0	0.00						Repaired broken pipe at joint.		
1	6_No_Defect	966				30		23						10011 Garden Grove Blvd.	3/31/2004			MHN130014	MHN130013	US		SPN130031	8	VCP			615	615			0	0	0.00			0	0	0.00									
3	6_No_Defect	966			GGSD		37	1178						LUDLOW	5/19/2005	8874	8873	MHE100046	MHE100045	U/S	1507	SPE100021	8	VCP			335	334			0	0	0.00			0	0	0.00									
5	6_No_Defect	966			PPT		MAP 4-B2-1	5						MAYS STREET	9/10/2012	7611	7610	MHK160024	MHK160025	D/S	656	SPK160024	8	VCP			185	177.7		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	967				30		24						10011 Garden Grove Blvd.	3/31/2004	11335	11338	MHN130014	MHN130015	DS	2936	SPN130032	8	VCP			185	195			0	0	0.00			0	0	0.00									
3	6_No_Defect	967			GGSD		37	1180						WINTON	5/19/2005	7794	7792	MHE100049	MHE100043	U/S	1411	SPE100030	8	VCP			258	255			0	0	0.00			0	0	0.00									
5	6_No_Defect	967			PPT		MAP 3-B4-1	9						GARDEN GROVE BLVD	9/5/2012	12785	13228	MHT120028	MHT120027	U/S	6532	SPT120032	10	VCP			172	181.6		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	968				30		25						10055 Garden Grove Blvd.	3/31/2004	11338	11337	MHN130015	MHM130001	DS	2937	SPN130033	8	VCP			187	118			0	0	0.00			0	0	0.00									
3	6_No_Defect	968			GGSD		37	1177						LUDLOW	5/19/2005	7794	7793	MHE100049	MHE100048	U/S	1412	SPE100031	8	VCP			340	338			0	0	0.00			0	0	0.00									
5	6_No_Defect	968			PPT		MAP 3-B3-6	2						RANCHERO PL	8/24/2012	6648	6647	MHP140016	COP140003	U/S	4820	SPP140015	8	VCP			195	184.5		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	969		X		14		1						13052 Brookhurst	3/1/2004	10702	10709	MHN130026	MHN130036	US	2328	SPN130034	6	VCP			108	110			0	0	0.00			0	0	0.00									
3	6_No_Defect	969			GGSD		37	1183						HUNTLEY	5/23/2005	7796	8648	MHE100051	MHE100052	D/S	1415	SPE100034	8	VCP			260	257			0	0	0.00			0	0	0.00									
5	6_No_Defect	969			PPT		MAP 4-B2-2	20						MAYS AVENUE	9/13/2012	11057	11056	MHL150039	MHL150038	U/S	2479	SPL150027	8	VCP			185	186		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	970				14		5						13180 Brookhurst	3/1/2004	10706	10707	MHN130033	MHN130034	DS	2637	SPN130037	6	VCP			95	95			0	0	0.00			0	0	0.00									
3	6_No_Defect	970			GGSD		37	1351						STANFORD	6/6/2005	7809	7808	MHE110002	MHE110001	U/S	1430	SPE110033	8	VCP			200	200			0	0	0.00			0	0	0.00									
5	6_No_Defect	970			PPT		MAP 4-B3	15						STONE HAVEN CIR	10/1/2012	9573	9571	MHL110013	MHL110012	U/S	3299	SPL110013	8	VCP			185	186		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	971				14		9						10221 Central Ave.	3/1/2004	11291	11292	MHN140002	MHN140003	DS	2325	SPN140001	6	VCP			65	63			0	0	0.00			0	0	0.00									
3	6_No_Defect	971			GGSD		39	1388						ST MARK	6/27/2005	7821	8878	MHE110009	MHE100015	U/S	1956	SPE110062	8	VCP			387	384			0	0	0.00			0	0	0.00									
5	6_No_Defect	971			PPT		MAP 1-19	19						WILDGOOSE STREET	5/7/2012	8213	8212	MHG080002	MHG080001	U/S	961	SPG080001	8	VCP			188	188.3		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	972				18		21						10242 Dakota	3/9/2004	11303	11302	MHN140021	MHN140020	US	2901	SPN140009	8	VCP			160	146			0	0	0.00			0	0	0.00									
3	6_No_Defect	972			GGSD		39	1390						ST MARK	6/30/2005	7822	7821	MHE110010	MHE110009	U/S	1442	SPE110041	8	VCP			310	309			0	0	0.00			0	0	0.00									
5	6_No_Defect	972			PPT		MAP 4-B1-6	15						HALA WAY	10/1/2012	11508	11509	MHQ160018	MHQ160019	D/S	4317	SPQ160003	8	VCP			189	189.6		0000	0	0	0.00		0000	0	0	0.00		2						
1	6_No_Defect	973				18		6						10300 Central Ave.	3/5/2004	11176	11282	MHQ140002	MHN140001	US	2924	SPN140024	6	VCP			150	118			0	0	0.00			0	0	0.00									
3	6_No_Defect	973			GGSD		39	1390						ST MARK	6/30/2005	7823	7822	MHE110011	MHE110010	U/S	1443	SPE110042	8	VCP			314	311			0	0	0.00			0	0	0.00									
5	6_No_Defect	973			PPT		MAP 3-B2-1	1						NEWHOPE STREET	8/7/2012	12505	12504	MHQ120039	MHQ120038	U/S	4122	SPQ120028	8	VCP			145	191.7		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	974		X		15		16						9990 Central Ave.	3/4/2004	10711	11076	MHN140007	CON140003	US	2329	SPN140025	6	VCP			100	102			0	0	0.00			0	0	0.00									
3	6_No_Defect	974			GGSD		P3-2	6						CHASE	9/24/2007	8929	7790	MHE110040	MHE110039	U/S	1405	SPE110030	8	VCP			138	138			0	0	0.00			0	0	0.00									
5	6_No_Defect	974			PPT		MAP 4-B2-3	13						NEWLAND STREET	9/25/2012	14541	14544			D/S	8306	new	8	PVC			191	192.7		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	975				15		13						9831 Central Ave.	3/4/2004	10714	11077	MHN140010	CON140002	US	2641	SPN140029	8	VCP			75	76			0	0	0.00			0	0	0.00									
3	6_No_Defect	975			GGSD		52	1657						TRINETTE	12/13/2005	8834	8833	MHE110042	MHF110041	U/S	1632	SPF110035	8	VCP			350	349			0	0	0.00			0	0	0.00									
5	6_No_Defect	975			PPT		June Map 2 B1	66						JOYZELLE DRIVE	6/13/2012	10385	10841	MHL060029 A	MHL060036	D/S	5172	SPL060034A	15	VCP			192	194		0000					0000											
1	6_No_Defect	976				15		14						9831 Central Ave.	3/4/2004	10714	10715	MHN140010	MHN140011	DS	2642	SPN140030	8	VCP			325	327			0	0	0.00			0	0	0.00									
3	6_No_Defect	976			GGSD		P2	11						ALONZO COOK	9/13/2007	7768	7767	MHE110054	MHE110053	U/S	1379	SPE110022	8	VCP			119	118			0	0	0.00			0	0	0.00									
5	6_No_Defect	976			PPT		MAP 3-B2-1	5						NEWHOPE STREET	8/7/2012	12505	12506	MHQ120039	MHQ120042	D/S	4123	SPQ120029	8	VCP			205	194.7		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	977				15		15						13291 Verde	3/4/2004	10715	10724	MHN140011	MHN140014	DS	2643	SPN140031	8	VCP			335	323			0	0	0.00			0	0	0.00									
3	6_No_Defect	977			GGSD		P2	11						ALONZO COOK	9/13/2007	7769	7768	MHE110055	MHE110054	U/S	1380	SPE110023	8	VCP			107	108			0	0	0.00			0	0	0.00									
5	6_No_Defect	977			PPT		MAP 4-B1-5	10						WESTMINSTER BLVD	9/21/2012	10922	10927	MHQ170001	MHQ170002	D/S	5350	SPQ170018	15	VCP			195	194.7		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	978				22		14						3830 Russell Ave.	3/12/2004	10724	10723	MHM140014	MHM140013	US	2646	SPN140034	8	VCP			180	183			0	0	0.00			0	0	0.00									
3	6_No_Defect	978			GGSD		P2	6						JOHN CHAFFEY	9/18/2007	7770	7896	MHE110057	MHE110056	U/S	1961	SPE110065	8	VCP			200	201			0	0	0.00			0	0	0.00									
5	6_No_Defect	978			PPT		MAP 4-B1-2	19						BROOKHURST STREET	9/7/2012	6891	6892	MHN180040	MHN180041	D/S	324	SPN180029	10	VCP			201	197.3		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	979		X		20		18						9782 Luders Ave.	3/11/2004	10727	10726	MHM140029	MHN140016	US	2648	SPN140036	8	VCP			110	106			0	0	0.00			0	0	0.00									
3	6_No_Defect	979			GGSD		P3-2	8						ALLEY WEST OF ADAMS	10/2/2007	8921	8920	MHE110059	MHE110058	U/S	2125	SPE110003	8	VCP			350	312			0	0	0.00			0	0	0.00									
5	6_No_Defect	979			PPT		MAP 3-B5	2						VIC PLACE	9/19/2012	14442	14441			U/S	8182	new	6	PVC			201	200.6		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	980				31		1						Trask Ave.	3/30/2004	11315	11319	MHN150003	MHN150003-A	DS	2856	SPN150003	18	VCP			625	349			0	0	0.00			0	0	0.00									
3	6_No_Defect	980			GGSD		P3-2	4						ALLEY WEST OF ADAMS	10/2/2007	8922	8928	MHE110060	MHE110038	D/S	2127	SPE110005	8	VCP			65	74			0	0	0.00			0	0	0.00									
5	6_No_Defect	980			PPT		MAP 3-B4-1	15						PARTRIDGE STREET	9/4/2012	14607	14608			D/S	8370	new	8	PVC			202	204.3		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	981				31		13						Trask Ave.	3/31/2004			MHN150003-A	MHN150004	DS		SPN150003-A	18	VCP			88	88			0	0	0.00			0	0	0.00									
3	6_No_Defect	981			PPT		52	10						BAILEY ST	12/22/2007	7828	7829	MHE120001	MHE120002	D/S	1794	SPE120026	12	VCP			296	289			0	0	0.00			0	0	0.00		1		1			MSA = HWL	
5	6_No_Defect	981			PPT		MAP 2 July-4	16						COVEY COURT	6/25/2012	10380	10381	MHM090038	MHM090039	D/S	5166	SPM090040	8	PVC			200	205.7		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	982		X		31		14						Trask Ave.	3/31/2004	11319	11320	MHN150004	MHN150005	DS	2916	SPN150004	18	VCP			30	28			0	0	0.00			0	0	0.00									
3	6_No_Defect	982			GGSD		P1	9						OLIVE ST	8/16/2007	7762	7761	MHE120018	MHE120017	U/S	1374	SPE120014	8	VCP			200	203			0	0	0.00			0	0	0.00									
5	6_No_Defect	982			PPT		MAP 2-1-2	6						GILBERT STREET	7/10/2012	13901	13900			D/S	7489	new	15	VCP			212	212.8		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	983				29		28						10302 Trask Ave.	3/30/2004	11206	11305	MHO150006	MHN150002	DS	2857	SPN150028	15	VCP			330	330			0	0	0.00			0	0	0.00									
3	6_No_Defect	983			GGSD		P2	10						ALONZO COOK	9/17/2007	7771	7770	MHE120024	MHE110057	U/S	1382	SPE110025	8	VCP			250	249			0	0	0.00			0	0	0.00									
5	6_No_Defect	983			PPT		MAP 3-B3-4	22						TWINTREE AVENUE	8/29/2012	11687	11690	MHR100013	MHR100016	D/S	6168	SPR100041	8	VCP			215	213.2		0000	0	0	0.00		0000	0	0	0.00								
1	6_No_Defect	984				28		28						Trask Ave.	3/25/2004	10719	10720	MHN150006	MHN150007	DS	2859	SPN150030	18	VCP			80	79			0	0	0.00			0	0	0.00									

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Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer I.D.	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Pipe Length (ft)	Pipe CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aband	GIS Identified Abandoned	Repair Description	Comments	Recommendations
3	6_No_Defect	984			GGSD		12	4					13181 Westlake St.		2/26/2004	11095	11096	MHO130024	MHO130052	US	2835	SPO130026	12	VCP			25	25			0	0	0.00														
3	6_No_Defect	996			GGSD		43	1495					DIAMOND		9/27/2005	7367	7368	MHF080019	MHF080020	D/S	1187	SPF080013	8	VCP			356	351			0	0	0.00			0	0	0.00									
5	6_No_Defect	996		X	PPT		MAP 2-2-1	14					GARDEN GROVE		7/3/2012	13412	13411			U/S	6832	SPJ130032	8	Clay Tile			255	232.2		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	997		X		24		1					13070 Westlake		3/16/2004	13337	11090	MHO130019	MHO130035	US	4929	SPO130027	12	VCP			230	240			0	0	0.00			0	0	0.00		1			en d plu g				
3	6_No_Defect	997			GGSD		41	1458					ONYX		8/26/2005	7371	7370	MHF080022	MHF080021	U/S	1189	SPF080015	8	VCP			332	328			0	0	0.00			0	0	0.00									
5	6_No_Defect	997			PPT		MAP 3-B5	3					PALOMA AVENUE		9/19/2012	11874	11873	MHP140003	MHP140002	U/S	3903	SPP140002	6	VCP			232	232.6		0000	0	0	0.00		0000	0	0	0.00							U/S MH is CO		
1	6_No_Defect	998				24		6					10560 Garden Grove Blvd.		3/17/2004	11130	11068	MHO130048	COO130001	US	2369	SPO130035	8	VCP			340	338			0	0	0.00			0	0	0.00									
3	6_No_Defect	998			GGSD		41	1459					ONYX		8/26/2005	7372	7384	MHF080023	MHF080043	D/S	1191	SPF080017	8	VCP			333	330			0	0	0.00			0	0	0.00									
5	6_No_Defect	998			PPT		MAP 4-B1-5	21					CORK ST		9/19/2012	10567	10566	MHM170018	MHM170017	U/S	2214	SPM170013	8	VCP			247	237.4		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	999				24		5					10712 Garden Grove Blvd.		3/17/2004	11164	11165	MHO130030	MHO130031	DS	2583	SPO130039	6	VCP			168	169			0	0	0.00			0	0	0.00									
3	6_No_Defect	999			GGSD		40	1451					SANTA CATALINA		8/23/2005	7375	8775	MHF080026	MHF080044	D/S	2431	SPF080056	8	VCP			322	319			0	0	0.00			0	0	0.00									
5	6_No_Defect	999			PPT		MAP 2 July-4	15					COVEY COURT		6/25/2012	10381	10382	MHM090039	MHM090040	D/S	5167	SPM090041	8	PVC			245	247.4		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1000				15		19					13121 Cypress St.		3/5/2004	11169	11170	MHO130041	MHO130042	DS	2485	SPO130045	8	VCP			260	263			0	0	0.00			0	0	0.00									
3	6_No_Defect	1000			GGSD		42	1466					SANTA BARBARA		9/9/2005	7377	7376	MHF080028	MHF080027	U/S	1195	SPF080021	8	VCP			193	192			0	0	0.00			0	0	0.00									
5	6_No_Defect	1000			PPT		MAP 2-2-1	11					SYCAMORE AVENUE		7/6/2012	7099	7100	MHJ120015	MHJ120016	D/S	837	SPJ120025	8	Clay Tile			245	251.8		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1001				18		5					10401 Mildred Ave.		3/5/2004	11172	11173	MHO130044	MHO130045	DS	2488	SPO130048	8	VCP			285	285			0	0	0.00			0	0	0.00									
3	6_No_Defect	1001			GGSD		41	1463					GARNET		8/30/2005	8772	8773	MHF080035	MHF080036	D/S	1232	SPF080042	8	VCP			192	191			0	0	0.00			0	0	0.00									
5	6_No_Defect	1001			PPT		MAP 4-B1-3	13					KEDGE AVE		9/11/2012	7232	7233	MHO230024	MHO230025	D/S	19	SPO230013	8	VCP			147	251.8		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1002				18		2					13201 Cypress St.		3/5/2004	11173	11193	MHO130045	MHO140005	DS	2489	SPO130049	8	VCP			180	182			0	0	0.00			0	0	0.00									
3	6_No_Defect	1002			GGSD		42	1464					TOPAZ CIR		9/9/2005	7379	7380	MHF080038	MHF080039	D/S	1197	SPF080023	8	VCP			192	190			0	0	0.00			0	0	0.00									
5	6_No_Defect	1002			PPT		MAP 4-B1-3	6					KERRY STREET		9/12/2012	6908	6909	MHM180006	MHM180007	D/S	201	SPM180004	8	VCP			249	252.2		0000	0	0	0.00		0000	0	0	0.00							49.2' Unmapped MH		
1	6_No_Defect	1003				12		12					13121 Adland St.		2/27/2004	11174	11175	MHO130046	MHO130047	DS	2490	SPO130050	8	VCP			320	329			0	0	0.00			0	0	0.00									
3	6_No_Defect	1003			GGSD		42	1464					TOPAZ CIR		9/9/2005	7380	7381	MHF080039	MHF080040	D/S	1198	SPF080024	8	VCP			192	188			0	0	0.00			0	0	0.00									
5	6_No_Defect	1003			PPT		MAP 4-B1-2	9					MELRIC AVE		9/10/2012	6866	6868	MHO210012	MHO210014	D/S	2	SPO210012	8	VCP			253	254.5		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1004				24		3					13032 Benton St.		3/16/2004	11165	11179	MHO130031	MHO130051	US	2273	SPO130054	6	VCP			165	165			0	0	0.00			0	0	0.00									
3	6_No_Defect	1004			GGSD		43	1500					ONYX		9/28/2005	7384	7386	MHF080043	MHF080053	D/S	1202	SPF080028	8	VCP			253	251			0	0	0.00			0	0	0.00									
5	6_No_Defect	1004			PPT		MAP 4-B1-1	17					BUENA STREET		9/4/2012	7487	7488	MHS170011	MHS170012	D/S	467	SPS170013	8	VCP			245	256		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1005				12		5					13281 Westlake St.		2/26/2004	11101	11102	MHO140030	MHO140031	DS	2836	SPO140017	12	VCP			15	15			0	0	0.00			0	0	0.00									
3	6_No_Defect	1005			GGSD		40	1451					SANTA CATALINA		8/23/2005	8775	8776	MHF080044	MHF080045	D/S	1234	SPF080044	8	VCP			322	321			0	0	0.00			0	0	0.00									
5	6_No_Defect	1005			PPT		MAP 4-B2-1	33					RANCHERO WY		9/4/2012	6675	14130	MHT140020	MHT140021	D/S	7777	SPT140021	8	VCP			287	256.4		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1006		X		16		6					13401 Westlake St.		3/3/2004	11109	11108	MHO140038	MHO140037	US	2359	SPO140024	8	VCP			285	280			0	0	0.00			0	0	0.00									
3	6_No_Defect	1006			GGSD		43	1500					ONYX		9/28/2005	0	0	MHF080053	MHF080054	D/S	1693	SPF080031	8	VCP			23	22			0	0	0.00			0	0	0.00									
5	6_No_Defect	1006			PPT		MAP 4-B1-2	10					MELRIC AVE		9/10/2012	6861	6866	MHO210007	MHO210012	D/S	121	SPO210007	8	VCP			256	258.1		0000	0	0	0.00		0000	0	0	0.00									
1	6_No_Defect	1007		X		13		7					13231 Benton St.		3/1/2004	11163	11186	MHO130029	MHO140048	DS	2582	SPO140032	8	VCP			295	292			0	0	0.00			0	0	0.00									
3	6_No_Defect	1007			GGSD		43	1504					SANTA BARBARA		10/3/2005	7369	8316	MHF080056	MHF080010	U/S	1305	SPF080036	8	VCP			222	220			0	0	0.00			0	0	0.00									
5	6_No_Defect	1007			PPT		June Map 2 B1	87					MAGNOLIA STREET		6/15/2012	10377	10376	MHK060041	MHK060042	D/S	5163	SPK060041	8	VCP			267	260.9		0000	0	0	0.00		0000												
1	6_No_Defect	1008				16		10					10422 Russell Ave.		3/3/2004	11195	11196	MHO140007	MHO140008	DS	2290	SPO140045	8	VCP			380	377			0	0	0.00			0	0	0.00									
3	6_No_Defect	1008			GGSD		46	1547					VANGUARD		10/21/2005	8745	8729	MHF090006	MHF090043	U/S	1300	SPF090027	8	VCP			216	212			0	0	0.00			0	0	0.00									
5	6_No_Defect	1008			PPT		MAP 3-B3-4	19					JANET STREET		8/29/2012	11689	11688	MHR100015	MHR100014	U/S	6169	SPR100042	8	VCP			265	265.7		0000	0	0	0.00		0000	0	0	0.00							Pipe ID was 6190. We checked GIS & changed it		

Phase	Priority	Ranking	Repair Completion Date	2018_Project	General: Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location: Street Name	Existing MH ID: CCTV Date	Existing MH ID: Start	Existing MH ID: End	Previous MH ID: Start	Previous MH ID: End	Direction of Camera	Pipe: Existing Sewer ID	Pipe: Previous Sewer ID	Pipe: Size (in)	Pipe: Material	Pipe: Joint Length (ft)	Pipe: GIS Comment	Length (ft)	CCTV Length (ft)
1	6_No_Defect	1009				18		15					10632 Trask	3/8/2004	11117	11116	MHO150013	MHO150012	US	2364	SPO150005	8	VCP			394	394
3	6_No_Defect	1009			GGSD		46	1548					VANGUARD	10/24/2005	8730	7355	MHF090007	MHF090005	U/S	1308	SPF090029	8	VCP			170	225
5	6_No_Defect	1009			PPT		MAP 4-B2-2	37					BOYD AVENUE	9/12/2012	7602	7603	MHK150025	MHK150026	D/S	649	SPK150029	8	VCP			274	267.6
1	6_No_Defect	1010				18		14					10632 Trask	3/8/2004	11117	11118	MHO150013	MHO150014	DS	2365	SPO150006	8	VCP			350	353
3	6_No_Defect	1010			GGSD		46	1547					VANGUARD	10/21/2005	8730	8729	MHF090007	MHF090006	U/S	1286	SPF090006	8	VCP			350	346
5	6_No_Defect	1010			PPT		MAP 3-B3-1	4					DORDA AVENUE	8/6/2012	12518	12517	MHQ110033	MHQ110032	U/S	4138	SPQ110014	6	VCP			275	267.8
1	6_No_Defect	1011				21		7					10492 Trask	3/9/2004	11184	11190	MHO150011	MHO150004	DS	2852	SPO150019	15	VCP			61	61
3	6_No_Defect	1011			GGSD		46	1549					SAPPHIRE	10/24/2005	8730	8731	MHF090007	MHF090008	D/S	1783	SPF090007	8	VCP			186	185
5	6_No_Defect	1011			PPT		MAP 4-B1-2	11					MELRIC AVE	9/10/2012	6858	6861	MHO210004	MHO210007	D/S	118	SPO210004	8	VCP			267	269.2
1	6_No_Defect	1012				18		17					10492 Trask	3/8/2004	11185	11187	MHO150015	MHO150001	DS	2278	SPO150020	8	VCP			350	353
3	6_No_Defect	1012			PPT			50	28					VALLEY VIEW EASEMENT	12/21/2007	7787	8860	MHF090008	MHE090045	U/S	1741	SPE090010	8	VCP			190	389
5	6_No_Defect	1012			PPT		MAP 4-B1-5	12					WESTMINSTER BLVD	9/21/2012	10885	10884	MHR170009	MHR170008	D/S	4350	SPR170007	15	VCP			271	271.4
1	6_No_Defect	1013				21		5					10282 Trask	3/9/2004	11189	11206	MHO150003	MHO150006	DS	2283	SPO150023	8	VCP			20	11
3	6_No_Defect	1013			GGSD		46	1549					SAPPHIRE	10/24/2005	8731	8752	MHF090008	MHF090009	D/S	1784	SPF090008	8	VCP			350	345
5	6_No_Defect	1013			PPT		June Map 2 B1	79					JOYZELLE DRIVE	6/15/2012	10384	10175	MHL060023	MHL060024	D/S	3743	SPL060027	15	VCP			270	273.4
1	6_No_Defect	1014				21		8					10462 Trask	3/9/2004	11190	11201	MHO150004	MHO150005	DS	2853	SPO150024	15	VCP			590	604
3	6_No_Defect	1014			GGSD		45	1538					JASPER	10/17/2005	8659	8658	MHF090022	MHF090018	U/S	1791	SPF090046	8	VCP			253	250
5	6_No_Defect	1014			PPT		MAP 3-B3-2	9					TAFT STREET	8/13/2012	12285	12300	MHO130016	MHO130017	D/S	3936	SPO130015	8	VCP			650	275.6
1	6_No_Defect	1015				21		6					10552 Trask	3/9/2004	11115	11184	MHO150010	MHO150011	DS	2858	SPO150035	15	VCP			260	262
3	6_No_Defect	1015			GGSD		46	1551					BELGRAVE	10/24/2005	8737	8738	MHF090027	MHF090028	D/S	1291	SPF090014	8	VCP			260	259
5	6_No_Defect	1015			PPT		MAP 2-2-2	14					TRASK AVENUE	7/20/2012	8361	8362	MHK150902	MHK150903	D/S	2446	SPK150902	12	Clay Tile			272	276.9
1	6_No_Defect	1016				2		8					11372 Fredrick Dr.	2/4/2004	11863	11004	MNE27004	CNE27901	US	3797	SPP090006	8	VCP			170	162
3	6_No_Defect	1016			GGSD		46	1550					SAPPHIRE	10/24/2005	8737	8753	MHF090027	MHF090051	D/S	2435	SPF090028	8	VCP			260	255
5	6_No_Defect	1016			PPT		MAP 4-B2-1	11					LORNA STREET	9/10/2012	7608	7609	MHK150034	MHK150035	D/S	654	SPK150037	8	VCP			281	280
1	6_No_Defect	1017		X		2		7					12161 Le Ann	2/4/2004	11862	11861	MNE27003	MNE27002	US	3798	SPP090007	8	VCP			260	270
3	6_No_Defect	1017			GGSD		46	1551					BELGRAVE	10/24/2005	8738	8740	MHF090028	MHF090030	D/S	1292	SPF090015	8	VCP			260	258
5	6_No_Defect	1017			PPT		MAP 2 July-4	9					LA LINDA CIRCLE	6/26/2012	9092	9093	MHK110032	MHK100015	U/S	3239	SPK100015	8	Clay Tile			280	281.2
1	6_No_Defect	1018				2		6					12202 Le Ann	2/4/2004	11863	11862	MNE27004	MNE27003	US	3799	SPP090008	8	VCP			270	272
3	6_No_Defect	1018			GGSD		46	1554					ONYX	10/25/2005	8740	8739	MHF090030	MHF090029	U/S	1293	SPF090016	8	VCP			326	324
5	6_No_Defect	1018			PPT		MAP 4-B1-2	22					BROOKHURST STREET	9/7/2012	6888	6889	MHN180037	MHN180038	D/S	321	SPN180026	10	VCP			284	287.1
1	6_No_Defect	1019				2		12					12162 Burns	2/5/2004	11865	11866	MNE27006	MNE27007	DS	3802	SPP090011	8	VCP			270	269
3	6_No_Defect	1019			GGSD		46	1555					BELGRAVE	10/25/2005	8740	8742	MHF090030	MHF090032	D/S	1294	SPF090017	8	VCP			260	259
5	6_No_Defect	1019			PPT		MAP 4-B1-3	1					HURLEY AVE	9/12/2012	6797	6795	MHP190005	MHP190003	U/S	60	SPP190003	8	VCP			281	287.5
1	6_No_Defect	1020				2		18					11381 Jerry Ln.	2/5/2004	0	0	MNE14006	MNE14007	DS	3785	SPP100012	8	VCP			130	133
3	6_No_Defect	1020			GGSD		46	1556					AMETHYST	10/25/2005	8742	8741	MHF090032	MHF090031	U/S	1295	SPF090018	8	VCP			326	322
5	6_No_Defect	1020			PPT		MAP 2 July-4	11					COVEY	6/26/2012	10382	10383	MHM090040	MHM090041	D/S	5168	SPM090042	8	PVC			300	288.7
1	6_No_Defect	1021				2		19					11361 Jerry Ln.	2/5/2004	0	0	MNE14007	MNE14008	DS	3786	SPP100013	8	VCP			170	164
3	6_No_Defect	1021			GGSD		46	1555					BELGRAVE	10/25/2005	8742	8744	MHF090032	MHF090034	D/S	1296	SPF090019	8	VCP			260	259
5	6_No_Defect	1021			PPT		MAP 3-B3-2	14					CYPRESS STREET	8/10/2012	11198	11200			D/S	6844	new	12	VCP			290	289
1	6_No_Defect	1022				2		20					11321 Jerry Ln.	2/5/2004	11850	11851	MNE14008	MNE14009	DS	3787	SPP100014	8	VCP			330	339
3	6_No_Defect	1022			GGSD		46	1545					GARNET	10/20/2005	8852	8851	MHF090036	MHF090035	U/S	1490	SPF090039	8	VCP			326	322
5	6_No_Defect	1022			PPT		MAP 4-B2-1	6					MAYS STREET	9/10/2012	7612	7611	MHK160022	MHK160024	D/S	657	SPK160023	8	VCP			293	291.6
1	6_No_Defect	1023				4		2					12371Oakwood	2/6/2004	11857	11858	MNE14018	MNE14019	DS	3793	SPP100020	8	VCP			185	191
3	6_No_Defect	1023			GGSD		46	1543					VANGUARD	10/20/2005	8746	8659	MHF090044	MHF090022	U/S	1717	SPF090053	8	VCP			278	276
5	6_No_Defect	1023			PPT		MAP 3-B2-6	20					TWINTREE AVE	8/29/2012	12709	12644	MHS100016	MHT100004	U/S	5651	SPS100030	15	VCP			285	291.7
1	6_No_Defect	1024				4		7					12422 Lee Ln.	2/6/2004	11860	11859	MNE14021	MNE14020	US	3795	SPP100022	8	VCP			265	263
3	6_No_Defect	1024			GGSD		46	1544					VANGUARD	10/20/2005	8745	8746	MHF090044	MHF090043	D/S	1298	SPF090021	8	VCP			344	343
5	6_No_Defect	1024			PPT		June Map 2 B1	67					JOYZELLE DRIVE	6/13/2012	10841	10842	MHL060036	MHL060037	D/S	5235	SPL060040	15	VCP			292	291.7
1	6_No_Defect	1025				2		16					11441 Jerry Ln.	2/5/2004	11845	11010	MNE14003	MNE14001	US	4297	SPP100025	8	VCP			160	160
3	6_No_Defect	1025			GGSD		46	1542					JADE	10/19/2005	8747	8746	MHF090046	MHF090044	U/S	1786	SPF090022	12	VCP			260	257
5	6_No_Defect	1025			PPT		MAP 3-B2-6	18					TWINTREE AVE	8/29/2012	12711	12713	MHS100018	MHS100020	D/S	6491	SPS100009	15	VCP			287	291.8
1	6_No_Defect	1026				45		21					12730 Pinehurst Pvt.	5/4/2004	11757	11743	MHP110039	MHP120031	DS	4626	SPP110028	8	VCP			100	87
3	6_No_Defect	1026			GGSD		MIXED 1	1559					AMY	10/27/2005	8747	8748	MHF090046	MHF090047	D/S	1787	SPF090023	12	VCP			336	333
5	6_No_Defect	1026			PPT		MAP 3-B2-6	19					TWINTREE AVE	8/29/2012	12709	12711	MHS100016	MHS100018	D/S	6489	SPS100007	15	VCP			286	292.4
1	6_No_Defect	1027				13		21					12620 College Ave.	3/2/2004	11760	11759	MHP110009	MHP110008	US	4633	SPP110035	6	VCP			132	153
3	6_No_Defect	1027			GGSD		MIXED 1	1559					AMY	10/27/2005	8748	8749	MHF090047	MHF090048	D/S	1788	SPF090024	12	VCP			314	313
5	6_No_Defect	1027			PPT		MAP 4-B3	12					GILBERT STREET	10/1/2012	14561	14562			D/S	8325	new	8	VCP			296	292.8
1	6_No_Defect	1028				4		18					11202 Lampson	2/10/2004	11763	11764	MHP110013	MHP110014	DS	4407	SPP110038	8	VCP			332	332
3	6_No_Defect	1028			GGSD		MIXED 1	1564					DIAMOND	10/27/2005	8751	8752	MHF090050	MHF090009	D/S	1966	SPF090001	18	VCP			280	256
5	6_No_Defect	1028			PPT		MAP 2-1-5	15					BROOKHURST EASEMENT	7/24/2012	14625	11235			D/S	8394	new	8	VCP			290	293.5
1	6_No_Defect	1029				6		27					11042 Lampson Ave.	2/12/2004	0	0	MHP110017	MHO110001	DS	4787	SPP110042	8	VCP			130	128
3	6_No_Defect	1029			GGSD		50	1619					TAYLOR	11/14/2005	7395	7394	MHF100004	MHF100003	U/S	1208	SPF100005	8	VCP			183	185
5	6_No_Defect	1029			PPT		MAP 3-B4-2	12					BIXLER DR	10/1/2012	12961	12962	MHP080001	MHP080002	D/S	6244	SPP080025	8	VCP			290	293.5
1	6_No_Defect	1030				45		27					12742 Pinehurst Pvt.	5/5/2004	11743	11744	MHP120031	MHP120032	DS	4398	SPP120032	8	VCP			10	8
3	6_No_Defect	1030			GGSD		38	1374					AMETHYST	6/9/2005	7396	7397	MHF100005	MHF110004	D/S	1210	SPF100007	8	VCP			258	254
5	6_No_Defect	1030			PPT		MAP 3-B2-1	7					NEWHOPE STREET	8/7/2012	12502	12503	MHQ120036	MHQ120037	D/S	4120	SPQ120026	8	VCP			310	296.9
1	6_No_Defect	1031		X		10		10					12742 Pinehurst	2/20/2004	11744	11745	MHP120032	MHP120033	DS	4399	SPP120033	8	VCP			30	32
3	6_No_Defect	1031			GGSD		51	1623					RICHMOND	11/15/2005	8795	7401	MHF100008	MHF100020	D/S	1653	SPF100032	8	VCP			328	326
5	6_No_Defect	1031			PPT		MAP 3-B5	1					VIC PLACE	9/19/2012	14442	11226			D/S	8181	new	6	PVC			300	298.4
1	6_No_Defect	1032				39		28					11370 Garden Grove Blvd.	4/16/2004	11014	11886	MHP130030	MHP130001	DS	5132	SPP130003	10	VCP			119	118
3	6_No_Defect	1032			GGSD		51	1624					HUNTLEY	11/16/2005	8783	7403	MHF100011	MHF100010	U/S	1650	SPF100029	8	VCP			193	191
5	6_No_Defect	1032			PPT		MAP 3-B2-1	4					NEWHOPE STREET	8/7/2012	12506	12507	MHQ120042	MHQ120043	D/S	4124	SPQ120030	8	VCP			280	299.1
1	6_No_Defect	1033				41		2					11277 Garden Grove Blvd.	4/16/2004	11022	12314	MHP130003	MHP130004	DS	4442	SPP130005	10	VCP			125	127
3	6_No_Defect	1033			GGSD		51	1624					HUNTLEY	11/16/2005	8784	8783	MHF100012	MHF100011	U/S	1235	SPF100014	8	VCP			350	348
1	6_No_Defect	1034				11		8					11152 Paloma Ave.	2/20/2004	11874	11876	MHP140003	MHP130015	DS	3904	SPP130006	6	VCP			255	258
3	6_No_Defect	1034			GGSD		51	1629					LUDLOW	11/30/2005	8797	7402	MHF100022	MHF100009	U/S	1654	SPF100033	8	VCP			328	325
5	6_No_Defect	1034			PPT		MAP 4-B1-6	11					NADIA WAY	10/2/2012	11510	11499	MHQ160020	MHQ170012	D/S	4319	SPQ160005	8	VCP			300	301.9

Phase	Priority	Ranking	Structural Defect Coding: Crack C (L C M S H)	Fracture F (L C M S H)	Broken B (SV VV)	Hole H (SV VV)	Joint J: O (S M L)	J: S (S M L)	J: S (L A V H P)	Deformed D	Collapsed Pipe X (V H P)	Surface Damage S	Lining Failure LF	Point Repair RP	Sags WL (S)	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index
1	6_No_Defect	1009															0	0	0.00
3	6_No_Defect	1009															0	0	0.00
5	6_No_Defect	1009														0000	0	0	0.00
1	6_No_Defect	1010															0	0	0.00
3	6_No_Defect	1010															0	0	0.00
5	6_No_Defect	1010														0000	0	0	0.00
1	6_No_Defect	1011															0	0	0.00
3	6_No_Defect	1011															0	0	0.00
5	6_No_Defect	1011														0000	0	0	0.00
1	6_No_Defect	1012															0	0	0.00
3	6_No_Defect	1012															0	0	0.00
5	6_No_Defect	1012														0000	0	0	0.00
1	6_No_Defect	1013															0	0	0.00
3	6_No_Defect	1013															0	0	0.00
5	6_No_Defect	1013														0000			
1	6_No_Defect	1014															0	0	0.00
3	6_No_Defect	1014															0	0	0.00
5	6_No_Defect	1014														0000	0	0	0.00
1	6_No_Defect	1015															0	0	0.00
3	6_No_Defect	1015															0	0	0.00
5	6_No_Defect	1015														0000	0	0	0.00
1	6_No_Defect	1016															0	0	0.00
3	6_No_Defect	1016															0	0	0.00
5	6_No_Defect	1016														0000	0	0	0.00
1	6_No_Defect	1017															0	0	0.00
3	6_No_Defect	1017															0	0	0.00
5	6_No_Defect	1017														0000	0	0	0.00
1	6_No_Defect	1018															0	0	0.00
3	6_No_Defect	1018															0	0	0.00
5	6_No_Defect	1018														0000	0	0	0.00
1	6_No_Defect	1019															0	0	0.00
3	6_No_Defect	1019															0	0	0.00
5	6_No_Defect	1019														0000	0	0	0.00
1	6_No_Defect	1020															0	0	0.00
3	6_No_Defect	1020															0	0	0.00
5	6_No_Defect	1020														0000	0	0	0.00
1	6_No_Defect	1021															0	0	0.00
3	6_No_Defect	1021															0	0	0.00
5	6_No_Defect	1021														0000	0	0	0.00
1	6_No_Defect	1022															0	0	0.00
3	6_No_Defect	1022															0	0	0.00
5	6_No_Defect	1022														0000	0	0	0.00
1	6_No_Defect	1023															0	0	0.00
3	6_No_Defect	1023															0	0	0.00
5	6_No_Defect	1023														0000	0	0	0.00
1	6_No_Defect	1024															0	0	0.00
3	6_No_Defect	1024															0	0	0.00
5	6_No_Defect	1024														0000			
1	6_No_Defect	1025															0	0	0.00
3	6_No_Defect	1025															0	0	0.00
5	6_No_Defect	1025														0000	0	0	0.00
1	6_No_Defect	1026															0	0	0.00
3	6_No_Defect	1026															0	0	0.00
5	6_No_Defect	1026														0000	0	0	0.00
1	6_No_Defect	1027															0	0	0.00
3	6_No_Defect	1027															0	0	0.00
5	6_No_Defect	1027														0000	0	0	0.00
1	6_No_Defect	1028															0	0	0.00
3	6_No_Defect	1028															0	0	0.00
5	6_No_Defect	1028														0000	0	0	0.00
1	6_No_Defect	1029															0	0	0.00
3	6_No_Defect	1029															0	0	0.00
5	6_No_Defect	1029														0000	0	0	0.00
1	6_No_Defect	1030															0	0	0.00
3	6_No_Defect	1030															0	0	0.00
5	6_No_Defect	1030														0000	0	0	0.00
1	6_No_Defect	1031															0	0	0.00
3	6_No_Defect	1031															0	0	0.00
5	6_No_Defect	1031														0000	0	0	0.00
1	6_No_Defect	1032															0	0	0.00
3	6_No_Defect	1032															0	0	0.00
5	6_No_Defect	1032														0000	0	0	0.00
1	6_No_Defect	1033															0	0	0.00
3	6_No_Defect	1033															0	0	0.00
1	6_No_Defect	1034															0	0	0.00
3	6_No_Defect	1034															0	0	0.00
5	6_No_Defect	1034														0000	0	0	0.00

Phase	Priority	Ranking	Operational and Maintenance: Deposits D AGS	Deposits D AE B	Deposits D AE %	Deposits D AE L	Deposits D AE %	Deposits D Other Z	Deposits D Other %	Roots (R) Fine (F) B	Roots (R) Fine (F) L	Roots (R) Fine (F) J	Roots (R) Tap (T) C	Roots (R) Tap (T) B	Roots (R) Tap (T) L	Roots (R) Tap (T) J	Roots (R) Tap (T) C	Roots (R) Medium (M) B	Roots (R) Medium (M) L	Roots (R) Medium (M) J	Roots (R) Medium (M) C	Roots (R) Ball (B) B	Roots (R) Ball (B) L	Roots (R) Ball (B) J	Roots (R) Ball (B) C	Infiltration I G	Infiltration I D	Infiltration I R	Infiltration I W	Obstacles OB C	Obstacles OB Other Z	Obstacles OB Other %	Vermin V C	Vermin V R	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index
1	6_No_Defect	1009																																0	0	0.00
3	6_No_Defect	1009																																0	0	0.00
5	6_No_Defect	1009																																0000	0	0	0.00
1	6_No_Defect	1010																																	0	0	0.00
3	6_No_Defect	1010																																	0	0	0.00
5	6_No_Defect	1010																																0000	0	0	0.00
1	6_No_Defect	1011																																	0	0	0.00
3	6_No_Defect	1011																																	0	0	0.00
5	6_No_Defect	1011																																0000	0	0	0.00
1	6_No_Defect	1012																																	0	0	0.00
3	6_No_Defect	1012																																	0	0	0.00
5	6_No_Defect	1012																																0000	0	0	0.00
1	6_No_Defect	1013																																	0	0	0.00
3	6_No_Defect	1013																																	0	0	0.00
5	6_No_Defect	1013																																0000			
1	6_No_Defect	1014																																	0	0	0.00
3	6_No_Defect	1014																																	0	0	0.00
5	6_No_Defect	1014																																0000	0	0	0.00
1	6_No_Defect	1015																																	0	0	0.00
3	6_No_Defect	1015																																	0	0	0.00
5	6_No_Defect	1015																																0000	0	0	0.00
1	6_No_Defect	1016																																	0	0	0.00
3	6_No_Defect	1016																																	0	0	0.00
5	6_No_Defect	1016																																0000	0	0	0.00
1	6_No_Defect	1017																																	0	0	0.00
3	6_No_Defect	1017																																	0	0	0.00
5	6_No_Defect	1017																																0000	0	0	0.00
1	6_No_Defect	1018																																	0	0	0.00
3	6_No_Defect	1018																																	0	0	0.00
5	6_No_Defect	1018																																0000	0	0	0.00
1	6_No_Defect	1019																																	0	0	0.00
3	6_No_Defect	1019								

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer ID | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Pipe Length (ft) | Pipe CCTV Length (ft) | Structural Defect Coding: Crack C | Crack F | Crack S | Crack H | Fracture L | Fracture C | Fracture M | Fracture S | Fracture H | Broken B | Broken SV | Hole VV | Hole SV | Hole VV | Joint O | Joint S | Joint M | Joint L | Joint S | Joint M | Joint L | Joint A | Deformed D | Deformed V | Deformed H | Collapsed Pipe X | Collapsed Pipe P | Surface Damage S | Lining Failure LF | Point Repair RP | Sags S | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I | Obstacles OB G | Obstacles OB D | Obstacles OB R | Vermin V | Vermin Other W | Vermin Other C | Vermin Other Z | Vermin Other % | Vermin Other C | Vermin Other R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID	Previous MH ID	Direction of Camera	Pipe	Existing Sewer ID	Previous Sewer ID	Size (in)	Material	Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aband	GIS Identified Abandoned	Repair Description	Comments	Recommendations
																Start	End																												
5	6_No_Defect	1065			PPT		MAP 4-B1-2	20					BROOKHURST STREET		9/7/2012	6890	6891	MHN180039	MHN180040	D/S	323	SPN180028	10	VCP			327	334.2		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1066			GGSD		45	1527					SCANDIA		10/11/2005	8222	8223	MHG080014	MHG080015	D/S	970	SPG080010	8	VCP			332	330			0	0	0.00			0	0	0.00									
5	6_No_Defect	1066			PPT		MAP 2-1-3	1					CASA LINDA LANE		7/11/2012	12092	12093	MHL130020	MHL130021	D/S	2686	SPL130011	8	VCP			333	335.1		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1067			GGSD		45	1528					SCANDIA		10/12/2005	8224	8223	MHG080016	MHG080015	U/S	971	SPG080011	8	VCP			332	331			0	0	0.00			0	0	0.00									
5	6_No_Defect	1067			PPT		MAP 4-B1-1	10					KEEL AVE		9/5/2012	7490	7491	MHS170018	MHS170019	D/S	469	SPS170015	8	VCP			330	335.8		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1068			GGSD		MIXE D 1	1509					SANTA CATALINA		10/4/2005	8226	8225	MHG080018	MHG080017	U/S	973	SPG080013	8	VCP			195	194			0	0	0.00			0	0	0.00									
5	6_No_Defect	1068			PPT		MAP 3-B2-4	10					ADRIAN STREET		8/24/2012	12668	12669	MHT090003	MHT090004	D/S	3929	SPT090021	8	VCP			335	336.2		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1069			GGSD		44	1523					SANTA RITA		10/5/2005	8229	8224	MHG080021	MHG080016	U/S	972	SPG080012	8	VCP			260	259			0	0	0.00			0	0	0.00									
5	6_No_Defect	1069			PPT		MAP 4-B2-2	34					MAYS AVENUE		9/12/2012	6981	6978	MHL150044	MHL150037	U/S	265	SPL150033	8	VCP			365	338.3		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1070			GGSD		44	1523					SANTA RITA		10/5/2005	8302	8229	MHG080024	MHG080021	U/S	1310	SPG080040	8	VCP			254	253			0	0	0.00			0	0	0.00									
5	6_No_Defect	1070			PPT		MAP 3-B4-2	2					LEDA LANE		10/3/2012	7432	6665	MHR140017	MHR140016	U/S	418	SPR140018	8	VCP			326	339		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1071			GGSD		45	1526					CANTER		10/11/2005	8304	8305	MHG080026	MHG080027	D/S	1099	SPG080024	8	VCP			192	188			0	0	0.00			0	0	0.00									
5	6_No_Defect	1071			PPT		MAP 2-2-1	7					SYCAMORE AVENUE		7/6/2012	7099	14651			D/S	8436		12	Clay Tile	PRIVATE		332	339.4		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1072			GGSD		44	1518					SANTA BARBARA		10/5/2005	8307	8306	MHG080029	MHG080028	U/S	1101	SPG080026	8	VCP			253	250			0	0	0.00			0	0	0.00									
5	6_No_Defect	1072			PPT		MAP 3-B4-1	7					GARDEN GROVE BLVD		9/5/2012	12786	12787	MHT120029	MHT120030	D/S	6597	SPT120034	10	VCP			344	340		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1073			GGSD		44	1519					SANTA BARBARA		10/5/2005	8308	8307	MHG080030	MHG080029	U/S	1102	SPG080027	8	VCP			253	261			0	0	0.00			0	0	0.00									
5	6_No_Defect	1073			PPT		MAP 4-B1-1	4					SUNSWEPT AVE		9/6/2012	7492	7493	MHS170022	MHS170023	D/S	470	SPS170016	8	VCP			340	340.2		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1074			GGSD		44	1520					CARLOTTA		10/6/2005	8308	8309	MHG080030	MHG080031	D/S	1103	SPG080028	8	VCP			308	304			0	0	0.00			0	0	0.00									
5	6_No_Defect	1074			PPT		MAP 2-1-2	12					BROOKHURST WAY		7/11/2012	11329	11330	MHM120001	MHM120002	D/S	2814	SPM120001	10	VCP			336	340.4		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1075			GGSD		44	1520					CARLOTTA		10/6/2005	8309	8310	MHG080031	MHG080032	D/S	1104	SPG080029	8	VCP			308	304			0	0	0.00			0	0	0.00									
5	6_No_Defect	1075			PPT		Map 1 May	56					MANLEY STREET		5/25/2012	7927	7936	MHD110003	MHD110013	D/S	1755	SPD110005	10	VCP			339	340.9		0000	0	0	0.00			0	0	1.00								U/S MH was 8633, D/S MH was 8637, Pipe ID was 1975, Pipe size was 10". We checked & changed it	
3	6_No_Defect	1076			GGSD		MIXE D 1	1509					SANTA CATALINA		10/4/2005	8312	8226	MHG080034	MHG080018	U/S	2433	SPG080042	8	VCP			357	281			0	0	0.00			0	0	0.00									
3	6_No_Defect	1077			GGSD		43	1510					SANTA CATALINA		10/4/2005	8313	8315	MHG080035	MHG080036	D/S	1108	SPG080033	8	VCP			366	362			0	0	0.00			0	0	0.00									
5	6_No_Defect	1077			PPT		MAP 4-B1-2	16					WEST STREET		9/7/2012	10932	10933	MHQ160002	MHQ160003	D/S	4854	SPQ160017	8	VCP			345	344		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1078			GGSD		43	1510					SANTA CATALINA		10/4/2005	8314	8315	MHG080036	MHF080009	D/S	1109	SPG080034	8	VCP			217	216			0	0	0.00			0	0	0.00									
5	6_No_Defect	1078			PPT		MAP 2-1-5	20					TRASK AVE		7/27/2012	10479	10519	MHN150012	MHN150011	U/S	2463	SPN150036	8	VCP			360	344.5		0000	0	0	0.00			0	0	0.00								U/S MH is CO	
3	6_No_Defect	1079			GGSD		44	1512					SANTA MONICA		10/4/2005	8319	8318	MHG080038	MHF080011	U/S	1113	SPG080037	8	VCP			271	215			0	0	0.00			0	0	0.00									
5	6_No_Defect	1079			PPT		MAP 4-B2-1	4					YOCKEY STREET		9/10/2012	11618	11619	MHK150015	MHK150016	D/S	2795	SPK150009	8	VCP			346	345.6		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1080			GGSD		44	1511					WUTZKE		10/4/2005	8319	8317	MHG080038	MHG080037	U/S	1112	SPG080036	8	VCP			257	254			0	0	0.00			0	0	0.00									
5	6_No_Defect	1080			PPT		MAP 4-B1-2	17					WEST STREET		9/7/2012	10931	10932	MHQ160001	MHQ160002	D/S	4853	SPQ160016	8	VCP			345	347.4		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1081			GGSD		44	1516					WUTZKE		10/5/2005	8320	8311	MHG080039	MHG080033	U/S	1106	SPG080031	8	VCP			101	97			0	0	0.00			0	0	0.00									
5	6_No_Defect	1081			PPT		MAP 4-B2-3	10					WOODBURY AVENUE		9/25/2012	10541	10390	MHM150015	COM150001	D/S	2032	SPM150010	8	VCP			200	347.8		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1082			GGSD		48	1577					VANGUARD		11/2/2005	8269	8268	MHG090006	MHG090005	U/S	1058	SPG090010	8	VCP			366	369			0	0	0.00			0	0	0.00									
5	6_No_Defect	1082			PPT		MAP 2-1-2	2					CHAPMAN AVE		7/10/2012	13867	13866			D/S	7443	new	24	VCP			348	350.1		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1083			GGSD		48	1578					WILD GOOSE		11/2/2005	8271	8269	MHG090008	MHG090006	U/S	1059	SPG090011	8	VCP			260	259			0	0	0.00			0	0	0.00									
5	6_No_Defect	1083			PPT		MAP 3-B4-1	6					GARDEN GROVE BLVD		9/5/2012	12787	12788	MHT120030	MHT120010	D/S	6598	SPT120035	10	VCP			346	350.6		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1084			GGSD		50	1595					WILD GOOSE		11/8/2005	8271	8288	MHG090008	MHG090049	D/S	1331	SPG090026	8	VCP			130	121			0	0	0.00			0	0	0.00									
5	6_No_Defect	1084			PPT		MAP 3-B3-2	1					TAFT STREET		8/21/2012	12302	12303	MHO140018	MHO140019	D/S	3940	SPO140005	8	VCP			185	351.9		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1085			GGSD		48	1579					WUTZKE		11/3/2005	7343	7341	MHG090030	MHG090029	U/S	1482	SPG090043	8	VCP			214	212			0	0	0.00			0	0	0.00									
3	6_No_Defect	1086			GGSD		39	1389					AMY		6/29/2005	8289	8282	MHG090032	MHG090031	U/S	1085	SPG090028	8	VCP			183	182			0	0	0.00			0	0	0.00									
5	6_No_Defect	1086			PPT		MAP 4-B1-2	2					ANCHOR AVE		9/10/2012	7219	7220	MHO240002	MHO240003	D/S	9	SPO240002	8	VCP			337	352.8		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1087			GGSD		39	1389					AMY		6/29/2005	8283	8289	MHG090033	MHG090032	U/S	1086	SPG090029	8	VCP			267	346			0	0	0.00			0	0	0.00									
3	6_No_Defect	1088			GGSD		40	1411					BELGRAVE		7/15/2005	8766	8286	MHG090042	MHG090041	U/S	1329	SPG090024	8	VCP			350	349			0	0	0.00			0	0	0.00									
3	6_No_Defect	1089			GGSD		48	1579					WUTZKE		11/3/2005	7350	7343	MHG090045	MHG090030	U/S	1484	SPG090045	8	VCP			272	275			0	0	0.00			0	0	0.00									
5	6_No_Defect	1089			PPT		MAP 4-B1-5	9					WESTMINSTER BLVD		9/21/2012	10928	10929	MHQ170003	MHQ170004	D/S	5348	SPQ170016	15	VCP			122	359.3		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1090			PPT		48	23					KNOTT		10/30/2007	8163	8187	MHG090050	MHG090055	U/S	1687	SPG090007	8	VCP			260	282			0	0	0.00			0	0	0.00									
5	6_No_Defect	1090			PPT		MAP 4-B2-1	1					ENLO STREET		9/10/2012	11596	11616	MHL150030	MHK150013	D/S	2801	SPK150013	8	VCP			349	360.5		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1091			PPT		48	51					CHAPMAN		10/31/2007	8183	8184	MHG090051	MHG090052	D/S	948	SPG090003	8	VCP			75	77			0	0	0.00			0	0	0.00									
5	6_No_Defect	1091			PPT		MAP 3-B2-4	7					ALLARD AVE		8/24/2012	12671	12672	MHT090006	MHT090007	D/S	4025	SPT090024	8	VCP			90	365.5		0000	0	0	0.00			0	0	0.00						2			
3	6_No_Defect	1092			PPT		48	26					KNOTT		10/30/2007	8185	8184	MHG090053	MHG090052	U/S	949	SPG090004	8	VCP			217	205			0	0	0.00			0	0	0.00									
5	6_No_Defect	1092			PPT		MAP 2-1-4	1	MAP 2-1-4	2			BELFAST DR		7/16/2012	10762	10761	MHM130027	MHM130026	U/S	2334	SPM130012	8	VCP			360	366.5		0000	0	0	0.00			0	0	0.00								159.5' MSA . Inspection Completed	
3	6_No_Defect	1093			PPT		48	25					KNOTT		10/30/2007	8186	8185	MHG090054	MHG090053	U/S	950	SPG090005	8	VCP			60	67			0	0	0.00			0	0	0.00									
5	6_No_Defect	1093			PPT		MAP 4-B1-6	13					CARDINAL CIR		10/2/2012	13644	13642			D/S	7321	new	10	VCP			359	367		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1094			PPT		48	24					KNOTT		10/30/2007	8187	8186	MHG090055	MHG090054	U/S	1686	SPG090006	8	VCP			280	282			0	0	0.00			0	0	0.00	2								
5	6_No_Defect	1094			PPT		MAP 4-B1-1	16					BUENA STREET		9/4/2012	7488	7447	MHS170012	MHS170014	D/S	426	SPS170001	8	VCP			375	367.3		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1095			GGSD		50	1597					LAMPLIGHTER		11/8/2005	8322	8759	MHG100002	MHG100001	U/S	1116	SPG100004	8	VCP			138	135			0	0	0.00			0	0	0.00									
5	6_No_Defect	1095			PPT		Map 1 May	10					SANTA GERTRUDES AVENUE		5/16/2012	8622	8623	MHD080023	MHD080024	D/S	1606	SPD080022	8	VCP			372	370.1		0000																
3	6_No_Defect	1096			GGSD		50	1597					LAMPLIGHTER		11/8/2005	8324	8322	MHG100004	MHG100002	U/S	1117	SPG100005	8	VCP			150	148			0	0	0.00			0	0	0.00									
5	6_No_Defect	1096			PPT		MAP 3-B2-4	20					HARBOR BLVD		8/21/2012	13020	13021	MHR080021	MHS080001	D/S	6100	SPR080003	15	VCP			369	370.4		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1097			GGSD		50	1600					HEALEY		11/8/2005	8324	8323	MHG100004	MHG100003	U/S	1118	SPG100006	8	VCP			173	169			0	0	0.00			0	0	0.00									
5	6_No_Defect	1097			PPT		Map 1 May	12					SANTA GERTRUDES AVENUE		5/16/2012	8622	8621	MHD080023	MHD080022	D/S	1605	SPD080021	8	VCP			372	370.7		0000																
3	6_No_Defect	1098			GGSD		50	1599					LAMPLIGHTER		11/8/2005	8325	8326	MHG100005	MHG100006	D/S	1120	SPG100008	8	VCP			149	148			0	0	0.00			0	0	0.00									
5	6_No_Defect	1098			PPT		MAP 2-2-1	6	MAP 2-2-1	5			SYCAMORE AVENUE		7/6/2012	14651	7103			D/S	8435		12	Clay Tile			351	380.4		0000	0	0	0.00			0	0	0.00						2	2		307' MSA (MMC). Inspection Completed	
3	6_No_Defect	1099			GGSD		50	1613					LAMPLIGHTER		11/14/2005	8327	8326	MHG100007	MHG100006	U/S	1121	SPG100009	8	VCP			306	308			0	0	0.00			0	0	0.00									
5	6_No_Defect	1099			PPT		MAP 3-B2-4	19					HARBOR BLVD		8/21/2012	13021	13022	MHS080001	MHS080002	D/S	6101	SPS080005	15	VCP			370	380.5		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1100			GGSD		50	1616					PICKETT		11/14/2005	8329	8328	MHG100008	MHF100026	U/S	1123	SPG100011	8	VCP			243	240			0	0	0.00			0	0	0.00									
5	6_No_Defect	1100			PPT		MAP 3-B2-4	21					HARBOR BLVD		8/21/2012	13019	13020	MHR070005	MHR080021	D/S	6099	SPR080002	15	VCP			375	380.6		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1101			GGSD		50	1613					LAMPLIGHTER		11/14/2005	8331	8327	MHG100010	MHG100007	U/S	1122	SPG100010	8	VCP			294	291			0	0	0.00			0	0	0.00									
5	6_No_Defect	1101			PPT		MAP 4-B1-1	13					MORNINGSIDE AVE		9/4/2012	7449	7450	MHS170016	MHS170026	D/S	432	SPS170007	8	VCP			385	386.1		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1102			PPT		48	46					EASEMENT		10/31/2007	8164	8165	MHG100011	MHG100012	D/S	1683	SPG100001	10	VCP			410	413			0	0	0.00			0	0	0.00						1			
5	6_No_Defect	1102			PPT		MAP 4-B1-1	14					MORNINGSIDE AVE		9/4/2012	7448	7449	MHS170015	MHS170016	D/S	430	SPS170005	8	VCP			385	386.8		0000	0	0	0.00			0	0	0.00									
3	6_No_Defect	1103			PPT		48	47					EASEMENT		10/31/2007	8165	8166	MHG100012	MHG100013	D/S	1684	SPG100002	10	VCP			410	413			0	0	0.00			0	0	0.00	1								

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Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aband	GIS Identified Abandoned	Repair Description	Comments	Recommendations
5	6_No_Defect	1103			PPT		MAP 3-B3-3	9					BANNER AVENUE		8/27/2012	11474	11473	MHQ140031	MHQ140030	U/S	3826	SPQ140011	8	VCP			385	387.2		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1104			PPT		48	48					EASEMENT		10/31/2007	8166	8176	MHG100013	MHG110050	D/S	1685	SPG100003	10	VCP			360	395			0	0	0.00			0	0.00									
5	6_No_Defect	1104			PPT		MAP 4-B1-1	15					MORNINGSIDE AVE		9/4/2012	7447	7448	MHS170014	MHS170015	D/S	429	SPS170004	8	VCP			386	390		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1105			PPT		41	22					KILLARNEY		9/17/2007	7728	7727	MHG110006	MHG110044	U/S	1129	SPG110031	8	VCP			338	342			0	0	0.00			0	0.00									
5	6_No_Defect	1105			PPT		MAP 4-B1-5	7					WESTMINSTER BLVD		9/21/2012	10930	11445	MHQ170005	MHQ170006	D/S	4959	SPQ170001	15	VCP			370	394.8		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1106			PPT		42	5					SCANDIA		9/18/2007	8246	8247	MHG110007	MHG110019	D/S	1053	SPG110026	8	VCP			343	342			0	0	0.00			0	0.00									
5	6_No_Defect	1106			PPT		MAP 3-B5	33					WEST STREET		9/5/2012	12899	12898	MHR120052	MHR120053	D/S	6173	SPR120060	24	VCP			398	395		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1107			PPT		41	20					KILLARNEY		9/17/2007	8760	8246	MHG110008	MHG110007	U/S	1313	SPG110054	8	VCP			256	257			0	0	0.00			0	0.00									
5	6_No_Defect	1107			PPT		June Map 2 B1	83					DALE ST		6/15/2012	8048	8713	MHJ060004	COJ060001	D/S	1902	SPJ060004	8	Not Known			390	398.9		0000																
3	6_No_Defect	1108			PPT		42	2					PALOMAR		9/18/2007	8760	8761	MHG110008	MHG110017	D/S	1470	SPG110052	8	VCP			343	342			0	0	0.00			0	0.00									
5	6_No_Defect	1108			PPT		MAP 4-B1-5	8					WESTMINSTER BLVD		9/21/2012	10929	10930	MHQ170004	MHQ170005	D/S	5349	SPQ170017	15	VCP			390	402.2		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1109			PPT		41	21					KILLARNEY		9/17/2007	7729	7728	MHG110009	MHG110006	U/S	1130	SPG110032	8	VCP			338	339			0	0	0.00			0	0.00									
5	6_No_Defect	1109			PPT		June Map 1	16					CHAPMAN AVE		6/21/2012	7167	7168	MHI090026	MHI090027	D/S	1722	SPI090005	15	VCP			400	404.9		0000																
3	6_No_Defect	1110			PPT		41	19					KILLARNEY		9/17/2007	7729	8760	MHG110009	MHG110008	U/S	1131	SPG110033	8	VCP			258	262			0	0	0.00			0	0.00									
5	6_No_Defect	1110			PPT		MAP 3-B3-4	6					TRASK AVENUE		8/30/2012	12002	12003	MHR150005	MHR150004	U/S	3893	SPR150003	12	VCP			420	419.7		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1111			PPT		41	24					LAMPLIGHTER		9/17/2007	7729	7732	MHG110009	MHG110012	D/S	1132	SPG110034	8	VCP			258	258			0	0	0.00			0	0.00									
5	6_No_Defect	1111			PPT		MAP 3-B3-4	23					NADINE CIRCLE		8/29/2012	11687	11686	MHR100013	MHR100012	U/S	6167	SPR100040	8	VCP			420	422		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1112			PPT		41	34					LENORE		9/18/2007	7405	7730	MHG110010	MHF110009	D/S	1306	SPF110027	8	VCP			367	371			0	0	0.00			0	0.00									
5	6_No_Defect	1112			PPT		MAP 4-B2-1	30					RANCHERO WY		9/4/2012	14122	14123			U/S	7763	new	6	VCP			44	428.6		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1113			PPT		41	33					LENORE		9/18/2007	7731	7730	MHG110011	MHG110010	D/S	1133	SPG110035	8	VCP			362	363			0	0	0.00			0	0.00								Pipe SPG110037 corrected to SPG110035	
5	6_No_Defect	1113			PPT		MAP 3-B4-2	18					GARDEN GROVE BLVD		9/24/2012	12903	12904	MHQ120055	MHQ120056	D/S	5822	SPQ130038	24	VCP			432	435.1		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1114			PPT		41	35					LAMPLIGHTER		9/18/2007	7736	7732	MHG110012	MHG110014	U/S	1135	SPG110037	8	VCP			256	257			0	0	0.00			0	0.00									
5	6_No_Defect	1114			PPT		MAP 3-B4-2	17					GARDEN GROVE BLVD		9/24/2012	12904	12582	MHQ120056	MHQ130001	D/S	5823	SPQ130039	24	VCP			434	435.2		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1115			PPT		43	4					TRINETTE		9/19/2007	7734	7735	MHG110013	MHG110042	D/S	1137	SPG110039	8	VCP			338	342			0	0	0.00			0	0.00									
5	6_No_Defect	1115			PPT		MAP 3-B5	14					NUTWOOD STREET		9/13/2012	11120	11122			D/S	7583	new	10	VCP			379	458.1		0000	0	0	0.00			0	0.00									
3	6_No_Defect	1116			PPT		42	3					PALOMAR		9/18/2007	8761	8762	MHG110017	MHG110018	D/S	1144	SPG110046	8	VCP			343	343			0	0	0.00			0	0.00									
5	6_No_Defect	1116			PPT		MAP 4-B1-3	4					JOHANNAH AVE		9/12/2012	6902	6909	MHN180011	MHM180007	D/S	529	SPN180039	8	VCP			534	524		0000	0	0	0.00			0	0.00								262.6 Unmapped MH	
3	6_No_Defect	1117			PPT		42	4					PALOMAR		9/18/2007	8762	8763	MHG110018	MHG110026	D/S	1145	SPG110047	8	VCP			343	343			0	0	0.00			0	0.00									
3	6_No_Defect	1118			PPT		42	6					SCANDIA		9/18/2007	8247	8248	MHG110019	MHG110020	D/S	1037	SPG110021	8	VCP			343	343			0	0	0.00			0	0.00									
3	6_No_Defect	1119			PPT		42	7					SCANDIA		9/18/2007	8248	8249	MHG110020	MHG110025	D/S	1038	SPG110022	8	VCP			343	344			0	0	0.00			0	0.00									
3	6_No_Defect	1120			PPT		42	8					SCANDIA		9/18/2007	8249	8252	MHG110021	MHG110025	D/S	1039	SPG110023	8	VCP			212	0			0	0	0.00			0	0.00									
3	6_No_Defect	1121			PPT		43	12					STANFORD		9/21/2007	8250	8134	MHG110023	MHG110022	U/S	1088	SPG110027	8	VCP			369	366			0	0	0.00			0	0.00									
3	6_No_Defect	1122			PPT		43	11					STANFORD		9/21/2007	8251	8250	MHG110024	MHG110023	U/S	1040	SPG110024	8	VCP			258	260			0	0	0.00			0	0.00									
3	6_No_Defect	1123			PPT		43	6					STANFORD		9/21/2007	8251	8252	MHG110024	MHG110025	D/S	1041	SPG110025	8	VCP			359	361			0	0	0.00			0	0.00									
3	6_No_Defect	1124			PPT		43	7					STANFORD		9/21/2007	8252	8763	MHG110025	MHG110026	D/S	1314	SPG110055	8	VCP			256	257			0	0	0.00			0	0.00									
3	6_No_Defect	1125			PPT		43	8					STANFORD		9/21/2007	8763	7741	MHG110026	MHG110027	D/S	1146	SPG110048	8	VCP			258	259			0	0	0.00			0	0.00									
3	6_No_Defect	1126			PPT		43	31					CANTER		9/24/2007	7744	7746	MHG110029	MHG120004	D/S	1461	SPG120017	8	VCP			258	260			0	0	0.00			0	0.00									
3	6_No_Defect	1127			PPT		47	10					DANVERS		10/9/2007	8232	8231	MHG110032	MHG110031	U/S	1969	SPG110007	8	VCP			115	55			0	0	0.00			0	0.00									
3	6_No_Defect	1128			PPT		47	11					DANVERS		10/9/2007	8234	8232	MHG110032	MHG110034	U/S	1970	SPG110008	8	VCP			220	211			0	0	0.00			0	0.00									
3	6_No_Defect	1129			PPT		47	5					ALMONDINE		10/9/2007	8234	8233	MHG110034	MHG110033	U/S	1971	SPG110009	8	VCP			115	50			0	0	0.00			0	0.00									
3	6_No_Defect	1130			PPT		47	13					DANVERS		10/9/2007	8237	8235	MHG110037	MHG110035	U/S	1974	SPG110011	8	VCP			220	225			0	0	0.00			0	0.00									
3	6_No_Defect	1131			PPT		47	12					DANVERS		10/9/2007	8237	8236	MHG110037	MHG110036	U/S	1975	SPG110012	8	VCP			25	46			0	0	0.00			0	0.00									
3	6_No_Defect	1132			PPT		47	14					CHATENAY		10/9/2007	8237	8239	MHG110037	MHG110039	D/S	1976	SPG110013	8	VCP			260	235			0	0	0.00			0	0.00								Pipe SPG110011 corrected to SPG110013	
3	6_No_Defect	1133			PPT		47	8					ALMONDINE		10/9/2007	8239	8238	MHG110039	MHG110038	U/S	1977	SPG110014	8	VCP			110	61			0	0	0.00			0	0.00									
3	6_No_Defect	1134			PPT		47	7					ALMONDINE		10/9/2007	8240	8239	MHG110040	MHG110039	U/S	1978	SPG110015	8	VCP			130	64			0	0	0.00			0	0.00									
3	6_No_Defect	1135			PPT		47	3					ALMONDINE		10/9/2007	8241	8250	MHG110041	MHG110023	D/S	1973	SPG110017	8	VCP			250	228			0	0	0.00			0	0.00									
3	6_No_Defect	1136			PPT		47	4					ALMONDINE		10/9/2007	8241	8234	MHG110041	MHG110034	U/S	1972	SPG110010	8	VCP			330	401			0	0	0.00			0	0.00									
3	6_No_Defect	1137			PPT		47	6					ALMONDINE		10/9/2007	8241	8240	MHG110041	MHG110040	U/S	1979	SPG110016	8	VCP			170	220			0	0	0.00			0	0.00									
3	6_No_Defect	1138			PPT		43	5					TRINETTE		9/19/2007	7735	7736	MHG110042	MHG110014	D/S	1138	SPG110040	8	VCP			338	339			0	0	0.00			0	0.00									
3	6_No_Defect	1139			PPT		41	23					KILLARNEY		9/17/2007	7727	7726	MHG110044	MHF110006	U/S	1128	SPG110030	8	VCP			258	258			0	0	0.00			0	0.00									
3	6_No_Defect	1140			PPT		48	53					LAMPSON		10/31/2007	8176	8175	MHG110050	MHG110049	U/S	942	SPG110005	8	VCP			40	33			0	0	0.00			0	0.00									
3	6_No_Defect	1141			PPT		48	54					LAMPSON		10/31/2007	8176	8291	MHG110050	MHG110051	D/S	1090	SPG110028	10	VCP			10	8			0	0	0.00			0	0.00									
3	6_No_Defect	1142			PPT		43	14					PARK		9/21/2007	8253	8254	MHG120001	MHG120002	D/S	1056	SPG120015	8	VCP			283	282			0	0	0.00			0	0.00									
3	6_No_Defect	1143			PPT		43	13					SUTTER		9/21/2007	8253	8255	MHG120001	MHG120005	D/S	1055	SPG120014	8	VCP			256	257			0	0	0.00			0	0.00									
3	6_No_Defect	1144			PPT		43	15					PARK		9/21/2007	8254	8764	MHG120002	MHG120028	D/S	1042	SPG120002	8	VCP			283	285			0	0	0.00			0	0.00									
3	6_No_Defect	1145			PPT		43	18					MARIETTA		9/21/2007	8255	8256	MHG120005	MHG120006	D/S	1043	SPG120003	8	VCP			289	288			0	0	0.00			0	0.00									
3	6_No_Defect	1146			PPT		43	19					MARIETTA		9/21/2007	8256	7747	MHG120006	MHG120007	D/S	1316	SPG120030	8	VCP			288	290			0	0	0.00			0	0.00									
3	6_No_Defect	1147			PPT		43	20					MARIETTA		9/21/2007	7747	7322	MHG120007	MHG120025	D/S	1464	SPG120020	8	VCP			289	292			0	0	0.00			0	0.00									
3	6_No_Defect	1148			PPT		43	30					WILD GOOSE		9/24/2007	8257	8250	MHG120009	MHG110023	U/S	1054	SPG120013	8	VCP			260	261			0	0	0.00			0	0.00			2						
3	6_No_Defect	1149			PPT		43	29					WILD GOOSE		9/24/2007	8258	8257	MHG120010	MHG120009	U/S	1044	SPG120004	8	VCP			239	240			0	0	0.00			0	0.00									
3	6_No_Defect	1150			PPT		43	28					WILD GOOSE		9/24/2007	8259	8258	MHG120011	MHG120010	U/S	1045	SPG120005	8	VCP			239	239			0	0	0.00			0	0.00									
3	6_No_Defect	1151			PPT		43	25					ACACIA		9/24/2007	8259	8260	MHG120011	MHG120012	D/S	1046	SPG120006	8	VCP			354	356			0	0	0.00			0	0.00									
3	6_No_Defect	1152			PPT		47	17					KNOTT		10/10/2007	8145	8144	MHG120011	MHH120010	U/S	921	SPH120011	8	VCP			436	444			0	0	0.00			0	0.00									
3	6_No_Defect	1153			PPT		43	26					ACACIA		9/24/2007	8260	8261	MHG120012	MHG120026	D/S	1047	SPG120007	8	VCP			354	359			0	0	0.00			0	0.00									
3	6_No_Defect	1154			PPT		44	1					PARK		9/25/2007	8262	8257	MHG120017	MHG120009	D/S	1057	SPG120016	8	VCP			260	262			0	0	0.00			0	0.00									
3	6_No_Defect	1155			PPT		44	2					DUMONT		9/25/2007	8262	8263	MHG120017	MHG120018	D/S	1048	SPG120008	8	VCP			347	348			0	0	0.00			0	0.00									
3	6_No_Defect	1156			PPT		44	3					DUMONT		9/25/2007	8263	8264	MHG120018	MHG120019	D/S	1049	SPG120009	8	VCP			347	348			0	0	0.00			0	0.00									
3	6_No_Defect	1157			PPT		44	5					ANTHONY		9/25/2007	8265	8264	MHG120020	MHG120019	U/S	1050	SPG120010	8	VCP			355	357			0	0	0.00			0	0.00			1						
3	6_No_Defect	1158			PPT		44	4					ANTHONY		9/25/2007	8266	8265	MHG120021	MHG120020	U/S	1051	SPG120011	8	VCP			354	358			0	0	0.00			0	0.00									
3	6_No_Defect	1159			PPT		44	6					ANTHONY		9/25/2007	8266	8267	MHG120021	MHG120022	D/S	1052	SPG120012	8	VCP			354	356			0	0	0.00			0	0.00			1						
3	6_No_Defect	1160			PPT		44	7					ANTHONY		9/25/2007	8267	7327	MHG120022	MHG120027	D/S	1317	SPG120031	8	VCP			352	354			0	0	0.00			0	0.00									
3	6_No_Defect	1161			PPT		45	11					ANTHONY		10/1/2007	7329	7406	MHG120024	MHF120001	D/S	1307	SPG120028	8	VCP			360	361			0	0	0.00			0	0.00									
3	6_No_Defect	1162			PPT		43	21					MARIETTA		9/21/2007	7322	7748	MHG120025	MHG120008	D/S	1465	SPG120021	8	VCP			289	288			0	0	0.00			0	0.00									
3	6_No_Defect	1163			PPT		43	27					ACACIA		9/24/2007	8261	7323	MHG120026	MHG120013	D/S	982	SPG120001	8	VCP			354	354			0	0	0.00			0	0.00									
3	6_No_Defect	1164			PPT		44	8					ANTHONY		9/25/2007	7327	7328	MHG120027	MHG120023	D/S	1468	SPG120026	8	VCP			355	356			0	0	0.00			0	0.00									
3	6_No_Defect	1165			PPT		43	16					PARK		9/21/2007	8764	7745	MHG120028	MHG120003	D/S	1315	SPG120029	8	VCP			300	302			0	0	0.00			0	0.00									
3	6_No_Defect	1166			PPT		45	13					MARKON		10/5/2007	8202	8200	MHH060006	MHH060004	U/S	953	SPH060007	8	VCP			114	113			0	0	0.00			0	0.00									
5	6_No_Defect	1167			PPT		43	24					PATTERSON		9/24/2007	8205	8204	MHH060009	MHH060008	U/S	957	SPH060011	8	VCP			315	318			0	0	0.00			0	0.00									
3	6_No_Defect	1168			PPT		43	23					PATTERSON		9/24/2007	8207	8208	MHH060010	MHG060001	D/S	1688	SPH060013	10	VCP			377	381			0	0	0.00			0	0.00									
3	6_No_Defect	1169			PPT		47	25					LINCOLN		10/12/2007	8127	8128	MHH060011	MHH060012	D/S	902	SPH060005	8	VCP			363	364			0	0	0.00			0	0.00									
3	6_No_Defect	1170			PPT		47	26					LINCOLN		10/12/2007	8128	7193	MHH060012	MHH060013	D/S	905	SPH060006	8	VCP			384	385			0	0	0.00			0	0.00									
3	6_No_Defect	1171			PPT		45	29					MARKON EASEMENT		10/6/2007	8189	8190	MHH070001	MHH070002	D/S	1774	SPH070016	12	VCP			207	206			0	0	0.00			0	0.00									
3	6_No_Defect	1172			PPT		49	25					EASEMENT		11/6/2007	8192	8191	MHH070004	MHH070003	U/S	1776	SPH070018	12	VCP			327	330			0	0	0.00			0	0.00									
3	6_No_Defect	1173			PPT		45	19					DOIG		10/5/2007	8114	8113	MHH070006	MHH070005	U/S	895	SPH070005	8	VCP			309	314			0	0	0.00			0	0.00									
3	6_No_Defect	1174			PPT		45	18					DOIG		10/5/2007	8115	8114	MHH070007	MHH070006	U/S	896	SPH070006	8	VCP			346	348			0	0	0.00			0	0.00									
3	6_No_Defect	1175			PPT		45	20					MONARCH		10/5/2007	8117	8116	MHH070009	MHH070008	U/S	898	SPH070008	8	VCP			225	225			0	0	0.00			0	0.00									
3	6_No_Defect	1176			PPT		45	21					MONARCH		10/5/2007	8117	8112	MHH070009	MHH080006	D/S	1674	SPH070009	10	VCP			562	562			0	0	0.00			0	0.00									
3	6_No_Defect	1177			PPT		45	31					ORANGEWOOD		10/6/2007	8119	8120	MHH070011	MHH070012	D/S	1675	SPH070011	8	VCP			56	56			0	0	0.00			0	0.00									
3	6_No_Defect	1178			PPT		45	32					ORANGEWOOD		10/6/2007	8120	8121	MHH070012	MHH070013	D/S	1676	SPH070012	8	VCP			369	371			0	0	0.00			0	0.00									
3	6_No_Defect	1179			PPT		44	21					MONARCH		9/28/2007	8123	8122	MHH070015	MHH070014	U/S	899	SPH070013	8	VCP			400	403			0	0	0.00			0	0.00									
3	6_No_Defect	1180			PPT		45	16					MARKON		10/5/2007	8197	8198	MHH070016	MHH070017	D/S	952	SPH070020	8	VCP			400	402			0	0	0.00			0	0.00									
3	6_No_Defect	1181			PPT		40	33					HUNT		9/12/2007	8109	8108	MHH080003	MHH080002	U/S	893	SPH080002	8	VCP			243	244			0	0	0.00			0	0.00									
3	6_No_Defect	1182			PPT		40	34					MONARCH		9/12/2007	8110	8107	MHH080004	MHH080001	U/S	892	SPH080001	8	VCP			410	414			0	0	0.00			0	0.00									
3	6_No_Defect	1183			PPT		40	32					HUNT		9/12/2007	8110	8109	MHH080004	MHH080003	U/S	894	SPH080003	8	VCP			350	353			0	0	0.00			0	0.00									

Appendix D-3

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Pipe Existing Sewer ID	Pipe Previous Sewer I.D.	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Length (ft)	CCTV Length (ft)
3	6_No_Defect	1184			PPT		40	35						MONARCH	9/12/2007	8110	8111	MHH080004	MHH080005	D/S	782	SPH080004	10	VCP			273	273
3	6_No_Defect	1185			PPT		40	36						MONARCH	9/12/2007	8111	8112	MHH080005	MHH080006	D/S	1673	SPH080005	10	VCP			245	247
3	6_No_Defect	1186			PPT		45	28						MARKON	10/6/2007	8188	8189	MHH080007	MHH070001	D/S	951	SPH070015	12	VCP			374	376
3	6_No_Defect	1187			PPT		40	45						BELGRAVE	9/12/2007	8158	8161	MHH090001	MHH090002	D/S	931	SPH090005	8	VCP			326	329
3	6_No_Defect	1188			PPT		40	48						INDUSTRY	9/12/2007	8158	8180	MHH090001	MHH090008	U/S	945	SPH090008	8	VCP			452	455
3	6_No_Defect	1189			PPT		41	4						EDISON	9/14/2007	8167	8168	MHH090004	MHH100009	D/S	934	SPH100008	8	VCP			357	361
3	6_No_Defect	1190			PPT		48	55						CHAPMAN	10/31/2007	8105	7191	MHH090005	MHH090010	D/S	904	SPH090003	8	VCP			392	395
3	6_No_Defect	1191			PPT		40	49						INDUSTRY	9/12/2007	8180	8179	MHH090008	MHH090007	U/S	944	SPH090007	8	VCP			451	455
3	6_No_Defect	1192			PPT		48	49						CHAPMAN	10/31/2007	8181	8182	MHH090009	MHH090010	D/S	946	SPH090009	8	VCP			142	147
3	6_No_Defect	1193			PPT		48	50						CHAPMAN	10/31/2007	8182	8183	MHH090010	MHG090051	D/S	947	SPH090010	8	VCP			238	236
3	6_No_Defect	1194			PPT		48	33						WESTERN EASEMENT	10/31/2007	7208	7207	MHH090012	MHH090011	U/S	1080	SPH090001	8	VCP			230	238
3	6_No_Defect	1195			PPT		39	36						ANACONDA	9/10/2007	7190	8100	MHH100001	MHH100002	D/S	903	SPH100006	8	VCP			240	244
3	6_No_Defect	1196			PPT		39	38						ANACONDA	9/10/2007	8101	8102	MHH100003	MHH100004	D/S	887	SPH100002	8	VCP			300	302
3	6_No_Defect	1197			PPT		39	39						ANACONDA	9/10/2007	8102	8104	MHH100004	MHH100006	D/S	888	SPH100003	8	VCP			340	340
3	6_No_Defect	1198			PPT		41	8						MONARCH	9/14/2007	8104	8103	MHH100005	MHH090006	U/S	889	SPH100004	8	VCP			720	1331
3	6_No_Defect	1199			PPT		41	9						MONARCH	9/14/2007	8106	8103	MHH100005	MHH100006	D/S	891	SPH090002	8	VCP			1330	718
3	6_No_Defect	1200			PPT		43	33						MONARCH	9/25/2007	8104	8098	MHH100006	MHH110010	D/S	890	SPH100005	8	VCP			540	548
3	6_No_Defect	1201			PPT		41	3						INDUSTRY	9/14/2007	8159	8171	MHH100007	MHH100012	D/S	943	SPH100013	8	VCP			400	411
3	6_No_Defect	1202			PPT		41	1						INDUSTRY	9/14/2007	8160	8158	MHH100008	MHH090001	D/S	930	SPH090004	8	VCP			413	392
3	6_No_Defect	1203			PPT		41	2						INDUSTRY	9/14/2007	8160	8159	MHH100008	MHH100007	U/S	929	SPH100007	8	VCP			410	411
3	6_No_Defect	1204			PPT		41	5						EDISON	9/14/2007	8168	8169	MHH100009	MHH100010	D/S	935	SPH100009	8	VCP			357	359
3	6_No_Defect	1205			PPT		41	6						EDISON	9/14/2007	8170	8169	MHH100011	MHH100010	U/S	936	SPH100010	8	VCP			357	360
3	6_No_Defect	1206			PPT		41	7					Y	EDISON	9/14/2007	8170	8174	MHH100011	MHH110019	D/S	937	SPH100011	8	VCP			357	357
3	6_No_Defect	1207			PPT		40	43						PALA	9/12/2007	8146	8147	MHH110001	MHH120012	D/S	922	SPH120012	8	VCP			316	319
3	6_No_Defect	1208			PPT		40	22						MONARCH	9/12/2007	8094	8095	MHH110002	MHH110003	D/S	882	SPH110003	8	VCP			388	392
3	6_No_Defect	1209			PPT		49	14						MONARCH	11/5/2007	8096	8097	MHH110004	MHH110005	D/S	884	SPH110005	8	VCP			40	54
3	6_No_Defect	1210			PPT		49	15						MONARCH	11/5/2007	8097	8098	MHH110005	MHH110010	D/S	885	SPH110006	8	VCP			300	304
3	6_No_Defect	1211			PPT		44	12						LAMPSON	9/26/2007	8154	8151	MHH110008	MHG110045	U/S	1773	SPH110009	12	VCP			450	459
3	6_No_Defect	1212			PPT		44	13						LAMPSON	9/26/2007	8154	7135	MHH110008	MHH110016	D/S	1769	SPH110002	12	VCP			50	62
3	6_No_Defect	1213			PPT		44	19						LAMPSON	9/28/2007	8099	8098	MHH110011	MHH110010	U/S	1770	SPH110007	12	VCP			660	666
3	6_No_Defect	1214			PPT		44	20						LAMPSON	9/28/2007	8099	7189	MHH110011	MH#110001	D/S	1772	SPH110008	12	VCP			660	660
3	6_No_Defect	1215			PPT		49	16						INDUSTRY	11/5/2007	8156	8157	MHH110012	MHH110013	D/S	1731	SPH110012	18	VCP			285	274
3	6_No_Defect	1216			PPT		44	14						LAMPSON	9/26/2007	7135	8155	MHH110016	MHH110009	D/S	1768	SPH110001	12	VCP			535	526
3	6_No_Defect	1217			PPT		41	30						LAMPSON	9/18/2007	8172	8173	MHH110017	MHH110018	D/S	939	SPH110015	8	VCP			480	514
3	6_No_Defect	1218			PPT		41	31						LAMPSON	9/18/2007	8173	8174	MHH110018	MHH110019	D/S	940	SPH110016	8	VCP			70	85
2	6_No_Defect	1219					G055	9					Y	GARDEN GROVE BLVD	12/7/2005	10875	10876	MHP130032	MHP130033	D/S	4964	SPP130023	12	VCP			102	0.0
3	6_No_Defect	1219			PPT		45	23						EASEMENT	10/5/2007	8139	8138	MHH120006	MHH120005	U/S	915	SPH120005	8	VCP			170	62
2	6_No_Defect	1220					M020	5						STANFORD AV	9/14/2005	11410	11407	MHP120004	MHP120003	U/S	5279	SPP120021	6	VCP			240	0.0
3	6_No_Defect	1220			PPT		47	18						KNOTT	10/10/2007	8144	8143	MHH120010	MHH120009	U/S	920	SPH120010	8	VCP			314	314
3	6_No_Defect	1221			PPT		47	15						KNOTT	10/10/2007	8145	8292	MHH120011	MHG110046	D/S	2130	SPG110001	8	VCP			623	511
2	6_No_Defect	1222					G001	8	G001	10	Y	MOEN ST		PALA	7/12/2005	8569	8568	MHJ070007	MHJ070006	U/S	2067	SPJ070007	8	VCP			86	83.9
3	6_No_Defect	1222			PPT		40	44						PALA	9/12/2007	8147	8149	MHH120012	MHH120014	D/S	923	SPH120013	8	VCP			300	308
2	6_No_Defect	1223					G011	3						MAGNOLIA ST	7/26/2005			MHL070014	MHL070013-A	U/S		SPL070030-A	8	VCP			47	46.8
3	6_No_Defect	1223			PPT		40	26						ACACIA	9/12/2007	8149	8148	MHH120014	MHH120013	U/S	924	SPH120014	8	VCP			111	112
2	6_No_Defect	1224					G012	2						MACDUFF ST	7/27/2005	8002	8707	MHK080025	COK080002	U/S	1857	SPK080025	8	VCP			88	87.9
3	6_No_Defect	1224			PPT		40	25						ACACIA	9/12/2007	8150	8149	MHH120015	MHH120014	U/S	925	SPH120015	8	VCP			270	271
2	6_No_Defect	1225					G012	3						MACALPINE RD	7/27/2005	8002	8001	MHK080025	MHK080024	U/S	1858	SPK080026	8	VCP			100	103.9
3	6_No_Defect	1225			PPT		40	24						ACACIA	9/12/2007	8092	8150	MHH120016	MHH120015	U/S	1668	SPH120016	8	VCP			300	301
2	6_No_Defect	1226					G030	6						CHAPMAN AV	8/29/2005	13118	13114	MHQ090048	MHQ090057	D/S	6350	SPQ090060	12	PVC			10	8.2
3	6_No_Defect	1226			PPT		40	20						MONARCH	9/12/2007	8092	8093	MHH120016	MHH120017	D/S	880	SPH120001	8	VCP			287	290
2	6_No_Defect	1227					G038	4						MORGAN LN	9/12/2005	0	0	MHQ110004	COQ110003	U/S	6282	SPQ110036	8	VCP			60	69.6
3	6_No_Defect	1227			PPT		40	21						MONARCH	9/12/2007	8093	8094	MHH120017	MHH110002	D/S	881	SPH120002	8	VCP			300	302
2	6_No_Defect	1228					G043	1						SPINNAKER ST	10/5/2005	12391	12365	MHT110011	COT110007	U/S	5452	SPT110010	8	VCP			95	96.0
3	6_No_Defect	1228			PPT		48	39						GARDEN GROVE BLVD	10/31/2007	8088	8089	MHH130001	MHH130002	D/S	1670	SPH130002	10	VCP			135	141
2	6_No_Defect	1229					G043	3						LAUX CR	10/5/2005	12392	12393	MHT110012	MHT110013	D/S	5548	SPT110013	8	VCP			198	198.9
3	6_No_Defect	1229			PPT		48	42						GARDEN GROVE BLVD	10/31/2007	8091	7187	MHH130004	MHI130013	D/S	1678	SPH130005	10	VCP			330	332
2	6_No_Defect	1230					G059	3						CHAPMAN AV	12/13/2005	12987	12988	MHP090032	MHP090033	D/S	6345	SPP090004	18	VCP			22	14.9
3	6_No_Defect	1230			PPT		49	9						WESTERN	11/2/2007	8077	8076	MHI080002	MHI080001	U/S	871	SPI080001	8	VCP			110	112
2	6_No_Defect	1231					M001	1						VICILIA ST	8/4/2005	10848	10847	MHK060019	MHK060018	U/S	5334	SPK060005	8	VCP			100	106.6
3	6_No_Defect	1231			PPT		49	8						WESTERN	11/2/2007	8077	8084	MHI080002	MHI080009	D/S	873	SPI080003	8	VCP			10	10
2	6_No_Defect	1232					M001	2						VICILIA ST	8/4/2005	10848	10849	MHK060019	MHK060020	D/S	5335	SPK060006	8	VCP			80	90.9
3	6_No_Defect	1232			PPT		49	37						SANTA RITA	11/9/2007	8080	8081	MHI080005	MHI080006	D/S	876	SPI080010	8	VCP			335	343
2	6_No_Defect	1233					M001	3					Y	BOWLES AV	8/4/2005	10326	10327	MHK060016	MHK060017	D/S	5937	SPK060037	8	VCP			180	180.4
3	6_No_Defect	1233			PPT		49	4						WESTERN	11/2/2007	8082	7127	MHI080007	COI080001	U/S	874	SPI080007	8	VCP			165	276
2	6_No_Defect	1234					M001	5						BOWLES AV	8/4/2005	10849	10850	MHK060020	MHK060021	D/S	5336	SPK060007	8	VCP			210	211.9
3	6_No_Defect	1234			PPT		49	5						WESTERN	11/2/2007	8082	8081	MHI080007	MHK080006	U/S	877	SPI080011	8	VCP			85	84
2	6_No_Defect	1235					M001	8						MAC ST	8/4/2005	10851	10852	MHK060022	MHK060023	D/S	5338	SPK060009	8	VCP			280	292.0
3	6_No_Defect	1235			PPT		49	7						WESTERN	11/2/2007	8082	8083	MHI080007	MHI080008	D/S	878	SPI080012	8	VCP			10	10
2	6_No_Defect	1236					M001	9						MAC ST	8/4/2005	10852	10853	MHK060023	MHK060024	D/S	5339	SPK060010	8	VCP			80	89.4
3	6_No_Defect	1236			PPT		48	30						WESTERN	10/31/2007	7199	7200	MHI090002	MHI090003	D/S	1072	SPI090009	8	VCP			101	111
2	6_No_Defect	1237					M001	11						MACNAB ST	8/4/2005	10855	10856	MHK060026	MHK060027	D/S	5342	SPK060013	8	VCP			280	308.1
3	6_No_Defect	1237			PPT		48	31						WESTERN	10/31/2007	7200	7201	MHI090003	MHI090004	D/S	1073	SPI090010	8	VCP			9	9
2	6_No_Defect	1238					M001	12						MACNAB ST	8/4/2005	10856	10857	MHK060027	MHK060028	D/S	5343	SPK060014	8	VCP			95	94.2
3	6_No_Defect	1238			PPT		48	35						WESTERN EASEMENT	10/31/2007	7204	7203	MHI090007	MHI090006	U/S	1075	SPI090012	8	VCP			138	138
2	6_No_Defect	1239					M001	13						JOYZELLE AV	8/4/2005	10857	10860	MHK060028	MHK060031	D/S	5344	SPK060015	8	VCP			275	276.0
3	6_No_Defect	1239			PPT		48	32						WESTERN	10/31/2007	7206	7208	MHI090009	MHH090012	U/S	1081	SPI090017	8	VCP			35	39
2	6_No_Defect	1240					M002	3						TRACY AV	8/5/2005	10862	10277	MHK060036	MHK060037	D/S	3769	SPK060020	8	VCP			130	123.5
3	6_No_Defect	1240			PPT		48	56						CHAPMAN	10/31/2007	7191	8075	MHI090010	MHI090011	D/S	1082	SPI090018	8	VCP			70	70
2	6_No_Defect	1241					M002	9						OLSON ST	8/5/2005	10163	10162	MHL060008	MHL060007	U/S	3724	SPL060011	8	VCP			75	85.2
3	6_No_Defect	1241			PPT		39	43						FIELDGATE	9/10/2007	7158	7159	MHI090013	MHI100002	D/S	1011	SPI100001	8	VCP			234	238
2	6_No_Defect	1242					M004	12						ROYAL PALM BLVD	8/8/2005	10153	10154	MHL070024	MHL070025	D/S	5203	SPL070018	8	VCP			215	215.9
3	6_No_Defect	1242			PPT		39	40						BELGRAVE	9/10/2007	7160	7161	MHI090014	MHI090015	D/S	1012	SPI090002	8	VCP			390	394
2	6_No_Defect	1243					M009	11					Y	DANIEL AV	8/16/2005	12243	13209	MHQ070013	COQ070002	U/S	6314	SPQ070005	8	VCP			90	91.8
3	6_No_Defect	1243			PPT		39	41						BELGRAVE	9/10/2007	7161	7212	MHI090015	MHI090016	D/S	908	SPI090031	8	VCP			390	391
2	6_No_Defect	1244					M011	4						ROBERT LN	8/25/2005	13134	13143	MHQ080036	MHQ080045	D/S	5844	SPQ080044	8	VCP			55	86.9
3	6_No_Defect	1244			PPT		39	35						LAURELTON	9/10/2007	7162	7124	MHI090017	COI090002	U/S	1013	SPI090003	8	VCP			145	147
2	6_No_Defect	1245					M011	12						BINNACLE AV	8/25/2005	13003	13002	MHT080007	MHT080006	U/S	6556	SPT080006	8	VCP			121	128.8
3	6_No_Defect	1245			PPT		39	34						LAURELTON	9/10/2007	7163	7162	MHI090018	MHI090017	U/S	1014	SPI090004	8	VCP			364	365
2	6_No_Defect	1246					M020	12						BUARO ST	9/14/2005			MHR110017	MHR110018	D/S		SPR110004	10	VCP			34	34.4
3	6_No_Defect	1246			PPT		39	31						SANTA ROSALIA	9/8/2007	7213	7126	MHI090020	COI090001	U/S	1083	SPI090019	8	VCP			65	58
2	6_No_Defect	1247					M021	1						EASEMENT	9/15/2005	12168	12169	MHR110034	MHR110035	D/S	5751	SPR110011	12	VCP			140	129.3
3	6_No_Defect	1247			PPT		40	3						SANTA ROSALIA ALLEY	9/10/2007	7213	7164	MHI090020	MHI090019	U/S	910	SPI090033	8	VCP			300	305
2	6_No_Defect	1248					M021	2						EASEMENT	9/15/2005			MHR110035	MHR110035 A	D/S		SPR110012A	12	VCP			249	249.1
3	6_No_Defect	1248			PPT		39	30						SANTA ROSALIA	9/8/2007	7214	7213	MHI090022	MHI090020	U/S	1084	SPI090020	8	VCP			136	142
3	6_No_Defect	1249			PPT		40	2						VANGUARD	9/10/2007	7214	7165	MHI090022	MHI090021	U/S	911	SPI090034	8	VCP			203	206
2	6_No_Defect	1250					M024	10						CHAPMAN AV	10/28/2005	13113	13114	MHQ090056	MHQ090057	D/S	6349	SPQ090039	18	VCP			269	260.9
3	6_No_Defect	1250			PPT		40	1						AMY	9/10/2007	7215	7166	MHI090024	MHI090023	U/S	912	SPI090035	8	VCP			212	213
2	6_No_Defect	1251					M024	11						CHAPMAN AV	10/28/2005	13114	12977	MHQ090057	MHQ090058	D/S	6278	SPQ090001	18	VCP			343	355.0
3	6_No_Defect	1251			PPT		39	32						SANTA ROSALIA	9/8/2007	7216	7212	MHI090025	MHI090016	D/S	870	SPI090023	8	VCP			267	271
2	6_No_Defect	1252					R001	6						FERRIS LN	7/25/2005	10140	10141	MHL080018	MHL080019	D/S	5192	SPL080017	8	VCP			60	64.8
3	6_No_Defect	1252			PPT		39	33						LAURELTON	9/8/2007	7216	7163	MHI090025	MHI090018	U/S	909	SPI090032	8	VCP			329	331
2	6_No_Defect	1253					R003	5						MARYLEE DR	7/27/2005	10804	9675	MHL080033	COL080001	U/S	4722	SPL080032	8	VCP			200	118.1

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | C | M | S | H | Fracture F L | C | M | S | H | Broken B SV | VV | Hole H SV | VV | Joint J O S | M | L | S | J S M | L | A | V | H | P | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D AGS | AE B | % | AE L | % | Other Z | % | Roots (R) Fine (F) B | L | J | C | Tap (T) B | L | J | C | Medium (M) B | L | J | C | Ball (B) B | L | J | C | Infiltration I | Obstacles OB G | D | R | W | Vermin V C | Z | Other % | C | R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | FL | BI | BD | Line L D | L | U | R | LD | RD | Intruding Seal Material IS SRH | SRB | SRL | Z | Miscellaneous M SA | CU | MC | Total Construction Features | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | Existing MH ID: CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer ID | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Fracture F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint J: O (S M L) | Joint J: S (S M L) | Joint J: A | Deformed D | Collapsed Pipe X (V H P) | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL (S) | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D (AGS) | Roots (R): Fine (F) AE (B %) | Roots (R): Tap (T) AE (L %) | Roots (R): Tap (T) Other (C Z %) | Roots (R): Medium (M) (B L J C) | Roots (R): Ball (B) (B L J C) | Infiltration I (G D R W) | Obstacles OB (C Z %) | Obstacles Other (C) | Vermin V (R) | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T (FD FL BI BD) | Line L (D L U R LD RD) | Intruding Seal Material IS (SRH SRB SRL) | IS (Z) | Miscellaneous M (SA CU MC) | Total Construction Feature | Reasons for Survey Absent | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | Pipe | | | | | | Structural Defect Coding | | | | | | | | | | |

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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe Existing Sewer ID | Pipe Previous Sewer I.D. | Pipe Size (in) | Pipe Material | Pipe Joint Length (ft) | Pipe GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C | Fracture F | Broken B | Hole H | Joint J | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure | Point Repair | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D AGS | Deposits D AE B | Deposits D AE % | Deposits D Other L | Deposits D Other % | Deposits D Other Z | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I | Obstacles OB C | Obstacles OB Z | Obstacles Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Intruding Seal Material IS R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MO | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | |

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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | Existing MH ID | | Previous MH ID | | Direction of Camera | Pipe | | | | | | Structural Defect Coding | | | | | | | | |

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | Pipe | | | | | | | Structural Defect Coding | | | | | | | | | | |

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| Phase | Priority | Ranking | Repair Completion Date | | 2018_Project | General | | |

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| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General: Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location: Street Name | Existing MH ID: CCTV Date | Existing MH ID: Start | Existing MH ID: End | Previous MH ID: Start | Previous MH ID: End | Pipe: Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer ID | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Pipe: Length (ft) | Pipe: CCTV Length (ft) | Structural Defect Coding: Crack C (L C M S H) | Fracture F (L C M S H) | Broken B (SV VV) | Hole H (SV VV) | Joint J: O (S M) | Joint J: S (L S M L) | Joint J: A | Joint J: V | Deformed D | Collapsed Pipe X (H P) | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL (S) | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits D AGS | Deposits D AE B | Deposits D AE % | Deposits D AE L | Deposits D Other % | Deposits D Other Z | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles O Other C | Obstacles O Other Z | Obstacles O Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Line L LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Features | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Existing Sewer ID	Previous Sewer ID	Pipe Size (in)	Pipe Material	Pipe Joint Length (ft)	Pipe GIS Comment	Length (ft)	Length (ft)	CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aband	GIS Identified Abandoned	Repair Description	Comments	Recommendations
3	6_No_Defect	2107	2018-03-27		PPT		9	34					WARD	5/4/2007	10467	10466	MHO160050	MHO160049	U/S	2179	SPO160045	8	VCP			250	253			0	0	0.00			0	0	0.00	4					Plumber replaced all on property lateral with 4" ABS and removed intruding roots, still had sag in street so we replaced 10' of VCP with 4" PVC.		
3	6_No_Defect	2108			PPT		13	16					TAFT	5/31/2007	10996	10995	MHO160053	MHO160052	U/S	4616	SPO160021	8	VCP			95	163			0	0	0.00			0	0	0.00										
3	6_No_Defect	2109			PPT		13	18					TAFT	5/31/2007	10996	10997	MHO160053	MHO160054	D/S	4617	SPO160022	8	VCP			10	10			0	0	0.00			0	0	0.00										
3	6_No_Defect	2110			PPT		11	18					WESTMINSTER	5/16/2007	0	0	MHO170002	MHO170003	D/S	2306	SPO170030	12	VCP			30	29			0	0	0.00			0	0	0.00										
3	6_No_Defect	2111			PPT		11	19					WESTMINSTER	5/16/2007	0	0	MHO170003	MHO170004	D/S	2307	SPO170031	12	VCP			270	267			0	0	0.00			0	0	0.00										
3	6_No_Defect	2112			PPT		11	20					WESTMINSTER	5/16/2007	0	0	MHO170004	MHO170005	D/S	2308	SPO170032	12	VCP			120	124			0	0	0.00			0	0	0.00										
3	6_No_Defect	2113			PPT		52	34					WESTMINSTER AVE	12/28/2007	0	0	MHO170005	MHO160020	U/S	2175	SPO170034	8	VCP			110	113			0	0	0.00			0	0	0.00										
3	6_No_Defect	2114			PPT		11	22					WESTMINSTER	5/16/2007	10456	10468	MHO170006	MHN170001	D/S	2311	SPN170024	12	VCP			320	332			0	0	0.00			0	0	0.00										
3	6_No_Defect	2115			PPT		11	8					WESTMINSTER	5/15/2007	10422	10421	MHO170008	MHO170007	U/S	2302	SPO170016	12	VCP			300	291			0	0	0.00			0	0	0.00	1									
3	6_No_Defect	2116			PPT		11	7					WESTMINSTER	5/15/2007	0	0	MHO170009	MHO170008	U/S	2303	SPO170017	12	VCP			330	332			0	0	0.00			0	0	0.00										
3	6_No_Defect	2117			PPT		6	7					KEEL	4/12/2007	6941	6942	MHO170011	MHO170012	D/S	234	SPO170019	8	VCP			260	259			0	0	0.00			0	0	0.00	1									
3	6_No_Defect	2118			PPT		6	8					KEEL	4/12/2007	6942	6946	MHO170012	MHO170016	D/S	235	SPO170020	8	VCP			260	262			0	0	0.00			0	0	0.00										
3	6_No_Defect	2119			PPT		5	11					LAKE	4/11/2007	0	0	MHO170015	MHO170013	U/S	236	SPO170021	8	VCP			95	82			0	0	0.00			0	0	0.00									COO170003 corrected to MHO170013	
3	6_No_Defect	2120			PPT		5	12					KEEL	4/11/2007	6945	6944	MHO170015	MHO170014	U/S	237	SPO170022	8	VCP			236	239			0	0	0.00			0	0	0.00	1									
3	6_No_Defect	2121			PPT		5	8					LAKE	4/11/2007	6945	6946	MHO170015	MHO170016	D/S	238	SPO170023	8	VCP			63	64			0	0	0.00			0	0	0.00										
3	6_No_Defect	2122			PPT		5	10					LAKE	4/11/2007	6947	6803	MHO170017	MHO170024	D/S	39	SPO170001	8	VCP			388	394			0	0	0.00			0	0	0.00										
3	6_No_Defect	2123			PPT		5	10					TAFT	4/10/2007	6949	6948	MHO170019	MHO170018	U/S	240	SPO170025	8	VCP			356	357			0	0	0.00			0	0	0.00										
3	6_No_Defect	2124			PPT		5	9					TAFT	4/10/2007	6801	6949	MHO170020	MHO170019	U/S	40	SPO170002	8	VCP			355	357			0	0	0.00			0	0	0.00										
3	6_No_Defect	2125			PPT		5	4					MORNINGSIDE	4/10/2007	6801	6802	MHO170020	MHO170023	D/S	65	SPO170008	8	VCP			260	262			0	0	0.00			0	0	0.00										
3	6_No_Defect	2126			PPT		6	9					PLEASANT	4/12/2007	6950	6951	MHO170021	MHO170022	D/S	241	SPO170026	8	VCP			257	260			0	0	0.00			0	0	0.00										
3	6_No_Defect	2127			PPT		5	5					MORNINGSIDE	4/10/2007	6802	6803	MHO170023	MHO170024	D/S	66	SPO170009	8	VCP			260	263			0	0	0.00			0	0	0.00										
3	6_No_Defect	2128			PPT		5	6					MORNINGSIDE	4/10/2007	6803	6884	MHO170024	MHO170025	D/S	171	SPO170015	8	VCP			372	375			0	0	0.00			0	0	0.00		1								
3	6_No_Defect	2129			PPT		5	8					MORNINGSIDE	4/10/2007	7238	6781	MHO170026	MHO170047	D/S	664	SPO170046	8	VCP			130	107			0	0	0.00			0	0	0.00		2								
3	6_No_Defect	2130			PPT		9	15					TAFT EASEMENT	5/3/2007	6953	6954	MHO170028	MHO170029	D/S	243	SPO170028	8	VCP			299	306			0	0	0.00			0	0	0.00										
3	6_No_Defect	2131			PPT		8	14					COMMERCE ST EASEMENT	4/27/2007	6785	6954	MHO170030	MHO170029	U/S	42	SPO170004	8	VCP			380	382			0	0	0.00			0	0	0.00										
3	6_No_Defect	2132			PPT		7	28					ALLEY E/HOPE	4/25/2007	6955	6956	MHO170031	MHO170032	D/S	244	SPO170035	8	VCP			287	283			0	0	0.00			0	0	0.00										
3	6_No_Defect	2133			PPT		6	11					16th ST.	4/12/2007	6957	6958	MHO170033	MHO170034	D/S	245	SPO170036	8	VCP			292	295			0	0	0.00			0	0	0.00	2									
3	6_No_Defect	2134			PPT		6	13					16th ST.	4/12/2007	6959	6973	MHO170035	MHN170026	D/S	261	SPN170026	8	VCP			292	291			0	0	0.00			0	0	0.00										
3	6_No_Defect	2135			PPT		7	27					ALLEY W/BOWEN	4/25/2007	6961	6784	MHO170037	COO170002	U/S	248	SPO170039	8	VCP			236	283			0	0	0.00			0	0	0.00										
3	6_No_Defect	2136			PPT		7	25					BOWEN	4/25/2007	6962	6963	MHO170038	MHO170039	D/S	250	SPO170041	8	VCP			270	272			0	0	0.00			0	0	0.00										
3	6_No_Defect	2137			PPT		7	26					BOWEN	4/25/2007	6963	7239	MHO170039	MHO170040	D/S	43	SPO170005	8	VCP			270	271			0	0	0.00			0	0	0.00	1									
3	6_No_Defect	2138			PPT		5	7					MORNINGSIDE	4/11/2007	7239	7240	MHO170040	MHO170043	D/S	27	SPO170012	8	VCP			256	257			0	0	0.00			0	0	0.00										
3	6_No_Defect	2139			PPT		6	21					STENGEL	4/12/2007	7240	6965	MHO170043	MHO170042	U/S	44	SPO170006	8	VCP			275	277			0	0	0.00			0	0	0.00	1									
3	6_No_Defect	2140			PPT		6	18					MORNINGSIDE	4/12/2007	7240	7241	MHO170043	MHO170046	D/S	28	SPO170013	8	VCP			256	258			0	0	0.00			0	0	0.00										
3	6_No_Defect	2141			PPT		6	24					BOONY	4/12/2007	6967	7241	MHO170045	MHO170046	D/S	45	SPO170007	8	VCP			275	276			0	0	0.00			0	0	0.00										
3	6_No_Defect	2142			PPT		8	13					COMMERCE ST EASEMENT	4/27/2007	6804	6785	MHO180001	MHO170030	U/S	67	SPO180001	8	VCP			380	383			0	0	0.00			0	0	0.00										
3	6_No_Defect	2143			PPT		7	8					JENNRICH	4/18/2007	6805	6804	MHO180002	MHO180001	U/S	68	SPO180002	8	VCP			32	29			0	0	0.00			0	0	0.00										
3	6_No_Defect	2144			PPT		7	4					JENNRICH	4/18/2007	6805	6806	MHO180002	MHO180016	D/S	69	SPO180003	8	VCP			310	309			0	0	0.00			0	0	0.00										
3	6_No_Defect	2145			PPT		7	9					JENNRICH	4/18/2007	7247	7248	MHO180003	MHO180004	D/S	126	SPO180022	8	VCP			270	373			0	0	0.00			0	0	0.00	1									
3	6_No_Defect	2146			PPT		7	10					JENNRICH	4/18/2007	7248	7249	MHO180004	MHO180005	D/S	127	SPO180023	8	VCP			370	373			0	0	0.00			0	0	0.00										
3	6_No_Defect	2147			PPT		7	11					JENNRICH	4/18/2007	7249	7267	MHO180005	MHO180013	D/S	383	SPO180031	8	VCP			450	352			0	0	0.00			0	0	0.00										
3	6_No_Defect	2148			PPT		7	17					McCLURE	4/25/2007	7250	7251	MHO180006	MHO180007	D/S	128	SPO180024	8	VCP			325	322			0	0	0.00			0	0	0.00										
3	6_No_Defect	2149			PPT		7	21					BOWEN	4/25/2007	7256	7257	MHO180012	MHO180013	D/S	132	SPO180028	8	VCP			213	214			0	0	0.00			0	0	0.00										
3	6_No_Defect	2150			PPT		7	5					JENNRICH	4/18/2007	6806	6807	MHO180016	MHO180017	D/S	70	SPO180004	8	VCP			361	322			0	0	0.00			0	0	0.00										
3	6_No_Defect	2151			PPT		7	7					JENNRICH	4/18/2007	6808	7242	MHO180018	MHO180019	D/S	172	SPO180035	8	VCP			315	324			0	0	0.00			0	0	0.00										
3	6_No_Defect	2152			PPT		6	14					WARD ST	4/12/2007	7242	7243	MHO180019	MHO180020	D/S	29	SPO180018	8	VCP			290	292			0	0	0.00			0	0	0.00										
3	6_No_Defect	2153			PPT		6	15					WARD ST	4/12/2007	7243	7244	MHO180020	MHO180021	D/S	30	SPO180019	8	VCP			270	269			0	0	0.00			0	0	0.00										
3	6_No_Defect	2154			PPT		6	16					WARD ST	4/12/2007	7244	7245	MHO180021	MHO180034	D/S	31	SPO180020	8	VCP			270	276			0	0	0.00			0	0	0.00										
3	6_No_Defect	2155			PPT		4	15					TAFT	4/4/2007	6810	6809	MHO180023	MHO180022	U/S	72	SPO180006	8	VCP			350	353			0	0	0.00			0	0	0.00										
3	6_No_Defect	2156			PPT		4	14					TAFT	4/4/2007	6811	6810	MHO180024	MHO180023	U/S	73	SPO180007	8	VCP			350	353			0	0	0.00			0	0	0.00										
3	6_No_Defect	2157			PPT		4	10					KERN	4/4/2007	6811	6814	MHO180024	MHO180027	D/S	74	SPO180008	8	VCP			266	267			0	0	0.00			0	0	0.00										
3	6_No_Defect	2158			PPT		5	1					PLEASANT	4/9/2007	6812	6813	MHO180025	MHO180026	D/S	75	SPO180009	8	VCP			350	351			0	0	0.00			0	0	0.00										
3	6_No_Defect	2159			PPT		5	2					PLEASANT	4/9/2007	6813	6814	MHO180026	MHO180027	D/S	76	SPO180010	8	VCP			350	353			0	0	0.00			0	0	0.00										
3	6_No_Defect	2160			PPT		5	3					LAKE	4/9/2007	6815	6816	MHO180028	MHO180029	D/S	78	SPO180012	8	VCP			350	355			0	0	0.00			0	0	0.00										
3	6_No_Defect	2161			PPT		4	12					KERN	4/4/2007	6817	6820	MHO180030	MHO180033	D/S	80	SPO180014	8	VCP			285	286			0	0	0.00			0	0	0.00										
3	6_No_Defect	2162			PPT		5	3					JESSICA	4/10/2007	6819	6820	MHO180032	MHO180033	D/S	82	SPO180016	8	VCP			350	351			0	0	0.00			0	0	0.00	2									
3	6_No_Defect	2163			PPT		6	17					WARD ST	4/12/2007	7245	7246	MHO180034	MHO190008	D/S	32	SPO180021	8	VCP			320	321			0	0	0.00			0	0	0.00										
3	6_No_Defect	2164			PPT		6	4					HAZARD	4/12/2007	7261	7262	MHO190002	MHO190003	D/S	315	SPO190023	10	VCP			340	343			0	0	0.00			0	0	0.00										
3	6_No_Defect	2165			PPT		6	5					HAZARD	4/12/2007	7262	7272	MHO190003	MHN190001	D/S	320	SPN190024	10	VCP			340	345			0	0	0.00			0	0	0.00										
3	6_No_Defect	2166			PPT		5	2					HAZARD	4/11/2007	6822	6823	MHO190005	MHO190006	D/S	84	SPO190002	8	VCP			320	322			0	0	0.00			0	0	0.00		2								
3	6_No_Defect	2167			PPT		5	3					HAZARD	4/11/2007	6823	6824	MHO190006	MHO190007	D/S	85	SPO190003	8	VCP			320	323			0	0	0.00			0	0	0.00		1								
3	6_No_Defect	2168			PPT		4	6					PLEASANT	4/4/2007	6829	6828	MHO190012	MHO190013	U/S	90	SPO190008	8	VCP			295	300			0	0	0.00			0	0	0.00									MHO190012. D/S MHO190009 corrected to MHO190013.	
3	6_No_Defect	2169			PPT		4	6					SAIL ST.	4/2/2007	6830	6778	MHO190013	COO190001	U/S	92	SPO190010	8	VCP			94	92			0	0	0.00			0	0	0.00									MHO190013 corrected to MHO190014	
3	6_No_Defect	2170			PPT		4	9					TAFT	4/4/2007	6832	6831	MHO190016	MHO190015	U/S	218	SPO190012	8	VCP			158	158			0	0	0.00			0	0	0.00										
3	6_No_Defect	2171			PPT		4	7					CATALINA	4/4/2007	6832	6833	MHO190016	MHO190017	D/S	219	SPO190013	8	VCP			172	179			0	0	0.00			0	0	0.00										
3	6_No_Defect	2172			PPT		4	8					CATALINA	4/4/2007	6833	6834	MHO190017	MHO190018	D/S	94	SPO190014	8	VCP			362	359			0	0	0.00			0	0	0.00										
3	6_No_Defect	2173			PPT		4	2					SAIL ST.	4/2/2007	6834	6836	MHO190018	MHO190020	D/S	95	SPO190015	8	VCP			256	258			0	0	0.00			0	0	0.00										
3	6_No_Defect	2174			PPT		5	5					AMBER CIR	4/9/2007	6835	6836	MHO190019	MHO190020	D/S	96	SPO190016	8	VCP			256	258			0	0	0.00			0	0	0.00										
3	6_No_Defect	2175			PPT		4	3					SAIL ST.	4/2/2007	6836	6838	MHO190020	MHO190022	D/S	24	SPO190020	8	VCP			256	257			0	0	0.00			0	0	0.00										
3	6_No_Defect	2176			PPT		5	6					SILVER CIR	4/9/2007	6837	6838	MHO190021	MHO190022	D/S	98	SPO190018	8	VCP			256	256			0	0	0.00			0	0	0.00										
3	6_No_Defect	2177			PPT		4	5					SAIL ST.	4/2/2007	6839	6841	MHO200001	MHO200003	D/S	100	SPO200001	8	VCP			152	153			0	0	0.00			0	0	0.00										
3	6_No_Defect	2178			PPT		4	1					WARD	4/4/2007	7297	7298	MHO200005	MHO200009	D/S	387	SPO200015	8	VCP			265	266			0	0	0.00			0	0	0.00										
3	6_No_Defect	2179			PPT		4	14					KETCH	4/3/2007	6843	6844	MHO200006	MHO200007	D/S	103	SPO200004	8	VCP			295	297			0	0	0.00			0	0	0.00										
3	6_No_Defect	2180			PPT		4	15					KETCH	4/3/2007	6844	6885	MHO200007	MHO200008	D/S	104	SPO200005	8	VCP			320	323			0	0	0.00			0	0	0.00		1	1							
3	6_No_Defect	2181			PPT		5	1					KETCH	4/10/2007	7298	6885	MHO200009	MHO200008	U/S	176	SPO200021	8	VCP			320	319			0	0	0.00			0	0	0.00										
3	6_No_Defect	2182			PPT		4	2					WARD	4/4/2007	7298	7299	MHO200009	MHO200013	D/S	388	SPO200016	8	VCP			270	274			0	0	0.00			0	0	0.00										
3	6_No_Defect	2183			PPT		4	12					SCHOONER	4/3/2007	6846	6886	MHO200011	MHO200012	D/S	106	SPO200007	8	VCP			320	322			0	0	0.00			0	0	0.00										
3	6_No_Defect	2184			PPT		4	13					SCHOONER	4/3/2007	6886	7299	MHO200012	MHO200013	D/S	177	SPO200022	8	VCP			320	320			0	0	0.00			0	0	0.00										
3	6_No_Defect	2185			PPT		4	3					WARD	4/4/2007	7299	7300	MHO200013	MHO200021	D/S	389	SPO200017	8	VCP			265	269			0	0	0.00			0	0	0.00										
3	6_No_Defect	2186			PPT		4	5					STARBOARD	4/3/2007	6849	6851	MHO200016	MHO200018	D/S	109	SPO200010	8	VCP			259	271			0	0	0.00			0	0	0.00										
3	6_No_Defect	2187			PPT		4	10					STARBOARD	4/3/2007	6851	6850	MHO200018	MHO200017	U/S	110	SPO200011	8	VCP			290	292			0	0	0.00			0	0	0.00										
3	6_No_Defect	2188			PPT		4	7					STERN	4/3/2007	6851	6852	MHO200018	MHO200019	D/S	111	SPO200012	8	VCP			397	399			0	0	0.00			0	0	0.00										
3	6_No_Defect	2189			PPT		4	9					STERN	4/3/2007	6853	7300	MHO200020	MHO200021	D/S	178	SPO200023	8	VCP			396	395			0	0	0.00			0	0	0.00	2									
3	6_No_Defect	2190			PPT		6	1					WARD	4/12/2007	7300	7301	MHO200021	MHO200023	D/S	390	SPO200018	8	VCP			186	206			0	0	0.00			0	0	0.00		2								
3	6_No_Defect	2191			PPT		52	35					ALLEYWAY	12/28/2007	6887	6780	MHO200022	COO200001	U/S	113	SPO200014	8	VCP			114	102			0	0	0.00			0	0	0.00										
3	6_No_Defect	2192			GGSD		7	136					STARBOARD	1/5/2004	6855	6854	MHO210002	MHO210001	U/S	114	SPO210001	8	VCP			361	392			0	0	0.00			0	0	0.00										
3	6_No_Defect	2193			GGSD		7	137					STARBOARD	1/5/2004	6856	6855	MHO210003	MHO210002	U/S	115	SPO210002	8	VCP			329	362			0	0	0.00			0	0	0.00										
3	6_No_Defect	2194			GGSD		9	179					SAIL	2/3/2004	6859	6860	MHO210005	MHO210006	D/S	119	SPO210005	8	VCP			272	305			0	0	0.00			0	0	0.00										
3	6_No_Defect	2195			GGSD		9	179					SAIL	2/3/2004	6860	6861	MHO210006	MHO210007	D/S	120	SPO210006	8	VCP			222	210			0	0	0.00			0	0	0.00										
3	6_No_Defect	2196			GGSD		8	141					HENDERSON	1/7/2004	6862	7619	MHO210008	Burried MH	U/S	665	SPO210014	8	VCP			142	98			0	0	0.00			0	0	0.00										
3	6_No_Defect	2197			GGSD		8	141					HENDERSON	1/7/2004	6864	6862	MHO210010	MHO210008	U/S	122	SPO210008	8	VCP			350	346			0	0	0.00			0	0	0.00								Inspection is from MHO210010 to MHO210002. Manhole found at 345.8' (MHO210008).	
3	6_No_Defect	2198			GGSD		8	140					HENDERSON	1/6/2004	6864	6863	MHO210010	MHO210009	U/S	123	SPO210009	8	VCP			154	151			0	0	0.00			0	0	0.00										
3	6_No_Defect	2199			GGSD		8	143					YAWL	1/7/2004	6866	6865	MHO210012	MHO210011	U/S	125	SPO210011	8	VCP			388	354			0	0	0.00			0	0	0.00										
3	6_No_Defect	2200			GGSD		9	173					REEVE	1/28/2004	6867	6868	MHO210013	MHO210014	D/S	3	SPO210013	8	VCP			302	321			0	0	0.00			0	0	0.00										
3	6_No_Defect	2201			PPT		51	50					BOLSA	12/28/2007	7302	7303	MHO210018	MHO210019	D/S	392	SPO210015	8	VCP			30	12			0	0	0.00			0	0	0.00		1		1					MSA = Bends	
3	6_No_Defect	2202			GGSD		7	132					BARBETTE	12/19/2003	6869	7307	MHO220003	MHO220004	D/S	181	SPO220029	8	VCP			319	307			0	0	0.00			0	0	0.00										
3	6_No_Defect	2203			GGSD		7	132					BARBETTE	12/19/2003	7307	7308	MHO220004	MHO220005	D/S	396	SPO220019	8	VCP			258	335			0	0	0.00			0	0	0.00									MHO220016 corrected to MHO220005	
3	6_No_Defect	2204			GGSD		6	130					KEELSON	12/16/2003	6870	6871	MHO220008	MHO220009	D/S	4	SPO220004	8	VCP			185	135			0	0	0.00			0	0	0.00										
3	6_No_Defect	2205			GGSD		6	130					KEELSON	12/16/2003	6871	7310	MHO220009	MHO220010	D/S	182	SPO220030	8	VCP			223	349			0	0	0.00			0	0	0.00										
3	6_No_Defect

Phase	Priority	Ranking	Repair Completion Date	2018_Project	Contractor	Tape No.	DVD No.	Inspection No.	Reversal Tape No.	Reversal DVD No.	Reversal Inspec. No.	DVD Watched? (Y)	Location	Street Name	CCTV Date	Existing MH ID Start	Existing MH ID End	Previous MH ID Start	Previous MH ID End	Direction of Camera	Existing Sewer ID	Previous Sewer ID	Size (in)	Material	Joint Length (ft)	GIS Comment	Length (ft)	CCTV Length (ft)	Structural Defect Coding	PACP Quick Struct Rating	Total Structural Defects	Total Structural Defect Score	Structural Defect Index	Operational and Maintenance	PACP Quick Maint Rating	Total O&M Defects	Total O&M Defect Score	O&M Defect Index	Construction Features	Miscellaneous	Total Construction Features	Reasons for Survey Aborted	GIS Identified Abandoned	Repair Description	Comments	Recommendations
3	6_No_Defect	2211			GGSD		3	89					BALLAST	BALLAST	11/20/2003	7223	7222	MHO230006	MHO230005	U/S	12	SPO230005	8	VCP			222	245			0	0	0.00			0	0	0.00								MHO230005 corrected to MHO230006	
3	6_No_Defect	2212			GGSD		3	89					BALLAST	BALLAST	11/20/2003	7224	7223	MHO230007	MHO230006	U/S	13	SPO230006	8	VCP			387	290			0	0	0.00			0	0	0.00									
3	6_No_Defect	2213			GGSD		3	90					BALLAST	BALLAST	11/20/2003	7319	7224	MHO230008	MHO230007	U/S	186	SPO230031	8	VCP			416	348			0	0	0.00			0	0	0.00								MHO230004 corrected to MHO230005	
3	6_No_Defect	2214			GGSD		19	397					WARD	WARD	5/13/2004	7320	6792	MHO230009	MHO230031	U/S	57	SPO230003	8	VCP			92	99			0	0	0.00			0	0	0.00									
3	6_No_Defect	2215			GGSD		19	397					WARD	WARD	5/13/2004	7320	7321	MHO230010	MHO230009	D/S	162	SPO230021	8	VCP			80	111			0	0	0.00			0	0	0.00									
3	6_No_Defect	2216			GGSD		19	398				Y	WARD	WARD	5/13/2004	7321	6878	MHO230010	MHO230011	D/S	163	SPO230022	8	VCP			384	349			0	0	0.00			0	0	0.00									
3	6_No_Defect	2217			GGSD		19	398				Y	WARD	WARD	5/13/2004	6878	6879	MHO230011	MHO230012	D/S	164	SPO230023	8	VCP			330	350			0	0	0.00			0	0	0.00									
3	6_No_Defect	2218			GGSD		4	104					STARBOARD	STARBOARD	12/2/2003	7225	7222	MHO230014	MHO230005	D/S	56	SPO230002	8	VCP			260	255			0	0	0.00			0	0	0.00									
3	6_No_Defect	2219			GGSD		5	107					SENNIT	SENNIT	12/4/2003	7225	7226	MHO230014	MHO230015	D/S	14	SPO230007	8	VCP			221	266			0	0	0.00			0	0	0.00									
3	6_No_Defect	2220			GGSD		4	106					SENNIT	SENNIT	12/4/2003	6881	7227	MHO230017	MHO230016	U/S	187	SPO230032	8	VCP			415	487			0	0	0.00			0	0	0.00								Additional MH found	
3	6_No_Defect	2221			GGSD		4	104					STARBOARD	STARBOARD	12/2/2003	7228	7225	MHO230018	MHO230014	D/S	55	SPO230001	8	VCP			270	268			0	0	0.00			0	0	0.00									
3	6_No_Defect	2222			GGSD		5	111					BEACON	BEACON	12/5/2003	7228	7229	MHO230018	MHO230019	D/S	16	SPO230009	8	VCP			204	183			0	0	0.00			0	0	0.00									
3	6_No_Defect	2223			GGSD		5	110					BEACON	BEACON	12/4/2003	6882	7230	MHO230021	MHO230020	U/S	188	SPO230033	8	VCP			414	348			0	0	0.00			0	0	0.00								MHO230021 to MHO230020 GIS Length is 413.6'. Not Clear, MHO230020 is buried MH on Inspection Report. It is not MHO230020	
3	6_No_Defect	2224			GGSD		6	117					KEDGE	KEDGE	12/9/2003	7233	7234	MHO230025	MHO230026	D/S	20	SPO230014	8	VCP			290	408			0	0	0.00			0	0	0.00								Additional MH found	
3	6_No_Defect	2225			GGSD		6	117					KEDGE	KEDGE	12/9/2003	7234	7235	MHO230026	MHO230027	D/S	21	SPO230015	8	VCP			226	149			0	0	0.00			0	0	0.00									
3	6_No_Defect	2226			GGSD		6	116					REEVE	REEVE	12/9/2003	7236	7237	MHO230028	MHO230029	D/S	23	SPO230017	8	VCP			250	271			0	0	0.00			0	0	0.00								MHO230016 corrected to MHO230029	
3	6_No_Defect	2227			GGSD		5	114					SPAR	SPAR	12/5/2003	6883	6882	MHO230030	MHO230021	U/S	168	SPO230027	8	VCP			260	235			0	0	0.00			0	0	0.00									
3	6_No_Defect	2228			PPT		12	6					STANRICH	STANRICH	5/21/2007	11794	11793	MHP130040	MHP130039	U/S	4798	SPP130036	8	VCP			160	146			0	0	0.00			0	0	0.00									
3	6_No_Defect	2229			PPT		12	5					STANRICH	STANRICH	5/21/2007	11795	11794	MHP130041	MHP130040	U/S	4799	SPP130037	8	VCP			105	106			0	0	0.00			0	0	0.00								Pipe SPP1130037 corrected to SPP130037	
3	6_No_Defect	2230			PPT		12	7					STANRICH	STANRICH	5/21/2007	11797	11796	MHP130043	MHP130042	U/S	4894	SPP130039	8	VCP			175	186			0	0	0.00			0	0	0.00									
3	6_No_Defect	2231			PPT		12	1					DOROTHY	DOROTHY	5/21/2007	11798	11795	MHP130044	MHP130041	U/S	4800	SPP130038	8	VCP			370	374			0	0	0.00			0	0	0.00									
3	6_No_Defect	2232			PPT		12	4					DOROTHY	DOROTHY	5/21/2007	11798	11797	MHP130044	MHP130043	U/S	4895	SPP130040	8	VCP			320	320			0	0	0.00			0	0	0.00									
3	6_No_Defect	2233			PPT		12	2					DOROTHY	DOROTHY	5/21/2007	11798	11799	MHP130044	MHP130045	D/S	4896	SPP130041	8	VCP			100	97			0	0	0.00			0	0	0.00									
3	6_No_Defect	2234			PPT		12	3					DOROTHY	DOROTHY	5/21/2007	11799	11800	MHP130045	MHP140030	D/S	4897	SPP140023	8	VCP			120	97			0	0	0.00			0	0	0.00									
3	6_No_Defect	2235			PPT		12	32					EUCLID	EUCLID	5/23/2007	11802	11801	MHP140032	MHP140031	U/S	4899	SPP140025	8	VCP			310	315			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2236			PPT		11	47					LYNNE	LYNNE	5/21/2007	11806	11807	MHP140033	MHP140034	D/S	4904	SPP140027	6	VCP			205	211			0	0	0.00			0	0	0.00									
3	6_No_Defect	2237			PPT		11	48					LYNNE	LYNNE	5/21/2007	11807	11808	MHP140034	MHP140035	D/S	4905	SPP140028	8	VCP			265	271			0	0	0.00			0	0	0.00									
3	6_No_Defect	2238			PPT		11	36					LYNNE	LYNNE	5/17/2007	11809	11812	MHP140036	MHP140039	D/S	4907	SPP140030	8	VCP			285	301			0	0	0.00			0	0	0.00									
3	6_No_Defect	2239			PPT		12	8					MITCHELL	MITCHELL	5/21/2007	11810	11811	MHP140037	MHP140038	U/S	4908	SPP140031	6	VCP			180	192			0	0	0.00			0	0	0.00									
3	6_No_Defect	2240			PPT		12	9					MITCHELL	MITCHELL	5/21/2007	11811	11812	MHP140038	MHP140039	D/S	4909	SPP140032	8	VCP			300	302			0	0	0.00			0	0	0.00									
3	6_No_Defect	2241			PPT		12	13					DOROTHY	DOROTHY	5/21/2007	11818	11800	MHP140043	MHP140030	U/S	4898	SPP140024	8	VCP			150	164			0	0	0.00			0	0	0.00									
3	6_No_Defect	2242			PPT		12	11					DOROTHY	DOROTHY	5/21/2007	11818	11819	MHP140043	MHP140044	D/S	5290	SPP140037	8	VCP			160	154			0	0	0.00			0	0	0.00									
3	6_No_Defect	2243			PPT		11	46					DOROTHY	DOROTHY	5/21/2007	11820	12294	MHP140045	MHO140019	D/S	4428	SPO140031	8	VCP			360	363			0	0	0.00			0	0	0.00			1						
3	6_No_Defect	2244			PPT		13	22					JOLA	JOLA	5/31/2007	11924	11925	MHP150012	MHP150013	D/S	4828	SPP150012	8	VCP			335	322			0	0	0.00			0	0	0.00									
3	6_No_Defect	2245			PPT		12	43					LIBBY	LIBBY	5/25/2007	11926	11925	MHP150014	MHP150013	U/S	4829	SPP150013	8	VCP			275	268			0	0	0.00			0	0	0.00									
3	6_No_Defect	2246			PPT		12	42					LIBBY	LIBBY	5/25/2007	11927	11926	MHP150015	MHP150014	U/S	4830	SPP150014	8	VCP			250	264			0	0	0.00			0	0	0.00									
3	6_No_Defect	2247			PPT		12	41					WOODBURY	WOODBURY	5/25/2007	11927	11495	MHP150015	MHQ150022	U/S	5424	SPP150030	8	VCP			290	286			0	0	0.00			0	0	0.00									
3	6_No_Defect	2248			PPT		12	39					WOODBURY	WOODBURY	5/25/2007	11929	11427	MHP150017	COP150002	U/S	5301	SPP150015	8	VCP			130	120			0	0	0.00			0	0	0.00									
3	6_No_Defect	2249			PPT		12	40					BARNETT	BARNETT	5/25/2007	11929	11928	MHP150017	MHP150016	U/S	5302	SPP150016	8	VCP			350	351			0	0	0.00			0	0	0.00									
3	6_No_Defect	2250			PPT		12	37					WOODBURY	WOODBURY	5/25/2007	11929	11930	MHP150017	MHP150018	D/S	5303	SPP150017	8	VCP			220	218			0	0	0.00			0	0	0.00									
3	6_No_Defect	2251			PPT		10	42					WOODBURY	WOODBURY	5/14/2007	11000	10953	MHP150018	MHO150050	U/S	4013	SPP150047	8	VCP			267	253			0	0	0.00			0	0	0.00									
3	6_No_Defect	2252			PPT		12	38					WOODBURY	WOODBURY	5/25/2007	11930	11941	MHP150018	MHP150032	D/S	5304	SPP150018	8	VCP			285	281			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2253			PPT		13	24					HAVENWOOD	HAVENWOOD	5/31/2007	11934	11932	MHP150022	MHP150020	U/S	5306	SPP150020	8	VCP			195	203			0	0	0.00			0	0	0.00	2								
3	6_No_Defect	2254			PPT		13	23					WENTWORTH	WENTWORTH	5/31/2007	11934	11933	MHP150022	MHP150021	U/S	5307	SPP150021	8	VCP			175	180			0	0	0.00			0	0	0.00	2								
3	6_No_Defect	2255			PPT		14	39					HAVENWOOD	HAVENWOOD	6/5/2007	11936	11935	MHP150024	MHP150023	U/S	5456	SPP150023	10	VCP			320	338			0	0	0.00			0	0	0.00									
3	6_No_Defect	2256			PPT		15	1					WENTWORTH	WENTWORTH	6/5/2007	11938	11937	MHP150026	MHP150025	U/S	5309	SPP150025	8	VCP			215	201			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2257			PPT		15	26					WOODBURY	WOODBURY	6/11/2007	11970	11430	MHP150030	COP150001	U/S	3852	SPP150055	8	VCP			90	89			0	0	0.00			0	0	0.00									
3	6_No_Defect	2258			PPT		15	24					WOODBURY EASEMENT	WOODBURY EASEMENT	6/11/2007	11970	11969	MHP150030	MHP150029	U/S	5283	SPP150054	6	VCP			240	248			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2259			PPT		17	17					HAVENWOOD EASEMENT	HAVENWOOD EASEMENT	6/16/2007	11941	11942	MHP150032	MHP160001	D/S	5459	SPP150029	12	VCP			150	147			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2260			PPT		12	26					TRASK	TRASK	5/22/2007	11804	11803	MHP150034	MHP150033	U/S	4901	SPP150031	8	VCP			260	287			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2261			PPT		12	24					TRASK	TRASK	5/22/2007	11813	11805	MHP150035	MHP150037	U/S	4903	SPP150033	8	VCP			130	134			0	0	0.00			0	0	0.00									
3	6_No_Defect	2262			PPT		12	22					TRASK	TRASK	5/22/2007	11815	12291	MHP150036	MHO150007	D/S	4334	SPO150017	8	VCP			320	321			0	0	0.00			0	0	0.00			2						
3	6_No_Defect	2263			PPT		12	4					ELIZABETH	ELIZABETH	5/22/2007	11815	11814	MHP150036	MHP140040	U/S	5287	SPP140034	8	VCP			220	220			0	0	0.00			0	0	0.00								Pipe SPP150031 corrected to SPP140034	
3	6_No_Defect	2264			PPT		12	23					TRASK	TRASK	5/22/2007	11815	11813	MHP150036	MHP150035	U/S	5286	SPP150034	8	VCP			330	322			0	0	0.00			0	0	0.00									
3	6_No_Defect	2265			PPT		12	25					TRASK	TRASK	5/22/2007	11805	11804	MHP150037	MHP150034	U/S	4902	SPP150032	8	VCP			200	196			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2266			PPT		11	28					ALLEY W/O EUCLID	EUCLID	5/16/2007	10943	10942	MHP150040	MHP150039	U/S	4002	SPP150036	8	VCP			320	337			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2267			PPT		10	45					WOODBURY	WOODBURY	5/14/2007	10946	10943	MHP150043	MHP150040	U/S	4003	SPP150037	8	VCP			150	150			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2268			PPT		11	17					FERNWOOD	FERNWOOD	5/15/2007	10948	10947	MHP150045	MHP150044	U/S	4007	SPP150041	8	VCP			180	172			0	0	0.00			0	0	0.00									
3	6_No_Defect	2269			PPT		11	16					FERNWOOD	FERNWOOD	5/15/2007	10949	10950	MHP150046	MHP150047	D/S	4009	SPP150043	8	VCP			275	276			0	0	0.00			0	0	0.00									
3	6_No_Defect	2270			PPT		10	44					WOODBURY	WOODBURY	5/14/2007	10950	10946	MHP150047	MHP150043	U/S	4006	SPP150040	8	VCP			240	240			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2271			PPT		10	41					WOODBURY	WOODBURY	5/14/2007	10950	10953	MHP150047	MHP150050	D/S	4010	SPP150044	8	VCP			265	269			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2272			PPT		10	47					LOMBARDY	LOMBARDY	5/14/2007	10952	10951	MHP150049	MHP150048	U/S	4011	SPP150045	8	VCP			140	130			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2273			PPT		10	46					LOMBARDY	LOMBARDY	5/14/2007	10953	10952	MHP150050	MHP150049	U/S	4012	SPP150046	8	VCP			330	333			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2274			PPT		10	51					MILLS	MILLS	5/14/2007	10955	10954	MHP150052	MHP150051	U/S	4014	SPP150048	8	VCP			40	36			0	0	0.00			0	0	0.00									
3	6_No_Defect	2275			PPT		10	52					GAINES	GAINES	5/14/2007	10956	10998	MHP150053	MHO150016	U/S	4016	SPP150050	8	VCP			220	221			0	0	0.00			0	0	0.00	1	1							
3	6_No_Defect	2276			PPT		14	34					ANITA	ANITA	6/5/2007	11943	11942	MHP160002	MHP160001	U/S	5460	SPP160002	12	VCP			15	22			0	0	0.00			0	0	0.00									
3	6_No_Defect	2277			PPT		14	30					ROSITA	ROSITA	6/4/2007	11945	11429	MHP160003	COP160001	U/S	5313	SPP160004	8	VCP			60	50			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2278			PPT		14	28					ROSITA	ROSITA	6/4/2007	11945	11946	MHP160003	MHP160004	D/S	5314	SPP160005	8	VCP			40	50			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2279			PPT		14	29					ROSITA	ROSITA	6/4/2007	11946	11947	MHP160004	MHP160005	D/S	5315	SPP160006	8	VCP			335	339			0	0	0.00			0	0	0.00	1	1							
3	6_No_Defect	2280			PPT		14	12					LA BONITA	LA BONITA	6/1/2007	11949	11950	MHP160006	MHP160007	D/S	5318	SPP160008	8	VCP			285	288			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2281			PPT		14	13					LA BONITA	LA BONITA	6/1/2007	11950	11951	MHP160007	MHP170003	D/S	5319	SPP160009	8	VCP			270	287			0	0	0.00			0	0	0.00									
3	6_No_Defect	2282			PPT		15	2					ANABEL	ANABEL	6/9/2007	11952	11953	MHP160008	MHP160009	D/S	5321	SPP160010	8	VCP			220	222			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2283			PPT		15	3					ANABEL	ANABEL	6/9/2007	11953	11954	MHP160009	MHP160010	D/S	5322	SPP160011	8	VCP			220	224			0	0	0.00			0	0	0.00									
3	6_No_Defect	2284			PPT		14	8					LA BONITA	LA BONITA	6/1/2007	11954	11956	MHP160010	MHP160012	D/S	5323	SPP160012	8	VCP			330	334			0	0	0.00			0	0	0.00		3							
3	6_No_Defect	2285			PPT		14	10					CYNTHIA	CYNTHIA	6/1/2007	11955	11956	MHP160011	MHP160012	D/S	5324	SPP160013	8	VCP			215	263			0	0	0.00			0	0	0.00									
3	6_No_Defect	2286			PPT		14	9					LA BONITA	LA BONITA	6/1/2007	11956	11957	MHP160012	MHP160013	D/S	5325	SPP160014	8	VCP			170	171			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2287			PPT		14	11					SAN JUAN	SAN JUAN	6/1/2007	11957	11963	MHP160013	MHP160021	D/S	5326	SPP160015	8	VCP			325	339			0	0	0.00			0	0	0.00									
3	6_No_Defect	2288			PPT		14	16					CYNTHIA CIR	CYNTHIA CIR	6/1/2007	11972	11971	MHP160016	MHP160015	U/S	3853	SPP160041	8	VCP			345	346			0	0	0.00			0	0	0.00									
3	6_No_Defect	2289			PPT		14	14					CYNTHIA CIR	CYNTHIA CIR	6/1/2007	11972	11959	MHP160016	MHP160017	D/S	3855	SPP160042	8	VCP			275	278			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2290			PPT		14	15					CYNTHIA CIR	CYNTHIA CIR	6/1/2007	11959	11960	MHP160017	MHP160018	D/S	5327	SPP160017	8	VCP			185	201			0	0	0.00			0	0	0.00		1							
3	6_No_Defect	2291			PPT		14	32					ANITA	ANITA	6/5/2007	11963	11961	MHP160021	MHP160018	U/S	5464	SPP160019	12	VCP			110	261			0	0	0.00			0	0	0.00		2							
3	6_No_Defect	2292			PPT		14	35					ANITA	ANITA	6/5/2007	11963	11965	MHP160021	MHP160023	D/S	5465	SPP160021	12	VCP			215	222			0	0	0.00			0	0	0.00									
3	6_No_Defect	2293			PPT		10	40					MILLS	MILLS	5/14/2007	11002	11001	MHP160023	MHO160022	U/S	6000	SPO160001	8	VCP			163	165			0	0	0.00			0	0	0.00									
3	6_No_Defect	2294			PPT		52	20					ANITA EASEMENT	ANITA EASEMENT	12/27/2007	11965	11964	MHP160023	MHP160022	U/S	5422	SPP160022	8	VCP			50	47			0	0	0.00			0	0	0.00									
3	6_No_Defect	2295			PPT		14	36					ANITA	ANITA	6/5/2007	11965	11966	MHP160023	MHP170004	D/S	5466	SPP160023	12	VCP			405	408			0	0	0.00			0	0	0.00		2							
3	6_No_Defect	2296			PPT		10	24					BLAKE	BLAKE	5/11/2007	10958	10957	MHP160025	MHP160024	U/S	5953	SPP160025	8	VCP			215	218			0	0	0.00			0	0	0.00									
3	6_No_Defect	2297			PPT		10	22					BLAKE	BLAKE	5/11/2007	10959	10981	MHP160026	MHO160021	U/S	4619	SPO160023	8	VCP			350	352			0	0	0.00			0	0	0.00									
3	6_No_Defect	2298			PPT		10	21					BLAKE	BLAKE	5/11/2007	10960	10959	MHP160027	MHP160026	U/S	5955	SPP160027	8	VCP			350	352			0	0	0.00			0	0	0.00									
3	6_No_Defect	2299			PPT		12	36					MANSOR	MANSOR	5/25/2007	10962	10961	MHP160029	MHP160028	U/S	5988	SPP160029	8	VCP			227	227			0	0	0.00			0	0	0.00									
3	6_No_Defect	2300			PPT		10	20					FERNWOOD	FERNWOOD	5/11/2007	10962	10970	MHP160029	MHP160037	D/S	5989	SPP160030	8	VCP			149	149			0	0	0.00			0	0	0.00									
3	6_No_Defect	2301			PPT		10	35					FERNWOOD	FERNWOOD	5/14/2007	10965	10963	MHP160032	MHP160030	U/S	5990	SPP160031	8	VCP			145	141			0	0	0.00			0	0	0.00									
3	6_No_Defect	2302			PPT		12	31					RANNEY	RANNEY	5/22/2007	10965	10964	MHP160032	MHP160031	U/S	5991	SPP160032	8	VCP			227	226			0	0	0.00			0	0	0.00									
3	6_No_Defect	2303			PPT		10	25					ALLEY W/O EUCLID	EUCLID	5/11/2007	10968	10967	MHP160035	MHP160034	U/S	5994	SPP160035	8	VCP			325	326			0	0	0.00			0	0	0.00	1								
3	6_No_Defect	2304			PPT		10	34					FERNWOOD	FERNWOOD	5/14/2007	10969	10965	MHP160036	MHP160032	U/S	5992	SPP160033	8	VCP			243	246			0	0	0.00			0	0	0.00									
3	6_No_Defect	2305			PPT		10	33					FERNWOOD	FERNWOOD	5/14/2007	10970	10969	MHP160037	MHP160036

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | Pipe | | | | | | | Structural Defect Coding | | | | | | | | | | |

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | | | Pipe | | | | | | Structural Defect Coding | | | | | | | | | | | | | |

Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | | | | | | | | | Structural Defect Coding | | | | | | | | | | | | | | | | | | |

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Pipe: Existing Sewer ID | Pipe: Previous Sewer ID | Pipe: Size (in) | Pipe: Material | Pipe: Joint Length (ft) | Pipe: GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack C L | Crack C C | Crack C M | Crack C S | Crack C H | Fracture F L | Fracture F C | Fracture F M | Fracture F S | Fracture F H | Broken B SV | Hole H VV | Hole H SV | Hole H VV | Joint O S | Joint J M | Joint J L | Joint J S M | Joint J L | Joint J A | Joint J V | Deformed D | Collapsed Pipe X | Buttress Surface Damage H | Buttress Surface Damage P | Lining Failure S | Point Repair LF | Point Repair RP | Sags WL | Sags S | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I C | Infiltration I G | Infiltration I D | Infiltration I R | Infiltration I W | Obstacles OB C | Obstacles OB Z | Obstacles Other % | Vermin V C | Vermin V R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line L D | Line L L | Line L U | Line L R | Intruding Seal Material IS LD | Intruding Seal Material IS RD | Intruding Seal Material IS SRH | Intruding Seal Material IS SRB | Intruding Seal Material IS SRL | Intruding Seal Material IS Z | Miscellaneous M SA | Miscellaneous M CU | Miscellaneous M MC | Total Construction Feature | Reasons for Survey Aborted | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched?(Y) | Location | Street Name | CCTV Date | Existing MH ID Start | Existing MH ID End | Previous MH ID Start | Previous MH ID End | Direction of Camera | Existing Sewer ID | Previous Sewer ID | Size (in) | Material | Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Structural Defect Coding: Crack L | Crack C | Crack M | Crack S | Crack H | Fracture L | Fracture C | Fracture M | Fracture S | Fracture H | Broken S | Broken SV | Hole VV | Joint O SV | Joint O VV | Joint J S | Joint J M | Joint J L | Joint J S | Joint J M | Joint J L | Joint J A | Deformed D | Collapsed Pipe X | Surface Damage V | Lining Failure H | Point Repair P | Sags S | WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Operational and Maintenance: Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Tap (T) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Roots (R) Ball (B) C | Infiltration I | Obstacles OB | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin C | Vermin R | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Construction Features: Tap (Lateral) T FD | Tap (Lateral) T FL | Tap (Lateral) T BI | Tap (Lateral) T BD | Line D | Line L | Line U | Line R | Line LD | Intruding Seal Material IS RD | IS SRH | IS SRB | IS SRL | IS Z | Miscellaneous M SA | M CU | M MC | Total Construction Features | Reasons for Survey Aband. | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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Appendix D-3

| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | Contractor | Tape No. | DVD No. | Inspection No. | Reversal Tape No. | Reversal DVD No. | Reversal Inspec. No. | DVD Watched? (Y) | Location | Street Name | CCTV Date | Existing MH ID | Previous MH ID | Direction of Camera | Existing Sewer ID | Previous Sewer I.D. | Size (in) | Material | Joint Length (ft) | GIS Comment | Length (ft) | CCTV Length (ft) | Crack C | Fracture F | Broken B | Hole H | Joint J | Deformed D | Collapsed Pipe X | Surface Damage S | Lining Failure LF | Point Repair RP | Sags WL | PACP Quick Struct Rating | Total Structural Defects | Total Structural Defect Score | Structural Defect Index | Deposits AGS | Deposits AE B | Deposits AE % | Deposits AE L | Deposits AE % | Deposits Other Z | Deposits Other % | Roots (R) Fine (F) B | Roots (R) Fine (F) L | Roots (R) Fine (F) J | Roots (R) Tap (T) C | Roots (R) Tap (T) B | Roots (R) Tap (T) L | Roots (R) Tap (T) J | Roots (R) Medium (M) C | Roots (R) Medium (M) B | Roots (R) Medium (M) L | Roots (R) Medium (M) J | Roots (R) Ball (B) C | Roots (R) Ball (B) B | Roots (R) Ball (B) L | Roots (R) Ball (B) J | Infiltration I | Obstacles O | Obstacles Other O | Obstacles Other C | Obstacles Other Z | Obstacles Other % | Vermin V | PACP Quick Maint Rating | Total O&M Defects | Total O&M Defect Score | O&M Defect Index | Tap (Lateral) T | Line L | Intruding Seal Material IS | Miscellaneous M | Total Construction Feature | Reasons for Survey Aband | GIS Identified Abandoned | Repair Description | Comments | Recommendations |
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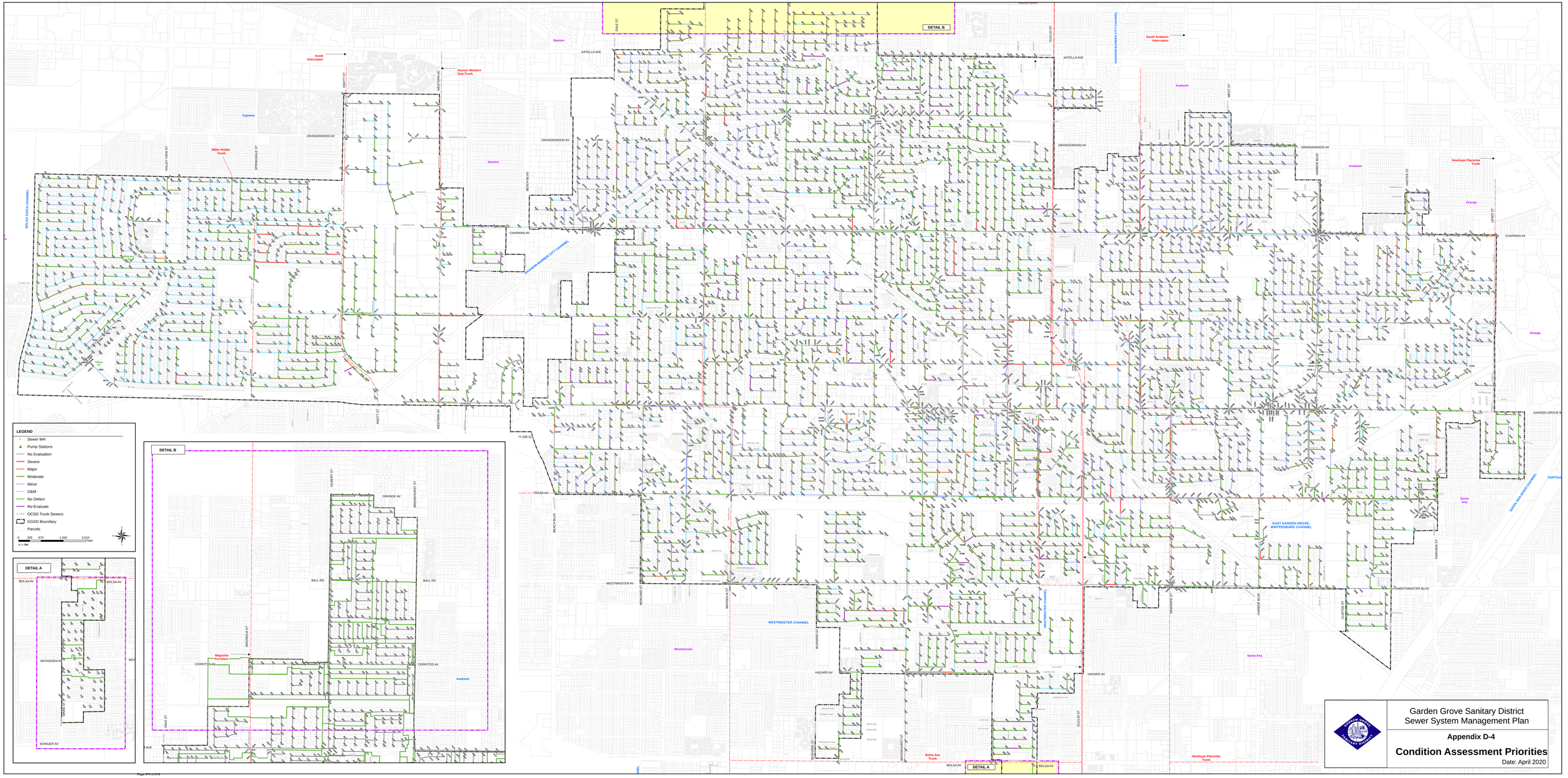
| Phase | Priority | Ranking | Repair Completion Date | 2018_Project | General | | | | | | | | | | | | | | Pipe | | | | | | Structural Defect Coding | | | | | | | | | | | | | |

Appendix D-4

Condition Assessment Priorities


DETAIL B
DETAIL A
LEGEND
Sewer MH
Pump Stations
No Evaluation
Severe
Major
Moderate
Minor
O&M
No Defect
Re-Evaluate
OCSD Trunk Sewers
GGSD Boundary
Parcels
0 335 670 1,340 2,010 Feet
1" = 1Mi
Knott Interceptor
Hoover Western Sub-Trunk
Miller Holder Trunk
South Anaheim Interceptor
Newhope Placentia Trunk
Magnolia Purchase
Bolsa Ave Trunk
Cypress
Stanton
Anaheim
Orange
Westminster
Santa Ana
Garden Grove
KATELLA AVE
ORANGEWOOD AV
CHAPMAN AV
TRASK AV
ORANGE AV
WESTMINSTER AV
WESTMINSTER BLVD
HAZARD AV
BOLSA AV
BALL RD
CERRITOS AV
MCFADDEN AV
EDINGER AV
KNOTT ST
WESTERN AV
BEACH BLVD
EUCLID ST
HARBOR BLVD
WEST ST
HASTER ST
LEWIS ST
FAIRVIEW ST
GILBERT ST
BROOKHURST ST
MAGNOLIA ST
HEWLAND ST
BUSHARD ST
WAKEMAN ST
VALLEY VIEW ST
SPRINGDALE ST
HALE ST
WARD ST
BOLSA CHICA CHANNEL
ANAHEIM-BARBER CITY CHANNEL
WESTMINSTER CHANNEL
EAST GARDEN GROVE-WINTERSBURG CHANNEL
SANTA ANA RIVER CHANNEL
Garden Grove Sanitary District
Sewer System Management Plan
Appendix D-4
Condition Assessment Priorities
Date: April 2020

Appendix D-5

Equipment Inventory

Vehicles
3 – Combination trucks
1 – CCTV van
1 – Utility truck with crane
2 – Flatbed trucks
2 – Utility trucks
1 – 10-Wheeler dump truck
1 – Backhoe trailer
1 – Backhoe
1 – Heavy duty flatbed truck
1 – Heavy duty dump bed truck
1 – Dump trailer
1 – Towable air compressor
1 – Solar arrow board
1 – Solar message board
1 – Trailer mounted bypass pump

Vehicle Equipment
300 Feet of 6-inch dump hose for combination trucks
1 – 20-Foot leader hoses
1 – Tiger tail hose guide
2 – 5-Foot aluminum double flanged suction tubes
1 – 3-Foot aluminum double flanged suction tube
1 – Flex suction hose for combination trucks
9 – Suction tube clamps
1 – Lateral-cleaning hose and reel
2 – Emergency reflective triangles
2 – Fill hoses
5 – Hydrant wrenches
3 - Wash down guns
1 – Come along winch
25 – 30 Minute Flares
3 – Grease Guns
2 – 12 Foot Clams
1 – 8 Foot Clams

Sewer Maintenance Equipment
1 – SRECO CCTV push camera, monitor, and locator
1 – RIDGID “See Snake” CCTV push camera, monitor, and locator
1 – Envirosight pole camera with tablet
1 – Dell laptop for SCADA use
1 – Panasonic Toughbook laptop
1 – Gas-powered bypass pump
2 – Suction hoses for bypass pump
1 – Honda 2000I gas powered inverter generator
1 – Metal detector
1 – 5 Gallon portable air tank
1 – Roll of neoprene rubber for storm drain mats
1 – Manhole debris scoops
1 – 8-Foot clams
6 – 6-Foot aluminum extension poles for scrapers
1 – EZ Up canopy
Assorted rubber plugs for I/I prevention
1 – Upper manhole roller
1 – Sewer hose swage tool with assorted fittings
6 - Sewer hose traffic ramps
Assorted grit catchers
2– 15-Inch sand traps
4 – J-hook manhole pullers
4 – Chain hook large manhole pullers

Sewer Cleaning Equipment
16 – Standard sanitary nozzles in various shapes
2 – Stone Age Industries Warthog nozzles
1 – Lumberjack nozzle
3 – 3D Cleaning nozzles
1 – Chain knocker
2 – Root cutters
1 – Milling cutter
1 – Bulldog nozzle
3 – Teardrop grease bullet nozzles
2 – Dual radial nozzles
2 – Buzz bomb nozzles
1 – Rotating screw blade spinner nozzle
5 – Sreco Vortex nozzles
2 – Sand and sludge nozzle
2 – Storm aluminum nozzles
1 – Terminator nozzle
1 – Super Blockbuster penetrating nozzle
1 – Dagger nozzle
2 – Nozzles with pulling eye
1 – 4-Inch sewer cleaning ball
1 – 6-Inch porcupine
1 – 8-Inch porcupine
1 – 10-Inch porcupine
1 – 18-Inch proofing tool
Assorted skids in various sizes
Assorted skids, chains, and tools for chain knocker
Assorted skids, blades, and tools for root cutters

Safety Equipment
2 – Traffic safety signs
1 – DBI Sala tripod
2 – Fall prevention winches
2 – Lift winches
8 – Harnesses
2 – Triangle harness spreaders
12 – Hard hats
2 – Fall arrest lanyards
2 – Pass through anchor slings
2 – 15-Minute SCBA
1 – 30-Minute SCBA
3 – 15-Minute air tanks without adapters
2 – Electric blowers
1 – Alegro blower/hose unit
5 – Flexible blower duct hoses
1 – Saddle vent
1 – Manhole barricade
3 – Gas detectors
3 – 20 Foot gas detector extension tubes
1 – 3M respirator
1 – Chainsaw safety helmet
3 – LED rechargeable safety lamps
1 – Air Star lighting system
6 – Stemar Speed Shore hydraulic shoring Jacks
6 – Speed Shore shoring fluid – 8oz. bottles
1 – Speed Shore hydraulic shoring pump
1 – 10 Foot fiberglass step ladder
6 – Folding traffic barricades
20 – Sanitation traffic delineators
Assorted traffic signs

Power Tools
1 – Milwaukee rotary hammer drill
1 – Bosch angle grinder
1 – Ridgid ½-inch drill
1 – Milwaukee cordless sawzall
1 – Chicago Tool Company buffer
1 – Hilti rotary hammer drill
1 – Stihl leaf blower
1 – Milwaukee cordless no-hub coupling drill driver
1 – Mini Weld plastic welder

Construction Crew Equipment and Tools
1 – 60 pound pneumatic jackhammer
1 – 90 pound pneumatic jackhammer
1 – Clay spade pneumatic jackhammer/chipping gun
1 – Backfill tamper (powder-puff)
1 – Wacker soil compactor
2 – Compressor air hoses
1 – 6 to 10 Inch inflatable plug
1 – Tire pumps
1 – Inflation hoses for plugs
2 – 5 Foot extension poles for plugs
1 – Genie Lift heavy duty moving dolly
1 – 48 Inch level
1 – PVC cutters
1 – Ridgid chain pipe cutter
1 – Ridgid offset pipe cutter
1 – Wheelbarrow
1 – Jackhammer attachment for backhoe
1 – Small bucket for backhoe
1 – Transit
2 – Story poles
2 – Tile probes

Flow Monitoring Equipment
3 – Hach Sigma flow meters
8 – Qtrek flowmeters
6 – Telog PT 30 overflow meters
1 – Palm Pilot and cables for communication with Telog meters
1 – Insertion/extraction tool with extension pole
1 – 6-Inch flow meter mounting band
4 – 8-Inch flow meter mounting bands
2 – 10-Inch flow meter mounting bands
2 – 12-Inch flow meter mounting bands
2 – 15-Inch flow meter mounting bands
2 – 18-Inch flow meter mounting bands
2 – Adjustable flow meter mounting bands
Assorted tools, chargers, and adapters for flow monitoring equipment

Sewer Pipe (Stick = 5 Foot Section)
3 Sticks- 4” vitrified clay sewer pipe – bell and spigot
1 Stick – 6” vitrified clay sewer pipe – bell and spigot
10 Sticks – 8” vitrified clay sewer pipe – bell and spigot
Assorted lengths of vitrified clay, ABS, PVC, and ductile iron sewer pipe

Sewer Pipe Fittings
7 – 6” x 4” vitrified clay wye
5 – 4” x 4” vitrified clay wye
6 – 6” x 6” vitrified clay wye
1 – 8” x 4” vitrified clay wye
9 – 8” x 6” vitrified clay wye
3 – 8” x 8” vitrified clay wye
1 – 10” x 4” vitrified clay wye
8 – 4” vitrified clay 1/8 bends
6 – 4” vitrified clay 90
4 – 4” vitrified clay 1/8 bends
2 – 8” vitrified clay 1/8 bends
3 – 4” vitrified clay ¼ bends
3 – 6” vitrified clay 1/4 bends
8 – 4” stopper caps
5 – 8” stopper caps
4 – 6” stopper caps
Assorted ABS fittings

Compression Fittings
2 – 4” saddle wye
8 – 4” clay to 4" clay coupling with metal shield
5 – 4” clay to 4” clay coupling – no shield
3 – 6” clay to 6” clay coupling with metal shield
4 – 6” clay to 6” clay coupling without shield
15 – 8” clay to 8” clay coupling with metal shield
2 – 10” clay to 10” clay coupling with metal shield
1 – 6” plastic/cast iron to 6” clay coupling
2 – 8” plastic/cast iron to 8” clay coupling
3 – 10” plastic/cast iron to 10” clay coupling
9 – 4” cap
3 – 6” cap

Manhole Rings and Covers
92 – 24” x 6” manhole ring and cover
6 – 24” x 4” manhole ring and cover
11 – 6” x 24” storm drain manhole ring and cover
6 – 5” x 24” manhole ring and cover
1 – 36” manhole covers
4 – Cleanout ring and covers
1 – Cleanout covers
1 – 4” concrete grade rings
1 – 6” concrete grade rings
2 – Preformed manhole base, shafting, and cone

Chemicals and Compounds
21 – Golden Bell lift station degreaser – 5 gallon container
19– Golden Bell Tackle degreaser – 5 gallon container
4 – Case of RamNek joint sealant compound
1 – Golden Bell Sewer Clean 350 – 5 gallon container
15 – 1 gallon bottles of Hydroclean Bio Oxidant Solution
36 – 32 oz. Ecoline Gel Bac Plus drain fly repellant
8 – 1 gallon bottle State Chemical Prime Zyme grease pre digester
24 – 32 oz. bottle Ecoline Super Kleen Degreaser

Lift Station Equipment
1 – Spare pump for Tiffany lift station
1 – Spare pump for Belgrave lift station
1 – Spare pump for Partridge lift station
2 – Bypass pump clamps for Tiffany/Belgrave lift stations
1 – Bypass pump clamps for Partridge lift station

Misc. Equipment
1 – KSB single phase pump from Partridge lift station
2 – Submersible trash pumps from Harbor lift station
Pumps, motors, and equipment from renovation of Tiffany and Belgrave lift stations
1 – Ridgid See Snake analog monitor
Pearpoint CCTV equipment from CCTV truck retrofit

Appendix E-1

Design Criteria for Sewer Facilities

GARDEN GROVE SANITARY DISTRICT

Design Criteria
for
Sewer Facilities

GARDEN GROVE SANITARY DISTRICT
Garden Grove, California

2015

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GARDEN GROVE, CALIFORNIA 92843
(714) 741-5395

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1. STANDARD REQUIREMENTS

The design and construction of all sanitary sewer system facilities to be operated and maintained by the Garden Grove Sanitary District (GGSD or District) shall be in accordance with these Design Criteria, and the latest edition of the following:

- The Garden Grove Sanitary District Standard Plans, latest edition (GGSDSP)
- The City of Garden Grove Public Works Department Standard Plans, latest edition (GGPWSP)
- Standard Specifications for Public Works Construction (Greenbook),
- Garden Grove Sanitary District's Sewer System Management Plan,
- Statewide General Waste Discharge Requirements issued by the State Water Resources Control Board (Order No. 2006-0003)
- Requirements of the jurisdictional agencies where the work shall be performed
- Cal-OSHA requirements

2. CALCULATIONS REQUIRED

Substantiating engineering calculations for design flows; pipe size; pump, motor, generator, wet well size and appurtenant equipment selection; structural design, and bedding/backfill designs shall accompany plan submittals to the District. All calculations shall be sealed and signed by a California registered professional engineer.

Where flow from a new development or redevelopment is added to an existing sewer, and where the new development or redevelopment is in an area of questionable sewer capacity, the existing sewer shall be flow monitored by a qualified company acceptable to GGSD at the owner's cost for a minimum period of two weeks to verify the existing minimum, average, and peak dry weather flows. Two copies of the report shall be submitted to GGSD in the District's required format. The District will determine the adequacy of capacity in all the facilities that will convey the subject flow.

3. SIZE

Gravity Sewers

The minimum size gravity sewer shall be 8-inches in diameter. The Garden Grove Sanitary District may accept 6-inch diameter sewer lines if they must be used to provide adequate velocity. Sewer pipes shall not be constructed in a common trench with another utility. Adequate horizontal and vertical clearance shall be maintained in accordance with the State of California Department of Health Services "Criteria for the Separation of Water Mains and Sanitary Sewers", summarized on GGPWSP B-760, B-761, B-762, and B-763.

Force Mains

The size of sewer force mains shall be determined during the design phase of the project based upon a comparative study of the construction cost and pumping costs for several alternative sizes. In no case shall a force main be less than 4 inches in diameter. The capacity of the force main shall be the design peak flow from the pump station. The minimum design velocity for a force main shall be 3.0 fps, and maximum allowed 5.0 fps.

The discharge shall be into a manhole with a smooth flow transition to a gravity sewer. The force main terminal manhole shall be PVC lined.

All force mains shall have a tape attached to the pipe, identifying it as a sewer pipe.

4. MINIMUM AND MAXIMUM SLOPE

All sewers shall be designed and constructed to provide a mean velocity of not less than two (2) feet per second (fps) when flowing at the estimated average dry weather flow as calculated using Manning's formula with an "n" value of 0.013. Subject to the velocity limitations contained in this subsection, the slope shall be the maximum possible. Drop manholes shall not be used to reduce slopes to the minimum allowed.

The maximum allowable slope shall be the slope which generates a maximum flow velocity of 6 fps at the peak dry weather flow rate in vitrified clay pipe (VCP), and 5 fps in polyvinyl chloride pipe (PVC) as calculated using Manning's equation with an "n" value of 0.013.

The minimum slope on 6-inch sewer shall be 1% where the tributary area consists of less than 20 dwelling units (d.u.) or its flow equivalent.

Sewer pipes shall have a constant slope between the upstream and downstream manhole of each reach. Any reach of sewer containing sags of any amount shall be removed and reconstructed at the design slope at no cost to the Garden Grove Sanitary District. The total cost of inspection, administration, and retesting of improperly installed sewers shall be borne by the contractor. The Garden Grove Sanitary District shall not accept any sewer that does not meet these requirements. There shall be no exception to the proper slope requirement.

5. DESIGN FLOW CRITERIA

The average dry weather flow (Q_{adw}) rates for sewers shall be calculated using the unit flow factors contained in Table 1 and the tributary land uses. Where appropriate, and when required by the Garden Grove Sanitary District, the unit flow factors shall be evaluated by the design engineer based upon the specific land uses and densities proposed for new development or redevelopment.

Table 1
Unit Flow Factors

Land Use Designation	Land Uses	Unit Flow Factor	Units
R-1	Low Density Residential	1,450	GPD/AC
R-2	Medium Density Residential	2,750	GPD/AC
R-3	High Density Residential	3,000	GPD/AC
C-1	Neighborhood Commercial	1,500	GPD/AC
C-2	Community Commercial	1,500	GPD/AC
M-1	Light Industrial	2,000	GPD/AC
O-P	Office/Professional	1,500	GPD/AC
O-S	Open Space	10	GPD/AC
PUD	Planned Unit Development	1,000	GPD/AC
BCSP, CCSP, HCSP	Specific Plans	1,000	GPD/AC

The peak dry weather flow (Q_{pdw}) in cubic feet per second (cfs) shall be determined from Q_{adw} in cfs based upon the following equation:

$$Q_{pdw}=a\ Q_{adw}^{\ b}$$

Coefficients a and b shall be based upon a minimum of two weeks of flow monitoring where the tributary flow from a new development or redevelopment is added to an existing sewer. Where such information is not available, the following equation shall be used to determine the peak dry weather flow:

$$Q_{pdw}=2.0\ Q_{adw}^{\ 0.92}$$

The determination of the peak dry weather flow shall also consider other factors such as pumped flows and large sewer flow generators.

The peak wet weather flow (Q_{pww}) shall be based upon recorded historical information where available and applicable. Otherwise, the peak wet weather flow shall be calculated utilizing the following formula:

$$Q_{pww}=1.4\ Q_{pdw}$$

The peak dry weather flow rate in pipes 15-inches and smaller will be limited by the calculated depth to pipe diameter ratio of d/D = 0.5; and 18-inches and larger d/D = 0.62.

The pipe shall flow at a calculated depth to pipe diameter ratio of no more than 0.80 with the peak wet weather flow.

6. STANDARD LOCATION AND ALIGNMENT

In local residential and industrial streets, sewer pipes shall be located six (6) feet from the centerline of the street in the center of the driving lane. In major, primary, and secondary highways, the sewer pipes shall be located in the center of the driving lane nearest to the center of the street, but will **not** be located in the median strip or parking lanes. Any deviation from the standard location and alignment shall only be done with prior written approval of GGSD.

All-weather access roads capable of accommodating all required construction and maintenance equipment shall be provided for all sewers not located within a paved street.

In curved streets, gravity sewer mains shall be constructed in straight reaches between manholes. In no case shall the outside of the sewer main be closer than four feet to the closest curb face.

A maximum horizontal separation between sewer and domestic water mains shall be achieved by aligning the sewer on the opposite side of the street centerline from the domestic water main.

7. EASEMENTS

Permanent easements, where absolutely necessary, shall be a minimum of 30 feet in width and shall be shown on the plans. Temporary easements for construction only shall be shown on the plans including date of termination.

Where applicable, permanent public utility easements shall be recorded on the tract map, and granted to the Garden Grove Sanitary District. When applicable, separate easement documents for both permanent and temporary easements shall be prepared (on standard title company forms) and presented to the Garden Grove Sanitary District for acceptance and recording.

The District will accept sewers on private streets upon granting of a public utility easement to the District.

The District will not accept any easement for sewers if said easement cannot be accessed with a flush truck through its entire length.

Sewer easement shall be located entirely on one lot. Building set backs shall be minimum 20 feet from easement edges.

8. HORIZONTAL CURVES

Gravity sewer mains shall **not** be designed with horizontal curves.

9. STATIONING PROCEDURE

Centerline stations for sewers shall be shown on the plans. Sewer centerline stations shall be independent of street stationing. All manholes shall be numbered and the numbers noted on the plans (example: MH #1). Sewer stations shall start at 10+00.00 at the downstream point of connection and increase upstream to the last manhole on a sewer line. Intersecting sewer lines will be independently stationed from their downstream point of connection and increase upstream to the last manhole. Each line shall be independently labeled for identification as “Sewer Line A”, “Sewer Line B”, etc.

10. MINIMUM DEPTH

Minimum depth of cover from finish street grade to the top of sewer main pipe shall be seven (7) feet unless otherwise approved by the District Engineer.

Unless dictated otherwise by the elevation of an existing mainline sewer, house connections shall be installed so that there is a minimum of six (6) feet of cover from the top of the curb to the top of the pipe at the curb line. At the time of construction, stakes shall be provided for location and grade of each house connection.

11. SEWER PIPE MATERIAL

All gravity sewers shall be either extra strength VCP or SDR-26 PVC. Imperfections **shall not be allowed** in either type of pipe. Sewer service laterals shall be of the same material as the main line sewer-either extra strength VCP or SDR-26 PVC pipe.

All sewer force mains carrying domestic sewage and operating at pressures of less than 40 psi shall be PVC pipe meeting AWWA C-900 Class 200 pipe standards. All other force mains shall be 40 mil ceramic epoxy lined and properly coated ductile iron pipe.

All gravity sewers in industrially zoned areas or major commercial areas shall be extra strength VCP.

12. MANHOLES

12.1 Manhole Requirements

A manhole will be required at:

A. The upstream end of each line, change in grade or size, change in alignment, or intersection of two (2) or more sewers

B. At a lateral when it is the same size as the main line sewer

C. Along the sewer main at maximum distances of 300 feet for 6-inch sewers, 400 feet for 8-inch and larger sewers.

12.2 Manhole Type and Size

Manholes shall be precast reinforced concrete with eccentric cone in accordance with Garden Grove Sanitary District Standard Drawings S-100 through S-104. The summit manholes shall be precast reinforced concrete with concentric cone. Minimum diameter shall be 48 inches and larger sizes shall be required as shown in the following table:

Manhole Sizes

Sewer Main (inches)	Maximum Branch Size (inches)	Manhole Size (inches)	Frame and Cover (inches)
8-15	10	48	24
18-21	12	60	30
24-36	15	72	36

Extra Depth Requirements

Depth of Cover (feet)	Manhole Size (inches)
6 or less	48
6.5-12	48
12.5-16	60
16.5 and greater	72

All manholes shall be provided with at least all-weather vehicular access.

12.3 Manhole Covers

Manhole covers shall be cast iron in accordance with Garden Grove Sanitary District Standard Drawing S-103. The size shall be determined from the table in Section 12.2. Manhole covers shall have one (1) vent hole and one (1) pick hole.

Temporary covers may be necessary in new streets. In these cases, the manhole shaft shall be left six (6) inches, minimum, below subgrade. A heavy metal plate acceptable to the District Engineer shall be provided to cover the manhole opening. Cleats shall be provided in at least four (4) points for the underside of the temporary cover to prevent the temporary cover from moving. These cleats shall extend a minimum of 3 inches from the cover plate and shall be welded to the plate.

Plywood shall be cut to the shape and size of the manhole base and placed in the base before the temporary cover is placed on the shaft. At the completion of final paving, each manhole shall be raised to final grade by the installation of grade rings, as necessary, and the installation of the permanent frame and cover assembly. Plywood shall be removed from the manhole when the permanent frame and cover assembly is installed.

12.4 Manhole Linings and Coatings

The following manholes will be lined with PVC:

A. If the sewer has a slope of 5% or greater, all the manholes on the sewer

B. Where there is a change in slope, from steep to flat, of 3% or greater, the manhole at the grade change and the next manhole upstream

C. All force main terminal manholes

E. As required by the District Engineer

The approved PVC liners are Ameron T-Lock liner and Koroseal Lok-Rib by B. F. Goodrich. Refer to Orange County Sanitation District Standard Drawing S-065 for PVC liner details.

All other manholes shall be lined with Sancon 100 or approved equal.

Outer surfaces of precast and cast-in-place manholes and structures shall be given two coats of bituminous dampproofing applied at a rate in accordance with manufacturer's instructions. In no case shall the total bituminous coating be less than 16 mil dry film thickness.

12.5 Manhole Warning Signs

The entrance to every new manhole shall be fitted with a plastic warning sign, located 12 inches below the top of the manhole frame, with the inscription "CAUTION – VENTILATE BEFORE ENTERING" in letters no smaller than ½-inch in height. The sign shall be attached to the concrete with four Type 316 stainless steel screws and anchors. Signs shall be manufactured by W.H. Brady Company; Seton Nameplate Corporation, or approved equal.

13. CLEAN-OUTS

Use of clean-outs as shown in the Garden Grove Sanitary District Drawing S-105 shall be limited to the following instances unless approved otherwise by the District Engineer.

A. At the upstream end of short sections of sewer, less than 250 feet which will be extended within three months.

B. All sewer laterals at the property owner's side of the property line.

C. Special instances such as on a sewer lateral to a single family residential lot where the dwelling unit is set back more than 100 feet from the property line, where there is a large slope up to the building pad from the property line and a grade change in the

lateral is necessary, or where the sewer lateral enters the rear of the lot from a public right-of-way.

D. On a lateral where the overflow level of the lowest wastewater fixture in the building is below the rim elevation of the uphill sewer manhole on the main line. In this situation the rim elevation of the clean-out installed at the property line shall be at least 6-inches below the overflow elevation of the lowest wastewater fixture on the lateral. A backflow prevention device is required on the lateral.

14. SEPARATION BETWEEN SEWER AND WATER AND RECYCLED WATER LINES

Horizontal and vertical separation between sewer mains and water and reclaimed water lines will be provided in accordance with the State Water Resources Control Board "Criteria for Separation of Water mains and Sanitary Sewers" and GGSD Standard Drawing No. S-118.

15. HOUSE LATERALS

Sewer laterals shall be constructed to the property line from the main line and there shall be a separate lateral for each individually owned building.

Sewer laterals shall have a minimum 4-inch diameter. Apartment and condominium developments shall have at least one (1) 6-inch, or one (1) 8-inch lateral to serve each building in the development which contains more than one dwelling unit.

Laterals shall have a minimum slope of 2%.

Laterals shall be located at the center of each lot and shall be constructed perpendicular or radial to the property line. If the developer must install a sewer lateral at a location other than in the center of a lot due to unavoidable interference, the improvement plans shall indicate the centerline station of the lateral on the sewer and show the distance from a property corner. In no case shall a sewer lateral be located within 12 feet of a property corner. Refer to Section 13 and Standard Plan S-105 for cleanouts on laterals.

Permanent visible monuments shall be set to indicate the locations of all sewer laterals. A 1½-inch high "S" shall be chiseled in face of curb where the lateral crosses under the curb or on the edge of alleys without curbs. The method used shall be indicated on the plans. A licensed Civil Engineer or Land Surveyor shall verify locations of set monuments.

The sewer laterals from the main to the building, and inside the buildings are governed by the Uniform Plumbing Code and enforced by the City of Garden Grove Building Official.

The sewer house laterals between the main sewer line and the property line are owned by the property owner, and **NOT** by the Garden Grove Sanitary District.

16. PRIVATE SEWER SYSTEMS

All plans submitted for review and approval for commercial/industrial developments and residential developments with private sewer systems shall show the plans, profiles, and details of private onsite sewer systems. The private sewer systems shall be planned,

designed, and constructed to the same standards as the Garden Grove Sanitary District's public sewer system.

Sewer pump stations on private property shall be designed, administered, and inspected by the Garden Grove Sanitary District or its designated representative. The private property owner shall be responsible for all costs associated with such design, administration, and inspection.

Each site shall be reviewed on an individual basis at the time plans are submitted. As a condition of service, the Garden Grove Sanitary District shall require the property owner to enter into an agreement with the District acknowledging that the onsite facilities are private and shall be properly maintained according to industry standards and the State Water Resources Control Board's General Waste Discharge Requirements 2006-0003. The property owner shall further agree to hold the District and the City of Garden Grove harmless from any claims on the design, maintenance and operation of the private onsite systems. The property owner shall prepare an Overflow Emergency Response Plan and a Preventative Maintenance Plan as required by Order No. 2006-0003.

All onsite sewer collection systems for commercial/industrial developments shall be private and shall be owned, operated and maintained by the property owner up to the District's sewer line in a public street. A cleanout or manhole shall be installed at the owner's side of the property line in accordance with District Standard Plans S-105 or S-100 through S-104. Each building onsite shall have an individual sewer lateral with a monitoring manhole. Monitoring manholes shall be installed in accordance with District criteria. All laterals from a building shall be connected to the main lateral upstream of the monitoring manhole for that building. No lateral connections are to be made downstream of the monitoring manhole.

17. SEWER PUMP STATIONS

17.1 General

All sewer pump stations conveying wastewater flows to the Garden Grove Sanitary District's collection system, including those from private systems, shall be designed, administered, and inspected by the Garden Grove Sanitary District, or its authorized representative.

The general criteria outlined herein shall apply to all sewer pump stations. The detailed design criteria for each sewer pump station will be established based upon the specific conditions of each installation on a case-by-case basis and documented in a preliminary design report. Sewer pump stations shall be designed according to the following criteria:

Small sewer pump stations, where the peak wet weather flow can be pumped with a maximum of two duty pumps of 1,500 gpm capacity, shall be the stainless steel slide-rail submersible type with a minimum of two recessed impeller or enclosed screw impeller centrifugal pumps, permanent standby generator/automatic transfer switch, and peak flow storage.

Larger sewer pump stations shall be wet well-dry well type with permanent standby generator/automatic transfer switch, and peak flow storage. The District Engineer may allow slide rail submersible pump stations if project conditions warrant it. Pumps shall be either the recessed impeller, or enclosed screw impeller type, as determined by the District Engineer.

17.2 Standards and Codes

Sewer pump station designs shall be based upon current codes and standards, including but not limited to:

- Statewide General Waste Discharge Requirements covered under Order No. 2006-0003 issued by the State Water Resources Control Board on May 2, 2006
- Hydraulic Institute Standards
- California Administrative Code, Title 8, Article 59-Electrical Safety Orders
- National Electrical Code
- NFPA 820 Fire Protection in Wastewater Treatment Plant and Collection System Facilities
- Uniform Building Code
- Uniform Plumbing Code
- Uniform Mechanical Code
- California Fire Code
- National Electrical Manufacturers Association (NEMA)
- American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)
- Standard Specifications for Public Works Construction
- Standard Plans for Public Works Construction
- OSHA Construction Safety Orders
- American Water Works Association
- American Society for Testing Materials

17.3 Design Flows and Heads

The pump stations shall be designed with a firm pumping capacity equaling the greater of:

- Tributary peak wet weather flow
- Flow that will provide a minimum velocity of 3 fps in the force main.

The standby pump will have the same capacity as the largest pump in the pump station.

In selecting the number, capacity, and operating characteristics of the pumps, the minimum, average, peak dry weather and peak wet weather flows, as well as wet well size and operating band shall be considered. The selected design shall minimize pump cycling and odors.

The total dynamic head (the sum of static lift, velocity head, and frictional losses in the station piping/ valving and force main) shall be determined for all operating conditions, wet

well and discharge point water surface elevations, and a range of frictional coefficients (Hazen Williams C factor of 80 to 150).

Calculations documenting the determination of flows and head calculations shall be submitted along with pump curves and catalog information for the recommended pumps. Prior to final acceptance, the design engineer shall obtain written verification from the recommended pump manufacturers that the selected pumps shall perform throughout their operating range as designed at the published efficiencies free from cavitation, vibration, and premature failure.

17.4 Drivers

The pumps shall be driven by submersible or vertical dry pit immersible motors. All motors shall be Factory Mutual (FM) or Underwriters Laboratories, Inc. (UL) listed explosion proof type. Motors operated by variable frequency drives shall be inverter duty motors. Nameplate horsepower shall be at least 20 percent greater than the maximum brake horsepower needed within the operating range of the pump.

Variable frequency drives shall be provided with bypass contactors to operate the pumps at full speed.

Small pump stations may be designed with constant speed pumps. Larger pump stations may require the use of variable speed drives. The decision of the District Engineer of the Garden Grove Sanitary District shall be final as to the type of driver to be used.

17.5 Wet Well

The wet well shall be sized to

- Provide adequate submergence
- Provide adequate net positive suction head available (NPSHA)
- Prevent frequent pump cycling
- Provide emergency storage

Submergence provided shall prevent formation of vortices and air being drawn into the pump. It shall also prevent cavitation. The minimum submergence shall be at least one foot greater than that required by the pump manufacturer.

The net positive suction head available shall be calculated as:

$$NPSHA=2.24\ (P_a-P_v)-H_l\pm Z$$

Where

P_a= Atmospheric pressure (psia)

P_v= Vapor Pressure of liquid at the maximum expected temperature (use 0.59 psia)

H_l= Friction and minor losses between the wet well and the pump suction flange in feet of liquid

Z= Difference in elevation between the minimum wet well water level and pump datum, in feet. Use – when the pump datum is higher than the minimum wet well water level.

The minimum NPSHA shall be at least eight feet greater than the net positive suction head required (NPSHR) by the selected pump for the maximum expected flow through the pump.

The wet well shall be sized to provide the storage capacity which will preclude exceeding the following number of pump starts per hour:

Motor Horsepower	Maximum Starts per Hour	Minimum Cycling Time (Minutes)
Up to 20	6	10
25 to 50	4	15
60 to 75	3	20
100 and larger	2	30

Wet well bottom corners shall be sloped at 1:1 and slope to the suction pipe inlet to prevent the accumulation of debris on the wet well floor.

Influent pipe(s) shall not enter the wet well in a position which may cause pre-rotation of the flow into the pump suction, and turbulence in the wet well. The influent velocity into the wet well shall be no greater than three (3) feet per second.

For large pump stations, a partition wall(s) with sluice gates may be required to isolate a portion of the wet well for cleaning.

17.6 Emergency Storage

Emergency storage volume needed shall be evaluated for each pump station based upon the tributary area and expected ultimate wastewater flows. The minimum volume of emergency storage shall be 30 minutes of ultimate peak wet weather flow without surcharging the tributary collection system. The emergency storage volume may be provided in the wet well or in a separate adjacent PVC lined overflow structure.

Where possible, the invert of the overflow structure shall be higher than the low water elevation of the pump station wet well to allow gravity drainage of the stored sewage to the wet well. There shall be a minimum of two connecting pipes between the overflow structure and the wet well. The connecting pipes shall be equipped with flap gates on the wet well side. The floor of the overflow structure shall slope to the connecting pipes.

All overflow structures shall be equipped with an access hatch, and three 30-inch diameter maintenance access holes. A 2-1/2 inch hydrant water connection shall be provided near the overflow structure for use in periodic cleaning. The water supply to the hydrant water connection shall have a reduced pressure backflow preventer.

The higher of the maximum storage level and overflow level shall be set at least one foot (1-ft) lower than the top of the lowest manhole in the system, basement or p-trap of the plumbing fixture connected to the system.

17.7 Dry Well

The dry well shall meet the following criteria:

A. Pumps shall be placed to provide minimum clear space of 3'-6"

B. The lowest level of the pump station dry well shall have a sump pit with duplex explosion proof submersible pumps controlled by float switches. The sump pumps shall discharge to the wet well above the maximum water level.

C. Discharge piping and the force main shall be placed in the dry well along the common wall with the wet well. The flow meter shall be placed inside the dry well sufficiently downstream of the last pump discharge pipe. If there is not sufficient room, the flow meter shall be placed in a below grade vault adjacent to the pump station structure.

D. Catwalks or mezzanine levels shall be provided to access the flow meters, valves, and other portions of the equipment

17.8 Standby Equipment

All pump stations shall have standby equipment capable of handling the ultimate peak wet weather flow during a commercial power outage and/or with the largest unit out of service. This criterion shall apply to all essential electrical and mechanical equipment including pumps/motors, fans, air compressors and sump pumps.

There shall be a minimum of one **standby main sewage pump** equal in size to the largest duty main sewage pump in the station.

All pump stations shall have a **permanent standby generator** and an **automatic transfer switch** sized to start and operate all the sewage pumps needed for ultimate peak wet weather flow, sump pump, ventilation fans, lighting, instrumentation, controls, and telemetry, with voltage dip not to exceed 16% when starting any motor.

Generators shall be skid mounted, permanently anchored to the foundation, and housed in an acoustically insulated enclosure. Exhaust mufflers shall be super critical grade designed for noise level not to exceed the noise level allowed within each particular area.

Load banks sized for 80% of the generator capacity shall be provided. Load banks shall be mounted in the vicinity of the generator and protected with adequate enclosure suitable for the location as required by NEMA Standards.

Portable trailer mounted generators are acceptable only for locations where installation of a permanent skid-mounted generator is not feasible. When a portable trailer mounted generator is furnished, a power receptacle shall be permanently installed for quick connection.

Standby generators shall be furnished with battery chargers and block heaters.

The standby generator shall be a diesel or natural gas powered generator. The diesel fuel powered generators shall be equipped with a sub-base fuel tank sized for a minimum of 12

hours of continuous full load operation. Standby generators shall be units pre-approved by the South Coast Air Quality Management District.

17.9 Pumps

Pumps shall be the enclosed screw-centrifugal or recessed impeller type. Wet well-dry well pumps shall be suitable for operation when the dry well is flooded. Pumping capacity and head shall be considered in the selection of the type of pump for the wet well-dry well pump stations.

RECESSED IMPELLER CENTRIFUGAL PUMPS

Recessed impeller centrifugal pumps are designed to handle stringy materials and up to 25 times the amount of solids of conventional non-clog pumps. Some recessed impellers are labeled by pump manufacturers as torque-flow, bladeless and sphere flow. However, all of these pump models follow the general design of placing the impeller away from the fluid stream in order to pass stringy material without clogging the hydraulic passages.

The recommended minimum design criteria in the selection of recessed impeller centrifugal pumps are as follows:

a. Pump impeller shall be selected with the best possible efficiency at design point or at the operating range of the pump.

b. Maximum Speed

1750 rpm or shall not exceed the limitation as recommended by the Hydraulic Institute Standards for Centrifugal Pump application

c. Materials of Construction

- NiHard (minimum of 550 Brinnell hardness) or stainless steel Type 316 impeller with a removable wear plate of the same material as the impeller
- NiHard (minimum of 550 Brinnell hardness) or cast iron casing, as determined by the District Engineer.
- Stainless steel Type 316 shaft.
- Tandem mechanical shaft seal system for the motor with two totally independent seal assemblies and Tungsten-Carbide seal faces

d. Upper and Lower Bearings

Radial and thrust bearings, grease lubricated with minimum B-10 bearing life of 60,000 hours for the operating range of the pump.

e. Slide Away Coupling

Foot mounted discharge elbow and adaptor, base plate, upper and lower rail supports, lifting yoke, and cable. All metal to metal interfaces where movement may occur shall be non-sparking.

f. Electric Motor

- For wet well installation, motors shall be FM or UL listed, and be designed for Class I, Group D, Division 1 explosion proof.
- NEMA Design B, heavy duty, high efficiency, non-overloading, with a nameplate horsepower at least 20% greater than the maximum horsepower required over the entire operating range.
- Thermal overload protectors imbedded in the motor windings.
- Dual moisture or leak sensors on the sealing chamber.

- Motors shall be immersible capable of operating continuously in air without the use of sewage pumped for cooling if installed in a dry well.
- Motors in damp locations and dry pits shall have two cycles of solid baked epoxy vacuum impregnation.
- Motors shall be inverter duty if operated by variable frequency drives.

g. Painting and Coating

All non-stainless steel wetted surfaces in contact with wastewater shall be coated with coal tar epoxy enamel. Surface preparation shall be in accordance with SSPC-SP5, white metal blast cleaning. Prime coat to DFT=l.5 mils, Amercoat 71, Engard 422 or approved equal. Two or more coats, DFT=16 mils, Amercoat 78HB, Engard 464 or approved equal. Total system DFT=17.5 mils.

All non-stainless steel external surfaces exposed to corrosive environment shall be coated and painted by amine-cured epoxy. Surface preparation shall be in accordance with alkaline cleaned, SSPC-SP1. Prime coat and finish coat shall be three or more, DFT=16 mils. Amercoat 395, Engard 480 or approved equal.

SCREW-CENTRIFUGAL PUMPS

The recommended minimum design criteria in the selection of the screw-centrifugal pumps are as follows:

a. Pump impeller shall be selected with the best possible efficiency at design point or at the operating range of the pump.

b. Maximum Speed
- 1750 rpm for pumps with discharge nozzle diameter up to 12-inch,
- 1175 rpm for pumps with discharge nozzle diameter from 14 to 16-inch,
- Shall not exceed the speed limitation recommended by the Hydraulic Institute Standards for Centrifugal Pumps.

c. Materials of Construction
- Cast iron with Hi Chrome suction liner or 316 Stainless steel where available
- Stainless steel Type 316 impeller and shaft.
- Tandem mechanical shaft seal system for the motor with two totally independent seal assemblies and Tungsten-Carbide seal faces and silicone carbide lower seal
- Minimum B-10 bearing life of 60,000 hours for the operating range of the pump.

d. Electric Motor
- For wet well installation, motors shall be FM or UL listed, and be designed for Class I, Group D, Division 1 explosion proof.
- Thermal overload protectors imbedded in the motor windings.
- Dual moisture or leak sensors on the sealing chamber.
- Motors shall be NEMA Design B, heavy-duty, high efficiency with Class B or F insulation. Motors shall be non-overloading over the entire operating range, with a nameplate horsepower rating a minimum of 20

percent greater than the maximum horsepower required over the operating range.

- Motors located in a damp environment and in a dry pit shall have 2 cycles of solid baked epoxy vacuum impregnation.
- Motors shall be inverter duty if operated by variable frequency drives.
- Motors shall be immersible, capable of operating continuously in air without the use of sewage pumped for cooling if installed in a dry well.

e. Painting and Coating

All non-stainless steel wetted surfaces in contact with wastewater shall be coated with coal tar epoxy enamel. Surface preparation shall be in accordance with SSPC-SP5, white metal blast cleaning. Prime coat to DFT=1.5 mils, Amercoat 71, Engard 422 or approved equal. Two or more coats, DFT=16 rails, Amercoat 78HB, Engard 464 or approved equal. Total system DFT=17.5 mils.

Non-stainless steel external surface exposed to corrosive environment shall be coated and painted by amine cured epoxy. Surface preparation shall be in accordance with alkaline cleaned, SSPC-SP1. Prime coat and finish coat shall be three or more, DFT=16 mils. Amercoat 395, Engard 480 or approved equal.

17.10 Valves and Gates

Pump stations are equipped with various types of valves to prevent backflow, to isolate the equipment from the system, to control hydraulic surges and to drain the piping system during scheduled repair and maintenance. Each valve type differs in construction, materials, and operation depending on the service and application. All valves shall be suitable for wastewater service.

All interior surfaces of valves in contact with wastewater shall be epoxy coated. All valves 10-inch diameter and larger shall be provided with motor operators. Manually operated valves located more than six feet above the operating floor shall be equipped with chain wheel operators, with the chain extended 36 inches above finish floor. Motor operated valves shall be provided with a manual hand wheel and manual push button station conveniently located below the valve, 5 feet above finished floor.

SLUICE GATES

Sluice gates shall be furnished with stainless steel frames and slides with embedded bronze seats, Type 316 stainless steel stem, and adjustable bronze bushed stem guides. Sluice gate manual operator shall have AWWA square nut; manual crank operator with floor stand and 2-speed gear reducer designed for opening time of not to exceed six minutes. Motor operator shall be provided when required by the District Engineer. Motor operated gates shall be designed for opening and closing times of one foot per minute.

Sluice gates shall be specified to be furnished with pattern wall thimbles to match the concrete thickness where the gate is to be installed.

Sluice gates shall be Rodney Hunt or approved equal.

ECCENTRIC PLUG VALVES

Non-lubricated eccentric plug valves shall be used as isolation valves. Valves shall have hard rubber (suitable for sewage service) resilient faced plugs and flanged ends. Valve seats and discs shall be stainless steel, Type 316. Bodies shall be semi-steel with raised seats. Valves shall be of the bolted bonnet design. Valve design shall allow repacking without removing the bonnet, and the packing shall be adjustable. All exposed nuts, bolts, springs, and washers shall be stainless steel, Type 316. Valves shall have permanently lubricated stainless steel bearings in the upper and lower plugstem journals.

Manual valves shall have a 2-inch square nut and lever actuator. Levers shall be field cut as required to be operable in their installed locations.

Eccentric plug valves may be used as pump control valve to alleviate hydraulic surges during normal starting and stopping of the pumps and as surge anticipators when required. These valves shall have hydraulic cylinder type operators with adjustable opening and closing times. Where the valve is used as a surge relief valve, emergency (upon failure of power supply) opening and closing times shall be specified.

Where space permits, all eccentric plug valves shall be installed with the shaft in the horizontal position. The orientation of the plug with respect to the fluid flow direction shall be as recommended by the manufacturer. The valve manufacturer's recommended installation instructions to prevent clogging of the valves during extended shutdown periods shall be strictly followed.

Valves shall have unobstructed port area of not less than 80-percent of total pipe area.

Eccentric plug valves shall be as manufactured by DeZurik Corporation, Keystone, Drum-Owens (Homestead), Milliken, or approved equal.

BALL VALVES

When required by the District Engineer, ball valves shall be used as pump control valves or for surge relief where flow characteristics require the valve trim that would match that of the ball valves.

Small diameter ball valves (3/4 inch to 2-1/2 inch diameter) shall be used as isolation shut off valves for potable or pump station water system.

All ball valves shall be in accordance with ANSI/AWWA C 507, with cast iron, ductile iron, cast steel, or stainless steel bodies, support legs or pads, flange ends, suitable for velocities up to 35 fps, temperatures up to 125 degrees F, and design pressures to 150, or 250 psi depending on the pressure range required by the system. The balls shall be cast iron, ductile iron, cast steel or stainless steel, shaft or trunion-mounted, with tight shut-off, single or double seat, and full bore. The valves shall be rubber, with stainless steel or monel shafts, and at least one thrust bearing. Except for stainless steel, ferrous surfaces of valves in contact with wastewater shall be minimum 16 mil epoxy-coated.

Ball valves shall be as manufactured by Jamesbury Corporation, Wm. Powell Company, or approved equal.

CHECK VALVES

Check valves shall be installed at each pump discharge piping to prevent backflow of wastewater which can cause severe damage to the pump impeller and shaft, and recirculation of flows back to the wet well in stations with multiple pumps. Valves shall comply with the requirements of AWWA C508.

Check valves shall be the outside lever and weight type swing check valves. They shall be installed in the horizontal position to prevent accumulation of solids downstream of the valve which can cause clogging of the valves.

Swing check valves shall have a flanged cover piece to provide access to the disc. The valve body, cover, and disk shall be cast iron conforming to ASTM A 126 Grade B. Disc facing shall be rubber conforming to ASTM D2000 2BG715. Seat ring and clapper arm shall be cast bronze conforming to ASTM B584 Alloy C 84400. Clapper arm shall be clamped to the hinge pin with stainless steel screws and jam nuts.

Ferrous surfaces of valves in contact with wastewater shall be minimum 16 mil epoxy coated.

Swing check valves shall be as manufactured by APCO (Valve and Primer Corp.), Kennedy, Crane Company, or approved equal.

SEWAGE SURGE RELIEF VALVES

The necessity for surge control devices shall be determined through a complete surge analysis of the pumping system. Although surge tanks are the most reliable means to alleviate damaging surges in the force mains, sewage surge relief valves may be required by the system. Where surge relief valves are required, the valve shall be installed in the discharge piping manifold and connected to the wet well. The valve shall be designed to open immediately when the system pressure exceeds the load setting of the counterweights and shall close slowly at an adjustable speed upon return of system pressure to normal.

The surge relief valve body shall be constructed of a heavy cast-iron or cast steel disc having rubber seating face; and corrosion resistant shaft and cushion chamber.

Sewage surge relief valves shall be as manufactured by APCO (Valve and Primer Corporation), Empire Specialty Co., Inc, or approved equal.

SEWAGE AIR RELEASE VALVES

Sewage air release valves shall **not** be used unless **absolutely necessary**. The design engineer shall endeavor to provide a system which rises continuously from the pump station to the discharge point. Where absolutely necessary, sewage air release valves shall be provided to vent accumulating air or gas during pumping operation or entrapped during initial operation. Air release valves shall be installed at high points of the piping systems. Entrapped air or gases can reduce pumping capacity of the pumping system or cause

corrosion of the piping system with gases containing hydrogen sulfide. The air or gas vent located at the pump station plant shall be discharged to the wet well.

The valves shall have long float stems and bodies to minimize clogging. Each valve shall be furnished with backwashing accessories to remove solids accumulated inside the valve. Water supply and connection shall be provided with appropriate reduced pressure backflow preventer near the valve for backwashing.

Sewage air release valves shall be as manufactured by APCO (Valve and Primer Corporation), Val-Matic (Valve Manufacturing Corporation), or approved equal.

REDUCED PRESSURE BACKFLOW PREVENTERS

Backflow preventers shall be installed where utility water or plant water is connected to the potable water supply to prevent contamination of the potable water system. The valves shall be designed to operate on the reduced pressure principle. The valve assembly shall consist of two spring loaded check valves, automatic differential pressure relief valve, drain valves and shut-off valves. The body materials shall be bronze for working pressure of not less than 150 psi, with bronze and stainless steel trim. Drain lines and air gaps shall be provided. All backflow preventers shall be registered with County Health Department and must be approved for use in the Garden Grove Sanitary District.

Backflow prevention valves shall be as manufactured by Cla-Val Company or Febco.

PUMP CONTROL VALVES

The pump control valves shall be installed in the pump discharge pipe to minimize hydraulic surges during normal starting, stopping and emergency stopping of the pump during power failure or emergency stopping caused by system failures.

The pump control valve shall be operated by hydraulic (oil) or pneumatic operator with a reserve accumulator system as back-up energy source to operate the valve during power failure. The pump control system shall be designed to start the pump against a closed valve. Once the pump has developed pressure, the pump control valve shall start to open until it reaches the maximum open position. Stopping sequence shall cause the pump control valve to close. Complete closure of the valve shall signal the pump to stop. Emergency power failure shall cause the pump control valve to close.

The normal opening, closing, and emergency closing times of the pump control valve shall be independently adjustable. Range of adjustment shall be determined based upon the results of surge analysis. Final settings of closing and opening times shall be verified during pump station start-up. Settings shall be included in the Operation and Maintenance Manual.

17.11 Magnetic Flow Meters

Each pump station shall be equipped with metering equipment to measure outlet flow and provide flow signal for recording, totalizing and control of other equipment. In addition, the flow meter shall be used for pump field performance test to measure capacity and efficiency. The meter shall be magnetic type suitable for wastewater service.

Magnetic flow meters shall be provided at the pump station discharge manifold capable of metering the full range of flow with an accuracy of ±1 percent of flow rate from 10 to 100 percent of scale. At a velocity below 1 foot per second, the accuracy shall be ±0.1 percent of the full scale. The meter shall be installed in the piping manifold with minimum straight approach of 4 and 2 diameters upstream and downstream respectively.

The size of the flow meter shall be selected to cover the entire velocity range expected.

The magnetic flow meter shall utilize characterized electromagnetic induction to produce a voltage linearly proportional to the average flow rate. The metering system shall consist of a sensor with field coils, transmitter and interconnecting cables to make a complete operating flow metering system. The meter shall be bipolar pulsed dc type with continuous automatic zeroing.

The sensor shall be flange tube with non-conductive liner. The tube shall be constructed of Type 316 stainless steel with carbon steel flanges AWWA Class D if the coils are external to the tube. The sensor rating shall be NEMA 4, and capable of withstanding accidental submergence in water to a depth of 30 feet for 48 hours. The meter shall include a positive zero feature for periods when the metering portion of the process pipe is not full.

Liner material shall be neoprene, except for liquids which may deposit non-conductive coatings, which shall have Teflon linings. The specific conductivity of the liquid shall not preclude meter operation.

Grounding electrodes shall be of the same material as the sensing electrodes and shall be furnished mounted on each end of all flanges.

Transmitters shall be provided for either local or remote indication as required for each particular project. Remote transmitters shall be NEMA-4X enclosures suitable for wall mounting. Transmitters shall produce a 4-20 ma-dc output signal into a minimum load of 800 ohms linear flow, and a scaled pulse for totalization. All electrical equipment furnished with the magnetic flow meter shall carry a UL label.

Magnetic flow meters shall be Tigermag manufactured by Sparling Instrument Co., Inc. or approved equal.

17.12 Piping and Support System

The pump station piping and supports system consists of the gravity sewer, pump suction and discharge piping, station water or utility water piping, potable water piping, air piping, sanitary drainage piping, fire protection, and sprinkler piping systems. Most of these piping systems are adequately specified by the applicable sections of the Uniform Plumbing Code, Fire Codes and the Standard Specifications for Public Works Construction.

This Section includes special requirements and recommended practices involving the design of piping and the support system.

A. Piping

1. Materials

Ductile iron pipe shall be used in pump station main piping, consisting of suction and discharge piping, discharge manifolds, force mains as specified in Section 11, and water piping 2-1/2 inch and larger. Ductile iron pipe shall be in accordance with SSPWC, and ANSI A21.5l (AWWA C151). All internal surfaces of ductile iron pipe and fittings for water service shall be cement mortar lined and sealed with bituminous coating in conformance with AWWA C104. Internal surfaces of ductile iron pipe for sewer service shall be lined with polyurethane or glass.

Unless otherwise specified, all joints of ductile iron pipe shall be 125-lb flange in conformance with ANSI B16.1, B16.2 and A21.10 (AWWA C110). Sleeve or mechanical grooved type couplings shall be provided at the suction and discharge piping of the pump, and between the magnetic flow meter and the isolation valves to allow removal of the equipment for maintenance.

All bolts shall be of Type 316 stainless steel with bronze nuts or cap screws of copper—copper silicon alloy, conforming to ASTM B 98, Alloy C 65100, designation H04, or alloy C 65500, designation H04. Where anaerobic conditions are anticipated, Type 304 stainless steel shall be used.

Mechanical-type couplings (grooved) shall be used between the valves, pumps, meters and the piping system for the above ground installation. Groove type couplings shall not be used for underground installation. Mechanical-type couplings shall be cast as manufactured by Victaulic, Gustin Bacon or approved equal.

Sleeve-type couplings shall be of fabricated steel with steel bolts and with sizes to fit outside diameter of the ductile iron pipe. The middle ring shall not be less than 1/4-inch in thickness and minimum of 5 to 7-inches long. The follower shall be single piece contoured mill section welded and cold-expanded as required for the middle rings. The coupling shall be equipped with a gasket to make the joint water-tight. The coupling shall be factory epoxy coated suitable for sewer service.

Sleeve couplings shall be installed in the piping systems subject to differential settlement as in the force main that connects the piping inside the pump station building to the yard piping. Two sets of sleeve couplings shall be installed with spacing as recommended by the coupling manufacturer.

Where sleeve couplings are installed in the piping system subject to thrust loads, the coupling shall be provided with restraining bolts. The bolts shall be designed in conformance with AWWA Design Manual M-11.

Sleeve-type couplings shall be as manufactured by Rockwell (Smith-Blair), or Dresser.

2. Suction Pipe

The suction pipe shall meet the following requirements:

a. The suction pipe shall be sized to provide a minimum velocity of 3 feet per second, and a maximum velocity of 6 feet per second throughout the operational range of the pump.

b. The inlet velocity to the eye of the impeller shall meet the pump manufacturer's requirements. The largest suction inlet available shall be selected.

c. The suction pipe shall be flat, or slope up to the pump to eliminate the formation of air pockets. Reducers shall be the eccentric type, with flat top, matching the crown of the suction pipe.

d. There shall be a straight length of pipe of minimum 5 diameters before the suction elbow to provide uniform flow to the pump.

e. The inlet of the suction pipe shall be a long radius elbow with a flared bell. The inlet location shall be in accordance with the hydraulic institute standards. The velocity at the inlet to the suction bell shall be less than 2.5 feet per second.

f. The suction line isolation valve shall be full port eccentric plug valve located close to the wet well wall, allowing sufficient room for removal of the bolts and servicing of the valve.

g. A pressure gauge capable of measuring the entire range of pressures expected at the entrance to the pump shall be provided as close to the pump as possible. The gauge shall be installed on a ½ inch NPT pipe tap with a ball isolation valve and chem seal with snubber.

3. Discharge Pipe

The discharge pipe shall meet the following requirements:

a. Discharge pipes shall be sized for a minimum velocity of 3 feet per second and a maximum velocity of 6 feet per second.

b. The discharge nozzle for dry well installed pumps shall be directed towards the wet well and rotated 45 degrees from the suction line.

c. The discharge pipe shall be connected to the discharge header at an angle of 45 degrees.

d. A pressure gauge shall be installed on the discharge nozzle or as close to the pump as possible. The gauge shall be installed on a ½ inch NPT diameter pipe tap with a ball isolation valve and chem seal with snubber.

e. A 1-1/2 inch diameter pipe with a ball isolation valve shall be installed between the top of the pump casing and the wet well.

B. Pipe Support Systems

All piping systems, including connections to equipment, shall be designed with proper support to prevent undue deflection, vibration, and stresses on piping, equipment, and structures resulting from normal operation and seismic events. All supports and parts thereof shall conform to the requirements of ANSI/ASME B 31.1 except as specified herein.

Ductile iron pipe of any size shall have a minimum of 2 supports per straight length not to exceed 10 feet of unsupported span. One of the supports shall be located at the joint.

Where the piping system is subject to thrust as a result of hydraulic surge or actuation of a surge relief valve, a thrust support or a hydraulic shock suppressor shall be provided.

All pipe supports shall be galvanized after fabrication. Pipe supports shall have a minimum of 1-1/2 inch thick dry pack between the floor and the support base.

17.13 Ancillary Equipment

Each pump station shall be designed to provide the necessary ancillary equipment to support the operation and maintenance of the facility. This equipment is essential to the operation and maintenance of the system. Ancillary equipment or systems that are discussed herein are commonly required equipment or systems in a wet well-dry well pump station.

A. Hoisting Equipment

Most pump stations are located underground to provide adequate submergence for the pumps. Therefore, the substructure and superstructure need to be designed to allow for installation and removal of equipment. The provisions for access hatches, lifting hooks, hoisting systems, roll-up doors and other means to provide ease of maintenance shall be carefully investigated and designed as required.

For wet well-dry well type pump stations equipped with either vertical non-clog dry well pumps or submersible pumps mounted in the dry well, a traveling bridge crane shall be provided. The bridge crane shall be designed to have a travel and span capable of reaching the pumps, meters and valves. Where the valves are located in areas which are inaccessible to the crane, lifting eyes attached to the ceiling shall be provided directly above the valve or equipment. A floor access hatch shall be provided when required.

Bridge cranes shall have a manually or electrically operated hoist, trolley and end trucks, all designed to conform to all applicable codes, and OSHA safety requirements. Where possible, monorail hoists may be used in lieu of the traveling bridge cranes.

Where space permits, a hoisting system shall be designed to allow direct transfer of equipment from the dry well to a flat bed truck. Traffic into the pump station building shall be given special consideration and necessary turning radius shall be provided.

B. HVAC and Odor Control Systems

A typical pump station consists of the wet well, dry well or the pump room, motor room, electrical and control room, and ancillary equipment rooms. Each of these rooms requires different methods and degrees of heating, air conditioning and ventilation to provide the following conditions:

1. A safe and comfortable working environment for personnel;

2. To facilitate proper operation of equipment;

3. To minimize corrosion of equipment and building materials; and

4. To prevent accumulation of explosive and hazardous gases.

The heating, ventilating and air conditioning (HVAC) system and odor control systems shall be designed and controlled as one integrated system. Air distribution, building enclosures, wall penetrations, wind directions, building occupancies, and area classifications shall be carefully investigated. HVAC systems shall be designed in accordance with the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), State of California Energy Conservation Standards Title 24 and the NFPA 820 Fire Protection in Wastewater Treatment Plants.

Equipment conveying corrosives shall be of material that is corrosion resistant, such as fiberglass reinforced plastic (FRP) or stainless steel. If FRP ductwork is used, it shall have flame spread of less than 25, and a smoke propagation of less than 400, and be of fire resistant rating. Air containing flammable and explosive vapors or toxic gases shall not be recirculated.

Air conditioning may be required for pump stations with VFD's.

Depending upon classification, motors for supply and exhaust fans shall be explosion proof, totally enclosed fan cooled (TEFC) units.

C. Wet Well Ventilation

The pump station wet well receives and stores wastewater before it is pumped to the force main. Corrosive and hazardous gases are normally present in the wet well. These gases can become a safety hazard to operating personnel or can cause corrosion of building materials and equipment in the wet well. In order to minimize accumulation of gases inside the wet well, the wet well shall be flushed with fresh air by an adequately sized ventilation system.

Ventilation rates shall be in accordance with:

1. NFPA 820 Fire Protection in Wastewater Treatment Plants

2. Occupational Health and Safety Act (OSHA)

Pump station wet wells are classified into two types depending on their use;

1. Accessible Wet Well.

2. Sealed Wet Well.

ACCESSIBLE WET WELLS

Wet wells which require routine access for maintenance shall be provided with adequate fresh air ventilation in order to provide a safe environment for maintenance personnel, to prevent accumulation of explosive gases, and to minimize corrosion of equipment installed in the wet well. The internal surfaces of the wet well shall be lined with PVC for corrosion protection.

The following minimum ventilation criteria shall be used:

1. All accessible wet wells shall be provided with continuous ventilation of a minimum of 15 air changes per hour.

2. Where intermittent ventilation is required, the ventilation rate shall be at least 30 air changes per hour.

All electrical equipment and fans inside the accessible wet well shall be explosion-proof designed and manufactured for Class I, Division I, Group D. All other design criteria shall be in accordance with NFPA 820 Fire Protection in Wastewater Treatment Plants.

SEALED WET WELLS

Sealed wet wells shall be designed to be low maintenance. The internal surfaces of the wet well shall be lined with PVC for corrosion protection.

Sealed wet wells shall be provided with static vents to accommodate air displacement due to the rise and fall of the water level in the wet well. The vent shall have a minimum diameter of one-half the diameter of the incoming sewer. The vent pipe shall be connected to the nearest sewer maintenance hole where possible. Where the pump station is located away from any sensitive area, vent pipe could be extended above the roof line with a minimum of 15 feet from any window or fresh air inlet.

All electrical equipment inside the sealed wet well shall be classified in accordance with NFPA 820, Fire Protection in Wastewater Treatment and Collection System Facilities.

C. Odor Control

The need for odor control systems shall be evaluated for each project. Such evaluation shall be based on a life cycle cost of 20 years with major consideration of the power and chemical consumption, first cost, maintenance cost, reliability and efficiency of the system.

Wet well odor control shall consist of a water misting system. Activated carbon scrubbers, chemical scrubbers utilizing a chemical absorption process for removal of odors, or chemical or air injection systems may be necessary for odor control in other parts of a pump station.

For the chemical scrubbing systems, foul air from the plant process facility is introduced into the scrubber vessel with an atomized mist chemical solution containing sodium hypochlorite. Oxidation of odorous compounds occurs upon contact with the scrubbing mist, and is removed in the condensate. The scrubber shall be designed to remove a minimum of 99 percent of hydrogen sulfide in the foul stream. Acceptable chemical scrubber manufacturers are Calvert Environmental Co., San Diego, CA, and Quad Environmental Technologies, Corp., Highland Park, IL.

All odor control and ventilation equipment shall be suitable for continuous exposure to saturated hydrogen sulfide gas, sodium hypochlorite mist, sodium hydroxide mist and sulfuric acid. Electrical equipment shall have explosion proof enclosure designed for hazardous condition for Class 1, Division 1, locations.

For air pollution permits, consult South Coast Air Quality Management District.

D. Dry Well Ventilation

The pump station dry well is normally located adjacent to the wet well to house the pumps, valves, meters and other ancillary equipment.

The dry well and equipment rooms shall be designed for a ventilation rate of at least 15 air changes per hour or ventilation rate equivalent to cool internal heat load from the equipment whichever is greater or not greater than 60 air changes per hour. The sensible cooling ventilation rate shall be calculated as follows:

$$H = cfm \times 1.09 \times t$$

where:

H	-	Internal heat gain from equipment, Btu per hour
cfm	-	Air flow, cu ft per minute
t	-	Change in internal temperature, degree F. Use 10 degrees F for change in internal temperature as adequate for sensible cooling.

Where a pump station is equipped with variable frequency drives (VFD), the VFD shall be installed in an air conditioned room with 90 percent efficient outside air filters. VFD units are inherently sensitive to temperature, dust, moisture and other corrosive elements in the air. For constant speed pump stations, the motor control center (MCC) and control rooms shall be equipped with a ventilation fan and 90 percent efficient outside air filters. Pump and equipment room air inlets shall be provided with 30 percent efficient outside air filters. All air filters shall be provided with differential pressure gages to indicate when the filters are clogged, and flow detection devices connected to alarm signaling systems to indicate ventilation system failure.

E. Fire Protection System

Where required by NFPA or by the Fire Department, necessary fire protection systems shall be provided in required areas. For areas housing electrical equipment such as the motor control centers, computer rooms and control rooms, an approved type fire protection systems shall be provided.

F. Gas Detection System

Combustible gas detection equipment shall be provided in the wet well and dry well, and other areas where hazardous gas may be present, to record, activate alarms and/or to operate the ventilation system. The stationary gas detection system shall be capable of measuring concentrations of hydrogen sulfide, methane gas and/or petroleum vapor in the air.

The combustible gas sensor shall be DET-TRONICS Point Watch Infrared Hydrocarbon Gas Detector Model PIR9400 or approved equal. The sensor shall be mounted in the wet well such that it can be removable externally for maintenance and calibration. It shall be connected to the programmable logic controller (PLC). The PLC shall monitor the combustible gas sensor through the 4-20 mA signal which shall be proportional to combustible gas concentrations of zero to 100%. Two (2) PLC adjustable alarms shall be provided. 6% lower explosion level (LEL) shall indicate a warning, and 10% LEL shall indicate an alarm. Alarm beacons shall be installed in the dry well and the electrical room.

An entry control station shall be provided in a NEMA 4X stainless steel enclosure with vandal resistant hardware, and amber and green NEMA 4 vandal resistant pilot lights at or near each entry. They shall indicate a potentially dangerous condition in the pump station based on the loss of the ventilation system, combustible gas, loss of positive pressure in the electrical room, or loss of negative pressure in the dry well. Both lights shall be dark if there is a component or power failure. A lamp test switch shall be provided, which will activate all entry control system lights for ten seconds for testing.

G. Compressed Air System

For pump stations using surge tanks, air operated valves; pneumatic tools for maintenance purposes, and instrument air, a compressed air system shall be provided. The air system for pneumatic tools shall consist of a lubricated type air compressor, receivers, air dryers and necessary piping system. For an instrument air system, a dedicated non-lubricated type air compressor, receiver, dryer and necessary piping system shall be provided. Where the valve operators are designed as pump control valves with the option to have controlled closing during power failure, the air receivers shall be sized to store compressed air capable of stroking the air cylinders three (3) complete cycles between the specified operating pressures during power outages.

H. Hydraulic System

Pump stations equipped with hydraulic operated valves shall be provided with hydraulic systems. The hydraulic system shall be either a package system supplied

with each valve, or one complete package to operate multiple valves. The system shall consist of an oil reservoir, hydraulic pumps, control valves, hydraulic cylinders, limit switches and nitrogen gas-filled accumulators where the valves are required to operate during power outages. The valve opening and closing ranges shall be specified. Final field adjustments shall be made during pump station start-up.

I. Noise Control

The pump station shall be designed to meet the minimum noise level requirement of the Municipal Code of the local jurisdictional agency and the Occupational Safety and Health Administration (CAL/OSHA). All mechanical equipment and enclosures shall be acoustically treated to bring the noise level down to an acceptable limit. These attenuation devices may consist of exhaust mufflers, sound isolators or acoustical panels.

The pump stations shall be designed with noise levels not more than 5 dBA above the ambient noise level as measured at the property line of the nearest recipient (neighbor). A 24 hour noise level reading shall be measured at the pump station site as basis of the design.

In the absence of actual field measurements, the presumed ambient noise level shall be deemed to be the minimum ambient noise level for each zone as follows:

Sound Level "A" Decibels
(In this chart, daytime levels are to be used from 7:00 A.M. to 10:00 P.M. and nighttime levels from 10:00 P.M. to 7:00 A.M.)

Presumed Ambient Noise Level (dBA)

Zone	Day	Night
Residential	50	40
Public Facility, Commercial, Recreational	60	55
Industrial	65	65

At the boundary line between two zones, the presumed ambient noise level of the quieter zone shall be used.

J. Sump Pumps

A sump pit shall be provided in all underground structures such as dry wells, valve and electrical vaults. The sump pit shall be equipped with an adequately sized plus a standby unit, each having a minimum capacity of 50 gpm. Submersible sump pumps shall be used and controlled by a duplex type control, an automatic alternator and a float switch level control. The control system shall be designed to start the standby pump when the lead pump fails to start or when the water level continues to rise while the lead pump is operating. Both pumps are to stop at low water level.

Sump pump discharge pipe, fittings and valves shall be Schedule 80 PVC pipe, with minimum diameter of 2-inches. Each sump pump discharge pipe shall be provided with a swing check valve and isolation gate valve mounted above, both in the vertical

position. A common discharge manifold shall terminate inside the wet well with the wall penetration above the highest surcharge elevation of the wet well.

K. Spare Parts

Pump station electro-mechanical equipment shall be provided with spare parts necessary to ensure continuous operation. The recommended spare parts shall be determined by the project design engineer with assistance from the District Engineer. The following shall be the minimum list of spare parts:

1. One set of pump and motor bearings for each size and model of pump unit.
2. One set of pump seals for each size and model of pump unit.
3. One set of pump and casing wear rings for each size and model of pump unit.
4. One set of pump and motor for each size and model of pumping unit.
5. One dozen fuses for each size of fuse.
6. A printed circuit board for each size and model of the variable frequency drives.

The spare parts shall be delivered to the project site no later than two (2) months prior to pump station start up. Spare parts required during testing and start-up shall be provided by the contractor.

17.14 Electrical Equipment

Electrical systems in the pump station consist of the power supply, power transformers, motor control centers, electric motors, electric variable speed drives, electrical wires and conduits, lighting fixtures, and other associated interface with the instrumentation and control systems.

A. Power Supply

The standard power supply to the pump station shall be 480 volts.

B. Motor Control Centers (MCC)

All motor starters and disconnect switches shall be installed in NEMA 3R Motor Control Centers (MCC). MCC rooms shall be located away from hazardous gas or other corrosive environments. Mechanical ventilation equipment shall be provided to maintain air circulation. All fresh air inlets to the MCC rooms shall be provided with 90 percent efficient inlet filters.

Where environmental problems exist in the pump station location, such as the presence of dust, moisture from sea water, or corrosive gas, the MCC room shall be designed to have adequate ventilation and provided with air cleaning equipment such as de-humidifiers, filters or carbon absorbers.

The MCC circuit breaker handles must be provided with safety interlocks.

C. Electrical Cables and Conduits

All electrical cables and conduits shall be designed in accordance with the NEMA Area Classification as required by the service area. All electrical conduits shall be PVC coated galvanized rigid metallic conduits or Schedule 80 PVC. All conduits shall be sized for 100 year service. Spare conduits may be required. The minimum size conduit shall be 1-inch.

17.15 Instrumentation and Controls

The instrumentation and control system shall be designed to operate the pump station to match the flow characteristics of the service area. The control system shall consist of the wet well level control, flow metering equipment, pressure gages and switches, fire alarms and gas detection instruments.

A. Pump Control System

1. General

The pump control panel (PCP) provides manual or automatic control of the pumps, as well as visual indication of the pump station status and alarm conditions. The following status and alarm indicators are to be provided as a minimum:

Status	Alarms
Power ON Light	Wet Well HIGH LEVEL Alarm Light (from Ultrasonic)
Running Time Meter	Wet Well High High Level Alarm Light
Pump RUN	Pump FAIL Alarm Light
HAND-OFF-AUTO selector switch	Motor winding HIGH TEMP Alarm Light
Lights Test Pushbutton	Seal FAIL Alarm Light (for submersible pumps)
Seal Test Pushbutton (for submersible pumps)	FAIL RESET pushbutton
Flow Rate Indicator	
Wet Well Level Indicator	

Discharge Pressure Indicators

The pump(s) may be controlled either manually, or automatically, depending upon the position of the pump hand-off-auto selector switch. In the MANUAL mode, a pump is started by placing its hand-off-auto selector switch in the HAND position. In this mode, the pump will run continuously unless shut down by the “fail” interlocks.

In the AUTO mode, the pump is started and stopped by the wet well level, as measured by an ultrasonic level sensor. In the “Auto” mode, the pump will run until called to stop by wet well level, unless shut down by the “fail” interlocks.

In the AUTO mode, the pumps will alternate operation automatically after each pump down cycle. If the operating pump should fail, the next pump in the call sequence will start and operate each time the wet well level calls for a pump operation until the failed condition is cleared.

The pump controller shall be a solid state device, which provides operational set points, high level alarm, outputs to start and stop the pumps, and perform pump alternation. The controller shall be a U.S. Filter D153U triplex controller/alternator or approved equal.

A float switch is to be installed in the wet well to provide an emergency high level alarm and a back up pump control system for the station. The emergency high level is to be indicated on the pump control panel and through the dialer. In this condition, the pump will operate for an adjustable time (0-5 minutes after emergency high level initiation), as set by the operator, and then will shut down. If the wet well level again rises to the emergency high level, the cycle will be repeated. The station can run indefinitely in this mode if necessary.

A "pump fail" alarm (for each pump) will be indicated at the pump control panel and transmitted to the automatic dialer system should any of the following conditions occur:

- Pump motor winding high temperature detected by sensors in the motor winding.
- Motor overload detected by the overload relay.

Each of the above "fail" conditions will lock-out the pump from operation. To reset a pump, the operator must visit the station, determine the cause of failure, correct the condition, and depress the "fail reset" pushbutton on the pump control panel.

For submersible pumps, a motor seal failure will also be detected and alarmed but will not stop pump operation.

2. Constant Speed Pump Control System

The operating sequence is applicable for multiple pump units installed in a smaller wet well. The pump station will start in sequence, pumps start and stop in the reverse order.

This sequence is recommended for the following reasons:

a. To maintain uniform flow into the receiving system

b. To provide smaller wet well storage volume and less number of motor starts per hour;

c. To reduce sewer gas emission to the atmosphere by maintaining a constant water level in the wet well.

3. Variable Speed Drives.

Variable speed (matched-flow) pumps shall be used for the following conditions;

a. Where more uniform discharge to the receiving system is required;

b. Where there is not enough space in the pump station to accommodate installation of multiple smaller unit constant speed pumps;

c. Where the wet well volume is limited to satisfy maximum starts per hour;

d. Where sewer gas emissions to the atmosphere should be limited;

The variable speed drive pumps shall be controlled as follows:

a. When the wet well level reaches the first set level, the lead pump will start and ramp to a minimum preset speed. As the flow increases, the pump speed will increase in proportion to the increase in flow in order to maintain the level in the wet well until the pump has reached its maximum speed.

b. When the inflow to the wet well exceeds the maximum capacity of the lead pump, the control system will then start the lag pump. The lag pump will increase its speed while the lead pump will decrease its speed up to the point where the two pumps share the flow, both at the same speed. As the inflow increases, the two pumps will increase their speeds in proportion to the inflow until the pumps have reached the maximum pump design flow, in the case of two pump combination.

c. A drop in wet well level equivalent to a decrease in pump station inflow will signal the pumps to slow down until a preset speed is reached. Then the lag pump will stop, and the lead pump will increase its speed in proportion to the inflow.

d. Further drop in wet well level will signal the lead pump to slow down until the minimum level is reached, at which level, the lead pump will stop.

e. In the event that either the lead pump or the lag pump fails, the wet well level will rise and the standby pump will be started at the same time the failure alarm is activated. The standby pump will be provided with a variable speed drive.

For pump stations equipped with more than two variable speed pumps, the same operating sequence will be followed.

Under no conditions will a force main velocity of less than 3 feet per second shall be allowed.

The variable speed drives shall be provided with bypass contactors to operate the pump at full speed when the VFD is not available.

4. Float Level Switch

The float level switches shall be used to detect the low-low level cut-off and the high-high water level alarm, and as an auxiliary system in the event of failure of the ultrasonic level control systems. When the water level in the wet well reaches the high-high level, the control system (US Filter CBIT B300 single stage controller or approved equal) shall initiate a timed pump down using all pumps. The pump station shall be capable of operating indefinitely in this mode. The float switch shall be direct acting with a single pole mercury switch which activates when the longitudinal axis of the float is horizontal and de-actuates when the liquid level falls 1-inch below the actuation level. The switch shall be encapsulated in a chemical resistant polypropylene casing with a firmly bonded electrical cable protruding. The entire assembly shall be watertight and impact resistant designed and manufactured for Class 1 Division 1, Hazardous Conditions. Float switches shall be Roto-Float as manufactured by Anchor Scientific or approved equal.

Submersible dewatering sump pumps located in dry wells and valve structures shall be controlled by float switches. Float switches shall be designed and manufactured suitable for the area classification of the sump pit.

5. Ultrasonic Level Control

The pump station's primary level controller shall be the ultrasonic level sensor. The transducers shall be hermetically sealed, self cleaning with built-in temperature compensation 6^{o} beam angle, suitable for installation in a sewage pump station wet well.

Ultrasonic measuring systems shall be the Hydroranger with XPS-15 transducer as manufactured by Milltronics, or approved equal.

17.16 Supervisory Control and Data Acquisition (SCADA) System

To monitor and control the operation of the pump station remotely at a central station, SCADA system equipment shall be provided. The system shall consist of the Remote Telemetry Unit (RTU) located in the pump station connected to a computer at a designated central station. The signal to the central station shall be transmitted over spread spectrum radio.

The pump operation is initiated by a motor starter mounted in the Motor Control Center (MCC). The starter is controlled by a signal from the level sensor or push buttons or by local control automation, such as the remote telemetry unit.

The Central Computer System displays information such as graphics and tables; gathers historical data such as trends of pumping cycles, measurement of flows and pressures, equipment running time, number of pump starts per hour; and can remotely control the operation of the pump stations.

17.17 Pressure Gauges

In a wet well-dry well type pump station, pressure gauges shall be installed at the suction and discharge sides of each pump to measure the pump total dynamic head. The pressure gauges shall be at least 4-1/2 inches in diameter. Where seal flushing water is required, a pressure gauge and low pressure switch shall be provided to activate an alarm in case of loss of flushing water. A low flow alarm switch may be used in lieu of the pressure switch.

A pressure switch shall be provided between the pump and the check valve or pump control valve to activate an alarm in the event of failure of the valve to open or accidental closure of any isolation valve located at the pump discharge piping. A micro-switch attached to the valve shaft may be provided in lieu of the pressure switch.

All, pressure gauges and switches installed in a piping system carrying solids bearing fluids such as wastewater, sump pump discharge or chemical lines shall be provided with diaphragm seals and snubbers where pulsating flow is expected. The assembly shall be provided with an isolation ball valve for maintenance. Diaphragm seal material shall be compatible with the pressure and fluid being handled.

In a submersible pump station, a pressure gauge/switch shall be installed in the discharge pipe of each pump in the valve vault upstream of the check valve. The discharge pressures shall be indicated in the pump control panel.

17.18 Pump Station Facility

The pump station facility includes the pump station structure, buildings, electrical substation or transformer, access roads and other appurtenant equipment inside the property. The facility design shall incorporate access road and security. The architectural treatment shall blend with the surrounding area.

A. Building Design and Materials of Construction

The pump station usually consists of an underground concrete structure to house the wet well and the dry well. Where the pump station requires an above ground structure to house the electrical room, generator room, office area and maintenance shop, the above ground building shall be designed in accordance with the requirements of the Uniform Building Code and California Fire Code. In general, all buildings shall be cast-in-place concrete or masonry block wall construction.

Wet Well and Dry Well. The wet well and dry well shall be reinforced cast-in-place concrete with wall thickness to withstand the earth and seismic loads, and shall be heavy enough to resist floatation without earth skin friction resisting the outside surfaces when the wet well is empty.

The size and configuration of the wet well shall be designed in accordance with Section 17.5. The bottom of the wet well shall be sloped to at least 15 degrees and corners grouted to prevent accumulation of solids during operation.

The dry well shall be designed to provide the following:

1. Minimum of 42-inch clear working clearance between pumps and piping;
2. Access doors, stairways and landing;
3. Access opening for equipment installation, maintenance and removal;
4. Hoisting equipment or lifting hooks;
5. Adequate ventilation
6 Fire protection equipment where required.

17.19 Force Mains

The minimum diameter for a force main shall be 4 inches. The capacity of the force main shall be the design peak flow from the pump station. The minimum design velocity for a force main shall be 3.0 fps, and maximum allowed 5.0 fps for PVC and 6.0 fps for DIP.

Force mains shall continuously rise from the pump station to the terminal manhole to eliminate the need for air and vacuum release valves.

For new pump stations with phased development of the tributary area, dual force mains may be required. The District Engineer shall select the number of force mains that will be installed at each pump station.

17.20 Access Roads

Pump stations shall be designed with access roads for construction, operation and maintenance of the equipment. The roads shall have turning radii suitable for the size of vehicle, or heavy hoisting equipment necessary for installation, removal or delivery of equipment or supplies into the station. Pavement sections shall be able to support the load of the heaviest anticipated equipment to be used in the station. Where monorail hoists or traveling cranes are required, adequate headroom clearance shall be provided or loading docks can be used to limit the height of the building.

17.21 Flood Control

The pump stations shall be designed with pad elevation one foot above the expected value100-year flood elevation or the elevations indicated on the Flood Insurance Rate Maps in areas where detailed studies have been conducted, whichever is higher. Where available and current, information contained in the Orange County Public Facilities and Resources Department documents can be used to determine the expected value 100-year flood elevation.

All hydrologic and hydraulic calculations and design shall be in accordance with the standards of the jurisdictional flood control agency standards.

17.22 Grading and Area Drainage

The site drainage shall be designed to prevent standing water or the erosive effects of storm runoff. Pavement areas shall have a positive drain of up to 3%. Flow lines shall have a minimum of 1% slope. Underground structures shall not be constructed in partially cut and partially fill. Where this condition exists, the site shall be over-excavated and re-stabilized. The pump station shall be designed not to float where high groundwater exists.

17.23 Soils Report

A geotechnical investigation shall be conducted to determine the underground soils conditions. The Soils report shall show the foundation design criteria, corrosiveness of soils and ground water, groundwater elevations if it exists, and possible hazardous materials underground. Cleaning of such materials shall be addressed in the construction contract, or can be awarded to a separate hazardous materials contractor as determined by the District Engineer.

17.24 Surveying

The control bench marks shall be referenced from the County of Orange records. Where existing survey and reference plans are available, field check existing data with the current datum and adjust all elevations to current datum where required.. The location of the pump station shall be tied to a nearby street and to an existing property line. Basis of survey bearings and control shall be given if the local coordinate are established.

17.25 Security

The pump station site shall be provided with an 8 foot high chain link fence or masonry block wall fence, as directed by the District Engineer. The fence or wall shall be designed in accordance with applicable American Public Works Association Standards. The entrance gate shall be secured with a padlock. Where the pump station has a superstructure housing the motor control center and the generator, the building shall be equipped with intrusion alarms. Where there is no superstructure, the NEMA 3R enclosure housing the motor control center shall be equipped with an intrusion alarm. The alarms shall be connected to a horn mounted in the building, a red beacon light mounted outside the building or above the NEMA 3R enclosure, and remoted via telemetry to the main control system.

17.26 Water Supply System

The pump station water supply system shall be provided for pump seal water system, irrigation system, rest rooms and housekeeping hose downs. A backflow preventer shall be installed in the pipeline connecting the hose bibs, seal water and irrigation system. Seal water systems shall utilize air gap tanks, and not be directly connected to the water supply system. All piping shall be designed in conformance with the Uniform Plumbing Code.

17.27 Landscaping and Irrigation System

Plants selected shall be drought resistant and approved by the District Engineer. Irrigation system equipment shall utilize water saving kits that are controlled by automatic timers.

17.28 Construction

The pump station shall be constructed in conformance with the specifications and drawings. The pump station construction shall be administered and inspected by the Garden Grove Sanitary District, or its designated representative.

A. Shop Drawing Submittal and Shop Drawing Review

The Technical Specifications shall specify the requirements for shop drawing submittal and review process.

Once the project is awarded, shop drawing submittals shall be reviewed and accepted. The shop drawing review is one way to check compliance with the specifications. It also serves as a mechanism to get from the contractor the equipment as specified. Where a substitution to specified equipment is proposed to the construction project Design Engineer for review, the design project engineer shall be consulted.

B. Equipment Installation and Testing

The equipment installation and testing shall be specified in each equipment specification. Normally, the equipment shall be specified to be installed by the Contractor under the supervision of a certified factory representative. After installation, the Contractor shall conduct trial operation of the equipment, and make the necessary adjustments as required. When the equipment becomes operational, the Contractor shall test the equipment in the presence of the District's representative. The test shall include a performance test, simulating the manual and automatic operation, and checking of other components in compliance with the specifications. The test shall also include verification of all alarm functions. A continuous test using the actual process material shall be conducted without any breakdown prior to final acceptance.

C. Operation and Maintenance Manuals

The Operation and Maintenance Manual shall be prepared by the construction contractor based upon the plans and specifications, and assistance from equipment manufacturers, to clearly describe how the pump station shall operate under normal and emergency conditions, and how it should be maintained.

Final payment shall not be made to the Contractor until the Operation and Maintenance Manual is approved by the District Engineer.

D. Operator Training

Each pump station has unique operational requirements and some have equipment that requires familiarization by the station operators. The Contractor shall provide

training, through respective authorized equipment representatives, to the station operators as specified in the Contract Documents.

18. INSPECTION AND TESTING OF GRAVITY SEWERS

18.01 CCTV Inspection

The Contractor shall perform Closed Circuit Television inspection (CCTV) of all gravity sewers to determine alignment, grade and damaged or defective pipe in place; after the pipe has been installed, backfilled and compacted to grade, tested for leakage, manholes raised to grade, but prior to final resurfacing, from manhole to manhole. CCTV inspection shall be recorded on DVD, and recording procedures shall conform to the requirements of Standard Specifications for Public Works Construction Section 500-1.1.5, Television Inspection, except that the maximum speed shall be 15 feet per minute. The recording shall continuously display the following on-screen data: contract number, project name, date, time, distance (in feet) from the insertion manhole, and manhole identification codes.

Two copies of the recording shall be submitted to the District for approval within two days of the CCTV inspection. CCTV recording shall be performed first with the pipe dry, and then immediately following clean water flowing in the pipe to clearly indicate vertical misalignments, sags or other defects. Should CCTV inspection indicate any faulty installation of the pipe, repairs or replacement shall be made at the Contractor's expense by a method approved by the District. Repaired and or replaced pipe and/or segments shall be retested and reinspected through CCTV at no additional cost to the District, until final acceptance is granted. Any sag greater than 0.25 inch in 100 feet of pipe reach shall be considered excessive, and the pipe shall be removed and reinstalled to proper grade.

18.02 Gravity Pipe Leakage Tests

All gravity sewer pipes and service laterals shall be tested for exfiltration and/or infiltration and deflection. All leakage tests shall be in conformance with Standard Specifications for Public Works Construction (SSPWC), "GREENBOOK" Section 306-1.4.1. Water exfiltration test shall be in conformance with SSPWC Section 306-1-4.2. Air pressure test shall be in conformance with SSPWC 306-1.4.4. All testing shall be performed in the presence of the District Inspector.

18.03 Manhole Leakage Tests

1. Leakage tests shall be made and observed by the District Inspector on each manhole. The test shall be the exfiltration test made as described below:

2. After the manhole has been assembled in place, all lifting holes and those exterior joints within 6 feet of the ground surface shall be filled and pointed with an approved non-shrinking mortar and the lining joints completed. The test shall be made prior to placing the shelf and invert. If the groundwater table has been allowed to rise above the bottom of the manhole, it shall be lowered for the duration of the test. All pipes and other openings into the manhole shall be suitably plugged and the plugs braced to prevent blow out.

3. The manhole shall then be filled with water to the top of the cone section. If the excavation has not been backfilled and observation indicates no visible leakage, that is, no water visibly moving down the surface of the manhole, the manhole may be considered to be satisfactorily water-tight. If the test, as described above is unsatisfactory as determined by the District Inspector, or if the manhole excavation has been backfilled, the test shall be continued. A period of time may be permitted if the Contractor so wishes, to allow for absorption. At the end of this period, the manhole shall be refilled at the top of the cone, if necessary and the measuring time of at least 8 hours begun. At the end of the test period, the manhole shall be refilled to the top of the cone, measuring the volume of water added. This amount shall be extrapolated to a 24-hour rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed 1 gallon per vertical foot for a 24-hour period. If the manhole fails this requirement, but the leakage does not exceed 3 gallons per vertical foot per day, repairs by approved methods may be made as directed by the District to bring the leakage within the allowable rate of 1 gallon per foot per day. Leakage due to a defective section or joint or exceeding the 3 gallon per vertical foot per day shall be the cause for the rejection of the manhole. It shall be the Contractor's responsibility to uncover the manhole as necessary and to disassemble, reconstruct or replace it as directed by the District Engineer. The manhole shall then be retested and, if satisfactory, interior joints shall be filled and pointed.

4. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorptions, etc., i.e., it will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete. Furthermore, the Contractor shall take all steps necessary to assure the District Inspector that the water table is below the bottom of the manhole throughout the test.

5. If the groundwater table is above the highest joint in the manhole, and if there is no leakage into the manhole as determined by the Engineer, such a test can be used to evaluate the water-tightness of the manhole. However, if the District Engineer is not satisfied, the Contractor shall lower the water table and carry out the test as described herein before.

18.04 Pipe Slope

All gravity sewer pipe shall be laid to the line and grade shown on the plans and per Section 306.1.2 of "GREENBOOK," with a maximum allowable tolerance of 0.125 inch at the invert. The Contractor shall continuously check the grade of the pipe being installed through the use of laser line.

19. STANDARD SEWER NOTES

The following notes must appear on the plans under Standard Sewer Notes.

A. The sewer Contractor shall have a copy of the Project Plans and Specifications, as well as the Garden Grove Sanitary District Design Criteria for Sewer Facilities on the job site.

B. The Contractor shall obtain a City and/or County permit for work done on public right-of-way.

C. The Garden Grove Sanitary District Office shall be called for inspection five (5) working days before start of work at (714) 741-5566.

D. A pre-construction conference shall be held 48 hours before starting construction work.

E. The Contractor shall expose all join points to the existing sewer system for verification of location and elevation before construction.

F. Stations shown as 1+00.00 are sewer stations and are independent of all other stations.

G. All laterals shall be staked by a surveyor before trenching and a complete set of cut sheets shall be supplied to the Contractor and the District Inspector.

H. The District will inspect and test the sewer collection system and lateral sewers to the property clean-out. Privately owned sewer laterals from the property line clean-out will be inspected and tested by an approved contractor subject to the City of Garden Grove Building Department approval.

J. All sewer lines shall be balled in the presence of the District Inspector before completion of all leakage tests.

K. Pipeline leakage tests shall be made in the presence of the District Inspector, only after backfill has been completed, compaction tests on backfill have been made, and the backfill has been accepted by the District Inspector.

L. All sewer main lines shall be inspected using a closed circuit television system. Two recordings shall be made of the inspection on a DVD disk in accordance with the Garden Grove Sanitary District Specifications for Video Inspection of Sewer Lines. One recording shall inspect the system constructed with no flow, and one shall conduct the inspection 15 minutes after flowing water in the sewer.

M. The Contractor shall provide the Garden Grove Sanitary District with an as-built set of job prints with tie-down measurements for all laterals and manholes.

N. Before final acceptance, the developer's engineer signing the plans shall furnish the Garden Grove Sanitary District with a set of as-built mylars of the sewer plan.

O. Curbs, or pavement surfaces in alleys where sewer laterals exist shall be inscribed with an "S" indicating locations of all sewer laterals.

P. Curbs shall be inscribed with ties for all manhole locations.

Add the following notes to plans having <u>on-site</u> work which will be dedicated to the District:

Q. Trench backfill, on all sewer lines to be dedicated to the District, shall be compacted to a minimum of 90% relative density as determined by the five-layer test method (California 216G). Tests will be required every 300-feet of trench or as determined

by the District Inspector. The developer shall submit written results of compaction testing to the District before acceptance. If in dedicated street or future street, compaction will be as required by governmental agency having jurisdiction, but no less than 90 percent relative compaction.

Appendix E-2

Standard Drawings

CITY OF GARDEN GROVE
PUBLIC WORKS STANDARD PLANS

SERIES S-100 SEWER

S-100 MANHOLE DETAILS

S-101 CONCRETE BASE AND JOINT DETAILS

S-102 SEWER DROP MANHOLE WITH CLEANOUT

S-103 MANHOLE FRAME AND COVER

S-104 MANHOLE SHAFT OPENING ORIENTATION PLAN

S-105 LATERAL CLEANOUT DETAIL

S-106 PVC PIPE BEDDING AND MANHOLE CONNECTION DETAILS

S-107 VCP PIPE BEDDING DETAILS

S-108 CONCRETE ENCASEMENT TYPE A, B, & C

S-109 CONCRETE SLOPE ANCHORS

S-110 STEEL CASING PIPE

S-111 VCP OR PVC TYPICAL LATERAL

S-112 CUT IN WYE CONNECTION

S-113 PVC MANHOLE LINER

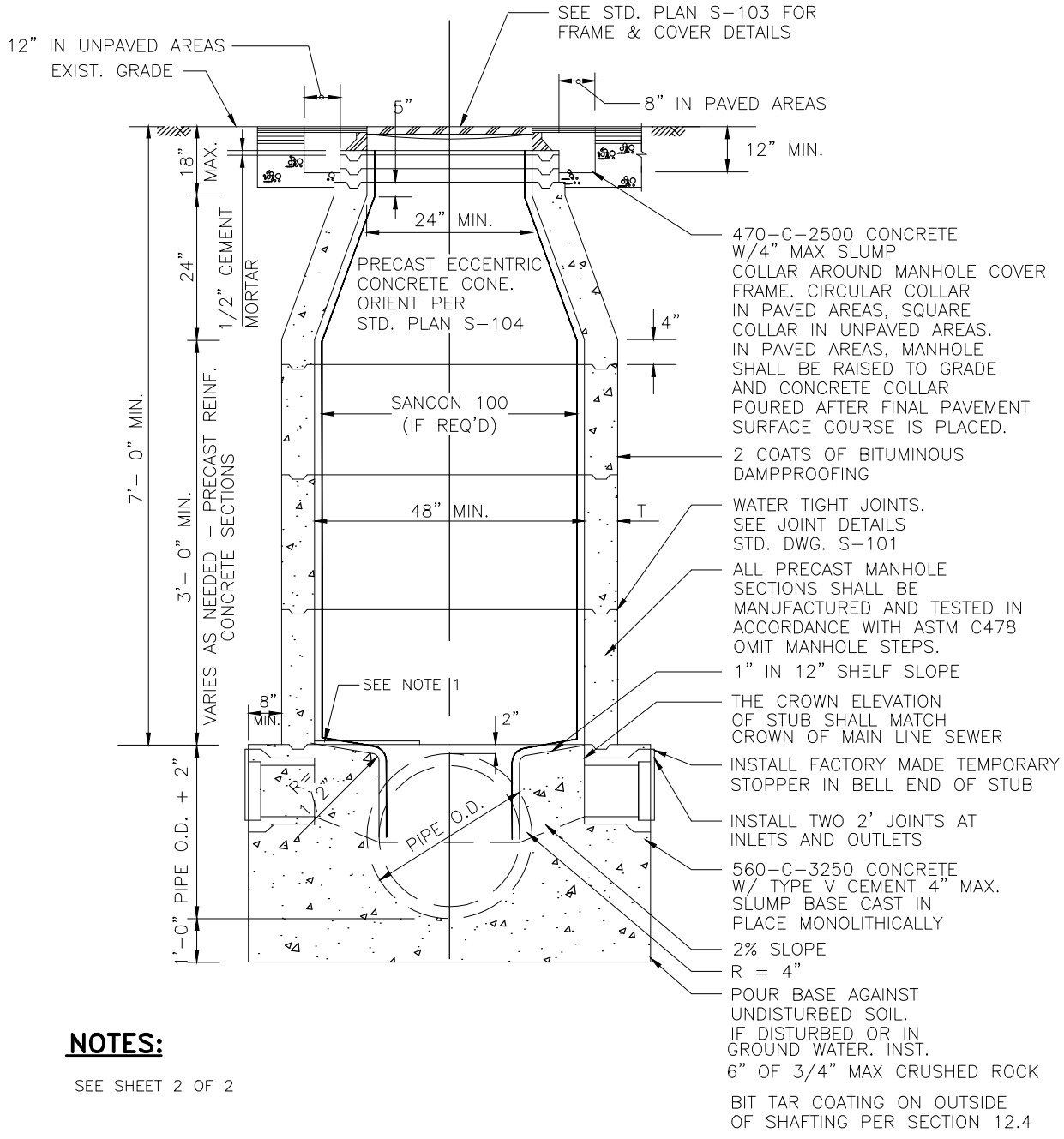
S-114 PVC T-LOCK LINER DETAILS

S-115 PVC LINER WITH GAS FLAP INSTALLATION

S-116 FLAT TOP MANHOLE

S-117 TYPICAL GREASE INTERCEPTOR

S-118 DESIGN CRITERIA FOR SEPARATION OF WATER AND SEWER MAINS



NOTES:

SEE SHEET 2 OF 2

Garden Grove Sanitary District

MANHOLE DETAILS

Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S-100

SHEET 1 OF 2

MANHOLE DETAILS NOTES:

1. PLACE TWO HALF MOON SHAPED TEMPORARY PLYWOOD COVERS (5/8" THICK MINIMUM) IN BOTTOM OF MANHOLE AFTER SHAFTS HAVE BEEN SET TO KEEP DEBRIS FROM ENTERING SEWER.
2. FOR DROP MANHOLE SEE STD. PLAN. S-103.
3. FOR MANHOLES LOCATED OUTSIDE PAVED AREAS, THE FRAME AND COVER SHALL BE SET A MINIMUM OF 0.1 FT. ABOVE FINISH GRADE IN SHOULDER AREAS, UNPAVED ROADS OR LANDSCAPING AREAS, AND 18" IN UNFINISHED AREAS.
4. ALL INLETS AND OUTLETS SHALL BE SUPPORTED WITH CONCRETE SUPPORTS PRIOR TO POURING MANHOLE BASE.
5. MANHOLE LOCATIONS SHALL BE MARKED ON CURB FACE.
6. WALL THICKNESS (T) SHALL BE MINIMUM 5" FOR 48" MANHOLES, 6" FOR 60" MANHOLES, 7" FOR 72" MANHOLES.
7. SIDES OF BASE SHALL BE EITHER FORMED OR POURED AGAINST VERTICAL SMOOTH EARTH.
8. WHEN DEPTH OF MANHOLE EXCEEDS 15 FEET FROM TOP OF PIPE TO FINISH GRADE, MANHOLE SHAFT SHALL BE INCREASED TO 60 INCH DIAMETER.
9. A PLASTIC SIGN SHALL BE ATTACHED 12 INCHES BELOW THE TOP OF MANHOLE FRAME WITH INSCRIPTION:

   CAUTION
   PERMIT REQUIRED CONFINED SPACE
   VENTILATE BEFORE ENTERING

   IN LETTERS NO SMALLER THAN ½ INCH IN HEIGHT. ATTACH SIGN TO MANHOLE WALL WITH A MINIMUM OF 4 TYPE 316 STAINLESS STEEL SCREWS AND ANCHORS.
10. DIAMETER OF MANHOLE PER SIZE OF SEWER LINE.

SEWER MAIN (INCHES)	MAXIMUM BRANCH SIZE (INCHES)	MANHOLE SIZE (INCHES)	FRAME AND COVER (INCHES)
8-15	10	48	24
18-21	12	60	30
24-36	15	72	36

Garden Grove Sanitary District

MANHOLE DETAILS

Approved _____ Date 12-8-15

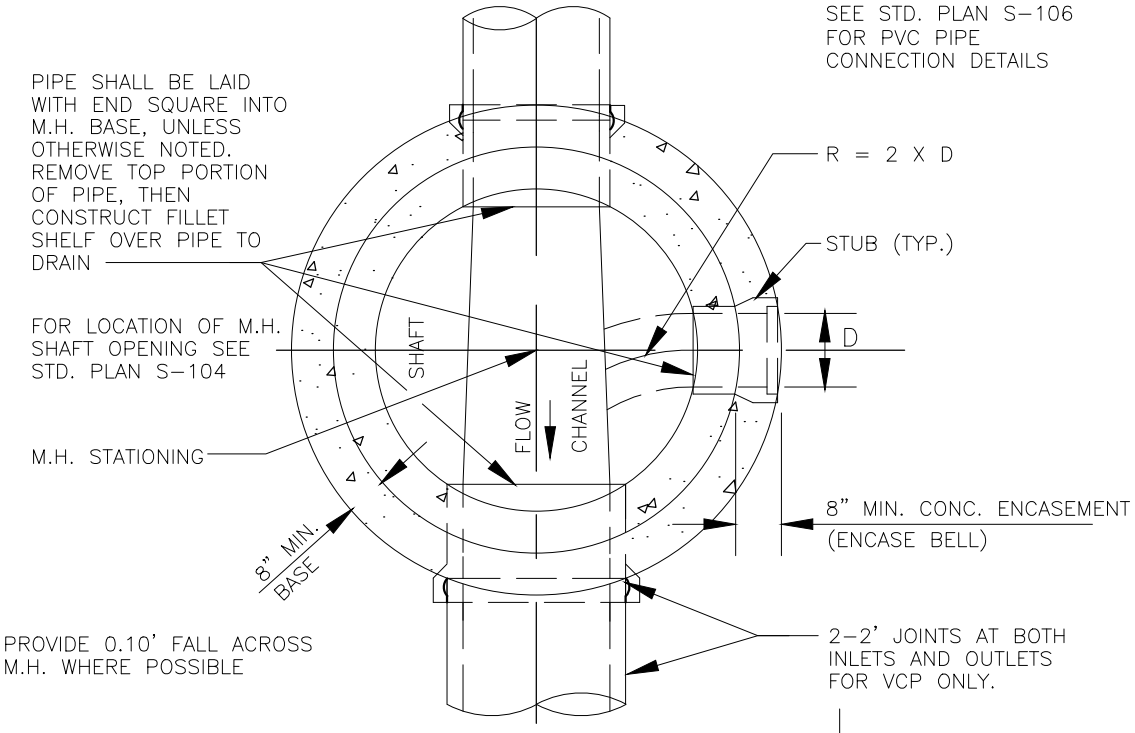
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

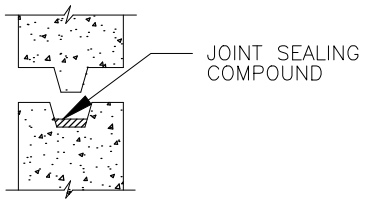
STD. PLAN NUMBER

S-100

SHEET 2 OF 2

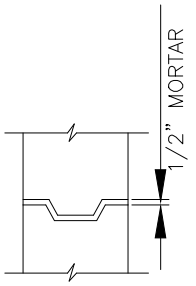


PLAN



PLASTIC JOINT

REQ. IN GROUNDWATER



MORTAR JOINT

NOTES:

1. MORTAR JOINTS – SUFFICIENT MORTAR SHALL BE APPLIED ACROSS ENTIRE FACE OF JOINT SO THAT WHEN PRECAST UNITS ARE PLACED ON TOP OF ONE ANOTHER, THE MORTAR WILL SQUEEZE OUT BOTH THE INSIDE AND OUTSIDE WALL FACES. JOINTS SHALL BE "POINTED UP" AFTER SETTING PRECAST UNITS EXCLUDING GRADE RINGS.
2. PLASTIC JOINTS – PERFORMED COLD-APPLIED READY-TO-USE PLASTIC JOINT SEALING COMPOUND SHALL BE QUICK-SEAL AS SUPPLIED BY QUIKSET UTILITY VAULTS OR APPROVED EQUAL MUST BE USED WHEN GROUND WATER IS ENCOUNTERED.

Garden Grove Sanitary District

CONCRETE BASE AND JOINT DETAILS

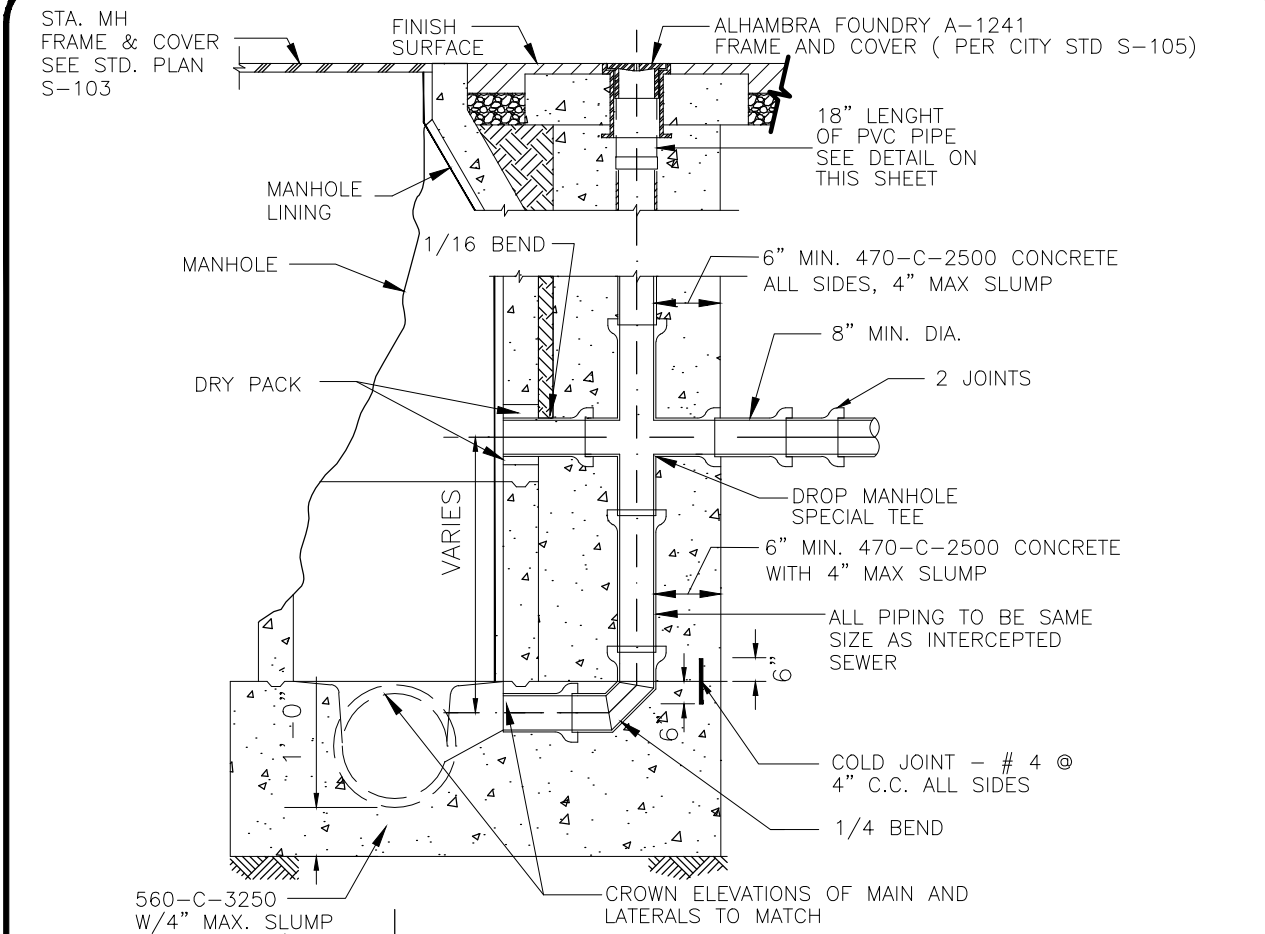
Approved _____ Date 12-8-15

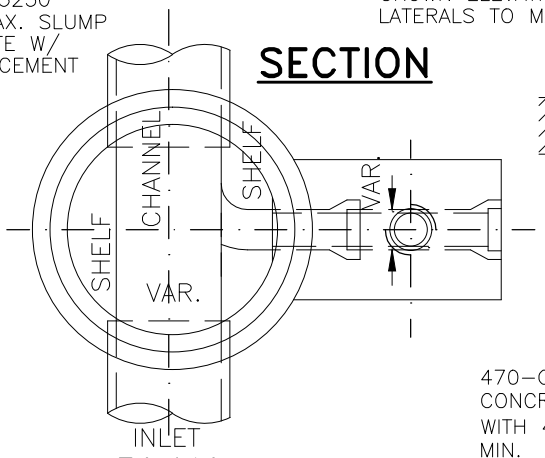
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

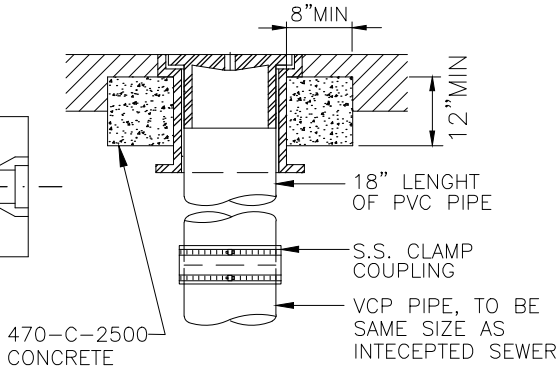
STD. PLAN NUMBER

S-101





PLAN



DETAIL

NOTES:

1. DROP MANHOLE TO BE USED FOR SPECIAL SITUATIONS ONLY, AND SHALL NOT BE CONSTRUCTED WITHOUT APPROVAL BY GGSD.
2. ALL NEW OPENINGS CONSTRUCTED INTO MANHOLE SHALL BE DONE BY CORE DRILLING.

Garden Grove Sanitary District

SEWER DROP MANHOLE WITH CLEANOUT

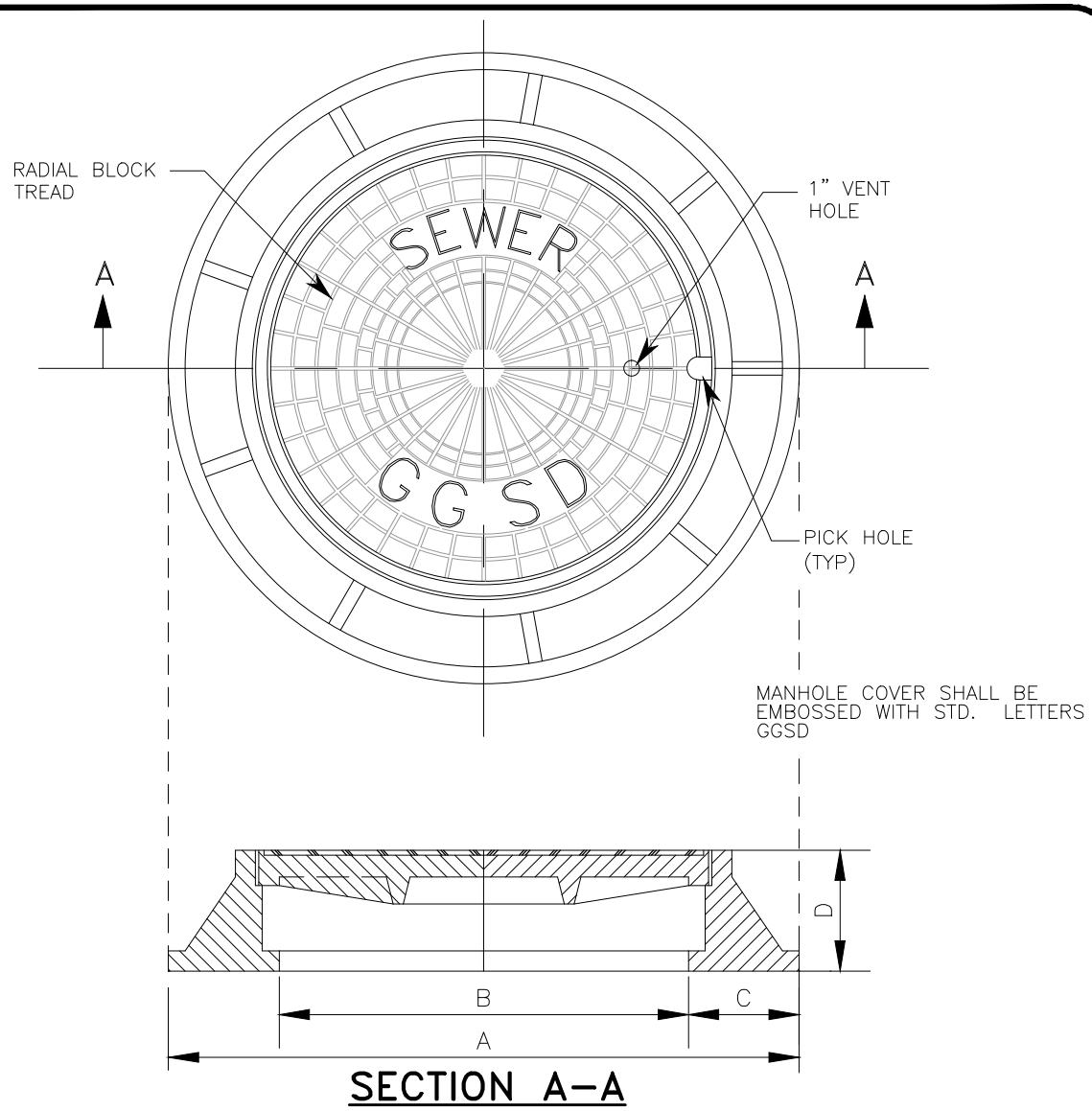
Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S-102



SECTION A–A

MANHOLE SIZE	A	B	C	D	PLATE NUMBER
48"	32 1/2"	24	4 ¼	6	A–1495
60"	38 1/2"	30	4 ¼	6	A–1497
72"	44 1/2"	36	4 ¼	6	A–1498

NOTES:

1. WHERE FRAME AND COVER ARE SET 18" ABOVE GRADE, FOUR (4) ½" DIA. INSERTS FOR ADJUSTABLE STUDS SHALL BE CAST IN TOP GRADE RING, FRAME SHALL BE BOLTED TO GRADE RING.
2. MANHOLE COVER AND FRAME SHALL BE AS MANUFACTURED BY ALHAMBRA FOUNDRY. FRAME AND COVER SHALL BE COATED WITH ASPHALT OR COAL TAR.

Garden Grove Sanitary District

MANHOLE FRAME AND COVER (TRAFFIC LOADING)

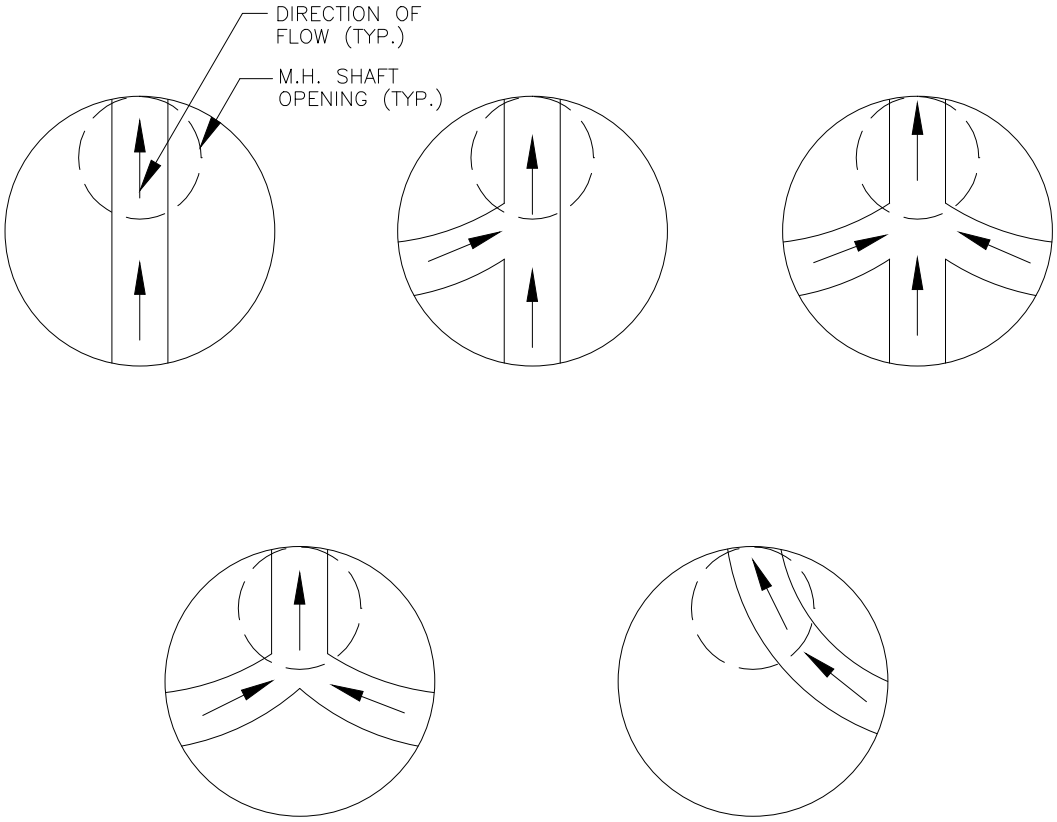
Approved _____ Date 12–8–15

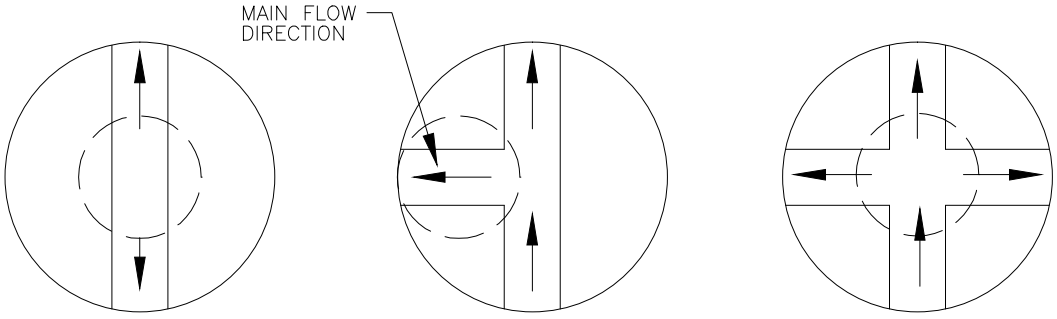
City Engineer R.C.E. 52125 Exp.12–31–16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S–103





SUMMIT M.H. EITHER SIDE

SUMMIT M.H.

SUMMIT M.H. ANY POSITION

Garden Grove Sanitary District

MANHOLE SHAFT OPENING ORIENTATION PLAN

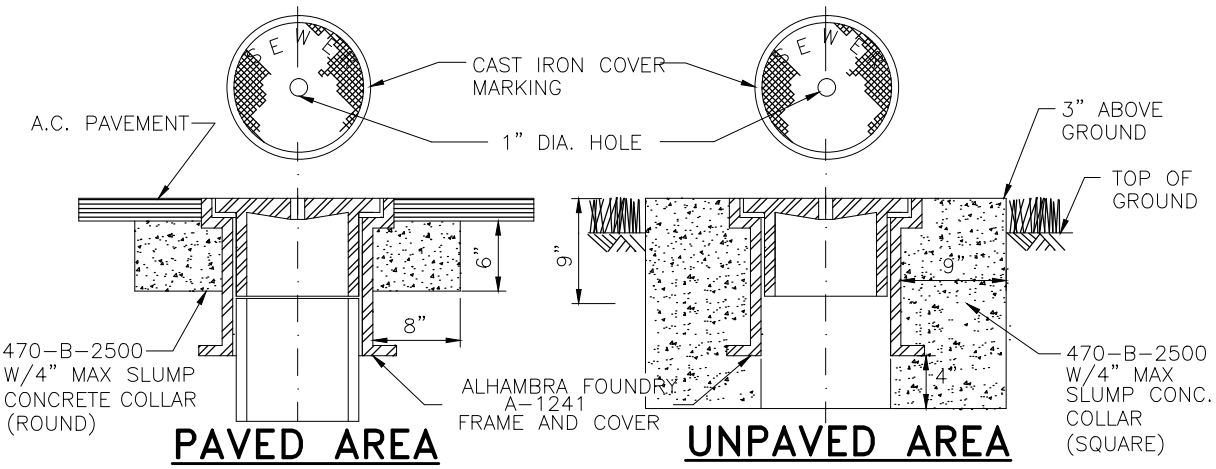
Approved _____ Date 12-8-15

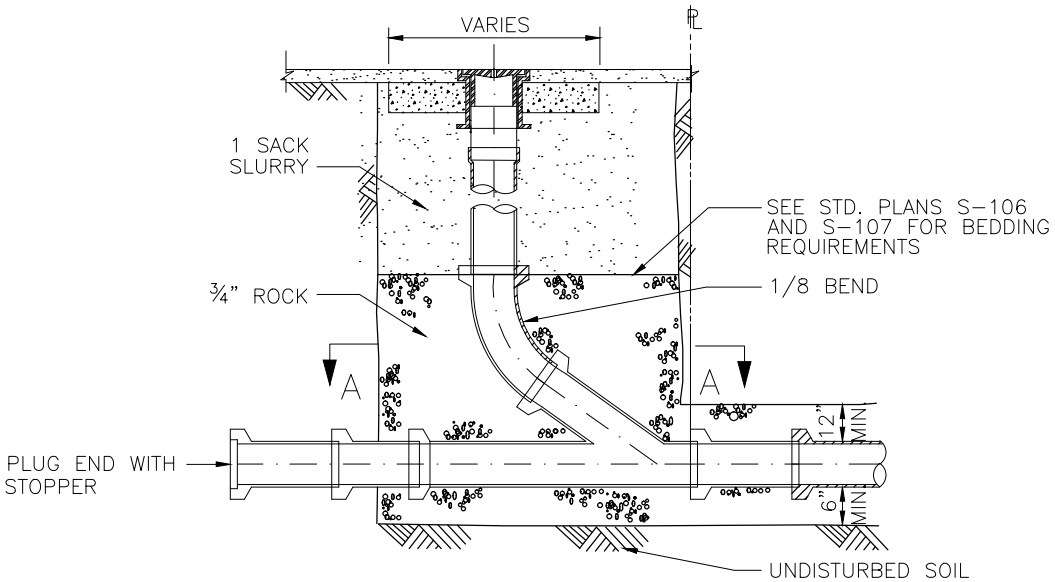
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

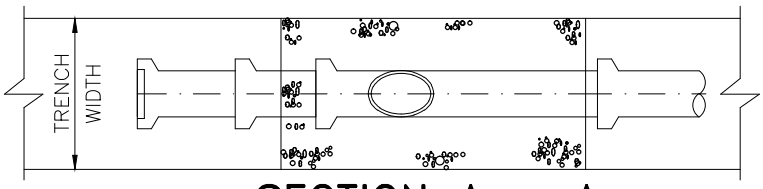
STD. PLAN NUMBER

S-104





ELEVATION



SECTION A – A

NOTES:

1. CLEANOUT PIPE TO BE SAME SIZE AND KIND OF MATERIAL AS LATERAL.
2. CLEANOUTS TO BE INSTALLED WITHIN 5' OF BUILDING, DIRECTION CHANGES. MAXIMUM 75' INTERVALS AND AT PROPERTY LINE.

Garden Grove Sanitary District

LATERAL CLEANOUT DETAIL

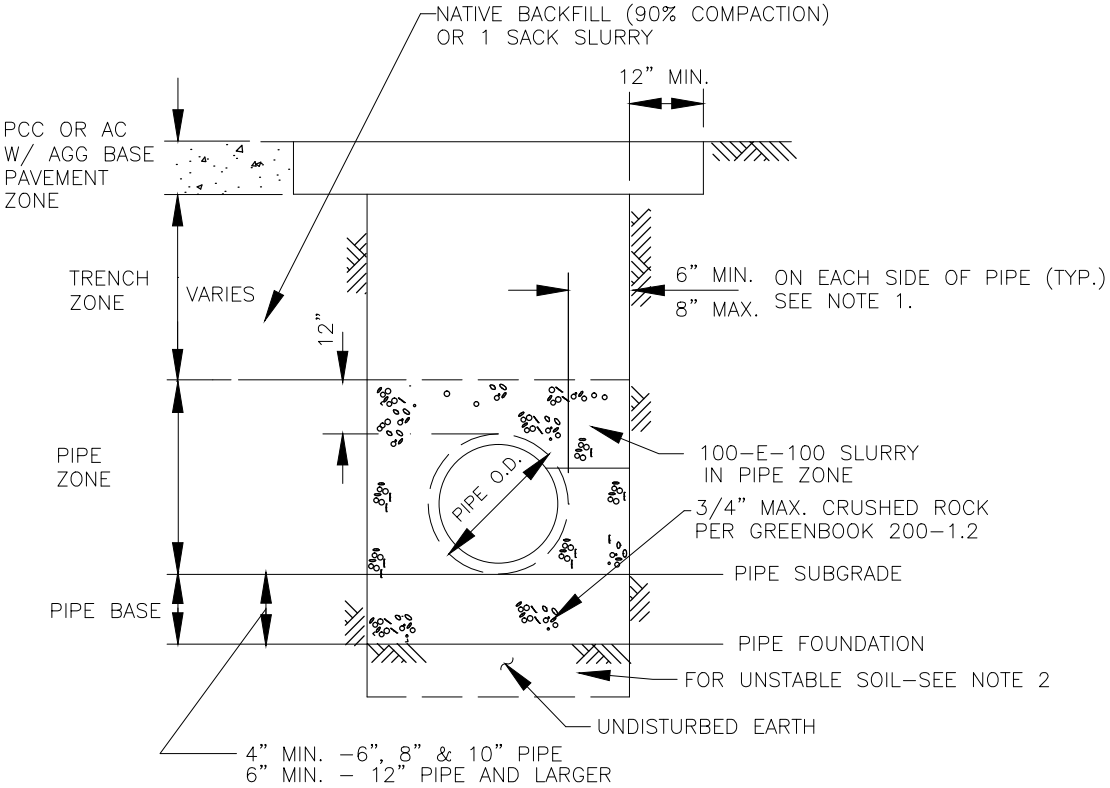
Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

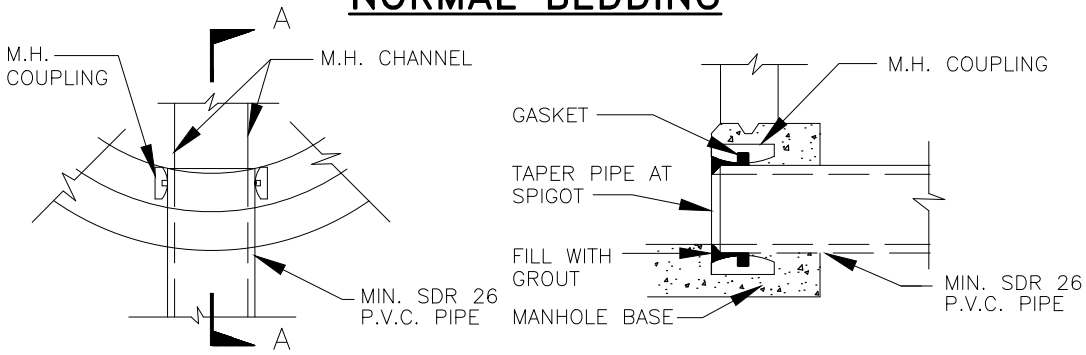
REVISIONS	BY	DATE

STD. PLAN NUMBER

S-105



NORMAL BEDDING



PLAN **SECTION A - A**

PVC PIPE MANHOLE CONNECTION DETAILS

NOTES:

1. CONCRETE ENCASEMENT PER STD. DWG. S-108 SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE EXCEEDS THE MAXIMUM WIDTH SPECIFIED ABOVE.
2. IF UNSTABLE SOIL IS ENCOUNTERED, DISTRICT REPRESENTATIVE SHALL DETERMINE DEPTH OF REMOVAL AND THICKNESS OF FOUNDATION ROCK REFILL MATERIAL.
3. SEE STD. PLANS S-101 AND S-102 FOR MANHOLE DETAILS.

Garden Grove Sanitary District

P.V.C. PIPE BEDDING & MANHOLE CONNECTION DETAILS

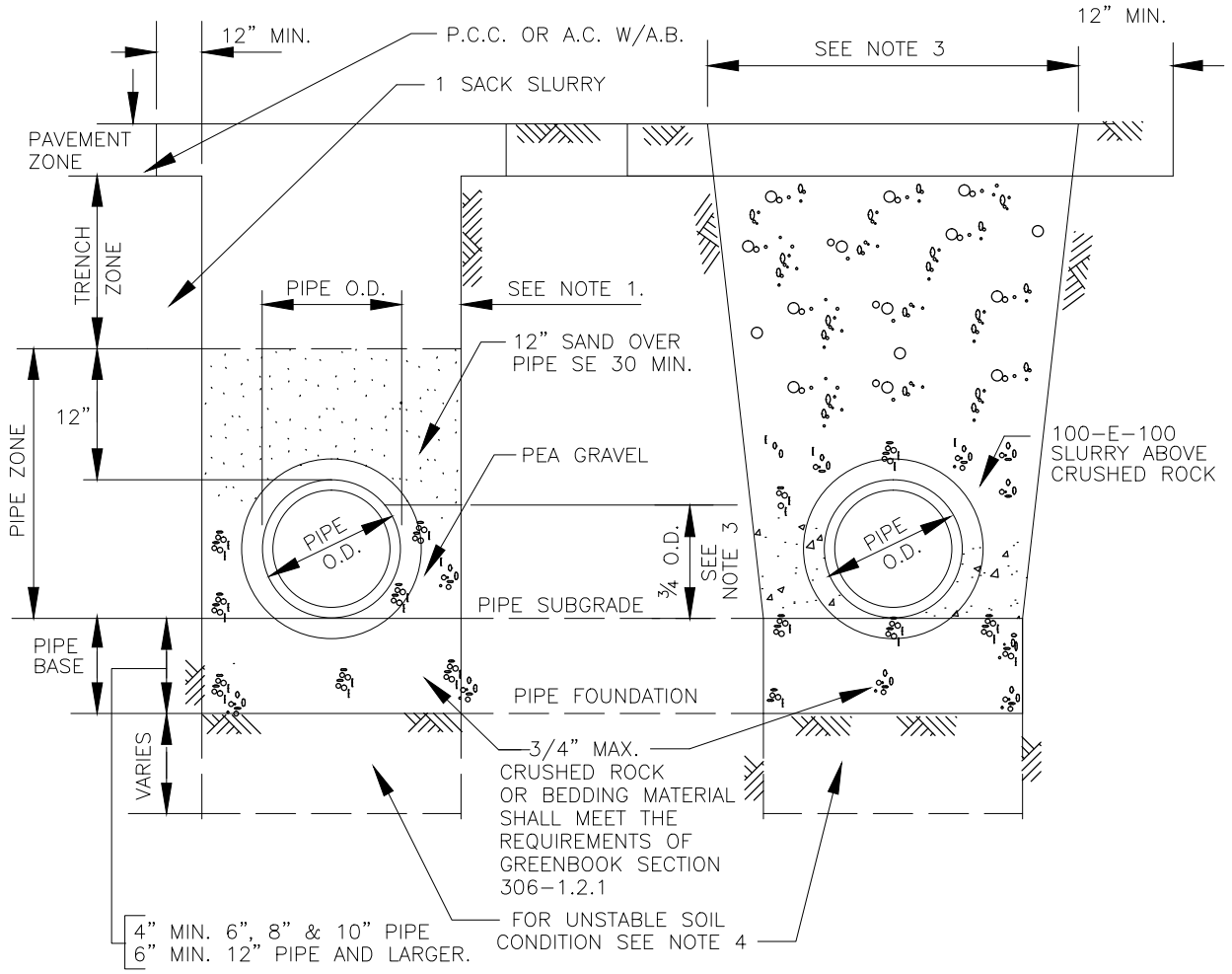
Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S-106



TYPICAL NORMAL BEDDING

OVERWIDTH BEDDING

SEE NOTE 2

NOTES:

1. TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE SHALL BE WITHIN THE FOLLOWING LIMIT FOR TYPICAL NORMAL BEDDING.
   (A) MAXIMUM TRENCH WIDTH–O.D. PIPE OR BELL PLUS 8" MAX. EACH SIDE OF PIPE.
   (B) MINIMUM TRENCH WIDTH–O.D. PIPE OR BELL PLUS 6" MIN. EACH SIDE OF PIPE.
2. OVERWIDTH BEDDING SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE EXCEEDS THE MAXIMUM WIDTH SPECIFIED ABOVE.
3. MAXIMUM OVERWIDTH BEDDING TO BE DETEMINED IN FIELD BY THE DISTRICT REPRESENTATIVE ON THE BASIS OF OVERWIDTH EXCAVATED.
4. IF UNSTABLE SOIL IS ENCOUNTERED, DISTRICT REPRESENTATIVE SHALL DETERMINE DEPTH OF REMOVAL AND SIZE OF FOUNDATION ROCK REFILL MATERIAL.

Garden Grove Sanitary District

V.C.P. PIPE BEDDING DETAILS

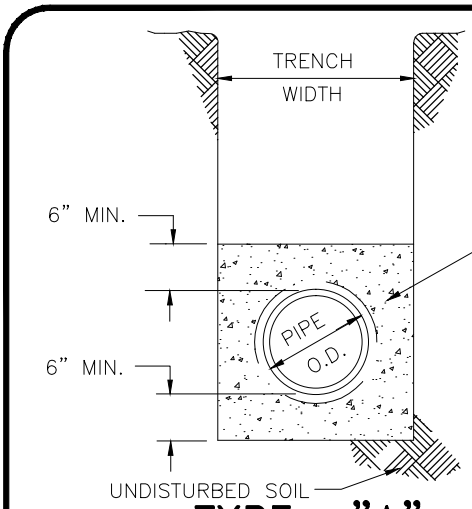
Approved Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

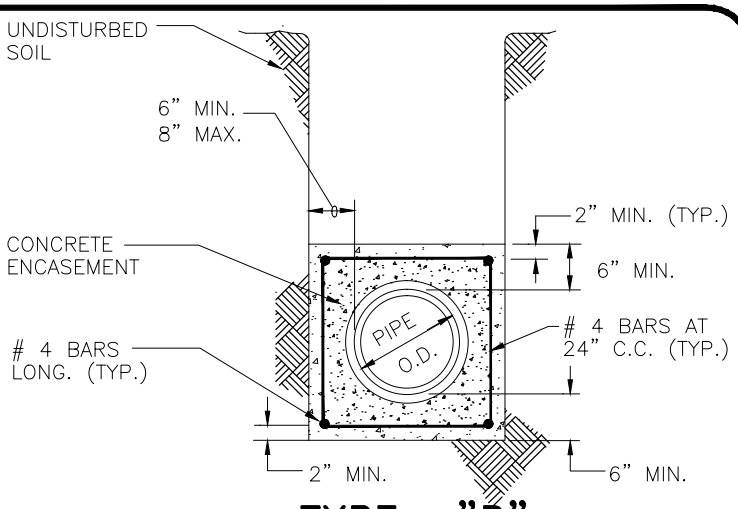
REVISIONS	BY	DATE

STD. PLAN NUMBER

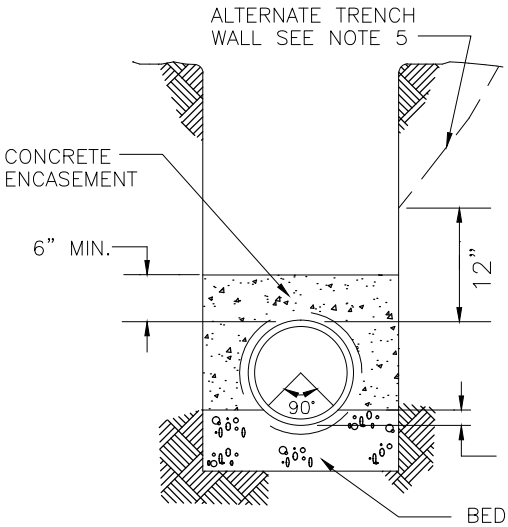
S-107



TYPE "A"



TYPE "B"



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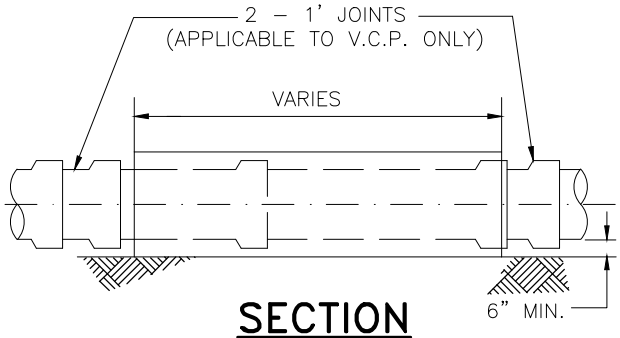


SECTION

NOTES:

1. CONCRETE ENCASEMENT SHALL BE USED WHEN COVER IS UNDER 4' OR OVER 20'.
2. ENCASEMENT TO BE PLACED AGAINST UNDISTURBED NATURAL GROUND OR FILL COMPACTED TO 90% RELATIVE DENSITY.
3. NO. 4 GRADE 60 STEEL REINFORCING BARS SHALL BE PLACED AS SHOWN.
4. TYPE OF CONCRETE ENCASEMENT TO BE USED SHALL BE SHOWN ON PLANS OR AS SPECIFIED BY DISTRICT REPRESENTATIVE TO MEET UNFORESEEN FIELD CONDITIONS. UNLESS NOTED OTHERWISE, ENCASEMENT SHALL BE 470-C-2500 WITH 4" MAX. SLUMP.
5. WHERE SLOPED TRENCHES ARE USED, WALLS WILL NOT BEGIN TO SLOPE CLOSER THAN 12" FROM THE TOP OF THE PIPE.

Garden Grove Sanitary District

CONCRETE ENCASEMENT TYPE A, B, & C

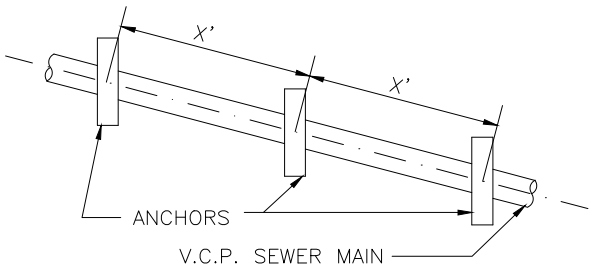
Approved _____ Date 12-8-15

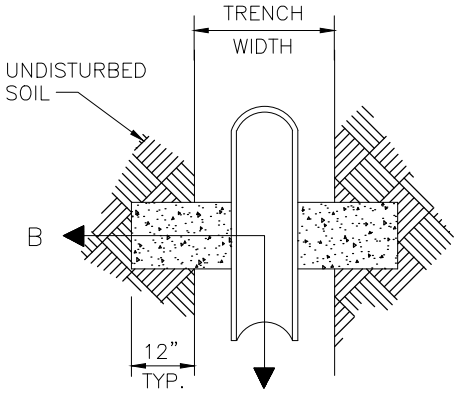
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

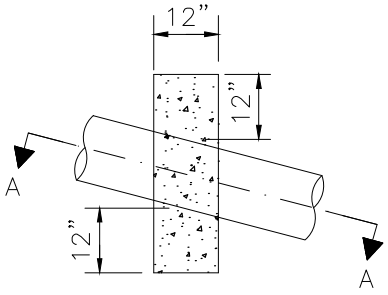
STD. PLAN NUMBER

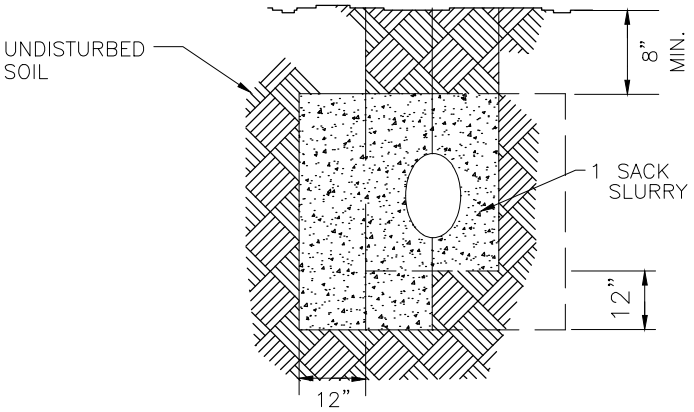
S-108





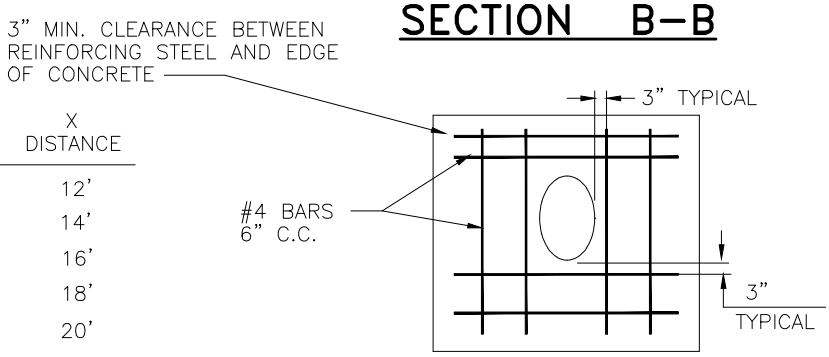
SECTION A–A





SECTION B–B

PIPE SLOPE	PIPE SLOPE	X DISTANCE
100%	1:1	12'
66.6%	1–1/2:1	14'
50%	2:1	16'
40%	2–1/2:1	18'
33.3%	3:1	20'



REINFORCING STEEL PATTERN

NOTES:

1. SLOPES GREATER THAN 10% SHALL BE USED BY SPECIAL WRITTEN APPROVAL OF CITY.
2. PIPE ANCHORS REQUIRED ON ALL SLOPES OF 3:1 OR STEEPER.
3. ANCHOR SHALL EXTEND 12" INTO NATURAL UNDISTURBED SOIL.
4. CONCRETE SHALL BE 560–C–3250 W/4" MAX. SLUMP.
5. ANCHORS FOR TRAPAZOIDAL TRENCH SECTIONS WILL CONFORM TO TO TRENCH CROSS SECTION AND EXTEND 12" INTO UNDISTURBED SOIL.

Garden Grove Sanitary District

CONCRETE SLOPE ANCHORS

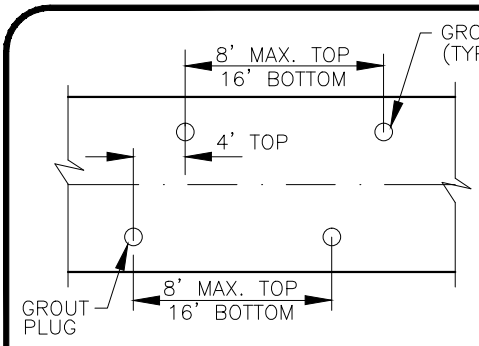
Approved _____ Date 12–8–15

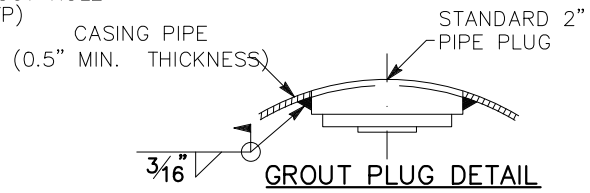
City Engineer R.C.E. 52125 Exp.12–31–16

REVISIONS	BY	DATE

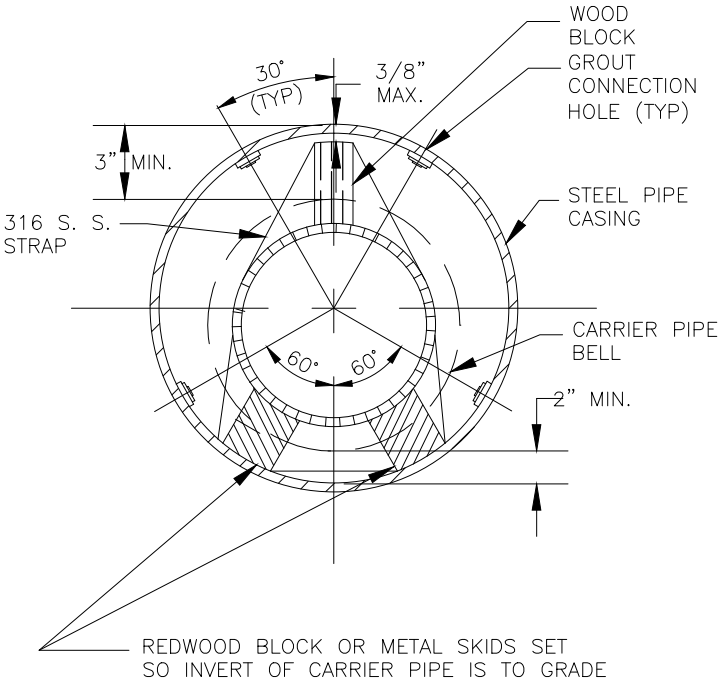
STD. PLAN NUMBER

S–109





GROUT PLUG DETAIL



CASING DETAIL

NOTES:

1. UNLESS NOTED OTHERWISE, CASING SHALL BE INSTALLED BY THE JACK AND BORE, AND/OR TUNNEL METHOD. IF OPEN-CUT INSTALLATION OF CASING IS ALLOWED, BACKFILL SHALL BE IN ACCORDANCE WITH STD. PLAN S-106 OR S-107
2. MINIMUM CASING SIZE SHALL BE 24" AND MINIMUM CASING THICKNESS SHALL BE 5/16".
3. ALL STEEL CASING PIPE FIELD JOINTS SHALL BE WELDED FULL-CIRCUMFERENCE.
4. UNFINISHED REDWOOD SKIDS SHALL BE PROVIDED PER DETAIL ABOVE.
5. CARRIER PIPE SHALL BE AIR PRESSURE TESTED PRIOR TO FILLING OF ANNULAR SPACE.
6. UPSTREAM AND DOWNSTREAM ELEVATIONS OF CARRIER PIPE SHALL BE VERIFIED PRIOR TO FILLING OF ANNULAR SPACE.
7. EACH END OF CASING SHALL BE SEALED WITH CONCRETE MORTAR, OR MANUFACTURED CASING END COVER.
8. PERIPHERY OF CASING SHALL BE PRESSURE GROUTED.
9. ANNULAR SPACE SHALL BE FILLED WITH LEAN GROUT.
10. FOR REDWOOD BLOCKS, 3' LONG SKIDS BEVELED AT BOTH ENDS SHALL BE STRAPPED IN PLACE 3" FROM EACH JOINT OF PIPE, NOTCH SKID SET TO SEAT STRAP.

Garden Grove Sanitary District

STEEL CASING PIPE

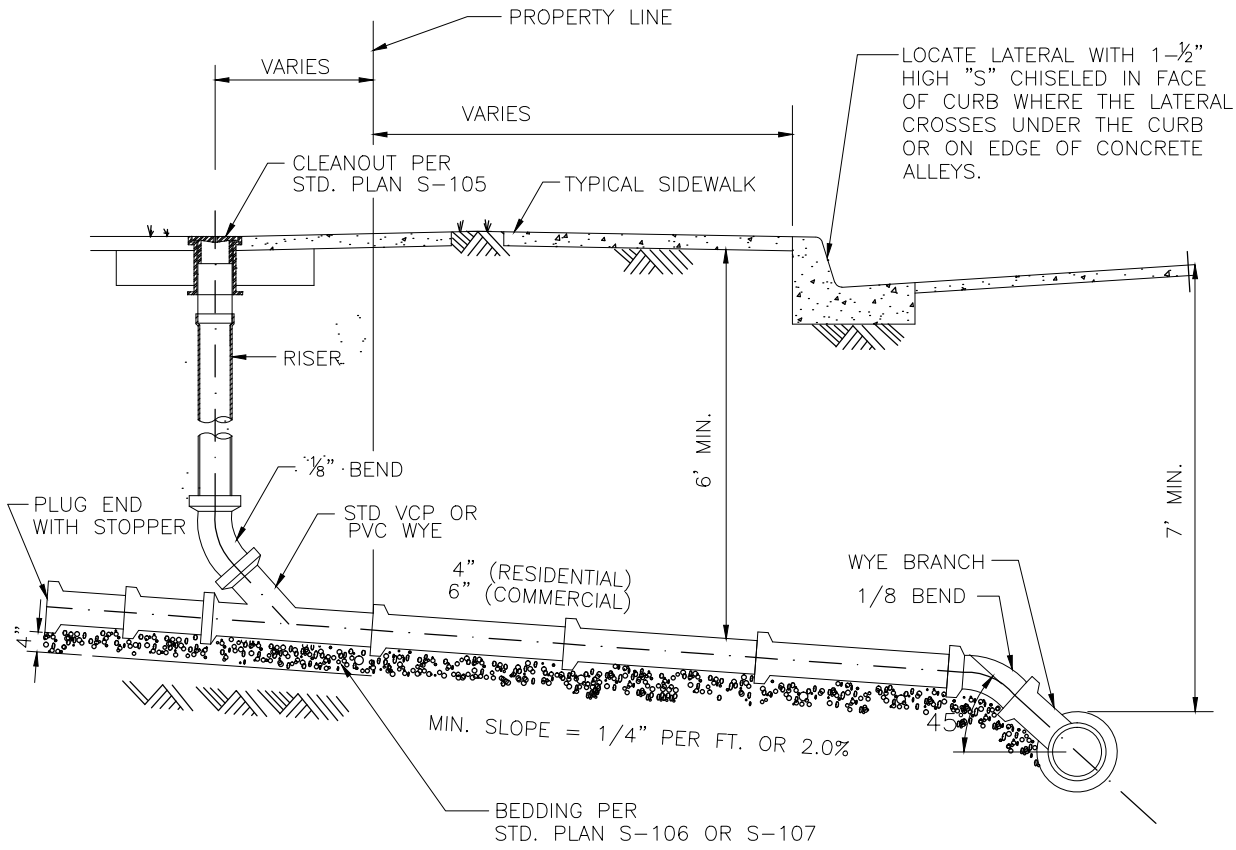
Approved _____ Date 12-8-15

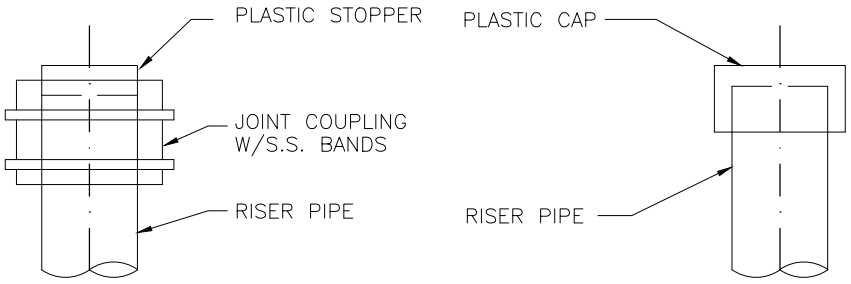
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S-110





OPTIONAL STOPPER DETAILS

NOTES:

1. LATERAL SIZE TO BE DETERMINED ON THE BASIS OF TOTAL NUMBER OF FIXTURE UNITS DRAINED, BUT IN NO CASE SHALL THE LATERAL DIAMETER BE LESS THAN FOUR INCHES FOR SINGLE OR MULTIPLE FAMILY RESIDENTIAL AND SIX INCHES FOR COMMERCIAL OR INDUSTRIAL LAND USES.
2. LATERAL TO BE INSTALLED TO PROPERTY LINE.
3. IF LATERAL NOT BUILT, PLUG WYE BRANCH WITH STOPPER.
4. IF RISER NOT BUILT, PLUG LATERAL AT ℄ .

Garden Grove Sanitary District

V.C.P. OR P.V.C. TYPICAL LATERAL

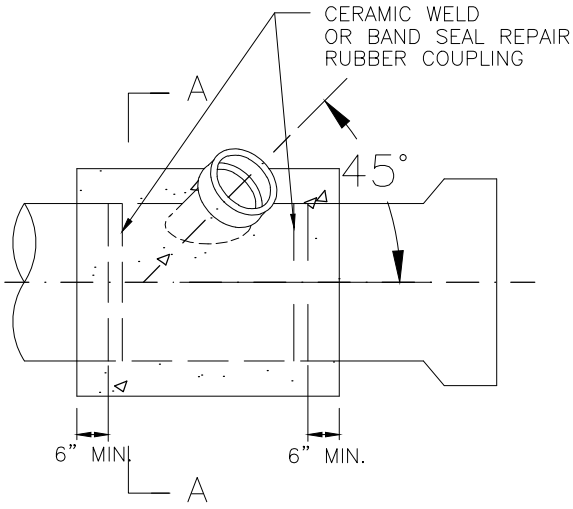
Approved _____ Date 12–8–15

City Engineer R.C.E. 52125 Exp.12–31–16

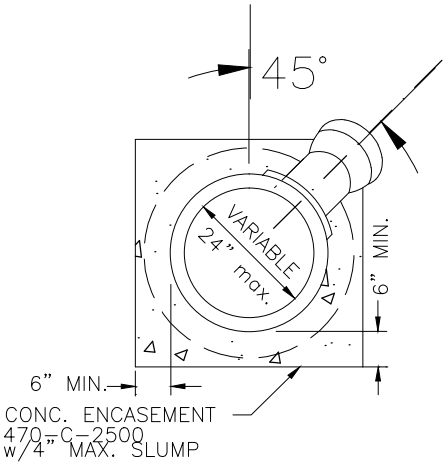
REVISIONS	BY	DATE

STD. PLAN NUMBER

S–111



CUT IN WYE



SECTION A–A

NOTES:

1. THE SADDLE CONNECTION SHALL BE SECURED WITH 470–C–2500 W/4" MAX SLUMP CONCRETE ENCASEMENT AFTER THE CONNECTION IS APPROVED BY THE DISTRICT REPRESENTATIVE.
2. ALL CHIPS, DIRT, EPOXY, MORTAR, AND CONCRETE SHALL BE KEPT OUT OF THE SEWER.
3. DAMAGED PIPE SHALL BE REPLACED.
4. 8" AND LARGER CONNECTIONS SHALL BE BY STANDARD OR DROP MANHOLES.

Garden Grove Sanitary District

CUT IN WYE CONNECTION

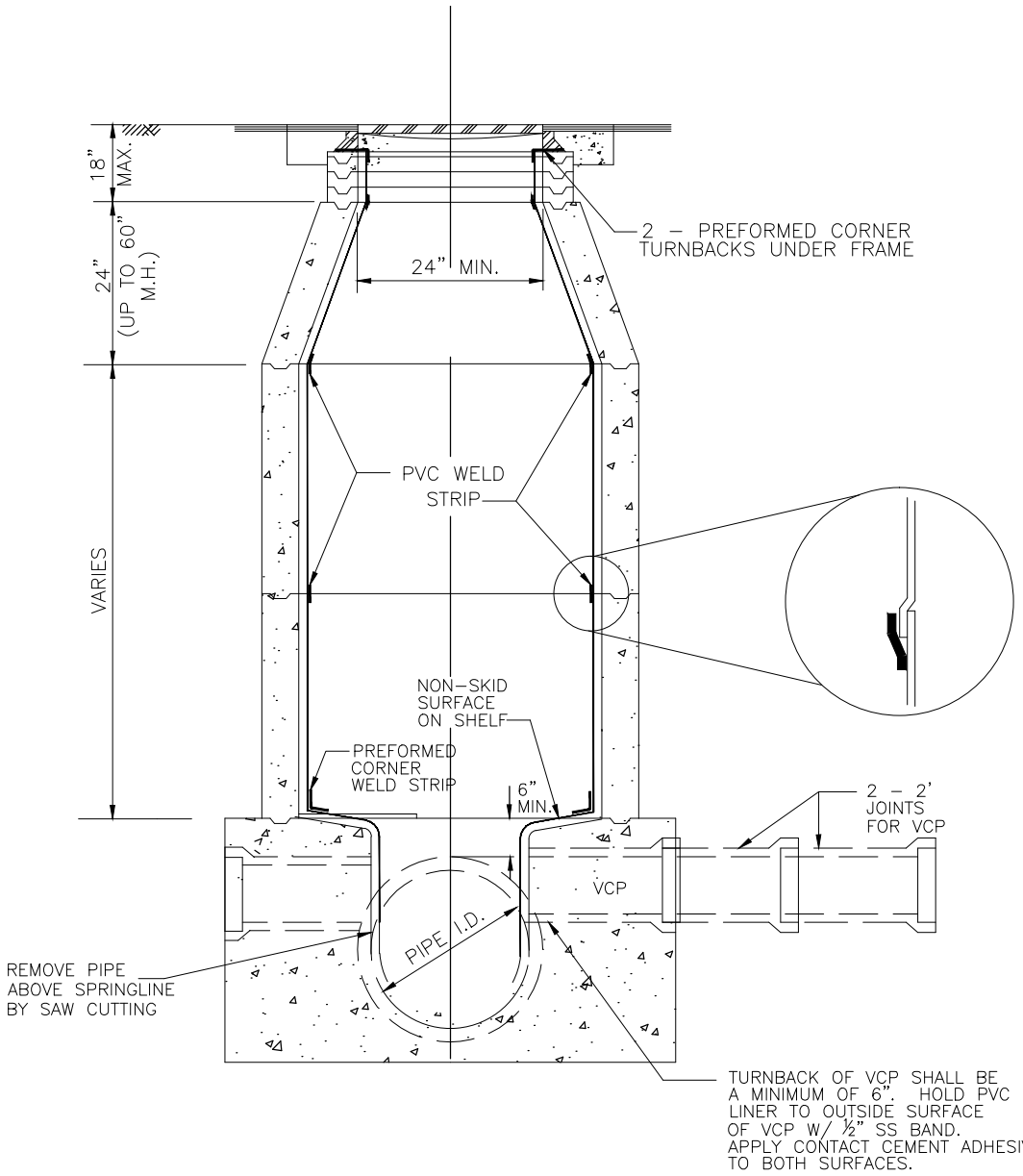
Approved _____ Date 12–8–15

City Engineer R.C.E. 52125 Exp.12–31–16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S–112



SEE STD. PLANS S–101, S–102, S–103

Garden Grove Sanitary District

PVC MANHOLE LINER

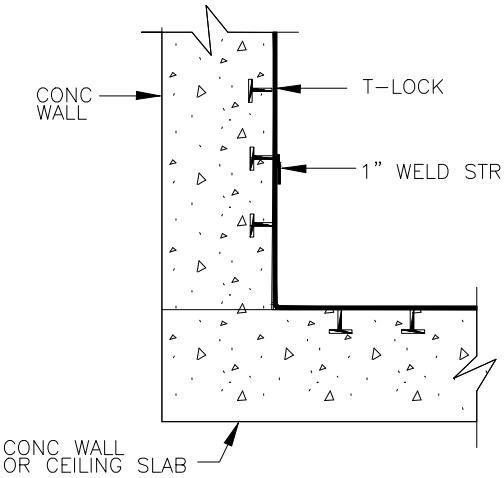
Approved _____ Date 12–8–15

City Engineer R.C.E. 52125 Exp.12–31–16

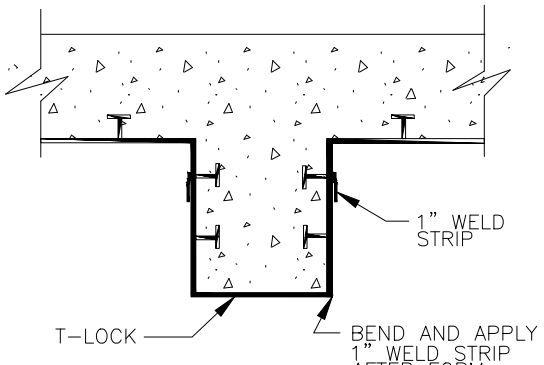
REVISIONS	BY	DATE

STD. PLAN NUMBER

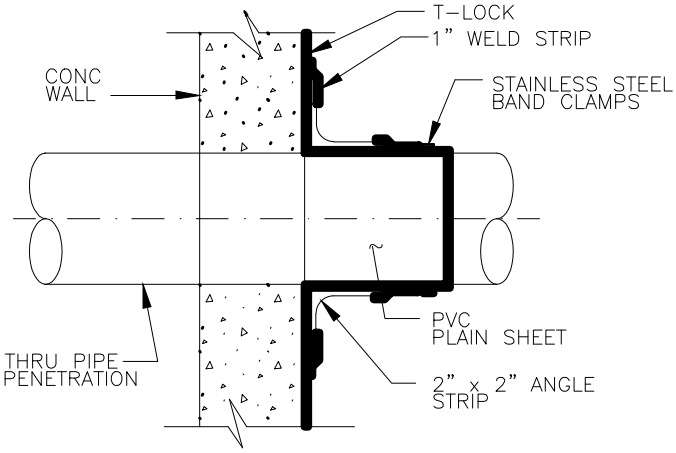
S–113



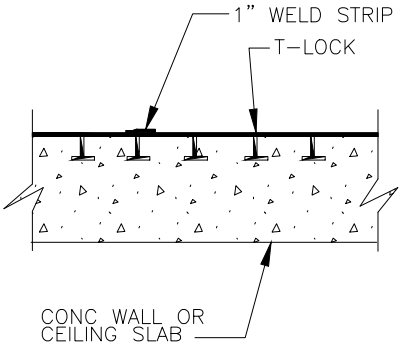
CORNER



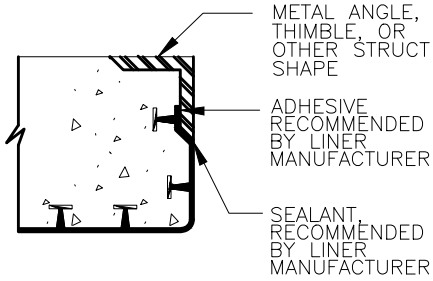
BEAM



PIPE PENETRATION



SPLICE



METAL EMBED

NOTE

1. AT BUTT JOINTS, INSTALL 1" WELD STRIP ON FRONT AND BACK.
2. LINER RIBS SHALL BE ORIENTED VERTICALLY ON VERTICAL SURFACES.

Garden Grove Sanitary District

P.V.C. T-LOCK LINER DETAILS

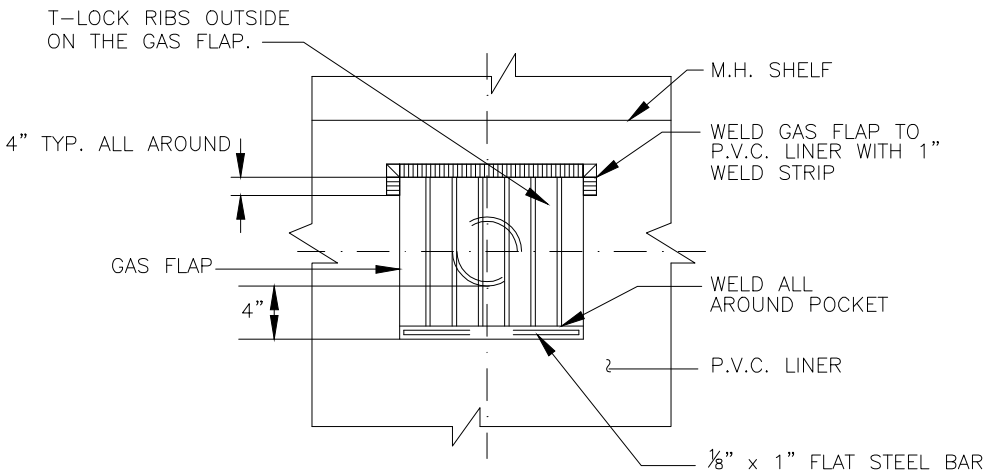
Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

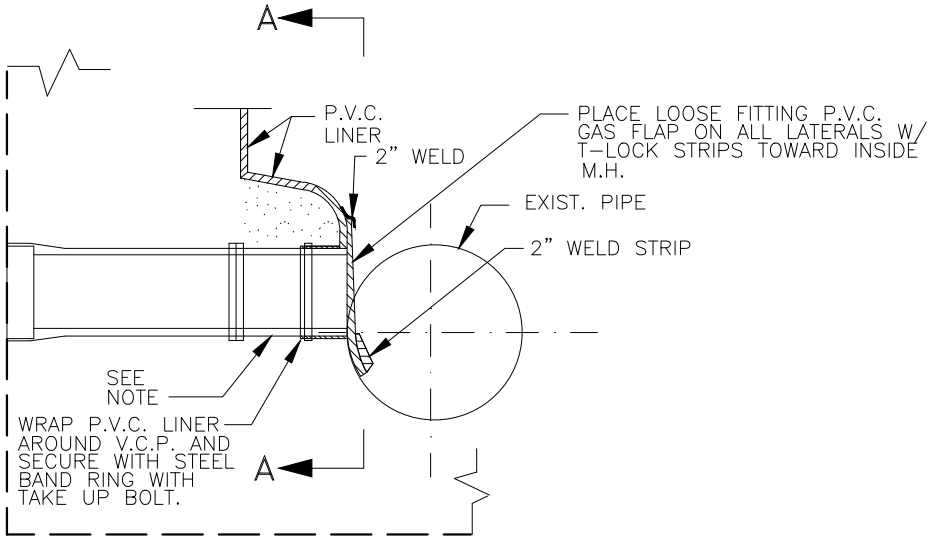
STD. PLAN NUMBER

S-114



VIEW A-A

NOT TO SCALE



PLAN

NOTE

FOR INSTALLATION AT EXISTING M.H., REMOVE INTERFERING CONCRETE AT END OF EACH LATERAL AND EXTEND VCP AS SHOWN. GROUT IN PLACE. EXTEND PVC M.H. LINER OVER GROUT AND INSTALL GAS FLAP AS SHOWN.

Garden Grove Sanitary District

P.V.C. LINER WITH GAS FLAP INSTALLATION

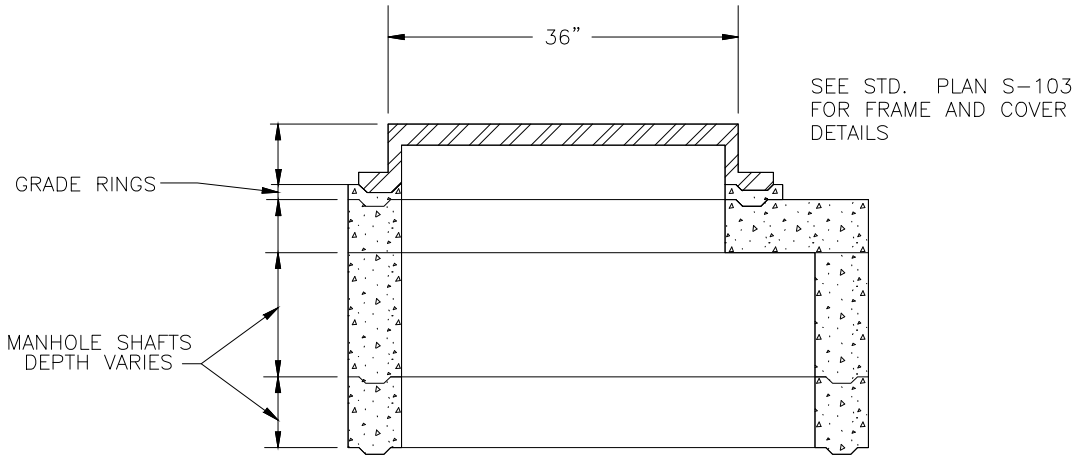
Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

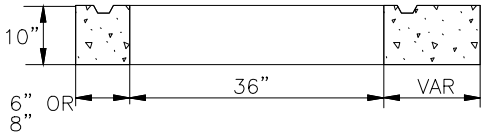
REVISIONS	BY	DATE

STD. PLAN NUMBER

S-115



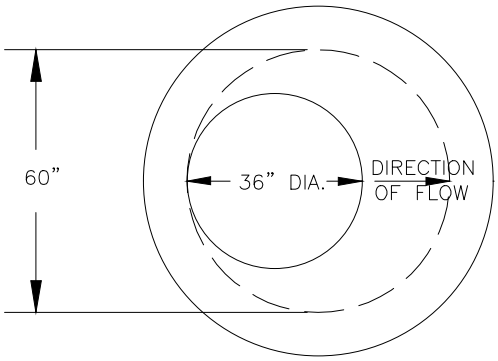
TYPICAL SECTION
FLAT TOP MANHOLE



FLAT TOP COVER

NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH STD. PLAN S-101 AND S-103
2. REINFORCED CONCRETE MANHOLE, QUIKSET OR APPROVED EQUAL.
3. USE OF FLAT TOP MANHOLE REQUIRES WRITTEN DISTRICT APROVAL.



PLAN

Garden Grove Sanitary District

FLAT TOP MANHOLE

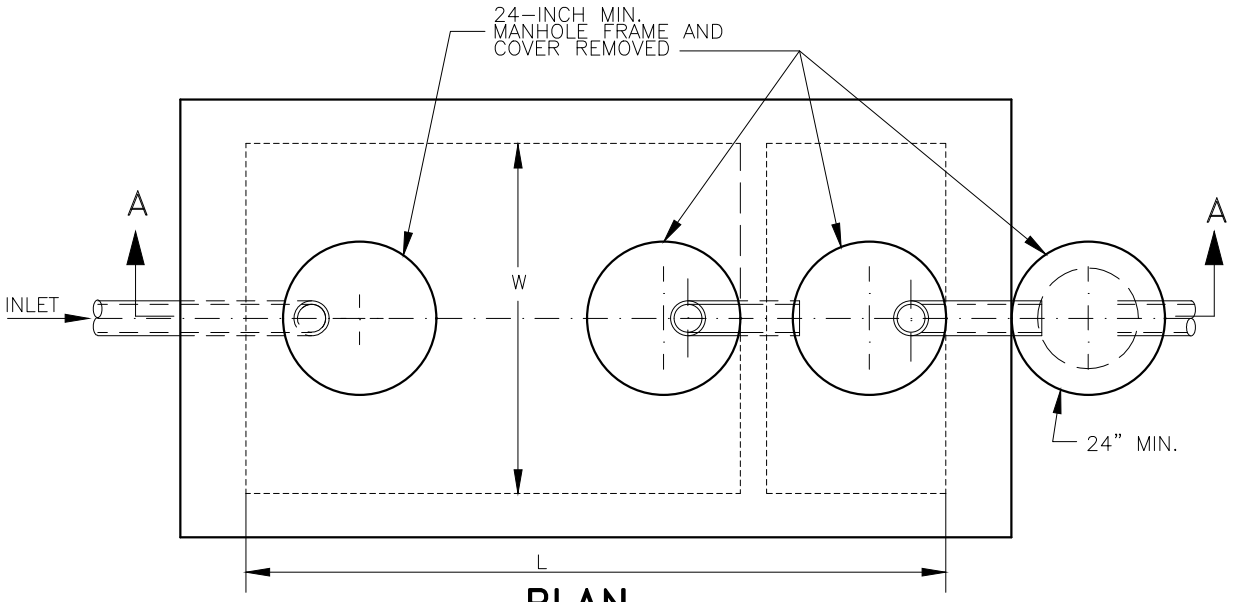
Approved _____ Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

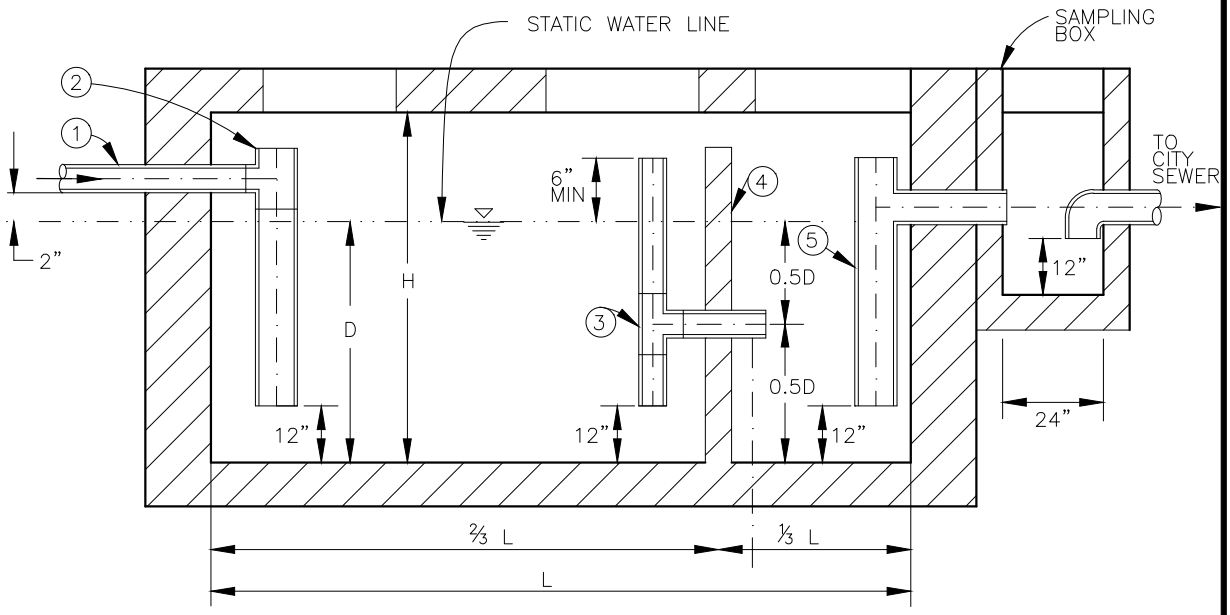
REVISIONS	BY	DATE

STD. PLAN NUMBER

S-116



PLAN



SECTION A–A

1. INLET PIPE 4–INCH MINIMUM
2. INFLOW TEE AND STANDPIPE
3. CROSSOVER TEE AND STANDPIPE
4. BAFFLE WALL
5. OUTFLOW TEE AND STANDPIPE

NOTE:

GREASE INTERCEPTOR SHALL BE DESIGNED AND SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE, APPENDIX H.

Garden Grove Sanitary District

TYPICAL GREASE INTERCEPTOR

Approved _____ Date 12–8–15

City Engineer R.C.E. 52125 Exp.12–31–16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S–117

SHEET 1 OF 2

1. GREASE INTERCEPTOR SHALL BE INSTALLED IN CONFORMANCE WITH THE PROVISIONS OF THE CALIFORNIA PLUMBING CODE AS ADOPTED BY THE CITY OF GARDEN GROVE.
2. ALL GREASE INTERCEPTOR SHALL BE OF AN APPROVED TYPE AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS OR AS SUBMITTED BY A DESIGN PROFESSIONAL.
3. INTERCEPTOR SHALL BE ON DRY LEVEL UNDISTURBED SOIL ON A FIRM COMPACTED BASE.
4. MANHOLE GRADE RINGS SHALL BE SEALED WITH MOTAR OR AN APPROVED ALTERNATIVE WATER BARRIER.
5. SAMPLE BOXES SHALL BE REQUIRED UNLESS EXEMPTED BY THE ENVIRONMENTAL SERVICES MANAGER.
6. ON PLUMBING PLAN SUBMITTAL INCORPORATE MANUFACTURE'S INSTALLATION INSTRUCTIONS, TYPE, AND LOCATION OF INTERCEPTOR.

Garden Grove Sanitary District

TYPICAL GREASE INTERCEPTOR

Approved Date 12-8-15

City Engineer R.C.E. 52125 Exp.12-31-16

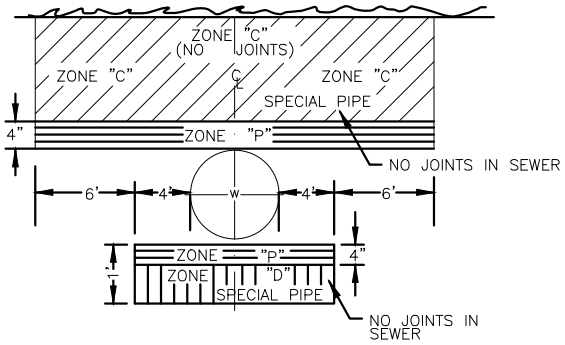
REVISIONS	BY	DATE

STD. PLAN NUMBER

S-117

SHEET 2 OF 2

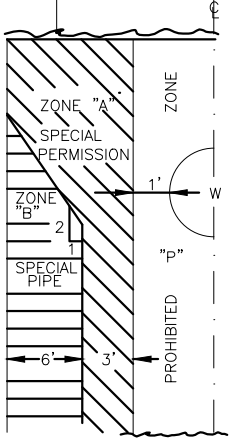
NEW SEWER



PERPENDICULAR CROSSING

NOTE: "P" IS A PROHIBITED CONSTRUCTION ZONE

NOTES:
ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES. ZONE "P" IS A PROHIBITED ZONE, SECTION 64630 (2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22



PARALLEL INSTALLATION

NEW SEWER BEING INSTALLED

ZONE	SPECIAL CONSTRUCTION REQUIRED FOR SEWER
A,B,C,D	SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THE CITY.

B A SEWER LINE PLACED PARALLEL TO A WATER LINE SHALL BE CONSTRUCTED OF:

1. EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS.
2. PLASTIC SEWER PIPE WITH RUBBER RING JOINTS, DR 26.
3. DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
4. REINFORCED CONCRETE PRESSURE PIPE WITH COMPRESSION JOINTS (PER AWWA C302–74).

C A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF:

1. DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS. NO JOINTS WITHIN 10' EITHER SIDE OF WATER.
2. A CONTINUOUS SECTION OF CLASS 305 (DR 14 PER AWWA C900) PVC PIPE OR EQUIVALENT, CENTERED OVER THE WATER PIPE BEING CROSSED.
3. A CONTINUOUS SECTION OF REINFORCED CONCRETE PRESSURE PIPE (PER AWWA C302–74) CENTERED OVER THE PIPE BEING CROSSED.
4. ANY SEWER PIPE WITHIN A CONTINUOUS STEEL PIPE SLEEVE.

PARALLEL INSTALLATION (CONT.)

D A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF

1. A CONTINUOUS SECTION OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS CENTERED ON THE WATER PIPE BEING CROSSED.
2. A CONTINUOUS SECTION OF CLASS 305 (DR 14 PER AWWA C900) PVC PIPE OR EQUIVALENT, CENTERED ON THE WATER PIPE BEING CROSSED.
3. A CONTINUOUS SECTION OF REINFORCED CONCRETE PRESSURE PIPE (PER AWWA C302–74) CENTERED ON THE WATER PIPE BEING CROSSED.
4. ANY SEWER PIPE WITHIN A CONTINUOUS STEEL PIPE SLEEVE.
5. ANY SEWER PIPE MATERIAL ENCASED IN REINFORCED CONCRETE PER STD. DWG. S–108 TYPE "B".

Garden Grove Sanitary District

DESIGN CRITERIA FOR SEPARATION OF WATER AND SEWER MAINS

Approved Date 12–8–15

City Engineer R.C.E. 52125 Exp.12–31–16

REVISIONS	BY	DATE

STD. PLAN NUMBER

S–118

Appendix E-3

Overflow Emergency Response Plan

SSO OVERFLOW EMERGENCY RESPONSE PLAN FOR PUBLIC SPILLS

PURPOSE:

To promptly contain, control, clean and protect public health from an unauthorized release of sewer wastewater, including notifying all appropriate agencies as a result of a public sewer system overflow (SSO).

OVERVIEW:

The Garden Grove Sanitary District (GGSD) a subsidiary district of the City of Garden Grove, owns and operates a diverse collection system that consists of three (3) pumping stations, 327 miles of gravity sewer mains, 9,150 feet of force mains, 37,100 sewer connections and an approximate population of 186,000[1] served by the GGSD. The proceeding plan provides how the GGSD responds to a public sewer overflow/spill. Actions presented reduce or eliminate public health hazards, prevent unnecessary property damage, minimize the inconvenience of service interruptions in event of an overflow/spill and prevent any overflows from entering streets, gutters and/or storm drains. GGSD utilizes the following five (5) main steps to take when responding to sewage overflow/spills:

1) CONTAIN spilling sewage
2) COMMUNICATE with agencies
3) CONTROL the spill and CLEAR the blockage
4) CLEAN UP affected areas
5) CALCULATE spill volume
6) PREVENT REOCCURANCE

NOTIFICATION PROCEDURES

The following illustrates GGSD's procedure to communicate internally and externally, mobilize, and respond to and correct or repair any condition that may cause or contribute to a SSO. There is a response to each reported spill caused by public or private facilities that occur on public or private property.

An overflow may be detected by GGSD staff, City employees, or by others (i.e. residents, business owners, etc.). The Water Services Division of the Department of Public Works is responsible for accepting all phone calls regarding possible sewer overflows during business hours, and is responsible for responding to these notifications 24 hours a day. After hours, a notification system is established with other City Departments which immediately directs any reports to the 24 hour on call "Stand-By" staff person for Water Services, who dispatches the crews, makes notifications to

[1] OCSD city and agency collection facilities O & M Survey '03-04 data

regulatory agencies and compiles information on the spill. The details of these procedures are summarized in the stepwise procedure below.

- Notification is received at the City, typically either from a private citizen, business owner or other GGSD or City staff.
- During business hours, calls are received at the City Water Services Division main office and then forwarded to the Sanitation Supervisor, Foreman, and other key GGSD personnel via text messaging. GGSD sanitation crews are then dispatched to the scene.
- After hours, City Police Department personnel will gather the proper information from callers and forward this information to the 24 hour on call "Stand-By" staff person.

Contain the Spill:

Upon arrival on the site, a preliminary investigation of the reported spill will take place in order to confirm whether a sewage spill is on private or public property. GGSD staff will determine what steps are needed to take place in order to contain the spill. GGSD will take the appropriate steps to prevent sewage from entering gutters, storm drains, channels or other critical locations. Containing the spill with sand bags, dirt berms and/or placing rubber mats over catch basins is initiated to prevent sewage from entering waters of the state. This includes surface, ground and storm drain water within the City boundaries. Afterwards, GGSD staff will establish perimeters and/or control zones utilizing cones, barricades and/or delineators. If necessary, GGSD staff will contact other City of Garden Grove Divisions for assistance.

If sewage enters a catch basin or storm drain, GGSD staff will go down stream to intercept and contain the flow of sewage. Once the sewage is contained, the combination truck will be used to vacuum up the sewage and wash down water from the catch basin or storm drain.

Communicate and Notification:

GGSD staff will identify the responsible party at the location of the spill then collect and document all information regarding the spill as set forth by the Regional Water Quality Control Board (RWQCB). RWQCB, Orange County Health Care Agency (OCHCA), and Orange County Public Works (OC Public Works) must be immediately notified of all spills via telephone, voice mail, or email. Spills that are 1,000 gallons or more must also be reported to the Office of Emergency Services (OES). In addition to the above agencies, GGSD staff also informs the Garden Grove Environmental Management Team (GGEMT) who is responsible for the Fats, Oils, and Grease (FOG) program and has the legal authority to cite businesses. GGSD staff will take photos of the spills. All agencies affected as specified by local, state, and other regulations will be notified.

The following summarizes the notification and reporting process:

Orange County Santa Ana Region

Sanitary Sewer Overflow Notification & Reporting Guidelines

Statewide General Waste Discharge Requirements Order No. 2006-0003 finds that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length requires notification and reporting of all sanitary sewer overflows (SSOs). SSOs are defined as any overflow, spill, release, discharge or diversion of wastewater from a sanitary sewer system. (See page 5 of the Order No. 2006-0003 for the complete definition of SSOs).

Type of SSO	Initial Notification Timeframe*	Agency to Notify by Phone	Report Timeframe
Category 1 – Discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition that: A. Reach surface water and/or reach a drainage channel tributary to a surface water; or B. Reach a municipal separate storm sewer system and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. (Any volume of wastewater not recovered from the municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond).) **<u>Greater than or equal to 1,000 gallons</u>**, **notify the OES** and obtain a notification control number.	As soon as practical within 2 hours of becoming aware	• OES1 • OCHCA[2] • OC Public Works[3] and city	Submit Draft report within 3 business days of becoming aware of the SSO. Certify within 15 calendar days of SSO end date. SSO Technical Report: Certify within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater is spilled to surface waters.
Category 1 – <u>any volume < 1000 gallons</u>	As soon as practical	• OCHCA[2]	
Category 2 – Discharges of untreated or partially treated wastewater of **<u>1,000 gallons or greater</u>** resulting from an enrollee's sanitary sewer system failure or flow condition that **<u>do not</u>** reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.	As soon as practical	• OCHCA[2]	Submit Draft report within 3 business days of becoming aware of the SSO. Certify within 15 calendar days of SSO end date.
Category 3 – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.	As soon as practical	• OCHCA[2]	Submit Certified report within 30 calendar days after the end of month in which SSO occurred.
Private lateral – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets.	As soon as practical	• OCHCA[2] • OC Public Works[3] and city	PLSDs that the enrollee becomes aware of may be voluntarily reported to the CIWQS Online SSO Database.

Notes: *Updates should be provided as necessary; 1 Water Code section 13271; 2 Health and Safety Code; 3 NPDES Stormwater Regulations and local Water Quality Ordinance.

SSO Notification Contacts:

Normal Hours	After Hours
OCHCA (Please call down the list until someone is contacted) 1. (714) 433-6419 (Office Support Staff) 2. Hisham Elmishad (714) 433-6284 3. Juan Anzora (714) 433-6287 4. Pauline Liu (714) 433-6286	Control 1: (714) 628-7008 (will contact OCHCA oncall staff)
RWQCB - Santa Ana Region (951) 782-4130 Najah Amin (951) 320-6362	RWQCB: (951) 782-4130 (voice mail) OES: (800) 852-7550
OES (Office of Emergency Services) (800) 852-7550	24 hours
OC Public Works (714) 955-0600 (storm drain/flood channel facility owners) (877) 89-SPILL (897-7455) 24 HR. Hotline	Control 1: (714) 628-7008 (specify water pollution incident notification)
Water Quality Monitoring Sierra Analytical Labs, Inc (Rick Forsyth) (714)-348-9389	(714) 348-9389; sierralabs@sierralabs.net; www.sierralabs.net/sierra.html
Water Quality Monitoring Associated Laboratories (714) 771-6900	(714) 771-6900; info@associatedlabs.com; www.associatedlabs.com

Developed by the Orange County Sanitation District with RWQCB, OCHCA and OC Public Works. Updated on 3/26/2018.

The Sanitary Sewer Overflow (SSO) task force must also be contacted for spills that is not fully contained and returned to the sewer system or when sewage enters storm drains and/or waters of the state. The task force consists of the Public Works Director, City Engineer, Water Services Manager, Streets/Environmental Services Manager, Sanitation Supervisor, Sanitation Foreman, and any others necessary to complete tasks. The task force will take the appropriate steps to ensure compliance with all regulatory agencies and oversee clean up procedures. In addition, the task force may be convened when, in the opinion of any task force member, circumstances exist that warrant the convening of the group.

Written reports of overflows/spills must be prepared and filed as set forth per the Sanitary Sewer Overflow Reporting Guidelines.

It is necessary to document all relevant information, such as:

1) The time the SSO is first reported to GGSD and the name and phone number of the person reporting the SSO.

2) Names of GGSD staff reporting SSO to RWQCB (date and time contacted).

3) Names of GGSD staff responding to SSO.

4) Verified SSO start time through witnesses and stop time and dates.

5) Whether SSO reached storm drain or other surface waters.

6) Containment information.

7) Wash water disposal method.

8) Estimated SSO rate and calculation tabulation methodology used.

9) Amount (volume) of SSO lost and recovered.

10) Amount (volume) of recovered and lost wash water and sewage-contaminated water.

11) Location of the SSO (address, city, zip, county).

12) Number of prior SSO's within 1000 ft of the location and dates of prior SSO's.

13) Location of potential blockage and description of component from which spill occurred.

14) Likely cause of SSO.

15) SSO cause- detailed description.

16) Measurable precipitation during 72-hour prior to SSO.

17) Steps taken or planned to reduce, eliminate and prevent reoccurrence or mitigate the impact of SSO and schedule of major milestones.

18) Where SSO entered storm drain inlet, initial and/or secondary receiving water name/description.

19) Final destination of sewage.

20) Notification times and person(s) contacted at OCHCA, RWCQB, RDMD, and/or OES.

21) If possible, photo documentation of spill containment efforts.

22) All copies of reports, faxes, photos etc. need to be kept in the spill document binder and Waste Discharge filing cabinet located at the City Garden Grove Municipal Yard, Water Services Division, 13802 Newhope St. Garden Grove, CA 92843.

23) Note if the GGEMT is involved, and include GGEMT's findings, conclusions, and any actions taken or pending.

Control the Spill/Clear the Blockage:

Primary inspection to control the spill will begin at manholes both upstream and downstream of the overflowing manhole. The blockage location will then be determined. A combination truck will set up at the next manhole downstream of the overflowing manhole. Here the crew will be able to access the sewer line to relieve the blockage and determine the cause.

Clean Up the Spill:

All overflow/spills must be cleaned regardless of size. Affected areas are to be washed down then vacuumed up utilizing a vactor truck to prevent sewage overflow/spills and wash water from entering waters of the state. All solids or semisolids resulting from the cleaning operations will be

removed from the site and disposed at OCSD's Treatment Plant No. 2 located in Huntington Beach. For GGSD's records, photographs of affected area and existing damaged areas are taken for use in documenting factual evidence of the scene.

Calculate the Spill:

Water pump station flow rates assist in calculations. GGSD staff will record spill volumes on spill response form. GGSD uses several different methods for calculating spills: GGSD Flow Calculation Options, visual observation, OCSD's Flow Spreadsheet, and San Diego Wastewater Collection System Division Overflow Rate Demonstration sheet.

In order to calculate a spill the following methods may be used:

1) Area Calculation (for Ponded Areas)
   - Length in feet (ft.) x Width (in ft.) x Depth (in ft.) = Cubic ft. x 7.48 gallons = spill amount in gallons (gal.)
     (L x W x D = Cu. Ft. x 7.48 = gal.)

2) Flow Calculation (for V-gutters and Channels)
   - Width (in ft.) x Depth (in ft.) x Ft. per second (fps) = Cu. Ft. x 60 seconds per min. (spm) = __ x __ Minutes of Spill (mos) = __ x 7.48 Gal. = Spill Amount in Gallons.
     (W x D x fps = cu.ft. x 60 spm = __ X __ mos x 7.48 gal. = spill amt.)

3) Triangle Flow Calculation (for Curb and Gutter)
   - Width (in ft.) x ½ Depth (in ft.) x Fps = Cu. Ft. x 60 Sec/Min. (spm) = __x__ Min. of Spill (mos) =__x 7.48 gal. = Spill amount in gallons
     (W x ½ D x fps = cu.ft. x 60 spm = __x__mos =__x 7.48 = spill amount)

4) When flow has ceased prior to GGSD arrival and a ponded area is not present such as in the case of a mere wet spot around a manhole, an estimation of flow is made based upon a visual observation.

5) Orange County Sanitation District SSO Estimation Chart (for Manhole Cover Vent Holes and Pick Holes Flow)

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

Hole Dia. inches	Area sq. ft.	Coeff.of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht inches	Water Ht inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax*Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(SQRT(2*32.2*Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
0.50	0.00136	0.945	0.70	0.662	1/16 th	0.063	0.005	0.0005	0.23	14
0.50	0.00136	0.945	0.70	0.662	1/8 th	0.125	0.010	0.0007	0.33	20
0.50	0.00136	0.945	0.70	0.662	1/4 th	0.250	0.021	0.0010	0.47	28
0.50	0.00136	0.945	0.70	0.662	one half	0.500	0.042	0.0015	0.66	40
0.50	0.00136	0.945	0.70	0.662	3/4 ths	0.750	0.063	0.0018	0.81	49
0.50	0.00136	0.945	0.70	0.662	1 inch	1.000	0.083	0.0021	0.94	56
0.50	0.00136	0.945	0.70	0.662	1 1/4 "	1.250	0.104	0.0023	1.05	63
0.50	0.00136	0.945	0.70	0.662	1 3/8"	1.375	0.115	0.0024	1.10	66
0.50	0.00136	0.945	0.70	0.662	1 1/2"	1.500	0.125	0.0026	1.15	69
0.50	0.00136	0.945	0.70	0.662	1 5/8"	1.625	0.135	0.0027	1.20	72
0.50	0.00136	0.945	0.70	0.662	1 3/4"	1.750	0.146	0.0028	1.24	74
0.50	0.00136	0.945	0.70	0.662	2 inches	2.000	0.167	0.0030	1.33	80
0.50	0.00136	0.945	0.70	0.662	2 1/4"	2.250	0.188	0.0031	1.41	84
0.50	0.00136	0.945	0.70	0.662	2 1/2"	2.500	0.208	0.0033	1.48	89
0.50	0.00136	0.945	0.70	0.662	2 3/4"	2.750	0.229	0.0035	1.56	93
0.50	0.00136	0.945	0.70	0.662	3 inches	3.000	0.250	0.0036	1.62	97
0.50	0.00136	0.945	0.70	0.662	3 1/4"	3.250	0.271	0.0038	1.69	101
0.50	0.00136	0.945	0.70	0.662	3 1/2"	3.500	0.292	0.0039	1.75	105
0.50	0.00136	0.945	0.70	0.662	3 3/4"	3.750	0.313	0.0040	1.82	109
0.50	0.00136	0.945	0.70	0.662	4.000	4.000	0.333	0.0042	1.88	113
Vent Hole										
0.75	0.00307	0.955	0.67	0.640	1/16 th	0.063	0.005	0.0011	0.51	31
0.75	0.00307	0.955	0.67	0.640	1/8 th	0.125	0.010	0.0016	0.72	43
0.75	0.00307	0.955	0.67	0.640	1/4 th	0.250	0.021	0.0023	1.02	61
0.75	0.00307	0.955	0.67	0.640	one half	0.500	0.042	0.0032	1.44	87
0.75	0.00307	0.955	0.67	0.640	3/4 ths	0.750	0.063	0.0039	1.77	106
0.75	0.00307	0.955	0.67	0.640	1 inch	1.000	0.083	0.0045	2.04	122
0.75	0.00307	0.955	0.67	0.640	1 1/4 "	1.250	0.104	0.0051	2.28	137
0.75	0.00307	0.955	0.67	0.640	1 3/8"	1.375	0.115	0.0053	2.39	144
0.75	0.00307	0.955	0.67	0.640	1 1/2"	1.500	0.125	0.0056	2.50	150
0.75	0.00307	0.955	0.67	0.640	1 5/8"	1.625	0.135	0.0058	2.60	156
0.75	0.00307	0.955	0.67	0.640	1 3/4"	1.750	0.146	0.0060	2.70	162
0.75	0.00307	0.955	0.67	0.640	2 inches	2.000	0.167	0.0064	2.89	173
0.75	0.00307	0.955	0.67	0.640	2 1/4"	2.250	0.188	0.0068	3.06	184
0.75	0.00307	0.955	0.67	0.640	2 1/2"	2.500	0.208	0.0072	3.23	194
0.75	0.00307	0.955	0.67	0.640	2 3/4"	2.750	0.229	0.0075	3.38	203
0.75	0.00307	0.955	0.67	0.640	3 inches	3.000	0.250	0.0079	3.53	212
0.75	0.00307	0.955	0.67	0.640	3 1/4"	3.250	0.271	0.0082	3.68	221
0.75	0.00307	0.955	0.67	0.640	3 1/2"	3.500	0.292	0.0085	3.82	229
0.75	0.00307	0.955	0.67	0.640	3 3/4"	3.750	0.313	0.0088	3.95	237
0.75	0.00307	0.955	0.67	0.640	4.000	4.000	0.333	0.0091	4.08	245
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0020	0.88	53
1.00	0.00545	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0028	1.25	75
1.00	0.00545	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0039	1.77	106
1.00	0.00545	0.960	0.65	0.624	one half	0.500	0.042	0.0056	2.50	150
1.00	0.00545	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0068	3.06	184
1.00	0.00545	0.960	0.65	0.624	1 inch	1.000	0.083	0.0079	3.54	212
1.00	0.00545	0.960	0.65	0.624	1 1/4 "	1.250	0.104	0.0088	3.96	237
1.00	0.00545	0.960	0.65	0.624	1 3/8"	1.375	0.115	0.0092	4.15	249
1.00	0.00545	0.960	0.65	0.624	1 1/2"	1.500	0.125	0.0097	4.33	260
1.00	0.00545	0.960	0.65	0.624	1 5/8"	1.625	0.135	0.0100	4.51	271
1.00	0.00545	0.960	0.65	0.624	1 3/4"	1.750	0.146	0.0104	4.68	281
1.00	0.00545	0.960	0.65	0.624	2 inches	2.000	0.167	0.0111	5.00	300
1.00	0.00545	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0118	5.31	318
1.00	0.00545	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0125	5.59	336
1.00	0.00545	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0131	5.87	352
1.00	0.00545	0.960	0.65	0.624	3 inches	3.000	0.250	0.0136	6.13	368

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

Hole Dia. inches	Area sq. ft.	Coeff.of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht inches	Water Ht inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax*Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(SQRT(2*32.2*Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0142	6.38	383
1.00	0.00545	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0147	6.62	397
1.00	0.00545	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0153	6.85	411
1.00	0.00545	0.960	0.65	0.624	4.000	4.000	0.333	0.0158	7.08	425
Pick Hole semicircular area										
1.00	0.00273	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0010	0.44	27
1.00	0.00273	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0014	0.63	38
1.00	0.00273	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0020	0.89	53
1.00	0.00273	0.960	0.65	0.624	one half	0.500	0.042	0.0028	1.25	75
1.00	0.00273	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0034	1.53	92
1.00	0.00273	0.960	0.65	0.624	1 inch	1.000	0.083	0.0039	1.77	106
1.00	0.00273	0.960	0.65	0.624	1-1/2 inch	1.500	0.125	0.0048	2.17	130
1.00	0.00273	0.960	0.65	0.624	2 inches	2.000	0.167	0.0056	2.51	150
1.00	0.00273	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0059	2.66	159
1.00	0.00273	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0062	2.80	168
1.00	0.00273	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0065	2.94	176
1.00	0.00273	0.960	0.65	0.624	3 inches	3.000	0.250	0.0068	3.07	184
1.00	0.00273	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0071	3.19	192
1.00	0.00273	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0074	3.31	199
1.00	0.00273	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0076	3.43	206
1.00	0.00273	0.960	0.65	0.624	4.000	4.000	0.333	0.0079	3.54	213

Prevent Reoccurrence

All surrounding lines are cleaned to ensure a continued normal flow. The area is put on a hot spot list. All adjacent line(s) are inspected via Closed Circuit Television (CCTV). If structural deficiencies are found, repairs are scheduled and the area remains on a hot spot list until repairs are completed.

If the SSO is Food Service Establishment (FSE) and/or Fats, Oils, Grease (FOG) related, the GGEMT is contacted to perform follow up inspections and the owner/agent is put on notice pending further action based upon the results of the GGEMT follow up inspections.

Force Main Leak:

Clean up and containment efforts similar to those for a sewer line blockage/spill are utilized. In the event that an overflow/spill has occurred due to a leak from a force main, the following actions will be taken.

1. The force main pumps will be shut down. This will prevent pumping more sewage to the broken line. Based on visual observation, if wet wells are close to capacity, then a bypass sewer line will be put in place to allow sewage flow during construction/repairs.

2. Contact will be made with the appropriate agencies.

3. GGSD staff will locate the break and decide upon a strategy for repair.

4. GGSD will block the channel with any necessary means to prevent sewage from flowing down the channel. GGSD has contractors that can be contacted 24-hours a day, seven (7) days a week, for emergency repairs.

5. A bypass sewer line will be put in place to allow sewage flow during construction/repairs.

6. Use trailer mounted by-pass pump when needed.

If a bypass is not feasible, a vactor truck will be on site to vacuum up sewage from a manhole near the break. Depending on the nature of the damage to the pipeline, location of the leak, volume of flow being conveyed and depth of the pipeline, emergency repairs may be performed by GGSD staff or by a contractor. Since the threat to the environment and the public health would still exist, the clean up and containment efforts would be similar to those for a main line blockage/spill.

Pump Station Failure:

Each pump station is fitted with an alarm system that provides information to the Water Services main office in the event of a system failure. Upon receiving an alarm message, the Stand-By person will be contacted. GGSD will respond immediately and determine if the shutdown of the pump or equipment failure will result in the release of sewage. GGSD staff will contact the appropriate personnel from within the Public Works Department for assistance. Mobilizing the necessary equipment needed in a timely fashion is vital in the event of a pump station failure. Pump stations are fitted with a backup generator.

In the event of a power outage, the back-up generators are automatically activated. Pump station wells can collect sewage inflow at peak times for four to eight hours before affecting service. Steps leading to the return of proper operation of the pump station will commence when the proper equipment is on site.

SSO EMERGENCY RESPONSE PLAN FOR PRIVATE SPILLS

Purpose:

To promptly contain, control, clean and protect public health from an unauthorized release of sewer wastewater, including notifying all appropriate agencies as a result of a private sewer system overflow.

Overview:

The Garden Grove Sanitary District (GGSD) a subsidiary district of the City of Garden Grove, owns and operates a diverse collection system that consists of three (3) pumping stations, 327 miles of gravity sewer mains, 9,150 feet of force mains, 37,100 sewer connections and an approximate population of 186,000[2] served by the GGSD. The proceeding plan provides how the GGSD responds to a public sewer overflow/spill. Actions presented reduce or eliminate public health hazards, prevent unnecessary property damage, minimize the inconvenience of service interruptions in event of an overflow/spill and prevent any overflows from entering streets, gutters and/or storm drains. GGSD utilizes the following five (5) main steps to take when responding to sewage overflow/spills:

GGSD utilizes the following four main steps when responding to private sewage overflow/spills:

1) CONTAIN spilling sewage and prevent from entering streets, gutters, and/or storm drain systems.

2) COMMUNICATE with agencies, property owner, and the Garden Grove Environmental Management Team (GEMT).

3) CALCULATE spill volume.

4) CLEAN UP affected areas

NOTIFICATION PROCEDURES

The following illustrates GGSD's procedure to communicate internally and externally, mobilize, and respond to and correct or repair any condition that may cause or contribute to a SSO. There is a response to each reported spill caused by public or private facilities that occur on public or private property.

An overflow may be detected by GGSD staff , City employees, or by others (i.e. residents, business owners, etc.). The Water Services Division of the Department of Public Works is responsible for

[2] OCSD city and agency collection facilities O & M Survey '03-04 data

accepting all phone calls regarding possible sewer overflows during business hours, and is responsible for responding to these notifications 24 hours a day. After hours, a notification system is established with other City Departments which immediately directs any reports to the 24 hour on call "Stand-By" staff person for Water Services, who dispatches the GGSD crews, makes notifications to regulatory agencies and compiles information on the spill. The details of these procedures are summarized in stepwise procedure below.

- Notification is received at the City, typically either from a private citizen, business owner or other GGSD or City staff.
- During business hours, calls are received at the City Water Services Division main office and then forwarded to the Sanitation Supervisor, Foreman, and other key GGSD personnel via text messaging. GGSD sanitation crews are then dispatched to the scene.
- After hours, City Police Department personnel will gather the proper information from callers and forward this information to the 24 hour on call "Stand-By" staff person.

Contain the Spill:

Upon arrival at the site, a preliminary investigation of the reported spill will take place in order to confirm whether a sewage spill is on private or public property. The GGSD staff will determine what steps are needed to take place in order to contain the spill. If a spill is found on private property, the GGSD crews will take the appropriate steps to prevent sewage from entering gutters, catch basins, storm drains, channels or other critical locations.

Containing the spill with sand bags, dirt berms and/or placing rubber mats over catch basins is initiated to prevent sewage from entering waters of the state. This includes surface, ground and storm drain waters within the state boundaries. Afterwards, GGSD crews will establish perimeters and/or control zones utilizing cones, barricades and/or delineators to prevent citizen contact with sewage overflow. If a spill is determined to be on public property the outlined steps in the SSO Emergency Response Plan for Public Spills will be followed.

If sewage enters a catch basin or storm drain, GGSD staff will go down stream to intercept and contain the flow of sewage. Once the sewage is contained, the combination truck will be used to vacuum up the sewage and wash down water from the catch basin or storm drain.

Communicate and Notification:

GGSD crews will identify the responsible property owner at the location of the spill to collect and document all information regarding the spill as set forth by the RWQCB. RWQCB, OC Public Works, and the OCHCA will be notified of all spills regardless of size. GGSD staff will take pictures of the spill and forward the files to the City of Garden Grove Environmental Management Team (GGEMT) who is responsible for the Fats, Oils, and Grease (FOG) program and who has the legal authority to cite businesses. All agencies affected as specified by local, state, and other regulations will also be notified.

GGSD will inform the property owner that it is their responsibility to hire a private contractor or plumber at their expense to remedy the problem. If the property owner is uncooperative or unavailable to provide information, the GGSD staff will contact the OCHCA, OC Public Works, and RWQCB to inform them of an uncooperative or unavailable property owner.

GGSD staff will standby on-site until the problem has been resolved. After a reasonable time, if the private plumber or private contractor has not resolved the problem, then GGSD staff will take the necessary measures to remedy the problem at the property owners' expense. If the property owner fails to correct the problem, they may be subject to having their water service turned off and face possible fines and/or penalties.

GGSD staff will inform the property owner of measures that can be taken in order to prevent future spills. This includes grease control handouts and/or information on how to contact plumbers for preventative maintenance.

The following summarizes the notification process:

Orange County Santa Ana Region

Sanitary Sewer Overflow Notification & Reporting Guidelines

Statewide General Waste Discharge Requirements Order No. 2006-0003 finds that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length requires notification and reporting of all sanitary sewer overflows (SSOs). SSOs are defined as any overflow, spill, release, discharge or diversion of wastewater from a sanitary sewer system. (See page 5 of the Order No. 2006-0003 for the complete definition of SSOs).

Type of SSO	Initial Notification Timeframe*	Agency to Notify by Phone	Report Timeframe
Category 1 – Discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition that: C. Reach surface water and/or reach a drainage channel tributary to a surface water; or D. Reach a municipal separate storm sewer system and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. (Any volume of wastewater not recovered from the municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond).) **Greater than or equal to 1,000 gallons**, **notify the OES** and obtain a notification control number.	As soon as practical within 2 hours of becoming aware	• OES1 • OCHCA[2] • OC Public Works[3] and city	Submit Draft report within 3 business days of becoming aware of the SSO. Certify within 15 calendar days of SSO end date. SSO Technical Report: Certify within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater is spilled to surface waters.
Category 1 – any volume < 1000 gallons	As soon as practical	• OCHCA[2]	
Category 2 – Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee's sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.	As soon as practical	• OCHCA[2]	Submit Draft report within 3 business days of becoming aware of the SSO. Certify within 15 calendar days of SSO end date.
Category 3 – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.	As soon as practical	• OCHCA[2]	Submit Certified report within 30 calendar days after the end of month in which SSO occurred.
Private lateral – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets.	As soon as practical	• OCHCA[2] • OC Public Works[3] and city	PLSDs that the enrollee becomes aware of may be voluntarily reported to the CIWQS Online SSO Database.

Notes: *Updates should be provided as necessary; 1 Water Code section 13271; 2 Health and Safety Code; 3 NPDES Stormwater Regulations and local Water Quality Ordinance.

SSO Notification Contacts:

Normal Hours	After Hours
OCHCA (Please call down the list until someone is contacted) 5. (714) 433-6419 (Office Support Staff) 6. Hisham Elmishad (714) 433-6284 7. Juan Anzora (714) 433-6287 8. Pauline Liu (714) 433-6286	Control 1: (714) 628-7008 (will contact OCHCA oncall staff)
RWQCB - Santa Ana Region (951) 782-4130 Najah Amin (951) 320-6362	RWQCB: (951) 782-4130 (voice mail) OES: (800) 852-7550
OES (Office of Emergency Services) (800) 852-7550	24 hours
OC Public Works (714) 955-0600 (storm drain/flood channel facility owners) (877) 89-SPILL (897-7455) 24 HR. Hotline	Control 1: (714) 628-7008 (specify water pollution incident notification)
Water Quality Monitoring Sierra Analytical Labs, Inc (Rick Forsyth) (714)-348-9389	(714) 348-9389; sierralabs@sierralabs.net; www.sierralabs.net/sierra.html
Water Quality Monitoring Associated Laboratories (714) 771-6900	(714) 771-6900; info@associatedlabs.com; www.associatedlabs.com

Developed by the Orange County Sanitation District with RWQCB, OCHCA and OC Public Works. Updated on 3/26/2018.

A Sanitary Sewer Overflow (SSO) task force has been established and must be contacted for spills in excess of 1,000 gallons or when sewage enters storm drains and/or waters of the state. The task force consists of the Public Works Director, City Engineer, Water Services Manager, Streets/Environmental Services Manager, Sanitation Supervisor, Sanitation Foreman, and any others necessary to complete tasks. The task force will take the appropriate steps to ensure compliance with all regulatory agencies and oversee clean up procedures. In addition, the task force may be convened when, in the opinion of any task force member, there are circumstances that warrant the convening of the group.

Written reports of overflows/spills must be prepared and filed within five (5) days with the above agencies after immediate notification has been completed.

It is necessary to document all relevant information, such as:

1. The time the SSO is first reported to GGSD and the name and phone number of the person reporting the SSO.

2. Names of GGSD staff reporting SSO to RWQCB (date and time contacted).

3. Names of GGSD staff responding to SSO.

4. Verified SSO start time through witnesses and stop time and dates.

5. Whether SSO reached storm drain or other surface waters.

6. Containment information.

7. Wash water disposal method.

8. Estimated SSO rate and calculation tabulation methodology used.

9. Amount (volume) of SSO lost and recovered.

10. Amount (volume) of recovered and lost wash water and sewage-contaminated water.

11. Location of the SSO (address, city, zip, county).

12. Number of prior SSO's within 1000 ft of the location and dates of prior SSO's.

13. Location of potential blockage and description of component from which spill occurred.

14. Likely cause of SSO.

15. SSO cause- detailed description.

16. Measurable precipitation during 72-hour prior to SSO.

17. Steps taken or planned to reduce, eliminate and prevent reoccurrence or mitigate the impact of SSO and schedule of major milestones.

18. Where SSO entered storm drain inlet, initial and/or secondary receiving water name/description.

19. Final destination of sewage.

20. Notification times and person(s) contacted at OCHCA, RWCQB, RDMD, and/or OES.

21. If possible, photo documentation of spill containment efforts.

22. All copies of reports, faxes, photos etc. need to be kept in the spill document binder and Waste Discharge filing cabinet located at the City Garden Grove Municipal Yard, Water Services Division, 13802 Newhope St. Garden Grove, CA 92843.

23. Note if the GGEMT is involved, include GGEMT's findings, conclusions, and any actions taken or pending.

Calculate the Spill:

Water pump station flow rates assist in calculations. GGSD staff will record spill volumes on spill response form. GGSD uses several different methods for calculating spills: GGSD Flow Calculation Options, visual observation, OCSD's Flow Spreadsheet, and San Diego Wastewater Collection System Division Overflow Rate Demonstration sheet.

In order to calculate a spill the following methods may be used:

1) Area Calculation (for Ponded Areas)
   - Length in feet (ft.) x Width (in ft.) x Depth (in ft.) = Cubic ft. x 7.48 gallons = spill amount in gallons (gal.)
     (L x W X D = Cu. Ft. x 7.48 = gal.)

2) Flow Calculation (for V-gutters and Channels)
   - Width (in ft.) x Depth (in ft.) x Ft. per second (fps) = Cu. Ft. x 60 seconds per min. (spm) = __ x __ Minutes of Spill (mos) = __ x 7.48 Gal. = Spill Amount in Gallons.
     (W x D x fps = cu.ft. x 60 spm = __ X __ mos x 7.48 gal. = spill amt.)

3) Triangle Flow Calculation (for Curb and Gutter)
   - Width (in ft.) x ½ Depth (in ft.) x Fps = Cu. Ft. x 60 Sec./Min. (spm) = __x__ Min. of Spill (mos) =__x 7.48 gal. = Spill amount in gallons
     (W x ½ D x fps = cu.ft. x 60 spm = __x__mos =__x 7.48 = spill amount)

4) When flow has ceased prior to GGSD arrival and a ponded area is not present such as in the case of a mere wet spot around a manhole, an estimation of flow is made based upon a visual observation.

5) Orange County Sanitation District SSO Estimation Chart (for Manhole Cover Vent Holes and Pick Holes Flow)

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

Hole Dia. inches	Area sq. ft.	Coeff.of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht inches	Water Ht inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax*Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(SQRT(2*32.2*Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
0.50	0.00136	0.945	0.70	0.662	1/16 th	0.063	0.005	0.0005	0.23	14
0.50	0.00136	0.945	0.70	0.662	1/8 th	0.125	0.010	0.0007	0.33	20
0.50	0.00136	0.945	0.70	0.662	1/4 th	0.250	0.021	0.0010	0.47	28
0.50	0.00136	0.945	0.70	0.662	one half	0.500	0.042	0.0015	0.66	40
0.50	0.00136	0.945	0.70	0.662	3/4 ths	0.750	0.063	0.0018	0.81	49
0.50	0.00136	0.945	0.70	0.662	1 inch	1.000	0.083	0.0021	0.94	56
0.50	0.00136	0.945	0.70	0.662	1 1/4 "	1.250	0.104	0.0023	1.05	63
0.50	0.00136	0.945	0.70	0.662	1 3/8"	1.375	0.115	0.0024	1.10	66
0.50	0.00136	0.945	0.70	0.662	1 1/2"	1.500	0.125	0.0026	1.15	69
0.50	0.00136	0.945	0.70	0.662	1 5/8"	1.625	0.135	0.0027	1.20	72
0.50	0.00136	0.945	0.70	0.662	1 3/4"	1.750	0.146	0.0028	1.24	74
0.50	0.00136	0.945	0.70	0.662	2 inches	2.000	0.167	0.0030	1.33	80
0.50	0.00136	0.945	0.70	0.662	2 1/4"	2.250	0.188	0.0031	1.41	84
0.50	0.00136	0.945	0.70	0.662	2 1/2"	2.500	0.208	0.0033	1.48	89
0.50	0.00136	0.945	0.70	0.662	2 3/4"	2.750	0.229	0.0035	1.56	93
0.50	0.00136	0.945	0.70	0.662	3 inches	3.000	0.250	0.0036	1.62	97
0.50	0.00136	0.945	0.70	0.662	3 1/4"	3.250	0.271	0.0038	1.69	101
0.50	0.00136	0.945	0.70	0.662	3 1/2"	3.500	0.292	0.0039	1.75	105
0.50	0.00136	0.945	0.70	0.662	3 3/4"	3.750	0.313	0.0040	1.82	109
0.50	0.00136	0.945	0.70	0.662	4.000	4.000	0.333	0.0042	1.88	113
Vent Hole										
0.75	0.00307	0.955	0.67	0.640	1/16 th	0.063	0.005	0.0011	0.51	31
0.75	0.00307	0.955	0.67	0.640	1/8 th	0.125	0.010	0.0016	0.72	43
0.75	0.00307	0.955	0.67	0.640	1/4 th	0.250	0.021	0.0023	1.02	61
0.75	0.00307	0.955	0.67	0.640	one half	0.500	0.042	0.0032	1.44	87
0.75	0.00307	0.955	0.67	0.640	3/4 ths	0.750	0.063	0.0039	1.77	106
0.75	0.00307	0.955	0.67	0.640	1 inch	1.000	0.083	0.0045	2.04	122
0.75	0.00307	0.955	0.67	0.640	1 1/4 "	1.250	0.104	0.0051	2.28	137
0.75	0.00307	0.955	0.67	0.640	1 3/8"	1.375	0.115	0.0053	2.39	144
0.75	0.00307	0.955	0.67	0.640	1 1/2"	1.500	0.125	0.0056	2.50	150
0.75	0.00307	0.955	0.67	0.640	1 5/8"	1.625	0.135	0.0058	2.60	156
0.75	0.00307	0.955	0.67	0.640	1 3/4"	1.750	0.146	0.0060	2.70	162
0.75	0.00307	0.955	0.67	0.640	2 inches	2.000	0.167	0.0064	2.89	173
0.75	0.00307	0.955	0.67	0.640	2 1/4"	2.250	0.188	0.0068	3.06	184
0.75	0.00307	0.955	0.67	0.640	2 1/2"	2.500	0.208	0.0072	3.23	194
0.75	0.00307	0.955	0.67	0.640	2 3/4"	2.750	0.229	0.0075	3.38	203
0.75	0.00307	0.955	0.67	0.640	3 inches	3.000	0.250	0.0079	3.53	212
0.75	0.00307	0.955	0.67	0.640	3 1/4"	3.250	0.271	0.0082	3.68	221
0.75	0.00307	0.955	0.67	0.640	3 1/2"	3.500	0.292	0.0085	3.82	229
0.75	0.00307	0.955	0.67	0.640	3 3/4"	3.750	0.313	0.0088	3.95	237
0.75	0.00307	0.955	0.67	0.640	4.000	4.000	0.333	0.0091	4.08	245
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0020	0.88	53
1.00	0.00545	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0028	1.25	75
1.00	0.00545	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0039	1.77	106
1.00	0.00545	0.960	0.65	0.624	one half	0.500	0.042	0.0056	2.50	150
1.00	0.00545	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0068	3.06	184
1.00	0.00545	0.960	0.65	0.624	1 inch	1.000	0.083	0.0079	3.54	212
1.00	0.00545	0.960	0.65	0.624	1 1/4 "	1.250	0.104	0.0088	3.96	237
1.00	0.00545	0.960	0.65	0.624	1 3/8"	1.375	0.115	0.0092	4.15	249
1.00	0.00545	0.960	0.65	0.624	1 1/2"	1.500	0.125	0.0097	4.33	260
1.00	0.00545	0.960	0.65	0.624	1 5/8"	1.625	0.135	0.0100	4.51	271
1.00	0.00545	0.960	0.65	0.624	1 3/4"	1.750	0.146	0.0104	4.68	281
1.00	0.00545	0.960	0.65	0.624	2 inches	2.000	0.167	0.0111	5.00	300
1.00	0.00545	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0118	5.31	318
1.00	0.00545	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0125	5.59	336
1.00	0.00545	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0131	5.87	352
1.00	0.00545	0.960	0.65	0.624	3 inches	3.000	0.250	0.0136	6.13	368

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

Hole Dia. inches	Area sq. ft.	Coeff.of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht inches	Water Ht inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax*Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(SQRT(2*32.2*Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0142	6.38	383
1.00	0.00545	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0147	6.62	397
1.00	0.00545	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0153	6.85	411
1.00	0.00545	0.960	0.65	0.624	4.000	4.000	0.333	0.0158	7.08	425
Pick Hole semicircular area										
1.00	0.00273	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0010	0.44	27
1.00	0.00273	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0014	0.63	38
1.00	0.00273	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0020	0.89	53
1.00	0.00273	0.960	0.65	0.624	one half	0.500	0.042	0.0028	1.25	75
1.00	0.00273	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0034	1.53	92
1.00	0.00273	0.960	0.65	0.624	1 inch	1.000	0.083	0.0039	1.77	106
1.00	0.00273	0.960	0.65	0.624	1-1/2 inch	1.500	0.125	0.0048	2.17	130
1.00	0.00273	0.960	0.65	0.624	2 inches	2.000	0.167	0.0056	2.51	150
1.00	0.00273	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0059	2.66	159
1.00	0.00273	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0062	2.80	168
1.00	0.00273	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0065	2.94	176
1.00	0.00273	0.960	0.65	0.624	3 inches	3.000	0.250	0.0068	3.07	184
1.00	0.00273	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0071	3.19	192
1.00	0.00273	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0074	3.31	199
1.00	0.00273	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0076	3.43	206
1.00	0.00273	0.960	0.65	0.624	4.000	4.000	0.333	0.0079	3.54	213

Clean Up the Spill:

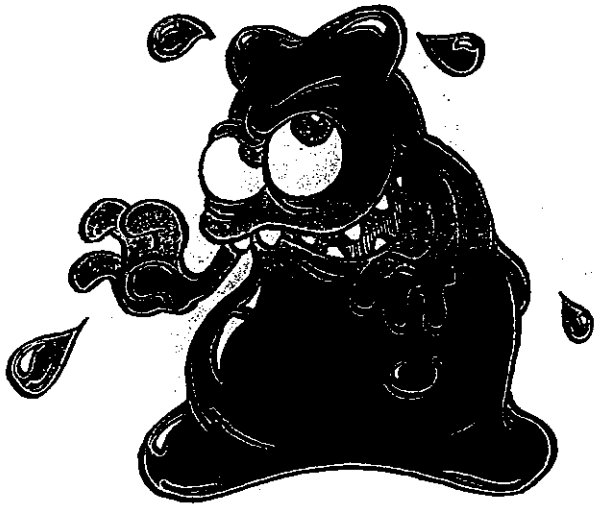
All overflow/spills must be cleaned regardless of size. Affected areas are to be washed down then vacuumed up utilizing a vactor truck to prevent sewage overflow/spills and wash water from entering waters of the state. All solids or semisolids resulting from the cleaning operations will be removed from the site and disposed at the OCSD's Treatment Plant No. 2 located in Huntington Beach. For the GGSD's records, photographs of affected area and existing damaged areas are taken for use in settling potential future claims.[3]

[3] Attached is Sewer Spill Response Form

Appendix F-1

FOG Control Program for Food Service Establishments

GARDEN GROVE SANITARY DISTRICT
FATS, OIL AND GREASE (FOG) CONTROL PROGRAM
FOR
FOOD SERVICE ESTABLISHMENTS



What's In Your Sink?
Help Control The Grease Monster

GARDEN GROVE

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GARDEN GROVE SANITARY DISTRICT
11222 ACACIA PARKWAY P.O. BOX 3070 GARDEN GROVE CALIFORNIA 92842

MAR 01 2004

TO: Owners and Managers of Food Service Establishments

SUBJECT: Food Service Grease Control Program

The Garden Grove Sanitary District (GGSD or District) maintains the public sewer system serving your business on behalf of the City of Garden Grove and is required under new laws to institute a comprehensive grease control program. Grease from restaurants and other food preparation businesses are causing sewer line blockages and spills. The sewer spills end up in the storm drain system and waterways and are a significant cause of ocean water pollution.

In order for the GGSD to comply with the new regulations, the District is developing a new grease control program with your assistance. The first step is for a GGSD representative to visit your facility and review the kitchen equipment, drains, grease interceptor or grease trap (if existing), maintenance logs, kitchen best management practices, spill prevention and clean up practices, the menu, grease usage, and disposal practices.

The person visiting your facility will have proper identification and a copy of this letter. This person will be an employee of EEC, a consultant to the GGSD for this project. Information will be provided on the importance of minimizing grease discharges to the sewer system and recommendations for reducing discharges.

The regulations requiring the new grease control program could include substantial fines for sewer spills and non-conformance, therefore, your cooperation is a necessity.

Thank you for your participation and cooperation. If you have any questions, please call the GGSD at (714) 741-5956.

Sincerely,

A. J. Holmon III
Environmental Services Coordinator

GARDEN GROVE SANITARY DISTRICT
11222 ACACIA PARKWAY, P.O. BOX 3070, GARDEN GROVE, CALIFORNIA 92842

Kitchen Best Management Practices (BMP's)

Sinks and Drains

Drain Screens

- Be installed on all drains
- Have openings between 1/8" and 3/16"
- Be removable for ease of cleaning
- Be frequently cleaned (dispose of the screened solids to the trash)

Grease Container Usage

- Pour all liquid oil and grease from pots, pans, and fryers into a waste grease container
- Prior to washing, scrape solidified fats and grease from pots, pans, fryers, utensils, screens, and mats into a container
- Use recycling barrels or bins with covers for onsite collection of grease and oil
- Empty grill top scrap baskets or boxes into a container

Dishwashing

- Use rubber scrapers, squeegees, or towels to remove food and all visible fats, oils and grease from cook and serving ware prior to dishwashing
- Dry wipe remaining food and fats, oils and grease into trash can prior to dishwashing

Spill Prevention and Clean-up

Proactive Spill Prevention and Clean-Up Procedure BMPs

- Develop and post spill procedures
- Develop schedule for training employees about procedures
- Designate a key employee who monitors clean-up

Spill Prevention BMPs

- Empty containers before they are full to avoid accidental spills
- Provide proper portable container to transport materials without spilling
- Use a cover to transport grease materials to a recycling barrel

Spill Clean-up BMPs

- Block off sink and floor drains near the spill
- Clean spills with towels and absorbent material
- Use wet cleanup methods only to remove trace residues

Absorbent Materials and Towel Usage

- Use disposable absorbent materials to clean areas where grease may be spilled or dripped
- When using paper towels, use food grade paper to soak up oil and grease under fryer baskets
- Use towels to wipe down work areas
- Use absorbent materials under colanders in sinks when draining excess meat fat

Food Waste Disposal/Recycling

- Used or spent oil and grease generated from fryers and other cooking equipment can be recycled through a rendering or recycling company.

Food Grinders

- Food grinders should not be used in kitchens because the resulting large volume of food solids may clog drain pipes and/or fill grease traps and interceptors.

Employee Education

- An Education Program on the BMPs should be implemented consisting of:
  - New employee training program
  - Frequent refresher training program
  - Kitchen BMP signage

Ngay 14, Thang 1, Nam 2004

THÔNG CÁO: Người Chủ và Giám Đốc của Chỗ Làm Việc Thức Ăn

VỀ: Chương Trình Chế Ngự Dầu Mỡ Cho Các Việc Làm Thức Ăn

Garden Grove Sanitary District (GGSD/District) giữ gìn hệ thống ống cống nước cho dân chúng dùng cho kinh doanh, đại diện cho thành phố Garden Grove. Theo luật mới, chính phủ phải thành lập một chương trình đầy đủ chế ngự dầu mỡ. Dầu mỡ của nhà hàng và các tiệm làm thức ăn hay làm cống dày ngăn chặn và tràn ra. Chất bẩn trong ống cống chảy vào lưu vực sông, sau đó đường sông; và là một lí do trầm trọng đã làm nước biển ô nhiễm.

Vì chính phủ theo luật mới, chính phủ đang khai triển một chủng trình chế ngự dầu mỡ cùng với sự giúp đỡ của quý vị. Bước đầu tiên là có người đại diện cho GGSD tới chỗ việc và xem xét kỹ đồ dùng trong nhà bếp, cống để thảo nước, máy bắt dầu (nếu có), sổ ghi các việc giữ gìn, phương pháp thu xếp nhà bếp, phương pháp ngăn cản sự đổ ra và quét dọn, danh sách chọn lựa thức ăn, cách dùng dầu mỡ và sự vứt bỏ.

Người đại diện mà đi xem chỗ việc sẽ có thẻ chứng minh đàng hoàng và mang theo thỏ này. Người nay làm cho hãng EEC, Inc., tư vấn của GGSD cho vụ này. Sẽ có thông tin về sự quan trọng bỏt đi dầu mỡ thả trong hệ thống cống rãnh và sử khuyên bảo.

Điều lệ mà cần chủng trình chế ngự dầu mỡ mới này sẽ có tiền phạt nặng nếu ống cống nước tràn ra và nếu không theo luật lệ, do đó, cộng tác của quý vị cần thiết.

Cám ơn cho sự tham gia và cộng tác của quý vị. Nếu có câu hỏi nào, xin liên lạc tôi tại GGSD (714) 741-5375.

Sincerely,

A.J. Holman, III
Environmental Services Coordinator

GARDEN GROVE SANITARY DISTRICT
11222 ACACIA PARKWAY, P.O. BOX 3070, GARDEN GROVE, CALIFORNIA 92842

Phương Pháp Thu Xếp Nhà Bếp (BMPs)

Hồ Rửa Chén Bát Và Cống Tháo Nước

Đồ che cống tháo nước

- Xếp đặt trên tất cả cống tháo nước
- Sẽ có lỗ giữa 1/8" và 3/16"
- Sẽ tháo ra được để rửa dễ dàng
- Sẽ rửa thường xuyên (vứt những đồ lọc trong thùng rác

Cách Dùng Bình Đựng Dầu Mỡ

- Đổ tất cả nước dầu mỡ từ chạu và chảo vào trong bình đựng dầu mỡ thừa
- Trước khi rửa, chà mập mỡ và dầu mỡ đã đặc lại ra chạu, chảo, đồ dùng, đồ che, và thảm trải vào trong bình
- Dùng lại thùng có nắp đậy để lấy được mỡ và dầu trên địa điểm
- Đổ ra vật thừa thải trong rổ hoặc thùng nướng bếp vào trong bình

Rửa Chén Bát

- Dùng đồ cạo loại cao su và cái chốt bằng cao su hoặc hay là khăn để tẩy sạch đồ ăn và tất cả dầu mỡ trong thấy được ra các đồ dùng nấu ăn trước khi rửa chén
- Lau khô đồ ăn thừa, vã dầu mỡ vào trong thùng rác trước khi rửa chén

Phương Pháp Ngăn Cản Sự Tràn Ra Và Quét Dọn

Phương thức thực hành cho sự tràn ra ngăn cản và quét dọn

- Khai triển và dán lên phương thức sự tràn ra
- Xếp đặt chương trình để luyện tập công nhân về phương thức
- Chỉ định một công nhân chính để kiểm thính việc quét dọn

Ngăn cản sự tràn ra

- Đổ ra bình trước khi đầy để tránh đánh đổ bất ngờ
- Sửa soạn thùng đang hoàn để chuyển chỗ đồ để không đổ ra
- Dùng nắp lúc chuyển chỗ đồ dầu mỡ tới hộp dùng lại

Quét Dọn Sự Tràn Ra BMPs

- Cản ra cống thảo nước ở trong hồ rửa chén và dưới dắt gần chỗ dánh đổ ra
- Dọn nước đổ ra với khăn và đồ thấm
- Dùng cách quét dọn đồ ướt chỉ lấy ra vật dư còn lại

<u>Cách Dùng Đồ Thấm Và Khăn Lau</u>

- Dùng đồ thấm có thể bỏ đi không xài nữa để dọn chỗ mà dầu mỡ có thể đổ hay chảy ra nhỏ ra
- Lúc dùng khăn lau, dùng giấy loại dùng cho đồ ăn để làm thấm dầu mỡ ở dưới rổ chiên
- Dùng đồ thấm ở dưới rá lọc trong hồ rửa chén lúc rút thịt mỡ thừa

<u>Vứt Bỏ Đồ Ăn Và Sử Dùng Lại</u>

- Dầu mỡ từ chảo chiên và đồ nấu khác có thể dùng lại qua hãng tái chế

<u>Máy Xay Đồ Ăn</u>

- Máy xay đồ ăn sẽ không được dùng trong nhà bếp tại vì có nhiều vật dư thừa đồ ăn có thể đóng nẹt ống tháo nước và/ hoặc hay là làm đầy máy bắt dầu mỡ

<u>Huấn Luyện Công Nhân</u>

- Sẽ làm cho xong Chương Trình Học Thức về BMPs gồm có:
- Chương trình huấn luyện cho công nhân mới
- Chương trình huấn luyện ôn lại thường xuyên
- Làm bảng cho nhà bếp BMP

March 1, 2004

PARA: Dueños y Gerentes De Establecimientos De Servicios De Comida
SUBJETO: Programa Nuevo Para El Control De Grasas

El Distrito Sanitario de la Ciudad de Garden Grove (GGSD ó El Distrito) mantienen el servicio publico de el alcantarillado que sirve su negocio de parte de la Ciudad de Garden Grove, y esta requirido bajo nuevas leyes de instituir un programa comprensivo de control de grasas. Grasas que vienen de restauranes y de otros negocios de preparacion de comida estan causando obstrucciones o derrames en las lineas de la alcantarilla. Los derrames que vienen de la alcantarilla terminan en el sistema de drenaje de lluvias y desvios de agua, los cuales son una causa significante de la contaminacion del agua del mar.

En orden para que el GGSD pueda compluir con las nuevas regulaciones, El Distrito esta desarrollando un nuevo programa para el control de grasas con su ayuda. El primer paso comienza con un representante del GGSD visitando su establecimiento para revisar su equipaje de cocina, desagues, interceptores de grasas (si existen), constancias de mantenimiento, buenas practicas de manejamiento de cocina, prevencion de derrames, practicas de limpieza, el menu, uso de grasas, y metodos de eliminacion de basura.

La persona que visite su establecimiento tendra identificacion apropriada y una copia de esta carta. Esta persona sera un empleado de la firma EEC, quienes estan sirviendo como consultores para el GGSD en este proyecto. Informacion se hara disponible sobre la importancia de minimizar los descargos de grasa que llegan al sistema de la alcantarilla, como tambien recomendaciones para reducir estos descargos.

Las regulaciones requiriendo el nuevo programa de control de grasas podrian incluir multas considerables por descargos a la alcantarilla y por no conformar con las regulaciones. Por eso, su cooperacion es muy importante y necesario.

Gracias por su participacion y cooperacion. Si tiene qualquier pregunta, porfavor llame al GGSD al 714-742-5375.

Sinceramentc,

A. J. Holmon III
Coordinador De Servicios Ambientales

식당 관계자에게 알립니다 March 1, 2004

배출하는 폐유를 규칙적으로 처리 합시다

가든그로브 위생 관리처 (Garden Grove Sanitary District) 는 업소 와 거주에서 사용 하는 공동 하수도를 관리함으로 여러분에게 이 편지를 보냅니다. 식당에서 내보내는 폐유가 오래되면 거리로 나가는 하수도 가 막히면서 오염이 여러군데로 퍼지고 또 직접바다로 흘러내려가 모든 환경을 파괴합니다. 앞으로 깨끗한 환경을 유지하기 위한 세로운 법을 여러분께서 지켜야 합니다.

가든 그로브 위생 관리처 (GGSD) 는 새로 세워진 법을 지키기 위하여 여러분 의 협조가 필요합니다. 첫째로, 위생 관계자들이 여러분 식당에 시찰하여 주방에 있는 도구, 배수설비, 유지를 걸러낼 수 있는 장치 가 준비되여있나 살표볼것입니다.

그리고 식당에 일람표 가있어 주방을 규칙적으로 종업원들이 깨끗이 정리하는 것을 기록하고 또 식당에서 제공하는 음식이 폐유를 많이 버리는 종류인가 살펴볼 예정입니다. 그리고 만약하수도가 폐유로 막히면 어떤방법으로 처리할수있나 위생관계자 에게 보여드려야 하며, 마지막으로 여러분이 어떤방법으로 유지 처리하나 질문할것입니다.

가든그로브 시 는 식당 "위생 환경회사" (Enviromental Engineering Contract Inc) 와 계약되여 이 회사 직원위생 관계자가 여러분 식당에 들려 주방을 검사할예정이며, 관계자께서는 그의 신임장 신분증과 이 편지를 여러분에게 보여드릴것입니다.

새로 계획한 폐유 감소 사항에 여러분의 협조가 필요하며 잘지켜주십시오. 앞으로 법을 위반하게 되면 벌금을 지불하게됩니다.

여러분의 협력을 간청하며 질문이 있으시면 가든그로브 위생 행정부로 연락하시고 또 언어에 어려운점이 있으시면 경찰국 유태경 에게 연락하십시오.

GGSD: 741-5375
A.J. Holmon 드림
유태경: 741-5592

GARDEN GROVE SANITARY DISTRICT
11222 ACACIA PARKWAY, P.O. BOX 3070, GARDEN GROVE, CALIFORNIA 92842

주방을 제일 깨끗하게 관리하는 방법

배수 찌꺼기 채

모든배수에 배수채를 끼십시오.
배수채의 구멍사이는 1/8~3/16 인치가 되는 것을 사용하십시오.
채는 이동적인 것을 사용하여 쉽게 뺏다 낄수있어야 합니다.
채에 찌꺼기가 많이 모이면 쓰레기 통으로 버리십시오.

유지 통 사용 방법

냄비나 접시에서 버리는 액체 와 굳은유지 는 커다란 폐유통에
배치하십시오.
설거지 하기전에 미리 냄비나 접시에 굳어있거나 묻어있는 유지는
휴지를 이용하여 닦아 내십시오.
유지를 재생하는 통에 넣으시고 채워지면 재생회사에
연락하여 처리하는 방법으로 하십시오.
석쇠에 눌러붙은 찌꺼기를 긁어낸다음 쓰레기통에 배치하십시오.

설거지

접시에 남아있는 음식, 또는 주방 도구 등을 설거지하기 전에
묻어있는 유지를 종이행주를 사용하여 잘닦아내십시오.

배수관 유출

미리 배수관 유출 때 쉽게 처리할수있게 준비하십시오.
종업원들에게 유출에 관한방법을 미리 알려 주십시오.
종업원중에 유출 때 감시할 수 있는 사람을 정해놓으십시오.

유출당시에

주방에 쉽게 이동 할 수 있는 유지통이 있어야 하며 운반할 때 흘리지 않도록 조심하십시오.

유지재생통을 이동할 때 통뚜껑을 덮고 유지재생통으로 옮기십시오.

유지재생통을 실수로 쓸어트리면 바닥에 유지를 흘릴수가있으니 유지재생 통에 유지가 다차기 전에 미리 배치하십시오.

만약 유지재생통이 실수로 쓸어지면 주방바닥에 내려가는 배수관이 있으면 흘러내려가지 않도록 걸래로 막으십시오.

하수오물이나 잔여 물을 딱으실때는 물이나 청소하는 세제로 닦으십시오.

물질흡수하는 도구 와 천종류 의 걸래

흘린폐유를 치우실때는 사용후 버릴 수 있는 흡수하는 종이나 걸래를 사용하십시오.

튀김 이나 기름이 흐르는 음식 밑에는 기름을 흡수하는 종이행주를 사용하십시오.

요리 하는 근처 치우실때는 종이, 또는 깨끗한 천종류의 행주를 사용하십시오.

요리한 음식에서 기름이 많이 흘르면 여과기를 사용하고 밑에는 종이행주로 바치십시오.

버리는 음식 과 유지재생

버리는 요리기름 이나 도구들은 유지재생 회사에서 갖고갑니다.

음식 가는기계

음식가는 기계에 많은 찌꺼기를 깨끗지 딱아 낸다음 물로 씻어내시고 배수관으로 내려가는 곳에 찌꺼기 걷어내는 채를 끼여 놓으십시오.

종업원 가르키기

주방에서 위생적으로 일할 수 있는 방법 은 새로 채용한 종업원이 자세히 유지에 관한점을 알아야 합니다.

가끔 일하시는 분들은 위생에 관한 것을 반복하십시오.

규칙의 기호를 종업원들이 볼수있게 걸어놓으십시오.

GREASE TRAP / INTERCEPTOR MAINTENANCE LOG

FACILITY NAME: **LOCATION:**

DATE	SERVICED BY WHOM	TYPE OF SERVICE (pumping/hauling, repair, etc.)	Disposal Site (if known)	Volume Pumped	SERVICE COMMENTS (volume pumped, problems, etc.)

LATERAL SEWER LINE MAINTENANCE LOG

FACILITY NAME: **LOCATION:**

DATE	SERVICED BY WHOM	TYPE OF SERVICE (rodding, jetting, repair, etc.)	SERVICE COMMENTS (problems, observations, etc.)

EMPLOYEE BMP TRAINING LOG

FACILITY NAME: **LOCATION:**

EMPLOYEE NAME	INITIAL TRAINING DATE	REFRESHER TRAINING			

RECYCLABLE GREASE (YELLOW GREASE) PICKUP / DISPOSAL LOG

FACILITY NAME:

DATE	PICKED UP BY WHOM	SERVICE COMMENTS (volume collected, etc.)

GARDEN GROVE

CITY OF GARDEN GROVE
PUBLIC WORKS

February 15, 2005

Dear Food Service Establishment,

Grease is the number one cause of sewer line blockage. Grease from restaurants and food establishments hardens in the lines and blocks the flow, causing backups and sewer spills. These spills can enter the storm drain and pollute the ocean, causing beach closures.

Renderers are companies that collect Fats, Oil, Grease (FOG) from Food Service Establishments (FSEs). The renderer then properly disposes of the collected grease.

The 2 most common products rendered from an FSE are yellow grease and brown grease.

- Yellow grease: from bulk deep fat frying operations and oil/water separator units.
- Brown grease: from grease traps and interceptor waste.

The following businesses provide rendering services. Please note that the City of Garden Grove does not endorse the following contractors and their services:

Baker Commodities
4020 Bandini Blvd.
Los Angeles, CA 90023
(323) 269-6177

Darling International
P.O.Box 58725
Los Angeles, CA 90058
(213) 680-8963

OCP (Orange County Pumping)
P.O. Box 10415
Santa Ana, CA 92711-0415
714-505-9662

Martinez Pumping Grease Trap Service
P.O.Box 39144
Downey, CA 90239
(626) 625-6051

Martin Feed & Cattle, Inc.
7080 Summer Ave.
Corona, CA 92880
(909) 737-7617

Triple "A" Pumping & Jetting Services, Inc.
P.O. Box 54026
Irvine, CA 92619
(949) 855-7836

Southwest Processors
4120 Bandini Blvd.
Los Angeles, CA 90023
(323) 269-9876

Coast Packing Company
P.O.Box 58918
Vernon, CA 90058
(323) 277-7700

S.M.C. Grease Specialist
P.O. Box 1343
Corona, CA 92878
951-788-6042

To insure proper disposal of your grease, we encourage you to use the services of a grease renderer.

If you have any questions, please contact me at (714) 741-5564.

Sincerely,

Amabelle S. Padilla
Sr. Environmental Services Specialist

GARDEN GROVE SANITARY DISTRICT
11222 ACACIA PARKWAY, P.O. BOX 3070, GARDEN GROVE, CALIFORNIA 92842

WHAT'S IN YOUR SEWER? HELP CONTROL THE GREASE MONSTER

GARDEN GROVE SANITARY DISTRICT (GGSD)
CONTACT LIST – WHO TO CALL

GARDEN GROVE SANITARY DISTRICT (GGSD)/CITY OF GARDEN GROVE
(Sewer Spills/Overflows/Back-ups)

Phone: (714) 741-5395

After Hours: (714) 741-5704

GARDEN GROVE SANITARY DISTRICT (GGSD) FOG PROGRAM
(Administration/Inspections):

Phone: (714) 741-5375 7:30 p.m. to 5:30 p.m. Monday-Friday

OTHER IMPORTANT PHONE NUMBERS

Orange County Healthcare Agency (Environmental Health Section)

Phone: (714) 667-3600

After Hours: (714) 628-7008

County of Orange RDMD (storm drain)

Phone: (714) 567-6363

After Hours: (714) 628-7008 Control 1

Regional Water Quality Control Board – Santa Ana Region

Phone: (909) 782-4130

After Hours: (800) 852-7550 Office of Emergency Services

Appendix F-2

FOG Informational Handouts

Spill Response Agencies

City of Garden Grove Fire Department
(714) 741-5600
or if there is an emergency dial 911

City of Garden Grove Environmental Compliance Division (714) 741-5375

Orange County Resources and Development Management Department (714) 567-6363

Household Hazardous Waste Disposal

City of Garden Grove Department of Public Works
(714) 741-5375

Report Illegal Dumping

City of Garden Grove Environmental Compliance Division (714) 741-5375

To Report a Clogged Catch Basin

City of Garden Grove Department of Public Works
(714) 711-5375

For more information about storm drain protection or additional brochures, please call the City of Garden Grove Public Works Department at (714) 741-5375.

This brochure is one of a series of pamphlets describing storm drain protection measures.

Pamphlets include:

- Painting
- Food Service Industry
- Fresh Concrete and Mortar Application
- General Construction and Site Supervision
- Heavy Equipment and Earth Moving Activities
- Landscaping, Gardening and Pest Control
- Home Repair and Remodeling
- Automotive Maintenance and Car Care
- Roadwork and Paving.

GARDEN GROVE

Published by:
City of Garden Grove
Public Works Department
Environmental Compliance Division

Preventing Storm Water Pollution During

Maintenance Practices for Your Business

A guide for:

- Commercial Businesses
- Industrial Businesses
- Property Management Companies
- Commercial and Industrial Property Owners

Ocean Pollution Prevention: It's Up To Us

Garden Grove has two drainage systems; sewers and storm drains. The storm drain system was designed to prevent flooding by carrying excess rainwater away from city streets out to the ocean. Because the system contains no filters, it now serves the unintended function of carrying urban pollution straight to the ocean.

This pamphlet tells you how to prevent ocean pollution from "stormwater" or "urban runoff."
Rain, industrial and household water mixed with pollutants creates stormwater pollution. The pollutants include: oil and other automotive fluids, paint and construction debris, yard and pet wastes, pesticides and litter.

Urban runoff pollution flows to the ocean through the storm drain system, which takes water and debris straight from the streets to the ocean. Each day 100 million gallons of polluted urban runoff enter the ocean untreated, leaving toxic chemicals in our surf and tons of trash on our beaches.
Urban runoff pollution contaminates the ocean, closes beaches, harms aquatic life and increases the risk of inland flooding by clogging gutters and catch basins.

These Best Management Practices (BMPs) will ensure a cleaner city and ocean.

Business Maintenance Problems:

Common business maintenance practices include outdoor area washing, outdoor storage of materials and routine parking lot cleaning. All of these activities can contribute to urban runoff and ocean pollution if not conducted or managed properly.
Materials and wastes blown or washed into a street, gutter or storm drain have direct impacts on the ocean.

Pollution from parking lots and outdoor area washing include sediment, oil, litter, pesticides and heavy metals. Sediment can clog the gills of fish, block light transmission and increase ocean water temperatures, all of which harm sea life, disrupting the food chain upon which both fish and people depend.

Solutions:

Keep Work Areas Clean

- Handling, storing and disposing of materials properly can prevent pollutants from entering the storm drains.

Cleaning Outdoor Areas

- If you wash your building, sidewalk or parking lot, you must contain the water. Use a shop vac to collect the water and contact the Garden Grove Sanitary District at (714) 741-5090 for proper disposal information. Do not allow the wash water to enter the street, gutter or storm drain.
- Use a damp mop, broom or scrub brush to clean floors and sidewalks.

Landscape Maintenance

- Compost grass clippings, leaves and sticks. Do not sweep or hose vegetative clippings to the street, gutter or storm drain.
- Irrigate slowly and inspect the irrigation system for leaks, overspray and runoff. Report problems to the property management.
- Do not apply fertilizers or pesticides with in 100 feet of waterways or if rain is expected within 48 hours.

Handling Materials & Wastes

- Do not dump any toxic substance or liquid waste on the pavement, ground or near a storm drain. Even materials that seem harmless such as latex paint or biodegradable cleaners can damage the environment.
- Call your trash hauler to replace leaking dumpsters or dumpsters missing lids.
- Keep dumpster lids closed. This prevents litter and trash from blowing out of the dumpster and rainwater from entering the dumpster.
- Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.

Material Storage

- Store materials indoors or undercover and away from storm drains.
- Properly label materials and wastes. Educate employees with Material Safety Data Sheets.
- Place all 55 gallon drums on secondary containment pallets or in a bermed area.

Spills

- Do not hose down or use water on spills.
- Use dry cleaning methods to clean up dry spills, such as sweeping or mopping.
- Use cat litter, towels or rags to absorb wet spills. Dispose of all non-hazardous waste into the trash and hazardous waste appropriately.
- Prepare and use spill clean up kits in areas where hazardous or liquid wastes are stored. Include safety equipment and clean up materials appropriate to the type and quantity of material that could spill. Pour cat litter, sawdust or cornmeal on spills.

Employee & Customer Education

- Educate your employees. Include water quality training in new employee orientation and conduct annual review sessions.
- Educate your customers. Raise both employee and customer awareness by stenciling storm drains near the work place with the stencil: "No Dumping: This Drains to the Ocean."

Recycle

- Recycle all paper wastes, ink cartridges, glass and aluminum. Request recycle dumpsters from the property management.
- Recycle paints, solvents and other materials. For more information about recycling and collection centers, visit **www.oclandfills.com**

Ocean Pollution Prevention: It's Up To Us

Garden Grove has two drainage systems; one is the sewer system and the other is the storm drain system. The sewer system carries away wastes from indoor areas, such as sinks and toilets, to a treatment plant where it is cleaned prior to discharging to the ocean. The storm drain system is designed to prevent flooding by carrying excess rainwater away from city streets out to the ocean. Because the system contains no filters, it now serves the unintended function of carrying urban pollution straight to the ocean.

This pamphlet tells you how to prevent ocean pollution from "stormwater" or "urban runoff."

Rain, industrial and household water mixed with pollutants creates stormwater pollution. The pollutants include: oil and other automotive fluids, paint and construction debris, yard and pet wastes, pesticides and litter.

Urban runoff pollution flows to the ocean through the storm drain system, which takes water and debris straight from the streets to the ocean. Each day 100 million gallons of polluted urban runoff enter the ocean untreated, leaving toxic chemicals in our surf and tons of trash on our beaches.

Urban runoff pollution contaminates the ocean, closes beaches, harms aquatic life and increases the risk of inland flooding by clogging gutters and catch basins.

Use of the Best Management Practices (BMPs) explained in this brochure will aid in assuring a cleaner city, protection of human health and water quality and prevention of ocean pollution.

Food Service Establishment Maintenance Problems:

Common food service establishment maintenance practices include cleaning kitchen equipment, disposing of waste cooking oil, cleaning outdoor areas and dish washing. All of these activities can contribute to urban runoff and ocean pollution if not conducted or managed properly. Materials and wastes washed or discharged into the street, gutter or storm drains have direct impacts on the ocean.

Solutions:

Cleaning Kitchen Equipment

- Wipe off fats, oils and grease (FOG) and food residues from kitchen equipment, such as floor mats, hood filters and cooking equipment, prior to washing in the sink. Do not wash off any kitchen equipment or trash cans in an outdoor area where the wash water can flow to a street, parking lot or storm drain.
- All waste FOG and food scraps that have been wiped from cooking equipment should be thrown into the trash, not washed down the sink.

Washing Dishes

- Wipe off all utensils and dishes into a trashcan prior to washing.
- Place mesh screens in all sinks and floor drains to prevent food scraps from being washed down into the sewer system.
- All food grinders or garbage disposal devices are required to be removed.

Grease and Waste Oil Disposal

- Grease control devices, such as grease traps and grease interceptors, provide the function of removing latent FOG and suspended food particles from wash water. Grease control devices will facilitate the separation of FOG and food particles so only water can pass through to the sewer system.
- All grease traps and grease interceptors are required to be pumped out by a permitted company at least once every 6 months.
- All waste oil should be drained into a waste oil drum, not down the sink or thrown into a trashcan or dumpster. Waste oil containers should be kept clean and covered with a lid at all times. If possible, store the waste oil drum inside of a building or in an enclosure.
- Prevent spills of waste oil by not overfilling waste oil containers.
- When employees are disposing of waste oil into designated containers, prevent spills be carrying out smaller loads of waste oil for disposal.
- All receipts for waste oil pick up and grease control device cleaning should be kept for review by inspectors.
- For a list of waste oil recycling companies please visit www.ciwmb.ca.gov/foodwaste/renderer.htm or call Garden Grove Environmental Compliance Division at (714) 741-5375.

Spill Clean-Up

- Use dry clean up methods, like sweeping, wiping or mopping, to clean up spills.
- Never wash or hose down spills to the street, gutter, parking lot or other outdoor area.
- Always have a spill kit readily available for immediate response to clean up spills. Spill kits should include an absorbent material, gloves and rags. All employees should be trained on the proper use of spill kit contents and spill clean up procedures.
- If the spill travels off of your facility property, please call (714) 741-5375.

Outdoor Area Cleaning

- If any outdoor area, including sidewalks, outdoor seating, dumpster areas or outdoor storage areas need to be cleaned use dry cleaning methods, like sweeping.
- If any outdoor area needs to be cleaned with a liquid, it should first be swept to remove all dirt, trash and debris from the area. Then use a mop or scrub brush to clean areas where needed. Never hose off outdoor areas or allow wash water to travel off of your property.

Dumpster Area Maintenance

- Sweep up and remove all trash and debris from the dumpster area floor and surrounding the dumpster area.
- When employees are not in the process of disposing of trash or waste oil, keep dumpster lids and waste oil container lids closed.
- Do not pour liquids into dumpsters and double bag all leaking trash bags that are going to be disposed of in the dumpster.

Washwater Disposal

- Dispose of all washwater, like mop water, into a mop sink or sewer drain.
- Never throw washwater out in a parking lot, street, alley or storm drain.

Sewer Spills

- A sewer spill that is from a restaurant usually is caused by FOG. When FOG is washed down sinks it sticks to the sides of sewer pipes and builds up, reducing the capacity of the sewer line and eventually a sewer spill occurs.
- If your food service establishment has a sewer spill or you notice water flowing out from a grease control device, a manhole or sewer cleanout in the parking lot or street you are required to contact the City immediately at (714) 741-5375 or after hours at (714) 741-5704.
- Sewer spills present a hazard to human health, water quality and the environment.

Spill Response Agencies

City of Garden Grove Fire Department
(714) 741-5600
or if there is an emergency dial 911

City of Garden Grove Environmental Compliance Division (714) 741-5375

Orange County Resources and Development Management Department (877) 89-SPILL

Household Hazardous Waste Disposal

City of Garden Grove Public Works Department
(714) 741-5375

Report Illegal Dumping

City of Garden Grove
Environmental Compliance Division
(714) 741-5375

To Report a Clogged Catch Basin

City of Garden Grove Public Works Department
(714) 741-5375

For more information about storm drain protection or additional brochures, please call the City of Garden Grove Public Works Department at (714) 741-5375 or visit **www.garden-grove.org/storm.**

This brochure is one of a series of pamphlets describing storm drain protection measures.

Pamphlets include:

- Automotive Maintenance
- Food Service Establishments
- Fresh Concrete and Mortar Application
- General Construction and Site Supervision
- Heavy Equipment and Earth Moving Activities
- Home Repair and Remodeling
- Landscaping, Gardening and Pest Control
- Maintenance Practices for Your Business
- Painting
- Pet Waste
- Pool Maintenance
- Roadwork and Paving

GARDEN GROVE

Published by:
City of Garden Grove
Public Works Department
Environmental Compliance Division

Preventing Storm Water Pollution At

Food Service Establishments

A guide for:

- Restaurants
- Grocery Stores
- Cafeterias

- Hood filters, fry baskets, grill tops, grill top scrap baskets and cooking surfaces should be sprayed with degreaser and be wiped down prior to washing.
- Train staff on proper kitchen maintenance procedures (i.e. dishwashing, grease spill control, equipment cleaning etc.) to ensure excess grease is not entering the sewer. Employees should be trained at least 1 time per year, and documentation of the training should be made available for inspectors to review.
- Grease control devices, such as a grease interceptor or grease trap, should be serviced at a minimum of every six months. Keep receipts and documentation of grease control device servicing and pumping available for inspectors to review.
- If your facility does not have a grease control device, it is recommended that you regularly service your private sewer line by hydrojetting or using a snake/cable.
- If your food service establishment has a sewer spill or you notice water flowing out from a grease control device or a manhole or sewer cleanout in the parking lot or street, you are required to Contact the City immediately at (714) 741-5375 or after hours at (714) 741-5704.

The State now requires that the City of Garden Grove enforce limitations on the amount of FOG and other debris that enters the sewer system. If your food service establishment is not implementing proper maintenance procedures to prevent FOG from entering the sewer system and a sewer spill occurs, you may be subject to fines and the City may seek to recover expenses incurred from the cleanup of your facilities sewer spill.

Preventing FOG from entering the sewer system from your food service establishment by implementing these kitchen best management practices will reduce the likeliness of sewer spills occurring and potential fines being levied.

For questions regarding sewer spills or to request training material, contact the Environmental Compliance Division at (714) 741-5375 or Garden Grove Sanitary District at (714) 741-5395.

GARDEN GROVE SANITARY DISTRICT

13802 Newhope Street
Garden Grove, CA 92843

Phone: 714-741-5395
Fax: 714-638-9906
Email: PublicWorks@ci.garden-grove.ca.us
Website: www.garden-grove.org/storm

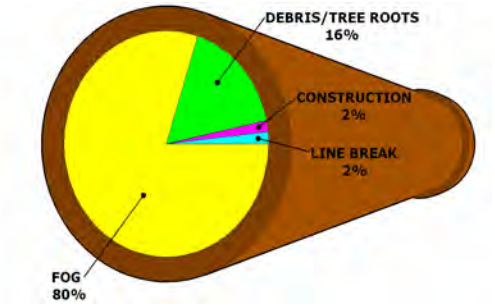
GARDEN GROVE SANITARY DISTRICT

SEWER SPILL PREVENTION

for Households and Food Services Establishments

What Causes Sewer Blockages?

Sanitary sewer systems are designed to handle used water, human body waste and toilet paper. When fats, oils and grease enter the system, sewer blockages may occur. Based on sewer spill reports, most sewer blockages are caused by **fats, oils and grease (FOG).**



FOG can harden along the walls of the sewer lines and block the flow, causing backups, overflows and sewer spills. These backups are dangerous because sewage can enter the storm drains, which flow untreated to the ocean and ultimately these backups can cause beach closures, affect public health and the health of the environment.

Helpful Tips For Households

- Pour cooking oil into waste-grease cans for disposal. You can refrigerate used grease in a container until its ready for disposal.

BEFORE WASHING DISHES:

- Scrape off all dishes, grills, cooking surfaces and dry wipe remaining food and FOG into trashcans.
- Dispose of spent oil and grease generated from cooking equipment into waste-grease cans.

- Do not use hot water and soap to wash grease down the drain.
- Place a drain screen in sink/shower to catch solids/hair.

DO NOT USE TOILET AS A TRASH CAN:

- Use TRASH CAN for meat scraps, fat, leftovers, coffee grounds, egg shells, cat litter, baby diapers, baby wipes, feminine napkins, hair, cotton balls, Q-Tips and Kleenex.

INSPECT YOUR YARD FOR SIGNS OF POSSIBLE TREE ROOT INSTRUSION:

- Periodically have your service laterals cleaned out. Invasive tree roots and grease are the biggest causes of sewer blockages.

REMINDER

Property owners are responsible for the maintenance, repair, and cleaning of the sewer lateral from the house to the public sewer system.

WHAT IS THE CITY DOING?

The mission of the Garden Grove Sanitary District is to continue to adequately address the sewer system's capacity and structural deficiencies and comply with the State Waste Discharge Requirements. A Capital Improvement Plan was developed in accordance with findings contained in the District's System Evaluation and Capacity Assurance Plan and it's Sewer System Rehabilitation Plan. As part of the Capital Improvement Plan, an ongoing schedule of sewer improvements at various site locations are in progress to address the deficiencies that will in turn; decrease the potential of having Sanitary Sewer Overflows and enable development throughout the City.

Helpful Tips For Food Service Establishments

- Place screens in all drains, including mop sinks, floor drains, multi-compartment prep sinks and hand sinks.
- Employees should practice scraping off all dishes and dry wiping remaining food and FOG into trashcans prior to dishwashing.
- Food grinders (garbage disposals) should not be used in kitchens because the resulting large volume of food solids may clog sewer lines and/or fill grease traps and interceptors.
- Dispose of spent oil and grease generated from fryers and other cooking equipment into waste oil containers. Keep receipts and documentation of waste oil disposal available for inspectors to review.

Appendix F-3

Certified Liquid Wastehauler Vehicles

Registered Liquid Wastehauler Vehicles

County of Orange, Health Care Agency, Environmental Health
1241 E. Dyer Road, Ste. 120 Santa Ana, CA 92705
(714) 433-6287
This listing can also be found on the web at:
http://ochealthinfo.com/civicax/filebank/blobdload.aspx?BlobID=14743

NOTE: This listing is for informational purposes only and does not constitute an endorsement or guarantee of any company or service that may be provided. Companies listed may have had one or more Liquid Waste Hauling Vehicles inspected and legally registered by this Agency. Registrations are valid through December 31, 2015.

Company Name	Business Phone:	Each Company Indicated The Following Services Were Available:								
		Grease Interceptor	Grease Trap	Chemical Toilet	Septic Tank	Holding Tank/ Cesspool	Pipeline Blockage	Clarifier	Boat/ Ship	Rec. Vehicle
Los Indios Party Rental and Porta	714-478-4544	☐	☐	☑	☐	☐	☐	☐	☐	☐
Martinez Pumping	(626) 625-6051	☐	☑	☐	☐	☐	☐	☐	☐	☐
OCBioFuel	(949) 289-5504	☑	☑	☐	☐	☐	☐	☑	☐	☐
Ameriguard Maintenance Service	(800) 347-7876	☑	☑	☐	☐	☐	☐	☐	☐	☐
O.C. Vacuum, Inc.	(562) 984-8178	☐	☐	☐	☑	☐	☑	☑	☐	☐
Diamond Environmental	(760) 744-7191	☐	☐	☑	☑	☐	☐	☐	☐	☑
C&A Cesspool & Septic Tank	(714) 554-6582	☑	☑	☑	☐	☐	☐	☐	☐	☑
Golden State Pumping	(800) 491-1461	☐	☐	☑	☑	☐	☐	☐	☐	☑
Jimni Systems, Inc.	(949) 770-7654	☑	☑	☐	☑	☐	☐	☑	☐	☐
Mobile Harbor Services - Newport	(949) 515-8658	☐	☐	☐	☐	☐	☐	☐	☑	☐
Rightway Portable Toilets	(951) 674-8608	☐	☐	☑	☐	☐	☐	☐	☐	☐
LA Grease Solutions	(323) 232-2629	☑	☑	☐	☐	☐	☐	☐	☐	☐
AAA Septic	(714) 836-6621	☐	☑	☐	☑	☑	☑	☐	☑	☑
Robert's Waste & Recycling	(714) 557-2533	☐	☐	☑	☐	☐	☐	☐	☑	☑
A & J Portables, Inc	(562) 299-8582	☐	☐	☑	☐	☐	☐	☐	☐	☐
Triple "A" Pumping, Inc.	(714) 628-0900	☑	☑	☐	☑	☑	☑	☑	☐	☐
Clean Harbors Environmental Ser	(310) 764-5851	☑	☑	☐	☑	☑	☐	☑	☐	☐
Buster Biofuels	(760) 294-9400	☑	☑	☐	☐	☐	☐	☐	☐	☐
A-1 Septic	(714) 779-0775	☑	☑	☐	☑	☑	☑	☐	☐	☑
National Construction Rentals	(714) 285-0243	☐	☐	☑	☐	☐	☐	☐	☐	☐
So Cal Sanitation, LLC	(800) 850-8871	☐	☐	☑	☑	☐	☐	☐	☐	☐
Liquid Environmental Solutions	(858) 481-8106	☑	☑	☐	☐	☐	☐	☐	☐	☐
A-Throne	(562) 981-1197	☐	☐	☑	☑	☐	☐	☐	☐	☐
1st Jon, Inc.	(714) 529-8646	☐	☐	☑	☑	☐	☐	☐	☐	☑
R.E. Commodities	(951) 830-7315	☑	☑	☐	☐	☐	☐	☐	☐	☐
JN Grease Service	(951) 343-1221	☑	☑	☐	☐	☐	☐	☑	☐	☐
Right Angle Solutions Inc	(951) 934-3081	☑	☑	☑	☑	☑	☑	☑	☑	☑
Andy Gump, Inc.	(661) 251-7721	☐	☐	☑	☐	☐	☐	☐	☐	☐

Company Name	Business Phone:	Each Company Indicated The Following Services Were Available:								
		Grease Interceptor	Grease Trap	Chemical Toilet	Septic Tank	Holding Tank/ Cesspool	Pipeline Blockage	Clarifier	Boat/ Ship	Rec. Vehicle
Universal Waste Systems, Inc.	(562) 941-4900	☑	☑	☑	☑	☑	☐	☑	☐	☑
American Environmental, Inc.	(800) 669-2783	☑	☑	☐	☑	☑	☑	☑	☐	☐
G.G. Garcia Plumbing, Pumping	(714) 744-8912	☑	☑	☑	☑	☐	☑	☐	☐	☐
Ocean Blue Environmental Svs	(562) 624-4120	☑	☑	☑	☑	☑	☑	☑	☑	☑
Pumpty Dumpty	(714) 585-1969	☐	☐	☐	☐	☐	☐	☐	☑	☐
West Coast Environmental Servic	909-465-5800/9	☑	☑	☐	☑	☐	☐	☑	☐	☐
Orange County Pumping	(714) 505-9662	☑	☑	☐	☑	☑	☑	☑	☐	☑
Darling International	(714) 556-7867	☑	☑	☐	☑	☐	☐	☑	☐	☐
A-1 Coast Temporary Services	(310) 325-3300	☐	☐	☑	☐	☐	☐	☐	☐	☐
Farris Septic	(800) 978-7900	☐	☐	☐	☑	☑	☐	☐	☐	☐
SoCal Pumping Co.	(866) 479-4976	☑	☑	☐	☐	☐	☐	☐	☐	☐
Royal Flush Pumping	(888) 656-2551	☐	☐	☐	☐	☐	☐	☐	☑	☐
Western Sump Services	(888) 900-0960	☑	☑	☐	☑	☐	☐	☐	☐	☐
Double Barrel Environmental Svs	(909) 499-6959	☐	☐	☐	☐	☐	☑	☑	☐	☐
Ancon Marine	(562) 326-5905	☑	☑	☑	☑	☑	☑	☑	☑	☐
SMC Grease Specialist	(951) 788-6042	☑	☑	☐	☐	☐	☐	☐	☐	☐
Susy Party Rentals	(714) 329-1031	☐	☐	☑	☐	☐	☐	☐	☐	☐
Canyon Septic Services	(714) 649-3226	☑	☑	☑	☑	☑	☐	☑	☐	☐
Three Stars	(714) 293-9232	☐	☐	☑	☐	☐	☐	☐	☐	☐
Shoemaker's Enviro-Tech	(661) 296-2394	☑	☑	☐	☐	☐	☐	☑	☐	☐

Appendix G-1

Recommended Capacity Improvement Projects

Future Housing Developments

Area	Location	Land Use	No. Units	Unit Type	Area (ac)	Density (du/ac)	Unit Flow Factor (gpd/unit)	Total Ave Load (gpd)
1	**Construction Completed**							
2	***Eliminated***							
3	SE corner of Chapman Ave and Brookhurst St	High Density Residential	250	DU	8.3	30.1	225	56,250
4	NW corner of Brookhurst and Garden Grove Blvd (Brookhurst Triangle)	High Density Residential	550-750	DU	33.45	22.5	225	168,750
		General Commercial/Retail	200	TSF			125	25,000
							Subtotal for Area 4	**193,750**
5	***Eliminated***							
6	***Eliminated***							
7	**Construction Completed**							
8	***Eliminated***							
9	South of Garden Grove Blvd at West St (Orion 8)	Low Density Residential	10-30	DU	0.4	25-75	300	9,000
10	NE corner of Garden Grove Blvd and West St	High Density Residential	200	DU	2.3	86.2	225	45,000
11	***Eliminated***							
12	**Construction Completed**							
13	**Construction Completed**							
14	Northwest corner of Harbor Blvd and Twintree Ln	Hotel	500	Rooms	3.9		150	75,000
		Restaurant	10	TSF			1000	10,000
		Indoor/Outdoor Water Park[1]	100	TSF				10,600
							Subtotal for Area 14	**95,600**
15	North of Chapman Ave and west of Harbor Blvd (Lamppton Pit)	Hotel	235	Rooms	9.4		150	35,700
		Restaurant	5	TSF			1,000	5,000
							Subtotal for Area 15	**40,700**
16	Northeast corner of Harbor Blvd and Twintree Ln	Hotel	700	Rooms	5.2		150	105,000
		Restaurant	15	TSF			1,000	15,000
							Subtotal for Area 16	**120,000**
17	**Construction Completed**							
18	***Eliminated***							
19	***Eliminated***							
20	***Eliminated***							
21	**Construction Completed**							
22	**Construction Completed**							
23	**Construction Completed**							
24	**Construction Completed**							
25	SE corner of Addelle St and Stanford Ave	Low Density Residential	12	DU	0.8	15.5	300	3,600
26	**Construction Completed**							
27	**Construction Completed**							
28	**Construction Completed**							
29	South side of Garden Grove Blvd, west of Brookhurst St (Galleria Project)	High Density Residential	400	DU	2.2	184.0	225	90,000
		General Commercial/Retail	17	TSF			125	2,125
							Subtotal for Area 29	**92,125**
30	8218-8242 Garden Grove Blvd	High Density Residential	46	DU	1.51	30.5	225	10,350
31	**Construction Completed**							
32	**Construction Completed**							
33	SW Corner of Chapman Ave and Brookhurst St	Restaurant	11	TSF	25.9		1000	11,000
34	North side of Garden Grove Blvd, east of Galway St	General Commercial/Retail	30	TSF	1.0		125	3,750
35	South side of Garden Grove Blvd at Village Rd	General Commercial/Retail	60	TSF	3.1		125	7,500
36	West side of Nelson St, north of Stanford Ave	Low Density Residential	12	DU	1.3	9.4	300	3,600
37	SW corner of Garden Grove Blvd and Euclid St	General Commercial/Retail	15	TSF	0.5		125	1,875
38	North side of Hazard Ave, west of Euclid St	High Density Residential	90	DU	6.0	15.0	225	20,250
39	Between Harbor Blvd and Buaro St	General Commercial/Retail	12	TSF	0.6		125	1,500
40	Southwest corner of Harbor Blvd and Twintree Ln	Hotel	400	Rooms	3.74		150	60,000
41	South side of Garden Grove Blvd, east of Euclid St, at 12141 Garden Grove Boulevard	High Density Residential	16	DU	0.65	24.6	225	5,538
42	West side of Buaro St, south of Chapman Ave, at 12111 Buaro Street	Medium Density Residential	17	DU	1	17.0	275	4,675
43	Northwest corner of Lewis St and Garden Grove Blvd, at 12901 Lewis Street	Low Density Residential	70	DU	9	7.8	300	2,333
44	9841 11th Street, Garden Grove,	Medium Density Residential	31	DU	1.76	17.6	275	4,844
45	9841 11th Street, Garden Grove	Medium Density Residential	101	DU	0.44	22.77	275	6,250

[1] It is estimated that a maximum of 10,000 gpd of the carry off will enter the sewer system. Each filtration system will use 600 gpd per back-wash and the back-wash of the systems will be time staggered to flush only one of the systems per day. The indoor/outdoor water park load is not peak-ed in the model.

N

0 1,000 2,000 4,000 Feet

Legend

- GGSD Boundary
- GGSD Sewer
- OCSD Trunk Sewer
- Owned by Others
- Calculated Hydraulic Deficiency
- Projects in Designed
- Improvement Project Completed
- (#) Project Number
- ##" Proposed Pipe Size
- Proposed Diversion Location
- Connection to OCSD Trunk Sewer or Outlet from GGSD
- Existing Wastewater Pump Station
- Existing Forcemain
- Anticipated Densification Area

Garden Grove Sanitary District
Sewer System Management Plan

Appendix G-1
Recommended Capacity Improvement Projects
Date: April 2020

Appendix G-2

Ordinance No. 10

ORDINANCE NO. 10

AN ORDINANCE OF THE GARDEN GROVE SANITARY DISTRICT AFFIRMING ESTABLISHED SEWER USER FEES FOR SEWER SERVICES WITHIN GARDEN GROVE SANITARY DISTRICT SERVICE AREA, CLARIFYING EXISTING PROVISIONS, AND AUTHORIZING FUTURE AUTOMATIC ADJUSTMENTS IN SEWER USER FEES TO ACCOUNT FOR INFLATION

District Counsel Summary

This Ordinance affirms existing established sewer user fees and related Garden Grove Sanitary District regulations, implements annual inflationary adjustments to sewer user fees for a period of five (5) years, confirms existing regulatory language that property owners are subject to a separate sewer user fee for each portion of a parcel served by a separate metered water service, confirms that sewer user fees may be billed to and/or paid by tenants along with bills for water service, but property owners remain ultimately responsible for the payment of all sewer user fees applicable to their property, and clarifies that tenants paying sewer user fees are also eligible for rebates or refunds, where applicable.

THE BOARD OF DIRECTORS OF THE GARDEN GROVE SANITARY DISTRICT hereby finds as follows:

A. On September 13, 2005, the Garden Grove Sanitary District Board of Directors (Board of Directors) adopted Ordinance No. 7 establishing revised Sewer User Fees for sewer services within the Garden Grove Sanitary District (District) service area.

B. Ordinance No. 7 implemented a new Sewer User Fee structure, based on the use of the sewer system, in order to generate sufficient revenue to operate, maintain, replace, and upgrade the system to adequate capacity and make repairs mandated pursuant to Order No. R8-2002-0014, General Waste Discharge Requirements for Sewage Collection Agencies in Orange County, issued by the Regional Water Quality Control Board, Santa Ana Region (the 2002 Order).

C. The 2002 Order required all sewer collection agencies to prepare a Sewer System Management Plan (SSMP) to address the capacity deficiencies; structural deficiencies; fats, oils and grease control; and proper funding, operation, and maintenance of their sewer systems. Pursuant to the 2002 Order, the District prepared and adopted a SSMP, which included a System Evaluation and Capacity Assurance Plan and Rehabilitation and Replacement Plan.

D. In conjunction with the SSMP, in 2005, the District prepared an updated Financial Analysis and Rate Study resulting in the development of a Capital Improvement Program and an enhanced maintenance program in compliance with the 2002 Order, along with a financial model to evaluate the rate structure necessary to generate sufficient revenues to allow the District to meet its obligations. The 2005 Financial Analysis and Rate Study was submitted to the

Board of Directors and made available to the general public at a Public Hearing prior to the adoption of Ordinance No. 7.

E. Ordinance No. 7 and the revised charges for sewer service established through Ordinance No. 7 were based on the findings and recommendations set forth in the 2005 Financial Analysis and Rate Study, as such recommendations were revised based on comments received at the Public Hearing.

F. In 2006, the 2002 Order was superseded by Order No. 2006-003-DWR, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, issued by the State Water Resources Control Board (the 2006 Order). The 2006 Order continues to require implementation of an SSMP and mandates that local sewer collection agencies establish proper rate structures to adequately fund the operation, maintenance, repair and replacement of their sanitary sewer systems.

G. The District has subsequently continued to inspect and evaluate its sanitary sewer system facilities and to update its SSMP to reflect necessary identified structural and capacity deficiencies. Amendments to the District's SSMP reflecting these updates were adopted by the Board of Directors in 2009 and 2011.

H. In conjunction with these SSMP updates, District staff and consultants have updated the financial model developed pursuant to 2005 Financial Analysis and Rate Study, conducted an evaluation of the adequacy of the existing rates to satisfy the District's obligations, and prepared an updated Financial Analysis (which is made a part of the public record of the Public Hearing) that updates and supplements the 2005 Financial Analysis and Rate Study, and that recommends continued implementation of the rate structure established pursuant to Ordinance No. 7, including continued implementation of annual inflationary increases based on the Engineering News Record's Cost Index for the Los Angeles Area.

I. Government Code Section 53756 authorizes any agency providing sewer service to adopt a schedule of fees or charges authorizing adjustments for inflation for a period not to exceed five (5) years.

J. The purpose of this Ordinance is to authorize annual inflationary adjustments to the Sewer User Fees in accordance with Government Code Section 53756, affirm the existing Sewer User Fees as originally authorized by Ordinance No. 7, and to make such other changes to the District's regulations pertaining to Sewer User Fees as are necessary to conform to existing law and/or to clarify certain provisions. The amounts set forth in Table A of Subsection 3.B. of this Ordinance reflect the current legal rates and charges, as lawfully established and adjusted in accordance with Ordinance No. 7 and State law, and do not reflect new or additional increases in the rates and charges imposed by the District for sewer services.

K. In support of this Ordinance and the charges for sewer service as provided for on Table A herein, the 2005 Financial Analysis and Rate Study and the updated Financial Analysis, as approved hereby by the Board of Directors, has resulted in the development of a Capital Improvement Program and an enhanced maintenance program consistent with the goals and policies of the Board of Directors and the public, which also provide for the construction of necessary improvements to eliminate existing capacity deficiencies in the system, accommodate projected increased flows and the rehabilitation and refurbishment of existing facilities. The Board of Directors further finds that programming annual inflation adjustments in sewer service charges over a period of years is appropriate and ensures adequate revenues to finance the improvements and programs necessary to eliminate existing capacity deficiencies in the system, accommodate projected increased flows, rehabilitate, replace, and refurbish existing facilities, and retire any necessary or prudent debt incurred to finance such improvements in a reasonable manner and over a reasonable period of time. The Board of Directors also finds that such Sewer User Fees are reasonably related to, and do not exceed the cost of providing sewer services.

L. The financial requirements of the District, as shown in reports prepared by staff and consultants relating to the sewerage system, are based on current, reliable information and data relating to population estimates, wastewater flow, capital facilities' needs, and increased proper maintenance, and are expected to be realized in each year as described in the reports.

M. The revenues derived under the provisions of this Ordinance will be used for the acquisition, construction, reconstruction, maintenance, and operation of the sewage collection facilities of the District; to repay principal and interest on debt instruments; to repay Federal and State loans issued for the construction and reconstruction of said sewerage facilities, if any, together with costs of administration and provisions for necessary reserves.

N. The owners or occupants of properties upon which all fees and charges established and/or affirmed by this Ordinance are levied discharge wastewater to the District's collection facilities. The costs of operating and maintaining said facilities have constantly increased due in part to increased regulatory requirements to upgrade the collection system including, but not limited to, the Order No. 2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, issued by the State Water Resources Control Board on May 2, 2006.

O. The need for upgraded and improved maintenance of the sewage collection facilities is required to protect the public health and safety, and to preserve the environment without damage.

P. The Sewer User Fees levied by this Ordinance are to allow the District to recover the reasonable costs to provide a service to individual properties which have been improved for any of numerous types of uses. The basis for the

respective charge is the request of the owner of property or a structure thereon, for the benefit of him/her/itself, or the occupants of the property, to receive a service based upon actual use, consumption, and disposal of wastewater to the District's system in lieu of disposal by other means.

Q. The Board of Directors has determined the following with regard to the Sewer User Fees established and/or affirmed by this Ordinance: (i) such fees and charges are not imposed as a condition of approval of a development project, as defined in California Government Code Section 66001; (ii) such fees and charges are established upon a rational basis between the fees charged each customer and the service and facilities provided to each customer of the District; (iii) the revenues derived from such fees and charges do not exceed the estimated reasonable cost to provide the sewer service for which the fees and charges are levied; (iv) the revenues derived from such fees and charges shall not be used for any other purpose than that for which the fees and charges are imposed; (v) such fees and charges do not exceed the proportional cost of the sewer service attributable to each consumer; (vi) such fees and charges are imposed on sewer services which are actually used by or immediately available to the consumer; (vii) such fees and charges are not levied for general governmental services; and (viii) the rates and charges are not discriminatory or excessive, are sufficient under Government Code section 54515, comply the provisions or covenants of any outstanding revenue bonds of the District payable from the revenues of the District, comply with the provisions of Title 5, Division 2, Chapter 6 of the California Government Code, and are in compliance with all other applicable law.

R. The Sewer User Fees adopted and/or affirmed herein will not necessarily result in an expansion of facilities to provide for growth outside the existing service area. The adoption and/or affirmation of these Sewer User Fees will not result in any specific project, nor result in a direct physical change in the environment.

S. The District is required by Federal and State law, including the Federal Water Pollution Control Act, also known as the Federal Clean Water Act (33 U.S.C. 1251, et seq.), and the Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 et seq.) to implement and enforce a program for the regulation of wastewater discharges to the District's sewers.

T. In accordance with Proposition 218, notice of a Public Hearing to consider the proposed adjustments in sewer rates and charges and containing such information required to be included pursuant to California law was mailed to all record owners of affected property to the addresses as they appear on the latest equalized assessment roll and to all District customers located on the affected parcels at the addresses to which the District customarily mails the billing statements.

U. On February 14, 2012, in accordance with applicable legal requirements, the Board of Directors conducted a duly noticed Public Hearing to consider the proposed adjustments in sewer rates and charges set forth herein, at which time all those who wished to speak for or against the proposed adjustments in sewer rates and charges were heard and the Board of Directors heard all objections and protests to the proposed adjustments in sewer rates and charges. The District received 88 written protests against the proposed adjustments in sewer rates and charges, which does not constitute a majority protest, as defined in Proposition 218.

V. Pursuant to California Government Code Section 66016 notice of the time and place of this Public Hearing, including a general explanation of the matter to be considered and a statement that the data required by Government Code Section 66016 has been available for public review at the District, was mailed to interested parties requesting notice at least fourteen (14) days prior to the Public Hearing.

W. Pursuant to California Government Code Section 66016 the District made available to the public the updated Financial Analysis, and other data documenting the estimated costs required to provide services for which the proposed modified rates and charges will be levied and the revenue sources anticipated to provide the services.

X. All fees and charges established and/or affirmed herein have been approved by the Board of Directors at a noticed public meeting, all in accordance with applicable provisions of law.

Y. The adoption of this Ordinance and the establishment of such rates and charges is statutorily exempt under the California Environmental Quality Act ("CEQA") pursuant to the provisions of Public Resource Code Section 21080(b)(8) and Section 15378 and Section 15273 of the CEQA Guidelines because, (i) the increased rates and charges are for the purpose of meeting operational and maintenance expenses of the District, and (ii) the rates and charges constitute the creation of funding mechanism/other governmental fiscal activity that does not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment.

The Board of Directors of the Garden Grove Sanitary District hereby ordains as follows:

Section 1: Purpose and Scope. The purpose of this Ordinance is to establish Sewer User Fees required to be paid by property owners for the services and facilities furnished by the District in connection with its sewage collection system. Revenues derived under the provisions of this Ordinance shall be used for the acquisition, construction, reconstruction, maintenance, and operation of the wastewater collection facilities of the District; to repay principal and interest on

debt instruments; or to repay federal and state loans, if any, issued for the construction and reconstruction of said sewerage facilities, together with costs of administration and provisions for necessary reserves.

Section 2: Sewer User Fees. Commencing with the effective date of this Ordinance, the owner(s) of each parcel of real property located within the District that is improved with structures designed for residential, commercial, industrial, school, or other use and which, at the request of the owner or the owner's predecessor-in-interest, is connected to the District's system, shall pay a monthly Sewer User Fee or monthly Sewer User Fees based on the respective class of users, in the sum or sums, as set forth in Section 3 of this Ordinance, below. Property owners are subject to a separate Sewer User Fee for each portion of a parcel served by a separate metered water service. The District's billing to, and/or periodic acceptance of payment from, a tenant shall not relieve the owner(s) of a parcel of property from the obligation to pay any unpaid Sewer User Fees due pursuant to this Ordinance.

Section 3: Establishment of Sewer User Fees. Based on the engineering and financial studies, and pursuant to provisions of California Health & Safety Code Section 5471, the following sewer service charges are hereby established.

A. Sewer Service Rate Formula. The owner of each parcel of land connected to the District's sewer collection system shall be assigned to one or more customer classes, based on property use, and shall pay a monthly sewer service charge for each portion of the parcel served by a separate metered water service, computed according to the following formula:

Base Rate (according to customer class), plus Usage Charge of $0.86 per hundred cubic feet ("HCF") of water used per month during the bi-monthly period of lowest consumption (determined annually, based on analysis of 12 months of water billing data), not to exceed the Maximum Billing Cap designated for each customer class.

B. Customer Classes and Rates. The following sewer customer classes and rates are hereby established:

TABLE A

User Class	Base Rate	Maximum Billing Cap
Residential – SFR and Duplex	$ 3.98/metered d.u.	$ 12.61
Car Wash	$ 58.78	$185.86
Church	$ 14.28	$ 45.16
Commercial 1*	$ 3.98	$ 12.61

Commercial 2*	$ 7.98	$ 25.23
Commercial 3*	$ 15.95	$ 59.09
Commercial 4*	$ 31.90	$118.17
Commercial 5*	$ 59.83	$232.37
Commercial 6*	$ 79.78	$252.32
Hotels/Motels	$ 79.78	$252.32
Private School	$ 41.29	$130.58
Hospital	$223.37	$706.48
Industrial	$ 44.11	$139.52
Laundromat	$ 54.83	$173.36
Multi-Unit Residential**	$ 33.76/water meter	$106.83
Public School	$ 53.35	$168.69

"Commercial 1 through Commercial 6" set forth above are defined to mean commercial, retail and related uses collectively, unless otherwise set forth specifically in the matrix, and includes any other land use not described in the above stated matrix. Further, the General Manager of the District, or his designee, shall make administrative determinations as necessary to determine in individual cases the most applicable land use category for a particular property. In so doing, the General Manager, or his designee, shall utilize the land use matrix for land uses as set forth in Garden Grove Municipal Code Section 9.16.020.030.

**Where individual units are not connected directly to the sewer system, a charge of $1 per month, per unit will be assessed in addition to the base rate and usage charge rate for this user class.

*Commercial Class Rates are based upon those persons or entities who consume metered water quantities in accordance with the following schedule:

Class #	Per 100 cu. Ft. of Water/Month
1	0 - 10
2	10.1 - 20
3	20.1 - 50
4	50.1 - 100
5	100.1 - 200
6	200 or greater

C. Adjustments for Inflation. The usage charge, base rates and maximum billing caps established in Sections 3.A. and 3.B. above will be adjusted for inflation annually on July 1, commencing July 1, 2012, and continuing through July 1, 2016, based on the same percentage as the percentage of increase in construction costs between March 1 of the calendar year immediately preceding March 1 of the then current calendar year, based on the Engineering News Record

Construction Costs Index – Los Angeles Area, without further action by the Board of Directors. However, if the inflation adjustment in any year exceeds six (6) percent under the inflation index set forth above, the amount of the inflation adjustment shall be presented to the Board of Directors for final legislative determination. The General Manager of the District, or his designee, shall cause notice of any automatic adjustment made pursuant to this Subsection (C) to be given pursuant to Subdivision (a) of Government Code Section 53755, as it may be amended from time to time, and/or other applicable law, not less than thirty (30) days before the effective date of the adjustment.

Section 4: Rebates or Refunds.

A. Exemptions. It is the intent of the District that the legal owner(s) and/or tenants of parcels of real property otherwise subject to the levy and payment of the Sewer User Fees as prescribed herein, be relieved, in whole or in part, from the payment of said fees, in certain circumstances and under conditions prescribed herein, and be entitled to either a rebate or a refund with respect to fees paid, as more specifically set forth in subparagraphs 4.B. and 4.C. below, provided an inequity is established or a billing error is proven, as specified in subparagraphs 4.B. or 4.C.

B. Application for Rebate. Any property owner or tenant made responsible by the property owner for payment of the Sewer User Fees may apply to the District for a rebate of Sewer User Fees paid to the District by establishing that an incorrect classification of the property, or portion thereof, has been made by the District. An applicant for a rebate must establish, by proof satisfactory to the General Manager of the District, or his designee, that an inequity exists between the amount of the charge paid and the amount of wastewater discharged to the District's system, resulting in an incorrect classification. Satisfactory proof shall establish that either:

(1) The principal water use is agricultural or horticultural and wastewater is not discharged from the property to the District's system; or

(2) The property, or applicable portion thereof, is devoted to any other use wherein the amount of wastewater discharged to the District's system is significantly less on a regular basis than the amount that would normally be expected to be discharged by the class of property in question.

Satisfactory proof shall include, but not be limited to, documentation showing actual water usage for each billing cycle during the entire period for which the rebate is sought.

The amount of any rebate shall not reduce the charge payable by any property owner, whose property is connected to the District's system, to less than

the charge would be if the property was assigned to the single family residential user class.

C. Application for Refund. Any property owner or tenant may apply to the District for a refund of Sewer User Fees paid to the District by establishing that the amount paid was pursuant to an error in the amount billed or the amount paid. The applicant for a refund must submit proof satisfactory to the General Manager of the District, or his designee, that a billing error has been made by the District or the County Tax Collector. Such proof shall include, but not be limited to, proof that:

(1) The owner's parcel of property is not connected to the District's system; or

(2) The property has not been classified in the proper land use category; or

(3) A clerical error has been made.

D. Limitations Period. Applications for rebates and refunds shall be deemed to be governed by the provisions of California Revenue and Taxation Code Sections 5096 and 5097, allowing for refunds for a period of four (4) years from the date of payment of the second installment of the bill claimed to be either inequitable or incorrect.

E. Determination. All applications for rebates or refunds of the Sewer User Fees will be determined by the General Manager of the District, or his designee, who, based on the submitted proof, may grant a full or partial rebate or refund.

F. Administrative Fee. At the time of filing the application for rebate or refund, the property owner shall pay the District an administrative fee for the processing of such application. The amount of the fee shall be equal to the total of all fees and charges imposed on the District by any other public entity, such as the Orange County Tax Collector, the Orange County Auditor, or the Orange County Recorder, in connection with the rebate or refund.

G. Underpayment. In the event the District determines that, due to a billing or payment error, or to inequity in the amount billed, a property owner has underpaid annual Sewer User Fees payable to the District, the District may, within four (4) years after the date of mailing of the tax bill:

(1) Collect the amount of any deficiency directly on the County Tax Roll;

(2) Off-set the amount of any deficiency against any amounts that the District determines is owing, by the District, to the property owner, as a rebate or refund under this Ordinance; or

(3) Submit, directly to the property owner, a bill for the amount of any deficiency, that shall be due and payable within thirty (30) days of the invoice date and that, if not paid, shall become a lien on said property.

Section 5: Collection of Sewer User Fees Within the City of Garden Grove. Pursuant to the provisions of California Health & Safety Code Section 5471, the Board of Directors hereby elects to have the Sewer User Fees for parcels within the corporate boundaries of the City of Garden Grove collected with the charges of the City of Garden Grove's water utility, and that these charges may be collected on the same bills as the water charges, or on separate bills, as may be determined by the City of Garden Grove. Bills for Sewer User Fees applicable to a parcel of property, or a portion thereof, may be provided solely to and/or paid by the same person(s) to which bills for water charges are provided, even if not the owner(s) of the property. Notwithstanding the foregoing, the owner(s) of such property shall be and remain responsible for payment of all Sewer User Fees applicable to the property.

Section 6: Collection of Sewer User Fees Outside the City of Garden Grove. Pursuant to the provisions of California Health & Safety Code Section 5473, the Board of Directors hereby elects, in its discretion, to have the Sewer User Fees for those areas outside of the corporate boundaries of the City of Garden Grove collected on the tax roll in the same manner, by the same persons, and at the same time as, together with and not separately from, the general taxes of the District.

Section 7: Severability. If any section, subsection, subdivision, sentence, clause, phrase, word or portion of this Ordinance is, for any reason, held to be invalid by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The Garden Grove Sanitary District Board of Directors hereby declares that it would have adopted this ordinance and each section, subsection, subdivision, sentence, clause, phrase, word or portion thereof, irrespective of the fact that any one or more sections, subsections, subdivisions, sentences, clauses, phrases, words or portions thereof be declared invalid.

Section 8: The President shall sign and the District Secretary shall certify to the passage and adoption of this Ordinance, and this Ordinance shall take effect immediately upon adoption.

Adopted this 14th day of February 2012.

ATTEST:

/s/ BRUCE A. BROADWATER
PRESIDENT

/s/ KATHLEEN BAILOR
SECRETARY

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss:
CITY OF GARDEN GROVE)

I, KATHLEEN BAILOR, Secretary of the Garden Grove Sanitary District, hereby certify that the foregoing Ordinance was duly adopted by the Board of the Garden Grove Sanitary District at an Adjourned Regular Meeting held on the 14th day of February 2012, by the following vote:

AYES: MEMBERS: (5) BEARD, DALTON, JONES, NGUYEN, BROADWATER
NOES: MEMBERS: (0) NONE
ABSENT: MEMBERS: (0) NONE

/s/ KATHLEEN BAILOR
SECRETARY

GARDEN GROVE SANITARY DISTRICT
SEWER BUDGET
FY 2010-11 - 2012-13
($000)

	2011-12 Adopted Budget	FY 11-12 Projected Year End	FY 12-13 Proposed Budget	FY 13-14 Forecast
FUNDS AVAILABLE				
BEGINNING BALANCE	$ 625.1	$ 625.1	$ 189.1	$ 1,048.1
BOND PROCEEDS (Annual Allocation)	0.0	0.0	0.0	0.0
REVENUES	10,242.3	10,242.3	10,620.0	10,959.0
RATE ADJUSTMENT	0.0	0.0	0.0	0.0
FUNDS AVAILABLE	10,867.4	10,867.4	10,809.1	12,007.1
OPERATION EXPENDITURES				
OPERATIONS				
LABOR	2,507.2	2,375.7	2,613.7	2,718.0
CONTRACTUAL SERVICES	1,125.0	1,125.0	1,168.2	1,215.0
COMMODITIES	238.2	238.0	233.5	243.0
VEHICLE / EQUIPMENT RENTALS	241.7	241.7	253.7	264.0
INSURANCE	41.7	41.7	41.7	43.0
ADMIN SUPPORT COSTS	512.2	512.2	524.6	546.0
BOND ISSUANCE COSTS	0.0	0.0	0.0	0.0
DEBT SERVICE	1,462.3	1,462.3	1,463.3	1,463.0
LATERAL LOAN PROGRAM	0.0	0.0	0.0	0.0
OPERATING RESERVE	250.0	250.0	0.0	0.0
SEWER SYSTEM CONTINGENCY RESERVE	0.0	0.0	0.0	0.0
TOTAL OPERATION EXPENDITURES	6,378.3	6,246.6	6,298.7	6,492.0
SEWER CAPITAL				
CAPITAL REPLACEMENT	1,431.7	1,431.7	1,462.3	1,506.2
NEW CAPITAL IMPROVEMENTS	3,000.0	3,000.0	2,000.0	2,000.0
CAPITAL EXPENDITURES	4,431.7	4,431.7	3,462.3	3,506.2
TOTAL EXPENDITURES	10,810.0	10,678.3	9,761.0	9,998.2
FUNDS AVAILABLE	10,867.4	10,867.4	10,809.1	12,007.1
EXPENDITURES	10,810.0	10,678.3	9,761.0	9,998.2
ENDING BALANCE	$ 57.4	$ 189.1	$ 1,048.1	$ 2,008.9

Type	User Class	Maximum Monthly Units		Maximum Bi-Mo Units	New Unit Rate	07/01/12 Mo. Base Rate 2.5% ENR	07/01/12 Mo. Max Billing Cap ($0.8627 x 2.5% = $0.8843)	07/01/12 Bi-Mo. Base Rate 2.5% ENR	07/01/12 Bi-Mo. Max Billing Cap ($0.8627 x 2.5% = $0.8843)	
						July 2012 - June 2013 Billing Dates		July 2012 - June 2013 Billing Dates		
R	Residential - SFR	10.00		20.00	0.88	$ 4.08	$ 12.92	$ 8.16	$ 25.84	
D	Duplex	10.00		20.00	0.88	$ 4.08	$ 12.92	$ 8.16	$ 25.84	
W	Car Wash	147.30		294.60	0.88	$ 60.25	$ 190.51	$ 120.50	$ 381.02	
G	Church	35.80		71.60	0.88	$ 14.64	$ 46.30	$ 29.28	$ 92.60	
C/10	Commercial 1*	10.00		20.00	0.88	$ 4.08	$ 12.92	$ 8.16	$ 25.84	
C/20	Commercial 2*	20.00		40.00	0.88	$ 8.18	$ 25.87	$ 16.36	$ 51.74	
C/50	Commercial 3*	50.00		100.00	0.88	$ 16.35	$ 60.57	$ 32.70	$ 121.14	
C/100	Commercial 4*	100.00		200.00	0.88	$ 32.70	$ 121.13	$ 65.40	$ 242.26	
C/200	Commercial 5*	200.00		400.00	0.88	$ 61.33	$ 238.19	$ 122.66	$ 476.38	
C/200+	Commercial 6*	200.00	+	400.00	0.88	$ 81.77	$ 258.63	$ 163.54	$ 517.26	
N	Hotels / Motels	200.00		400.00	0.88	$ 81.77	$ 258.63	$ 163.54	$ 517.26	
E	Private School	103.50		207.00	0.88	$ 42.32	$ 133.85	$ 84.64	$ 267.70	
H	Hospital	560.00		1,120.00	0.88	$ 228.95	$ 724.16	$ 457.90	$ 1,448.32	
I	Industrial	110.60		221.20	0.88	$ 45.21	$ 143.01	$ 90.42	$ 286.02	
L	Laundromat	137.40		274.80	0.88	$ 56.20	$ 177.70	$ 112.40	$ 355.40	
M	Multi-Unit Residential **	84.70		169.40	0.88	$ 34.60	$ 109.50	$ 69.20	$ 219.00	+ $1 per unit/mo
S	Public School/GGUSD	133.70		267.40	0.88	$ 54.68	$ 172.91	$ 109.36	$ 345.82	
B	Public School/Non-GGUSD	133.70		267.40	0.88	$ 54.68	$ 172.91	$ 109.36	$ 345.82	
F	Fire Service									
A	Agriculture									
P	Parks									
Q	Public Sch Fire Spr									
Z	Landscape									
O	Sewer/Septic									

City of Garden Grove

INTER-DEPARTMENT MEMORANDUM

To:	Scott C. Stiles	From:	Teresa Pomeroy
Dept.:	General Manager	Dept.:	Secretary
Subject:	Receive and file minutes from the meeting held on March 24, 2020. (*Action Item*)	Date:	4/28/2020

Attached are the minutes from the meeting held on March 24, 2020, recommended to be received and filed as submitted or amended.

ATTACHMENTS:

Description	Upload Date	Type	File Name
Minutes	4/20/2020	Minutes	sd-min_03_24_2020.pdf

MINUTES

GARDEN GROVE SANITARY DISTRICT BOARD OF DIRECTORS

Regular Meeting

Tuesday, March 24, 2020

Community Meeting Center
11300 Stanford Avenue, Garden Grove, CA 92840

CONVENE MEETING

At 6:58 p.m., President Bui convened the meeting telephonically.

ROLL CALL	PRESENT:	(7)	Members Brietigam, D. Nguyen, Jones, Klopfenstein, K. Nguyen, Vice President O'Neill, President Bui
	ABSENT:	(0)	None

ORAL COMMUNICATIONS

Electronic Communications received from: Lynn Lindsay, Sabiha Khan, Julie Bruton, Don Taylor.

RECESS

At 7:00 p.m., President Bui declared a recess.

RECONVENE

At 7:03 p.m., President Bui reconvened the meeting with all Members present telephonically.

RECEIVE AND FILE MINUTES FROM THE MEETING HELD ON FEBRUARY 25, 2020 (F: Vault)

It was moved by Member Brietigam, seconded by Member O'Neill that:

The minutes from the meeting held on February 25, 2020, be received and filed.

The motion carried by a 7-0 vote as follows:

Ayes:	(7)	Brietigam, O'Neill, D. Nguyen, Jones, Klopfenstein, K. Nguyen, Bui
Noes:	(0)	None

ADJOURNMENT

At 7:04 p.m., President Bui adjourned the meeting. The next meeting is scheduled for Tuesday, April 28, 2020, at 5:30 p.m. at the Community Meeting Center, 11300 Stanford Avenue, Garden Grove, California.

Teresa Pomeroy, CMC
Secretary

City of Garden Grove

INTER-DEPARTMENT MEMORANDUM

To:	Scott C. Stiles	From:	Omar Sandoval
Dept.:	General Manager	Dept.:	General Counsel
Subject:	Authorization for an extension of the 60-day Surplus Land Act notification of interest deadline due to COVID-19. (*Action Item*)	Date:	4/28/2020

As required by the Surplus Land Act, on March 12, 2020, the District sent a notice of availability to the State, public agencies, and other interested parties providing notification that the District intends to sell or lease the Longsdon Pit property located at 12261 and 12263 Chapman Avenue in the City of Garden Grove. Under Government Code 54222(e), interested parties are required to provide the District written notification that they are interested in purchasing or leasing the property within 60 days, or May 11, 2020.

Due to the COVID-19 pandemic and the various declarations of a national, state, county and local emergencies, the District and many businesses are experiencing major disruption in regular business and economic activities, such that it may make it difficult for interested parties to respond to the District's notice of availability within the required 60-day period. Consequently, staff is recommending that the Board of Directors authorize an extension of the 60-day deadline for another 60 days from May 11, 2020 to July 10, 2020. Staff will send an amended notice of availability extending the notification of interest deadline by 60 days to July 10, 2020.

FINANCIAL IMPACT

None.

RECOMMENDATION

It is recommended that the Board of Directors approve the 60-day extension of the notification of interest due from interested parties to July 10, 2020.