SEWER SYSTEM MANAGEMENT PLAN

for the

City of West Covina

in

Los Angeles County, California

2016 Update

January, 2017

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for the

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ABBREVIATIONS/ACRONYMS

American Public Works Association (APWA)—Non-profit professional association of public works agencies

Authorized Representative—Pursuant to General Order 2006-0003 of the State Water Resources Control Board, each City that owns and operates a sanitary sewer system must designate an individual to be responsible for completing the certification portion in the Online Sanitary Sewer Overflow (SSO) Database Questionnaire following a SSO event. The Authorized Representative also certifies any updates to the City's Sewer System Management Plan prior to submittal to the State Water Resources Control Board.

Best Available Technology (BAT)—Practices and tools to limit pollution discharges.

Best Management Practice (BMP)—Synonym for Best Available Technology.

Computer Aided Design Drafting (CADD)—Use of a computer application to create technical drawings or plans.

California Occupation, Safety and Health Administration (CAL-OSHA)—Agency dedicated to protect workers from health and safety hazards associated with their work.

Capital Improvement Plan or Program (CIP)—Planning document prepared by Cities or public agencies to identify needed infrastructure improvements and funding sources.

Category 1 SSO—A discharge of any volume of untreated or partially treated wastewater from a sewer that reaches surface water or a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system.

Category 2 SSO—A discharge of 1,000 gallons or greater of untreated or partially treated wastewater from a sewer that does not reach surface water or a Municipal Separate Storm Sewer System (MS4) unless the entire SSO discharged to the storm drain is recovered and disposed of properly.

Category 3 SSO—All other discharges of untreated or partially treater wastewater resulting from a sanitary sewer failure or flow condition.

California Integrated Water Quality System (CIWQS)—a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Closed - Circuit Television (CCTV)—remotely controlled driver controlled camera capable of producing video of the inside of sewer pipes.

Cured-In-Place Pipe (CIPP)—one pipe rehabilitation technique in which a new pipe lining is

pulled into the pipe from the surface and then expanded and cured in place. Most of the work is accomplished from the surface resulting in minimal trenching.

Public Works Department (PWD)—City department dedicated to maintaining and improving public assets.

Enhanced Maintenance Area (or Hotspot)—Location with frequent maintenance issues such as buildup of debris, root intrusion, FOG accumulation, or other operational deficiency.

Enrollee – A 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.

Fats, Oils, and Grease (FOG)—Substances commonly produced by kitchens or restaurants that can solidify and cause blockages within the sewer system.

Food Service Establishments (FSE)—Any building, vehicle, place, or structure, or any room or division in a building, vehicle, place, or structure where food is prepared, served, or sold for immediate consumption on or in the vicinity of the premises.

Geographical Information System (GIS)—Computer system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

Infiltration / Inflow (I/I)—Flow of groundwater or stormwater into the sewer system during a storm event or due to openings in sewer facilities.

Lateral (House Connection Sewer) - The portion of sewer that connects a structure (residence or business) with the main sewer line in the street, alley or easement.

Los Angeles Basin Plan—Last updated June 1994. Establishes water quality standards for the ground and surface waters of the region.

Maintenance Management System (MMS)—Systems and processes to manage maintenance tasks. Many organizations maintain a computer database of maintenance operations.

National Association of Sewer Service Companies (NASSCO)—Industry resource for specification guidelines, industry practices, and inspector training.

Office of Emergency Services (OES)—Agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities within the state.

Plumbing Code (PC)—subset of the building code. Establishes standards for plumbing components within structures.

Pipeline Assessment and Certification Program (PACP)—standardized system for evaluating the condition of pipes.

Private Lateral Sewer Discharge (PLSD)—Discharges of untreated or partially treated

wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the City's sanitary sewer system.

Publically Owned Sanitary Sewer System – Collection of sewer mainline pipes, laterals, and wastewater pumps that convey wastewater from source points to a municipal wastewater treatment plant. These systems are typically owned and operated by a public agency such as a City or a Special District.

Regional Water Quality Control Board (RWQCB)—Makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. West Covina is in Region 4.

Sewer Maintenance Zones (SMZ)—Subarea of a larger sewer system that is used when referencing and scheduling maintenance operations.

Sewer Operations & Maintenance (SO&M)—Activities undertaken by a public agency to ensure continued optimal operation of a sewer system.

Sewer System Management Plan (SSMP)—Document that describes the activities and agency uses to manage its wastewater collection system efficiently.

Sanitary Sewer Overflows (SSO)—Overflow of untreated or partially treated wastewater due to inadequate system capacity or a blockage in the system.

State Water Resources Control Board (SWRCB)— The mission of the Water Board is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables the Water Board to provide comprehensive protection for California's waters. The SWRCB oversees the operations of the Regional Water Quality Control Boards to ensure that their activities are in line with the SWRCB's objective.

Waste Discharge Requirements (WDR)—State regulations pertaining to the treatment, storage, processing, or disposal of solid waste.

Waters of the United States—(paraphrased from 33 CFR Part 328) – All waters which are used, were used or may be used in interstate or foreign commerce including those subject to the ebb and flow of the tide; including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), adjacent wetlands, impoundments of water, etc., the use, degradation or destruction of which could affect interstate or foreign commerce; tributaries of waters so identified; the territorial seas; and all waters within the 100-year floodplain of the preceding water bodies.

West Covina Municipal Code (WCMC)—City laws and ordinances some of which pertain to the operation and use of the City's sewer system among other rules and regulations.

CITY OF WEST COVINA

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.

_____ _____

Delfino Consunji, P.E Date
Public Works Director / City Engineer

SEWER SYSTEM MANAGEMENT PLAN
FOR THE
City of West Covina

INTRODUCTION

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted a Statewide General Waste Discharge Requirements (WDR) and Monitoring and Reporting Program by issuing Order No. 2006-0003-DWQ (See Appendices 'A', 'B', 'C'). Regulations in this Order resulted from a growing concern about water quality impacts of Sanitary Sewer Overflows (SSO), particularly those that cause beach closures, adverse effects to other bodies of water or pose serious health and safety or nuisance problems to the public.

Two major components of the WDR are:

(1) A requirement that owners and operators of publicly owned sanitary sewer systems, greater than one mile in length, apply for coverage under the WDR; and,
(2) that the owners and operators develop and implement a system specific Sewer System Management Plan (SSMP).

In compliance with the first component, the City did file its application form with the SWRCB on August 22, 2006. As a result, the City received its Username and Password for accessing the California Integrated Water Quality System (CIWQS) database. Within the database reporting program, the City completed its "collection system questionnaire" and will file all subsequent updates and all required SSO reports.

In compliance with the second component, this document has been prepared to meet the objectives contained in the WDR order. The document is divided into 11 chapters, which closely align with the respective provisions contained in the WDR. Every section or subsection of each chapter addresses one of the key elements of the SSMP directive.

This document, with other existing agency programs referenced herein, constitute the SSMP for the City of West Covina. By implementing the procedures contained in this SSMP, the occurrence of SSO should decrease or possibly be avoided throughout the City's wastewater collection system.

In August 2013, the SWRCB released Order WQ 2013-0058-EXEC which amended the monitoring and reporting requirements for SSO events. The amendment added a third SSO category and redefined the first two categories in addition to updating the reporting requirements following a SSO. Per these new requirements, the appropriate sections have been revised in this updated SSMP report.

EXECUTIVE SUMMARY

This document was prepared in compliance with a formal order issued by the State Water Resources Control Board. The order requires every owner and operator of publicly owned sewer systems to develop and implement a system specific Sewer System Management Plan (SSMP). This plan sets forth goals and actions to be followed, and guidelines for various activities involved in managing, operating, maintaining, repairing, replacing and expanding the sewer system. Chapter 6 describes actions to follow when responding to a Sewer System Overflow (SSO) occurrence within the community, including reporting obligations. There are chapters which describe legal authorities for managing the system, and ministerial actions required in monitoring, auditing, reporting and communicating with the public and regulators. There are specific requirements for accomplishing public involvement and the reporting and modifying (changing) of the plan. These later requirements are intended to raise public awareness of the hazards and responsibilities associated with SSO events and to minimize the occurrence of such events.

- The City's initial plan was approved and certified in August, 2009.
- The plan is to be monitored and updated no less frequent than every five years.
- The City's approved plan is to be made publically available for download via an internet web site along with critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP. If that is not possible, the documents must be submitted to the SWRCB within 30 days of approval or recertification from the local governing board.
- The plan must be periodically internally or self-audited for effectiveness, a report compiled and kept on file and such audits must occur no less frequent than every two years. These audit reports do not need to be submitted to the SWRCB, but must be made available upon request. The most recent report of the audit must be kept on file in the Office of the City Clerk, the Public Works Department (PWD) office, the field maintenance yard site, and the local public library.
- Per the 2013 Amendment, the monitoring and reporting requirements have been updated for both emergency and routine reporting events as detailed in Appendix 'B'.
- The adoption of and any revision to the plan must be accomplished utilizing public notification and public hearing procedures as identified in the SSMP and General Order.

A key element of the 2009 plan was the sewer system capacity evaluation utilizing a hydraulic model of the system to evaluate capacity constraints. Significant capacity upgrades have not taken place since then, so the hydraulic model was not updated as part of this report. The 2009 sewer model identified eight (8) locations with pipe flows that at the time exceeded 85% of capacity (a critical condition). Those pipe segments equal 19,096 feet (1.6 % of the total system length) with a probable replacement budget of $8,820,000 (2016 dollars). In addition, there were then nineteen (19) locations identified having flows between 64% and 85% full (a serious but still stable condition). Those pipe segments equal 30,048 feet (2.5 % of the total system length) with a probable replacement budget of $14,410,000 (2016 dollars). Additional system maintenance and system enhancement activities are recommended as outlined in Appendix 'P'.

To effectively correct and manage the City's sewer system, it is recommended that selective

flow monitoring be conducted to refine the actual in-system flow conditions, especially as flows relate to the critical capacity locations. In addition, a plan (schedule) of orderly Closed Circuit Television (CCTV) inspection of the system, utilizing National Association of Sewer Service Companies (NASSCO) standard practices and system references, should be accomplished in order to clearly define existing structural defects and maintenance defects that are not identified by modeling or routine maintenance activities and records. Both of these activities will allow the hydraulic capacity assessment to be further refined and used to define project specific design and repair methods to be considered. This would facilitate needed corrective work in accomplishing the management of the City wastewater collection system. More detailed information is included in Appendix 'O'.

CHAPTER 1

GOALS and ACTIONS

The goals of this SSMP are to ensure that:

1. City sanitary sewer collection system facilities are properly operated, maintained and managed to reduce frequency and severity of an SSO and their potential impacts on public health, safety, and on the environment; and,

2. When an SSO occurs, prompt action is taken to identify, contain, remove the cause and then to promptly report the event to appropriate regulatory authorities and that the public is adequately and timely notified; and,

3. All SSO and system deficiencies and remedial actions taken are well documented; and,

4. City sewer system operators, employees, contractors, responders, or other agents are adequately trained and equipped to address an SSO event; and,

5. City sewer system is adequately designed, constructed and funded to provide sufficient capacity to convey base flows and peak flows while meeting or exceeding applicable regulations, laws and the generally acceptable practices relative to sanitary sewer system operations and maintenance; and,

6. City has adequate staff to enforce FOG Ordinance and maintain hotspot areas; and,

7. City has adequate records for routine maintenance activities and issues encountered to respond to information requests from the SWRCB following a major SSO event.

The actions to be taken under this SSMP are:

1. Conduct planned and scheduled maintenance and training programs to minimize risk and the occurrence of SSO in support of the SSMP goals.

2. When an SSO occurs, respond to the reported site in a timely manner and under-take feasible remedial actions to contain overflow impacts, including stopping the flow from reaching the storm drain, if possible; and,

3. Stop the overflow as soon as possible and limit public access to the overflow area to prevent public contact with any wastewater contamination; and,

4. Completely recover the overflow, return it to the sewer system and clean up the contaminated area; and,

5. Gather and compile all pertinent information regarding the overflow event, investigate as necessary to determine probable cause, document findings, report to the appropriate regulatory agencies in a timely manner, and file the completed report; and,

6. Condition all development and capital projects to evaluate, design and construct sewer facilities to the City approved standards and criteria.

7. Implement systems and procedures to ensure that records of field maintenance work are appropriately documented and archived and that system deficiencies are addressed in a timely manner.

CHAPTER 2

DESCRIPTION OF THE ORGANIZATION

The City was incorporated in February 1923 and currently serves a population of approximately 112,670 people within a 17 square mile area. The City's wastewater collection system is managed by the City's Public Works Department, utilizing a total annual budget (2015/16) for system operation, maintenance and administration set at $1,975,524. The collection system consists of about 227 miles of gravity sewer lines and six (6) pump (lift) stations. About 98 percent of flows from these local sewers discharge into the Los Angeles County Sanitation District (CSD) facilities for treatment and disposal. The remaining 2 percent of total sewage discharges into the adjacent City of Baldwin Park sewer system and unincorporated county sewer systems and is then treated at the CSD Whittier Narrows treatment facilities to the west.

The City has 15.4 full time equivalent positions within the Sewer Fund budget. The distribution of the City's personnel is depicted in the organization chart presented in Section 2.3.1 of this plan. These personnel provide engineering evaluation of proposed and existing sewer facilities, administer the City's sewer service charge ordinance, carry out annexation proceedings for new service areas, form and dissolve service zones, maintain facility record plans and administer preventive maintenance and sewer construction programs.

There is approximately 3,507 linear feet of private sewer laterals within the City's service area. Though not responsible for the operation or maintenance of these pipe segments, the City recognizes the need to quantify the potential risk of sanitary sewer overflows originating from private property.

2.1 Authorized Representatives

The City Manager, Chris Freeland, and Public Works Director / City Engineer, Delfino Consunji are the authorized representatives responsible for the execution of compliance actions required under the Waste Discharge Requirements (WDR). This includes, but is not limited to, signing and certification of all reports and correspondence as required under this order.

2.2 City Responsibilities

The City prepared a comprehensive SSMP in 2009 to comply with the WDR. The West Covina City Council will review and adopt the 2016 SSMP Update and update the Sewer Enterprise Funding Plan and rate structure in order to comply with the State requirements outlined in this SSMP report.

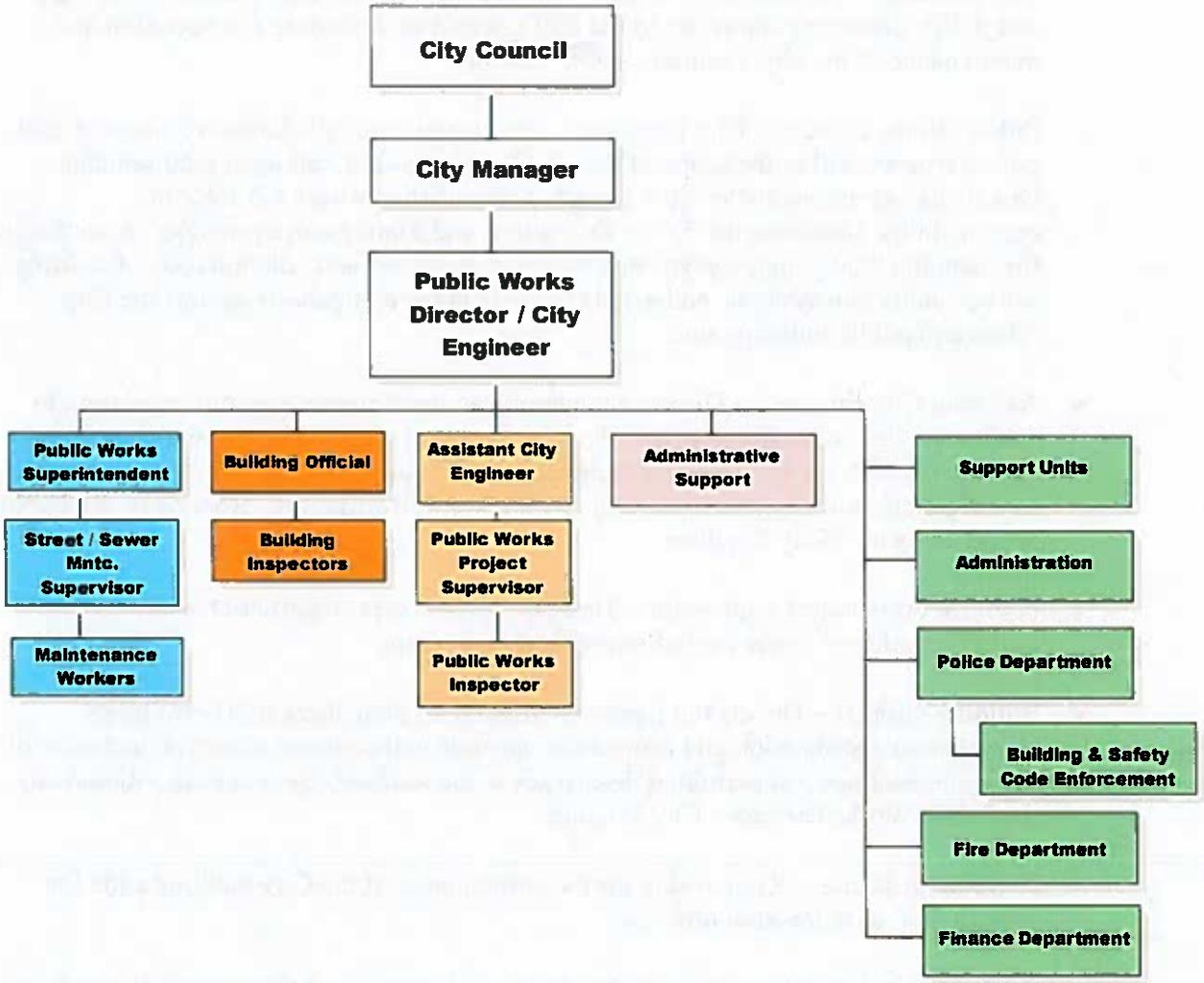
City departments will play significant roles, jointly and separately, towards attaining the goals of the revised WDR. The degree of these collaborative efforts will vary from department to department depending on the degree of SSO related services the PWD is providing.

2.3 Organization Chart and Responsibilities

The organization chart, presented in Section 2.3.1, shows the structure and relationships of the City's legislative, administrative, management and field positions and their respective responsibilities and support are described in Sections 2.4.2 and 2.4.3

2.3.1 Organization Chart for Sewer System Management

Figure 2-1



2.3.2 Description of Responsibilities

The description of responsibilities or roles of each position, especially as related to SSOs are as follows:

- City Council - Responsible for establishing new and amending existing ordinances and policies governing the municipal operations, and the operations of the city's sanitary sewer system including the approving of all Sewer Operations and Maintenance (SO&M) contracts and agreements within the community's interest.

- City Manager – Responsible for the overall management and application of all legal and policy directives that relate to the city's activities, including the operation and maintenance of the city's sanitary sewer system.

- Public Works Director / City Engineer – Directs the accomplishment of statutory and policy criteria, within the scope of the City Council policy and legal requirements. Directs its execution, and evaluates work accomplished within his areas of responsibility, including the Sewer Operations and Maintenance program. Also directs the planning, budgeting, design and construction of new and rehabilitation of existing sewage collection systems, and assists with claims and litigations against the City relative to public infrastructure.

- Assistant City Engineer – Directs engineering and management activities relating to studies, design, investigations, and the preparation of reports, budget and contractual agreements with private firms for technical services projects. Performs special studies, investigations and reports concerning city's sewer infrastructure. Reports to the Public Works Director / City Engineer.

- Public Works Project Supervisor – Designs and oversees construction and implementation of sewer capital improvement program.

- Building Official – Directs the functions of building plan check and permitting, construction coordination and inspection and code enforcement activities, inclusive of sewer connections and permitted discharges to the sanitary sewer system. Reports to the Public Works Director / City Engineer.

- Building Inspector – Responsible for the enforcement of the City building code for construction or renovation projects.

- Public Works Inspector – Responsible for the enforcement of City technical standards and specifications for public works construction projects.

- Public Works Superintendent - Has oversight of field office clerical and the operation and maintenance staff. Responsible for the sewer collection system operation and maintenance activities, including the lift stations, for the City. Directs emergency

sewer repair activities, and assists in the formulation of Sewer Operations and Maintenance policies and procedures. Responsible for the day-to-day management and operation of the city's public facilities. Reports to the Public Works Director / City Engineer.

- Street/Sewer Maintenance Supervisor - Responsible for the oversight, organizing, scheduling and coordination of the street, storm drains, and sewer field maintenance personnel including any contract services through outside providers as relates to sewer system operations and maintenance. Reports to the Public Works Superintendent.

- Field Crews - These include the Public Works Maintenance Workers who are responsible for maintenance activities for the public streets, right-of-ways, storm drains and sanitary sewer collection system including response to SSOs, annual sewer cleaning and CCTV inspection program, making system repairs, maintaining lift stations and force mains and other activities as needed. Reports to a Crew Leader / Supervisor.

- Office Administrative and Clerical Assistants - Assist in the preparation of the Sewer Operations and Maintenance budgets and accounting, Council and other required reports, and other correspondence.

2.3.3 Key Support Units

Other divisions or departments within the City are currently and will continue to be responsible for carrying out some of the compliance actions called for by the WDRs for the Sewer Maintenance activities. The key support units and their responsibilities are described below:

- Administrative Division - Responsible for procuring equipment and as needed contract services for emergency sewer repair projects, printing and mailing of public education outreach program materials, and for procuring material and supplies needed for the day to day operation and maintenance activities. Staffing the Sewer Operations and Maintenance functions and training of personnel. Also responsible for investigating SSOs related claims and litigations against the city.

- Finance Department – Responsible for receiving and recording sewage related fees and charges, tracking expenses attributable to the sewer system, evaluating the relationship of revenues vs expenses for the sewer system, facilitating and tracking any emergency related expenses incurred and participating in the annual audit of the sewer system operations and maintenance functions.

- Building Division - Responsible for reviewing various building permit applications, their relationship to public easements and facilities, and issuing permits for sewer connections and laterals.

- Code Enforcement Division – Responsible for the enforcement of the Health and Safety Codes regarding waste disposal such as the FOG program, point source control inspection of industrial and commercial waste and grease generating facilities. Also

the investigation of cases of illicit discharge of chemicals, debris, etc. into the public sewer system. Enforcement of the Plumbing Codes involving proper connection and discharge into the public sewer system and the maintenance of sewer laterals between the structure served and the public sewer collection main.

- Engineering Division - Responsible for preparing plans and specifications for sewer construction and rehabilitation projects, and administration of contracts for accomplishing such projects and emergency sewer repair projects. Also responsible for subdivision or development project plan checks to ensure compliance with the City's standards for construction of new sewer collection systems. Plan checks sewer capacity studies to size proposed sewer lines and sets requirements to ensure adequate capacity in existing systems. Prepares easement documents or identifies and procures access rights for public sewer facilities located within private properties.
- Fire Department – Responsible for assisting with protecting the public in the event of an SSO that expands into high-use public travel ways and/or those that reach storm drains or water courses and spread the effect of public risk to health and safety impacts.
- Police Department - Responsible for operating the Emergency Operation Center for the entire City including handling after-hours service calls reporting SSOs, and lift station malfunction calls and forwarding those reports to the PWD.

2.3.4 Chain of Communication for SSO Reporting

The Order requires that all sanitary sewer overflows "that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program" be reported to appropriate regulatory agencies and other potentially affected entities, such as health agencies, stormwater agencies, Regional Water Quality Control Boards, water suppliers, etc.

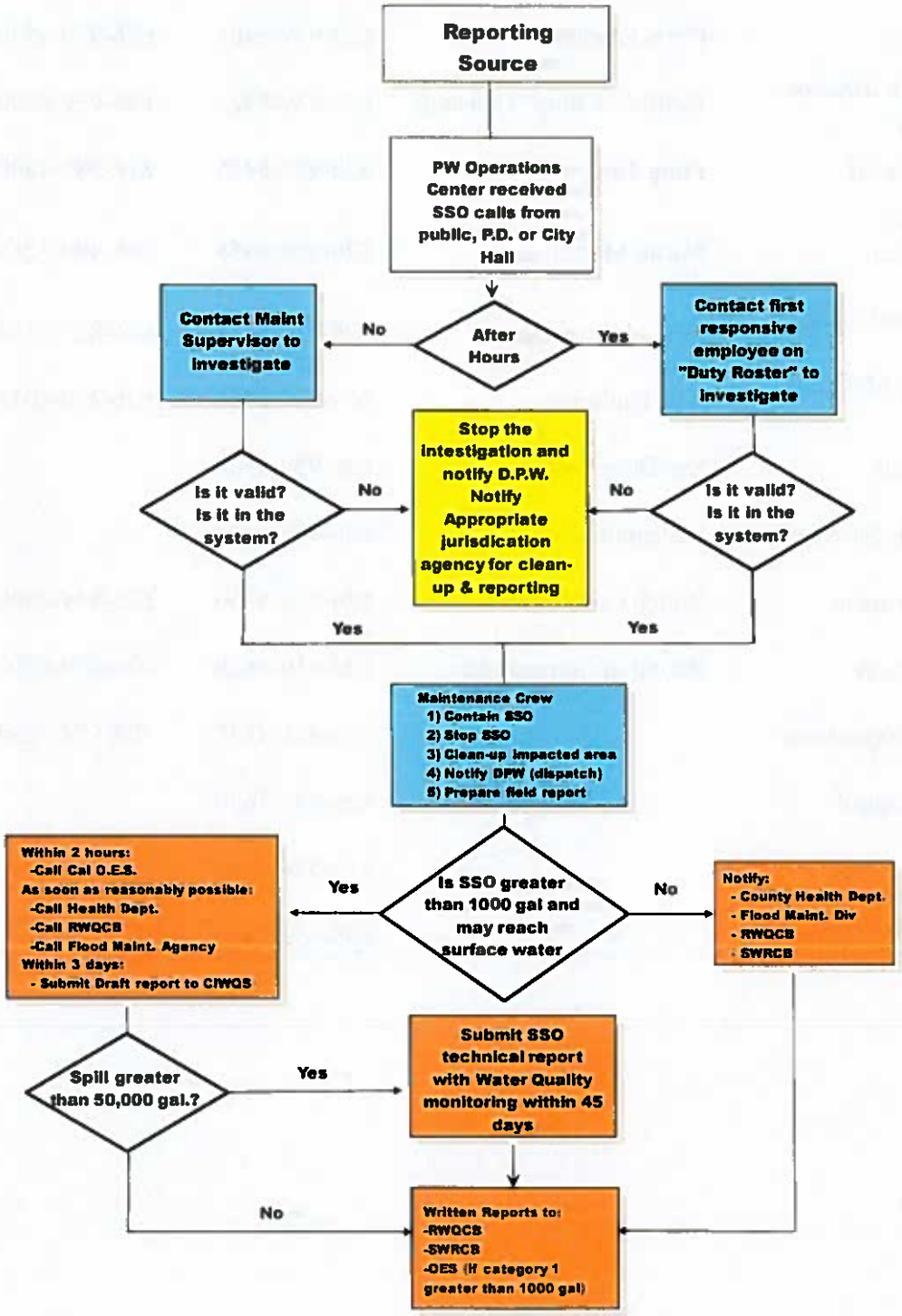
The SSO Reporting Chart in Section 2.3.5 (Figure 2-2) included on the next page illustrates the chain of communication for reporting SSOs beginning from receipt of an SSO notification. The city's contact directory for communicating with both internal and external parties involved in responding and reporting an SSO event is in Section 2.3.6. The resulting SSO reports are prepared by the Responsible Staff Person and/or the Contractor who responds to the SSO. The final report is reviewed by the Street/Sewer Maintenance Supervisor, who submits it to upper management and the appropriate agencies.

Overflow events must be reported on the Sanitary Sewer Overflow Report Form, which is included in Attachment 'L-1' of the Overflow Emergency Response Plan and requires the same information that will need to be entered into the Online SSO Database through California Integrated Water Quality System (CIWQS).

2.3.5 SSO Reporting Procedures Flow Chart

Figure 2-2

City of West Covina Sanitary Sewer Overflow Reporting Flowchart



2.3.6 City's Contact Directory for SSO Responding and Reporting

Responsible Party's	Name	Telephone	After Hrs. or Cell Phone
City Manager	Chris Freeland	626-939-8401	626-939-8500
Public Works Director / City Engineer	Delfino "Chino" Consunji	626-939-8425	626-939-8500
Building Official	Long Tang	626-939-8425	818-388-4540
Public Works Superintendent	Micah Martin	626-939-8458	909-499-4215
Public Works Project Supervisor	Miguel Hernandez	626-939-8731	626-827-1178
Street/Sewer Maint. Supervisor	Jose Gutierrez	626-939-8458	626-260-1035
P. D. Dispatch	See Duty Roster	626-939-8500	
Public Works Service Yard	Receptionist	626-939-8458	
Police Department	Watch Commander	626-939-8556	626-939-8500
Fire Department	Battalion Commander	626-939-8828	626-939-8500
Co. Health Department		323-881-4147	323-974-1234
Co. Flood Control		626-445-7630	
R.W.Q.C.B. (Region 4)		213-576-6600	
State Office of Emergency Services		800-852-7550	

CHAPTER 3

LEGAL AUTHORITY

Pursuant to California Government Code Sections 37100 and 54350, the City Council, as the local legislative body, may by ordinances and resolutions make and enforce all rules and regulations necessary for the administration of the City's Sewer Operations and Maintenance (SO&M) program. Such actions include, but are not limited to, cleaning, repair, construction, reconstruction, rehabilitation, replacement, operation, and maintenance of the wastewater collection system within the City. Consistent with the law, several ordinances have been enacted by the City Council to govern all aspects of the SO&M program.

West Covina Municipal Code (WCMC) Section 7-85 adopted by reference the 2016 Editions of the California Plumbing Code, including all appendices and indices, and Sections 7-87 and 7-88 provided for specific amendments pertaining to: Violations, Penalties and Fees. This constitutes the Plumbing Code (PC) of the City.

WCMC Section 13-16 expressly adopted by reference the Public Health Code of Los Angeles County (Ordinance No. 7583) as amended on November 1, 1975 as the Public Health Code of the City.

The legal authorities for the specific areas stipulated in the WDR are discussed below.

3.1 Authority to prevent illicit discharges into the sanitary sewer system

WCMC Sections 23-22, 23-26 and 23-35 prohibit unauthorized discharge of rain, surface drainage, storm waters or wash water from a milking barn to be discharged into the wastewater collection system. Additionally, Sections 23-206 through 23-218 prohibits or otherwise limits discharge of offensive or damaging substances such as: debris, chemicals, greases, oils, tars, toxics, corrosive or harmful materials, petroleum products, or material having a temperature above 140°F, etc., that may, among other things, clog, obstruct, fill, or necessitate frequent repairs, cleaning out or flushing of the wastewater collection system.

3.2 Authority to require sewers and connections be properly designed, constructed and maintained

WCMC Sections 23-51 through 23-63 describe standards of design to be utilized for main-line and house connection sewers. Similarly, Sections 23-186 through 23-198 describe criteria by which sewer facilities are to be constructed and inspected, including by reference the Standard Specifications for Public Works Construction, all of which are on file in the Office of the Public Works Director / City Engineer. The construction of house laterals is also covered under the PC.

WCMC Section 23-114 requires that property owners be responsible for maintenance of their sewer connection lateral, in a safe and sanitary condition and in good working order. Similar regulation is also found in the PC.

3.3 Authority to ensure access for maintenance, inspection, or repairs

WCMC Section 20-38 provides the Planning Commission with authority to require dedications or irrevocable offers of dedication in connection with subdivision map approvals for various utility and public purposes. WCMC Section 20-41(i) provides the Planning Commission with authority to require construction of adequate sewerage systems. WCMC Section 23-196 provides that the City Engineer may inspect and has the right of unobstructed access to sewage facilities for the purpose of inspection.

WCMC Section 23-114 establishes the City's authority to require property owners to maintain their sewer laterals on their property between their structure and public right-of-way. The exception is maintenance caused by tree roots from City-owned trees which shall be performed by City staff. WCMC Section 23-124 requires newly constructed houses to have a clean-out for maintenance purposes. City staff installs clean outs on existing houses, when necessary, to repair damage resulting from roots of City-owned trees.

3.4 Authority limiting discharge of FOG and other debris that may cause blockage

WCMC Sections 23-71 through 23-88 establish the authority, criteria and standards for the installation of sand and/or grease interceptors where individual discharger conditions require such pre-treatment facilities, such as a discharger that generates FOG in the amount that will damage or increase the maintenance costs of the wastewater collection system. These sections also outline the monitoring and reporting requirements as well as the enforcement procedures for violations of the City FOG code.

3.5 Legal Authority to Enforce any Violation of Sewer Ordinances

WCMC Section 23-44 authorizes the City Engineer to enforce all provisions of Chapter 23, Article II (Sewers and Sewage Disposal) and for such purpose shall have the powers of a peace officer.

3.6 Legal Authority to Fund the operations & maintenance of the sewer system

The City Council established a Citywide Sewer Maintenance District in accordance with California Government Code Section 38902 for the purpose of funding the maintenance and operations of the wastewater collection system. This funding method is reviewed annually and updated as needed following the notification and public hearing process required by statute. The adopted charge is then collected on the County property tax bill and delivered to the City.

The Codes, standard plans, specifications and other materials cited in this chapter are filed at the Office of the Public Works Director / City Engineer.

CHAPTER 4

OPERATION AND MAINTENANCE PROGRAM

The City's program consists of regular inspection of the sewer system including manholes, pipes, and lift stations, regular cleaning, repairs, and related activities. This program is structured and carried out to detect potential problems and take corrective actions.

The Sewer Operations and Maintenance services are provided from a central maintenance service yard within the City, which is located at 825 South Sunset Avenue. From this location, efficient maintenance activities are resourced and managed to respond to an SSO or other emergency situation. This central office and each maintenance crew vehicle is radio-equipped and crew leaders, supervisors and managers have mobile phones for timely communications. Other equipment resources include: heavy and light construction equipment, pumps, generators, trucks and trailer-mounted equipment, related supplies and various types of safety equipment. A complete inventory of the SO&M equipment and key supplies is presented in Appendix 'E'.

The following is a summary of the key preventive maintenance activities:

4.1 Sewer Operations and Maintenance (SO&M) Mapping System

The City maintains "as-built" plans of its sewer facilities. These plans are stored in the drawing file system at City Hall, and data shown on these plans includes: location, alignment, pipe material and size, etc. Much of the "as-built" plan information has been copied into a Geographical Information System (GIS) map base prepared as part of developing the City's SSMP. The GIS system utilizes a sequential numbering system to identify individual sewer segments, manholes, and other facilities. The resulting maps can be distributed to the PWD street and sewer field crews, for reference, work scheduling and to other assisting agencies, as needed, for response to emergencies. Periodic updates of these maps will be scheduled by the PWD.

GIS mapping resulted in a reference system that includes features and attributes of the sanitary sewer system (such as: pipe location, diameter, material, condition, last date cleaned or repaired, flow direction, etc.) and can be linked to CCTV video inspection results for reference. This mapping typically contains base information such as streets and parcels that can then be linked with mapping layers of information such as local storm drain system, CSD trunk sewer lines, and water system components, etc., as used by the PWD and other governmental agencies. GIS maps can also link As-built information to specific features in the map for ease of reference or record drawings.

A map showing the SO&M yard location, SSO locations and sewage delivery points, to non-city systems (CSD trunks or other agencies), is presented in Appendix 'F'. In Appendix 'G' is an inventory of wastewater collection system facilities, listed by total number, total length and point of discharge for each Sewer Maintenance Zone (SMZ).

4.2 Routine Preventative Maintenance and Operation Activities

4.2.1 Sewer Line, Manhole and Lift Station Inspection

City maintenance crews carry out CCTV inspections of the entire sewer system on a base 6-year cycle. Segments known to have maintenance issues are inspected more frequently. The City currently maintains handwritten reports for CCTV inspections. Manhole inspections are accomplished concurrently with sewer line inspections. A sample sewer manhole inspection form is included in Appendix "I-1".

The existing lift stations are equipped with an alarm system to alert City operations supervisors of high tank levels. Lift stations are inspected daily for general performance and a more thorough inspection is performed each month with a checklist of the items reviewed (see Attachments 'I-2' to 'I-4'). Pumps, motors, control mechanisms and valves are checked and adjusted as necessary, and equipment is repaired or recommended for replacement as inspection findings indicate.

4.2.2 Drop Manholes, Gas Trap Manholes and Siphons

These facilities are inspected and cleared of stoppages and flow restrictions on variable frequencies based on prior inspection records, but no less frequent than once a year. Inverted siphons located in potentially difficult to access areas such as major intersections are inspected on a monthly basis.

4.2.3 Sewer Line Cleaning

Sewer lines are typically cleaned by hydro jet or mechanical root cutting (rodding). The frequency of cleaning and inspection is based on inspection records and/or call-outs on reported complaints, but a six-year cycle is the City's basic schedule guide. Sewer lines known to accumulate FOG, garbage grinds or other grit or have root intrusions are labeled "Enhanced Maintenance Areas" (See Appendix 'J') and are put on a monthly cleaning schedule. Pipe segments prone to root growth are periodically cleared using a chemical herbicide or root cutter. Those prone to accumulate FOG are periodically cleaned using caustics, surfactants, enzymes, microbes or high pressure jetting. Sewer segments prone to calcium accumulation are cleaned as needed with an equipped vactor truck.

The City maintains also Ace Pelizon Plumbing as an on-call contractor for lateral cleanings:

Ace Pelizon Plumbing
138 E Badillo St,
Covina, CA, 91723
(626)-331-0701

4.2.4 Flow Monitoring

Visual checks for comparison with prior records are conducted during scheduled inspections of manholes and pipelines. Unusual or unexpected changes in flow receive more thorough evaluation and as deemed necessary, a flow monitoring device is placed to validate flow patterns over time for the affected sewer drainage area(s).

4.2.5 Vermin and Rodent Control

Sewers infested by insects are chemically treated. The entire sewer system is treated for insects on a three-year cycle. Sewers infested by rodents are baited.

4.2.6 Work Scheduling and Documentation

Maintenance activities (performed by agency or contractor) are recorded in various forms such as service requests, cleaning reports, sewer maintenance daily reports, manhole adjustments, overflow report forms, etc. and are filed in the Work Management System at the Public Works offices located at 825 South Sunset Avenue.

4.2.7 Operating Revenues

Key to supporting a sound preventative maintenance program is the receipt of funds sufficient to support scheduled maintenance activities as described above. The City's Public Works Department has a total operating budget set at $1,975,524. Shown in Appendix 'K' are the recent and projected fiscal year's revenues generated within the City service area based on current sewer service charge rates. Appendix 'P' describes the recommended capital improvements from the analysis of the existing system.

4.3 Rehabilitation and Replacement Plan

Sewer facilities assessment and rehabilitation are an integral part of the city's SO&M program. A summary of recent year's capital improvement activities, actions to identify and prioritize system deficiencies (condition assessment), and the programming of short-term and long-term rehabilitation projects are discussed below.

4.3.1 Recent Year's CIP Activities

In the past six years, there has been no major capital improvements made to the City's wastewater collection system.

4.3.2 Identification and Prioritization of System Deficiencies

All sewer pipelines within the City are made of vitrified clay and range in diameter from 4-18 inches in diameter. The majority of City sewers were installed between the 1940's and 1980's. This results in a current sewer system age ranging between 35 years to 75 years old. As the sewer collection system continues to age, the risk of failures increase. The types of failure or risk include: deterioration, collapse, blockage, overflow, excessive inflow and infiltration, and other potential service disruptions.

In an effort to manage these challenges and to improve the reliability of the City's sewer infrastructure, the PWD will implement a Condition Assessment Program. This program involves a digital video recording including structural and maintenance condition ratings of the City sewer system over a ten-year time period (averaging about 24 miles each year). The assessment system comprises of two parts: 1) A Closed Circuit Television (CCTV) video

recording team gathers digital and video data for each pipe segment and manhole within the City's system; and, 2) Engineers in the office evaluate the findings and generate reports from the managed database of the gathered information. This data can then be integrated with the GIS mapping for regular use in managing the sewer system.

Within the City's SSMP, CCTV investigation identifies necessary upgrades which are then prioritized to focus on those sewers thought to have the most urgent repair needs. Maintenance history, past overflow records, sewer locations, and age will be some factors used to prioritize the CCTV work schedule. A software package is available to assist in video logging that will allow for quick retrieval of video clips, photos, and descriptive observations. The software lends itself to easy creation of itemized reports for engineering analysis. This system digitizes analog video output from the moving inspection camera while being digitally recorded and displayed on a computer monitor used by the camera crew. While video images are being captured, a crew member views and logs noted events such as defects and note recording using standardized National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) event codes. The digital video inspections files are transferred to a computer hard drive or DVD disks for storage. Access is available to any of these media using Windows Viewer software.

A selective sample of the City's CCTV inspection videos as indicated by the Public Works Superintendent were reviewed as part of this update. The segments reviewed correspond to the City's hotspots list. A summary report of the findings is included in Appendix 'H'.

4.3.3 Short and Long Term Rehabilitation Action Plans

The City established a Citywide Sewer Maintenance District wherein the sewer service charge funds rehabilitation activities needed to keep the system in sufficient operating order. As previously described, the scheduled CCTV inspections and evaluation activity will be a key basis in scheduling future rehabilitation projects.

Appendix 'P' provides a suggested list of recommended capacity enhancements, system management improvements, and general repairs for the next 8 years. The line item for routine repairs is anticipated to cover annual repair activities to be performed per the findings of ongoing CCTV investigations conducted by City operations staff.

4.4 Training for Field Operations Personnel and Contractors

SO&M personnel and the public works inspectors utilize informal training approaches, such as pre-job tailgate meetings, monthly safety meetings and apprenticeship training activities. In addition, there are available structured collection system training classes or seminars given by other agencies including California Occupational, Safety and Health Administration (CALOSHA), California Water Environment Association (CWEA), County Sanitation Districts' (CSD), etc. Other specialty training such as confined space training is required for personnel working in confined spaces. Participation in such training sessions will inform personnel of the latest requirements, methods and equipment available in the industry on how to safely and efficiently carry out their tasks. The City shall ensure that each staff member receives the

necessary training to carry out their responsibilities from the appropriate authority.

The California Water Environment Association (CWEA) offers certifications in several categories: Collection System Maintenance, Environmental Compliance Officer, and Industrial Water Treatment Plant Officer to name a few. It is an industry standard that operations staff working on sanitary sewer maintenance hold at least a Grade 1 CWEA certification in Collection System Maintenance. Though in California, it is only required that operational workers at Sanitary Sewer Treatment plants must be CWEA certified. The City requires or recommends certification for its operational workers where appropriate.

The City has also implemented training for traffic safety for field staff for proper setup of work zones in local and county roads. Each City maintenance truck is equipped with a copy of the Work Area Traffic Control Handbook (WATCH).

Other as needed private company service providers and/or construction firm employees must be well trained and experienced to be considered for emergency SSO mitigation or sewer construction and rehabilitation work.

4.5 Equipment Maintenance and Replacement Policy

The City has a comprehensive equipment maintenance program. Equipment is regularly checked, adjusted, repaired or replaced as necessary. However, major fixed assets are replaced when they meet or exceed the City's established fixed assets replacement criteria based on equipment age, mileage, hours of use, repair history, safety, etc. Replacement of or additions to major assets are done through the City's annual budget process. A list of the City's current equipment and spare parts can be found in Appendix 'E'.

CHAPTER 5

DESIGN AND PERFORMANCE PROVISION

5.1 Design and construction standards and specification

The City has Standard Plans and Specifications for the Construction of Sanitary Sewers and appurtenances to ensure sewer lines and connections are properly designed and constructed. The specifications by reference incorporate the Standard Plans and Specifications for Public Works Construction, Special Provisions, and Standard Drawings. In addition, the City has other publications such as the L. A. County DPW Sewer Standards, the County's Private Contract Sanitary Sewer Procedural Manual and Guidelines for the Design of Lift Stations to ensure consistency in the design of collection system within the City.

Additionally, the City requires that plans are designed by licensed engineers. The plans are submitted to the PWD for thorough review and professional engineering precepts and practices are used in an iterative plan development / review process to ensure the sewer will function properly over time. Permits for construction of any public sewer infrastructure are issued once the functional design and adequate capacity of the public sewer system has been analyzed.

5.2 Procedures and standards for inspection and testing

The City provides inspection services for the installation of new and rehabilitated public sewer facilities. City inspectors (staff or contract) are required to be well trained in pipeline and lift station construction, and to attend training classes and educational seminars to be familiar with advancements in the industry. Inspectors are also provided with adequate materials to perform their jobs, including the Standard Specification for Public Works Construction, the Standard Plans and the Public Works Inspectors Manual, etc.

The City requires two specific actions prior to final approval and acceptance of sewer improvements as part of the City maintained system. These are: all newly constructed sewer lines are to be CCTV inspected, logged and then reviewed by City personnel, and the preparation and submittal of "As-Built" record plans of completed projects.

CHAPTER 6

OVERFLOW EMERGENCY RESPONSE PLAN

Definitions

Category 1 SSO—A discharge of any volume of untreated or partially treated wastewater from a sewer that reaches surface water or a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system.

Category 2 SSO—A discharge of 1,000 gallons or greater of untreated or partially treated wastewater from a sewer that does not reach surface water or a Municipal Separate Storm Sewer System (MS4) unless the entire SSO discharged to the storm drain is recovered and disposed of properly.

Category 3 SSO—All other discharges of untreated or partially treater wastewater resulting from a sanitary sewer failure or flow condition.

6.1 Overflow Response Procedure

City provides 24-hour emergency response services to investigate and act upon notifications received from citizens or from other valid sources. City personnel are available 24-hours each day to receive and respond to emergency calls related to problems in the sewer system. The City's SSO Response Plan is contained as Appendix 'L' in this manual.

All calls or notifications regarding the sewer system are logged on a notification form (included as Attachment 'L-1' in Appendix 'L'). The receiving person will record required information and then promptly notify the designated after-hours 'duty person(s)' or during regular service hours dispatch the nearest sewer maintenance crew member to the reported problem site. The Sewer Operations and Maintenance superintendent or supervisor who receives an emergency call will investigate the reported notification and take appropriate action including, but not limited to, immediate dispatch of a standby crew with necessary equipment to manage the problem, or refer the call to other agencies if the problem is determined to be outside the City's jurisdiction. These overflow responding and follow-up steps are presented in a flow chart in Chapter 2.

As prescribed by City Best Management Practices and contained in the SSO Response Plan (Appendix 'L'), the crew responding to an overflow emergency is required to contain and stop the overflow as soon as possible, and ensure that the facility or area is cleaned up and returned to normal operation. Whether the Sewer Maintenance and Operations crew will first focus their efforts on containing discharge or stopping the source of the leak depends on the specific nature of the overflow and surrounding site conditions. Preventing discharge to the storm drain or watercourse or other area which would adversely affect public health and safety is the first priority. If any discharge volume has reached a storm drain, maintenance crews should make all efforts to contain and capture the discharge within the storm drain. If stopping the source of the overflow can be accomplished concurrently without increasing the risk of

discharge to the storm drain, then these efforts should be performed. Actions such as traffic control should be performed in collaboration with the Police and Fire Departments if staff are unable to address traffic control concurrently with addressing the overflow.

Notification to the County Health Department and the State OES within two hours is required for all major overflows (reaches the storm drain system and is not fully recovered). The RWQCB must also be notified. When the Los Angeles County Flood Maintenance Division (FMD) is notified of all overflows that discharge into the storm drain system, they will assist in tracing and capturing the spill as much as possible before it reaches the Waters of the United States. Agencies to be notified, method and time frame for notification are presented in Section 6.1.1. Relevant data about the overflow such as location, volume, agencies notified, etc. is recorded in field report forms (see Attachment 'L-1') and later stored in the computer. Field personnel are trained to be conversant with these procedures and to accurately report SSO incidents. Refer to Figure 2-2 in Chapter 2 for a flowchart of SSO response procedures. Residents/businesses, in the immediate vicinity of an overflow, should also be notified of the cause of the problem and the corrective action taken.

City has set a target goal of 30-minutes or less response time to emergencies such as SSO, flood outs, or serious stoppages/blockages in the community systems.

6.1.1 Regulatory Agencies Notification and Time Frame

SSO Category	Type or Description	Agencies to be Notified	Type of notification and time frame	
			Timeframe	Written Report/*Online Database
1	Any volume of untreated or partially treated SSO that reaches surface water or discharge to a storm drain and not fully captured and returned to the sanitary sewer system.	State Office Emergency Serv. (if greater than 1,000 gallons) If spill is > 50,000 gallons)	ASAP, but no later than 2 hours after spill awareness	Call and obtain control number Conduct Water Quality Sampling within 48 hours of initial spill. **CIWQS Online Database** – Upload water quality results. **SSO Technical Report** – Submit report within 45 calendar days on conclusion of SSO in which 50,000 gallons or greater are spilled to surface water.
		County Health Department	Within 15 minutes after becoming aware of spill	Call and obtain operator number
		Flood Maintenance Division (FMD) [only if entered into storm drain]	ASAP, but no later than 2 hours after spill awareness	NA
		Regional Wtr. Qual. Cntrl. Bd. (RWQCB)	ASAP, but no later than 2 hours after spill awareness	Certify that the notification has been made ASAP, but no later than 24 hours after becoming aware of the spill.
		St. Wtr. Resources Control Bd. (SWRCB)	ASAP without substantially impeding cleanup	**CIWQS Online Database Initial Report** - ASAP but no later than initial 3 business days after we are made aware of it. **Final Certified Report** – Within 15 calendar days on conclusion of the SSO response and remediation.
2	A discharge that equals or exceeds 1,000 gallons and did not discharge into a drain, channel, surface water and was captured.	County Health Department	Same as above	N/A
		FMD (only if entered into storm drain)	Same as above	N/A
		RWQCB	Same as above	Same as above
		SWRCB	Same as above	Same as above
3	All other discharges	County Health Department	Same as above	N/A
		RWQCB	Same as above	Same as above
		SWRCB	Same as above	**CIWQS Online Database** – Within 30 days after the end of the calendar month in which the SSO occurred.

Private Lateral Spill	A discharge from a privately owned lateral.	County Health Department (optional if wastewater does not enter public ROW) RWQCB (optional if wastewater does not enter public ROW) SWRCB (optional)	Same as above Same as above NA	NA Same as above NA
N/A	No SSO in a calendar month	SWRCB	N/A	**CIWQS Online Database** – Certified within 30 days after a calendar month end, certified statement that no SSO occurred.

24/7 = 24 hours per day & 7 days per week

6.1.2 Field Response, Report Protocol and Forms

Appendix 'L', the SSO Emergency Response Plan, describes procedures and reporting activity to be accomplished during an actual overflow event occurrence. Corrective actions and reporting guides are described and an investigation and reporting format are included for reference use.

6.1.3 Emergency Response Plan procedures for awareness and training

The SSO Emergency Response Plan is available to key personnel who are responsible for managing or responding to SSOs. Copies of the City emergency response plans, including Appendix 'L' of the SSMP, are available to field crews and engineers who manage or have the role of preparing SSO reports to regulatory agencies. The training and experience of emergency response team members, inclusive of as needed contractors, play a very important part in the selection process for the City's as-needed emergency services contractors.

6.1.4 Traffic and crowd control procedures and other necessary response activities

City field personnel and staff or as-needed emergency services contractors who are retained for SSO responses are also trained in traffic and crowd control. City responding vehicles are well equipped with orange traffic control cones, yellow tape, flashing lights, distinctive orange uniforms, vests or jackets, etc. in order to establish control over the area where a sewage spill has occurred.

6.1.5 Procedures to eliminate or minimize discharge of SSO into Waters of the United States

City and emergency contractors' crews are properly trained on methods and procedures to prevent or limit the amount of SSO discharged into Waters of the United States and how to mitigate impacts. A frequent emphasis is placed upon reducing response time to the event site, thereby significantly limiting potential SSO spread that may reach the Waters of the United States. Timely placement of sandbags or like barriers helps prevent SSO discharge flow into storm drain catch basins or drainage channels. Vacuum units are then employed to vacuum up

contained spills and then dump the captured effluent back into the wastewater collection system at safe locations, and then clean-up and disinfection of the wastewater impoundment area follows.

6.1.6 Sewer Overflow Assessment

The Public Works Superintendent will assess the information provided by the dispatcher. He/she will either dispatch a supervisor to visit the site for further investigation or immediately dispatch a supervisor, the sewer crew and equipment to the site. In either case, the responsible Street/Sewer Maintenance Supervisor will respond and visit the site within one hour of receiving the report.

Upon arrival at the site, he/she will verify the overflow, determine whether it originates on private property, and conduct further investigation for selecting the appropriate subsequent tasks. He/she will direct the response crew to contain the overflow first and then eliminate the cause of the overflow.

Refer to Attachment 'L-2' in Appendix 'L' for a sample guide for SSO volume estimation.

6.1.7 Monitoring

Per the SWRCB 2006 WDR, the City will perform adequate sampling to determine the nature and impact of a SSO. The City Public Works Superintendent will evaluate the need to perform water quality sampling depending on the volume and extent of a Category 1 SSO.

For Category 1 SSO's where 50,000 gallons or more are spilled, water quality monitoring must be performed and submitted as part of a SSO technical report to be submitted to CIWQS within 45 days of the end of the event. This report necessitates a more detailed analysis to determine the cause and volume of the SSO and methods used to terminate the spill. Refer to Appendix 'B' pages 5-6 for the requirements for an SSO technical report.

6.1.7.a Water Quality Monitoring Program

Results from the water quality monitoring must be included in the submitted technical report. The report will include:

- Protocols for water quality monitoring.
- An account for the spill travel time in the surface water and scenarios where monitoring may not be possible.
- Water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory. A map summarizing the sampling locations should also be provided.
- A list of 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.

- Water quality sampling for, at a minimum, the following constituents within 48 hours of becoming aware of the SSO:
    - Ammonia
    - Appropriate Bacterial indicator(s) per the Los Angeles Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

6.1.8 Reporting

As previously noted, **Figure 2-2** illustrates the chain of communication for reporting SSOs from receipt of an SSO notification. SSO data is recorded by the Supervisor in the field with input from the City crew and/or Contractor that responds to the SSO. Specific field data for the overflow is reported on the CIWQS Sanitary Sewer Overflow Report Form, which is included as Attachment 'L-1' in Appendix 'L'. The CIWQS SSO final report is reviewed and approved by the Public Works Superintendent. Upon approval, the CIWQS SSO final report is submitted to the State Water Resource Control Board.

Category 1 SSOs

Category 1 SSOs will be reported to CIWQS, the RWQCB's Online SSO System as soon as possible, but no later than 3 business days after the City becomes aware of the SSO. A final certified report will be completed through the RWQCB's Online SSO System within 15 calendar days of the conclusion of SSO response and remediation.

Category 1 SSOs will also be reported to the following agencies:

a. **California State Office of Emergency Services (OES)** if the SSO is 1,000 gallons or more. **Must be contacted within two hours of becoming aware of the SSO.**

   (800) 852-7550 – 24 hours per day

b. **Environmental Programs Division**

   (626) 458-4357

c. **Regional Water Quality Control Board, Los Angeles Region**

   (213) 576-6600 – Business hours
   (213) 576-6650 – After hours

d. **Los Angeles County Health Department**

   (213) 974-1234 – (Answered 24/7)

e. **Los Angeles County Flood Maintenance Division East Area** if sewage has entered or is likely to enter a County storm drain or channel:

   (626) 445-7630 – Business hours
   (626) 798-6761 – After hours

f. **West Covina Fire Department** if the overflow involves hazardous materials

Business hours	(626) 939-8824

g. **West Covina Police Department** if traffic control is needed on City streets

Business hours	(626) 939-8500
24-hour Dispatch	(626) 939-8668

i. **Los Angeles County Sheriff's Department** for traffic control in unincorporated areas:

24-hour Dispatch	(213) 229-1700

j. **City of Baldwin Park** if SSO is in its jurisdiction or is likely to enter its jurisdiction:

Public Works	(626) 813-5255
Police Department	(626) 960-1955

k. **Los Angeles County Sanitation Districts** if SSO is from a Sanitation Districts' facility or if additional manpower or equipment is needed:

Emergency Control Center	(562) 437-6520
	(562) 437-1881

Category 2 SSOs

Category 2 SSOs will be reported to the RWQCB's CIWQS Online SSO Database as soon as possible, but no later than 3 business days after the City becomes aware of the SSO. A final certified report will be completed through the RWQCB's Online SSO System within 15 calendar days of the conclusion of SSO response and remediation. The City of West Covina will report Category 2 SSOs to all of the same agencies listed for Category 1 SSOs, except the California State Office of Emergency Services.

Category 3 SSOs

Category 3 SSOs will be reported to the RWQCB's CIWQS Online SSO Database as soon as possible, but no later than 30 days after the end of the calendar month in which the SSO occurred. The City of West Covina will report Category 3 SSOs to all of the same agencies listed for Category 1 SSOs, except the California State Office of Emergency Services.

Private Lateral Sewage Discharges (PLSD)

Per the General Statewide WDR, private lateral sewage discharge reporting is based upon the Enrollee's discretion. The City of West Covina may report the private lateral sewage discharges to the RWQCB's CIWQS Online SSO Database within the same timeframe as the Category 2 SSOs.

At their discretion, the City of West Covina Operations staff will report private lateral

SSOs to all of the same agencies listed for Category 1 SSOs, except the California State Office of Emergency Services.

No Sanitary Sewer Overflows during a Calendar Month

If there are no SSOs during a calendar month, a statement will be filed through the CIWQS Online SSO Database within 30 days certifying that there were no SSOs for the previous month. The City shall certify a "No Spill" report if the only SSO event that occurred was a PLSD.

6.2 SSO Overflow Considerations

6.2.1 High Risk Overflow Locations

The City has identified approximately 434 sewer segments that typically have flows greater than their intended capacity. These areas have a greater potential to cause an SSO event. Of these areas, 83 segments are over 85% of their total capacity. Upon review of the SSO events over the past few years, it seems that these areas do not coincide with the SSO events which were primarily caused by FOG and root intrusion.

6.2.2 Risk Assessment for PLSD's

The City has approximately 3,507 LF of private sewer laterals. The City is strongly encouraged to notify Cal OES of discharges from a private sewer lateral greater than 1,000 gallons that may reach surface waters. Reporting of PLSD's to CIWQS is voluntary, however, it is recommended that the City, at a minimum, maintain records of PLSD locations to identify areas that are prone to PLSD and advise the owners on corrective action to prevent future or repeat discharges.

CHAPTER 7

FOG SOURCE CONTROL PROGRAM

7.1 Public education and outreach program

The City notifies individuals and businesses about the FOG source control program. Information on proper disposal of FOG and other SSO prevention measures, including installation of grease traps, backwater valves, sewer lateral maintenance, etc. is disseminated through publication of brochures, articles in newsletters, and individual notices to property owners, with business license renewals, and some personal contacts on a yearly schedule. Notifications provide descriptions of grease control efforts that can be undertaken by homeowners and businesses alike. These methods are usually effective in relaying information on proper disposal of FOG and other SSO prevention methods.

Other effective ways to communicate with the public are being considered, such as use of the City's home web page and newsletter, both local radio and cablevision announcements, and exchanges of outreach information, between agencies. Also, bilingual posters developed by the California Restaurant Association (CRA) and Los Angeles County Sanitation District (LACSD) for direct distribution is an available BMP tool for training and reminding those who work with FOG producing products. The LACSD has also developed a training program available to agency personnel on methods to control grease discharges in order to prevent SSO. For CSD's FOG Training available to local cities, contact (562) 699-7411 x 2907, and information, documents and guidelines are available on the Cal FOG website http://calfog.org.

FOG in the local sewer system can be a prime contributor to an SSO. Other health and safety issues can also result from the discharge of pharmaceuticals and pesticides into the sanitary sewer system. Although not usually a causative factor in sewer overflows, these chemicals can be toxic and have disruptive environmental and biological effects. Discharges of such chemical compounds into the sewers must be part of the education and outreach program. *"No drugs or household pesticides down the drain"*, is a compatible health and safety advisory.

7.2 Disposal method and schedule for FOG generated within the system service area

Solidified FOG found in the public sewer system during scheduled cleaning operations or clearing of a blockage are trapped, collected and taken to designated dump sites. The City contracts with Athens Disposal Services to safely transport and dispose of FOG waste at designated dump locations:

Athens Services
14048 Valley Blvd,
La Puente, CA, 91746
(888)-336-6100

7.3 Legal authority to prohibit discharges to the system and control measures to prevent SSO and blockages caused by FOG

Legal authority to prohibit illicit discharges such as FOG into the sewer system is discussed in Chapter 3 of this document and is established in the West Covina Municipal Code (WCMC). Requiring grease interceptors at food preparation locations to prevent the discharge of grease to the public sewer system and educating the public on proper disposal methods for FOG are also discussed in this chapter. Discharges from industrial classification facilities are usually controlled under the terms of an industrial wastewater discharge permit, which is issued and monitored by the CSD.

7.4 Design standards and installation requirements for grease removal devices, maintenance and BMP requirements, record keeping and reporting requirements

As the designee of the Public Works Director / City Engineer, the City Building Official or consultant is authorized to monitor and enforce the terms of the Plumbing Code and the Public Health Code. This includes domestic waste disposal into the sanitary sewer system. The WCMC prohibits the discharge of FOG in the amount that will damage or increase the maintenance costs of the wastewater collection system.

The CSD is charged with reviewing, permitting and inspecting industrial waste facilities that discharge into the City sanitary sewer system, of which there are currently 4 permittees. Pretreatment devices are required for industrial waste generating facilities, and FOG generating FSE under the PC. Grease removal devices are required to be designed per Section 10 of the PC, permitted, installed and operated in a manner to control discharges of FOG into the sanitary sewer system. Such is to ensure that the facilities do not create nuisances, menaces to the public peace, health or safety hazards, or adverse impacts on the public sewerage system, soil, underground and/or surface waters. If there is a FOG related problem associated with an industrial waste permit, CSD will take enforcement action against the permittee.

When during inspection of the sanitary sewer system, Sewer Operations and Maintenance personnel determine that a FOG related problem exists and is traceable to a domestic sewage source of such character that is not suitable under the WCMC, pretreatment could be required or the discharge required to be eliminated. Domestic waste containing FOG can lead to a SSO, such would be classed a public nuisance, and California Health and Safety Code Division 5, Part 3, Chapter 6, Article 2 can be used to impose appropriate domestic sewage discharge requirements.

The effectiveness of any grease removal devices are dependent upon their routine maintenance and monitoring/inspection for conformance with its intended purpose. Regular inspection and maintenance activity logging and quarterly reporting are required. Per WCMC Section 23-82, grease interceptors must be maintained at least once every four months. Additionally, grease interceptors must be fully pumped out at a frequency such that FOG accumulation does not exceed twenty-five (25) percent of the total liquid depth of the grease interceptor. The Public Works Director / City Engineer or his/her designee may also increase the minimum maintenance frequency for FSE's that generate FOG.

FSE's are required to keep all manifests, receipts and invoices for their grease control devices for a minimum of four (4) years. These record must be made available to the Public Works Director / City Engineer or his/her designee upon request. The Public Works Director / City Engineer can also require FSE's to prepare and submit self-monitoring reports for determining compliance with the FOG provisions of the West Covina Municipal Code.

7.5 Authority to inspect grease producing facilities, enforcement authorities, and evidence of adequate staffing to inspect and enforce the FOG ordinance

The City has legal authority to inspect and enforce the local FOG ordinances (see Chapter 3). City maintains two on staff code enforcement officers and John L. Hunter and Associates (JLHA) on call for inspections of FSE establishments. JLHA has adequate trained staff to inspect FSE's for compliance with the City FOG ordinance. FSE inspectors distribute educational materials to business owners and the public (refer to Appendix 'M'). The funding mechanism in place will allow for increases in permit and other service charges if necessary to retain additional staff or consultant services.

If an inspection of an FSE reveals that they are not in compliance with the City FOG Ordinance, the Public Works Director / City Engineer or his/her designee has the authority to issue a Notice of Violation (see Appendix 'M'). This informs the FSE owner of the violation, corrective action to be taken, and penalties if the problem is not addressed and results in an SSO.

7.6 Cleaning schedule for identified FOG prone sewer segments

Experience has shown that FOG contributes to about 50% of the total SSO events that occur in a community sewer system. The remaining 50% is usually attributable to root intrusions and other structural causes. FOG prone sections of City's collection system, otherwise called "Enhanced Maintenance Areas," are inspected at a minimum of once every 30 days. These "Enhanced Maintenance Areas" are typically cleaned by hydro jetting and rodding or cutting of roots. Those portions of the system found to have persistent FOG problems are inspected and cleaned more frequently, depending on the magnitude of the problem. Sewer hotspots are cleaned at a minimum of once a month. Segments of the collection system with persistent FOG problems are referred to the PWD for additional evaluation and corrective actions.

7.7 Source control measures developed and implemented for "Enhanced Maintenance Areas"

Each "Enhanced Maintenance Area" cause and condition is not the same. For each identified problem location, the means of effective maintenance is noted on the respective "Enhanced Maintenance Areas" list for review and regular follow-up action by the sewer maintenance crews. The activities can be amended as needed.

7.8 Some BMP's for Fats, Oils and Grease

Example BMP's for kitchens can be found in Appendix 'N'.

CHAPTER 8

SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

8.1 System Evaluation

A hydraulic model of the City's sewer system was completed as part of the 2009 SSMP. Since no significant capital improvements have occurred since the completion of this model, the need to update it at this time does not appear necessary. It is typical for average water usage to change over the years. Therefore, the City should perform flow monitoring at select locations to calibrate the model results and determine flow rates into the County sewer system.

The results of the 2009 capacity analysis and recommended improvements are contained in Appendix 'O' along with updated funding alternatives considering the City's current and planned expenditures and sewer rates.

8.2 Design Criteria

The City's Engineering Division is the first line of defense in ensuring that the public sewer infrastructure is adequately sized, correctly designed and reasonably maintainable. The PWD has the legal authority to perform this important task as set forth in Chapter 3 of this report. For specifics on design and performance provisions, refer to Chapter 5.

8.3 Adequate Capacity

The City requires completion of a sewer capacity study, by a registered engineer, prior to giving approval for projects that can affect the capacity of the public sewer system. A completed study will analyze the existing system capacity and will set forth mitigation requirements for the proposed project to ensure adequate capacity. The study will also justify sizing of proposed lines to accommodate the peak flows from all areas tributary to the mainline sewer under consideration or pumping station, under current conditions and in the future. The approved capacity study is referenced directly by the City plan checker when design plans for the new infrastructure are submitted to confirm adequately designed capacity. Proposals for new connections to existing sewer must also comply with the PWD policies for managing available sewer capacity (Appendix 'Q').

8.4 CIP Schedule

Per the City's 2015-2020 CIP, several sewer upgrades are programmed over the next five years. The City has approximately $2.4 million programmed for sewer main line repairs over the next four years. The Virginia pipeline west of Eddes St. is to be extended approximately 1,500 linear feet (8" pipe). The sewer line in Far View south of Spring Meadow Dr. is to be extended 1,600 linear feet (8" pipe). Sewer mainline upgrades are programmed on Cameron Avenue from Citrus Street to 700 feet East of Inman Avenue. The scheduling of both operating and capital improvement projects are contained in Appendix 'R'.

CHAPTER 9

MONITORING, MEASUREMENT, MODIFICATION PROGRAM

9.1 Monitoring

Relevant data on all work done in the implementation/execution of the SSMP program shall be documented in the Maintenance Management System (MMS) and used in preparing the monthly summary of performance measures (see Appendix 'S') These data are used in the evaluation of the effectiveness of the overall program.

9.2 Program Effectiveness Evaluation

The effectiveness of the program shall be monitored and tracked through the City Performance Measure Indicators (See Appendix 'S'). Examples of key indicators are noted below:

- Total number of overflows in each year
- Total number of overflows equal to or greater than 1,000 gallons discharged or reaching the Waters of the United States in each year
- Overflow response time for each event
- Reduction of repeated incidents of overflow at the same location
- Reduction in number of overflows caused by flows exceeding the capacity of the collection system.

9.3 Program Modifications

The City shall assess monthly the effectiveness of its program in order to minimize the possibility of SSO's. Where appropriate, the City may:

- Adjust its Hot Spot cleaning program
- Revise its criteria
- Expand the scope of its FOG Program
- Adjust its notification and communications activities
- Modify its design and construction standards
- Revise its Capital Improvement Program
- Adjust its rate structure

9.4 SSO Location Mapping and Trends

9.4.1 Location Map

The monthly numbers of SSOs are also depicted in charts and graphs (Appendix 'D'). The charts are used to identify SSO trends and as an indicator of potential infiltration & inflow problems that need to be corrected. The graphs are used to identify SSO trends and to evaluate overall SSMP program success especially by comparing the graphs to preceding years and with results from other similar sewer agencies. All of the SSO's reported to date

have been Category 3 overflows. The locations of past SSO's are plotted on a map in Appendix 'F'.

9.4.2 SSO Trends

Of the reported SSO events in the past seven years on the CIWQS website, the predominant cause was either FOG, root intrusion, or a combination of the two. SSO's caused by FOG can be prevented by a rigorous public outreach program and enforcement of the FOG ordinance as it applies to food service establishments. It is recommended that the City document SSO event locations for correlation with its public outreach efforts and update its program as needed to reduce the incidence of these types of overflow contributors.

SSO's caused by roots can be prevented through routine maintenance of areas known to have root intrusion. The City has not experienced an SSO event since 2011 that identified root intrusion as a primary cause. However, review of CCTV videos revealed that root intrusion remains a consistent problem in some areas, so continued diligence is needed to prevent SSO's of this nature.

9.5 Record Keeping

The City shall maintain records of the SSMP implementation for a minimum of five (5) years and make these records available upon request from the Water Boards:

9.5.1 General Records: These shall include records of maintenance, cleaning, and other actions to address all reasonable system deficiencies to reduce the likelihood of an SSO event in compliance with the State WDR.

9.5.2 SSO Records:

- Complaint records (regardless of whether or not the complaint was tied to a later SSO)
- Records of response to SSO event including spill cleanup, notification of the public, and actions taken to prevent a future SSO.
- Records of how volumes discharged and (if applicable) recovered were calculated
- Records documenting all changes to the SSMP since the previous certification.
- Electronic Monitoring records for documenting SSO's and/or estimating the volume discharged including:
    - Supervisory Control and Data Acquisition (SCADA) systems
    - Alarm system(s)
    - Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates, and/or volumes

CHAPTER 10

SSMP PROGRAM AUDIT AND CERTIFICATION

10.1 Program Audit

The City shall conduct periodic internal audits and prepare a report, at a minimum these audits must occur every two years. The audit will focus on evaluating the operational and cost effectiveness of the SSMP, as well as compliance with all elements of the SSMP. The audit will include:

- Whether a spill occurred from its system
- Cause of the spill
- The identification of any deficiencies in the SSMP
- Steps taken to remediate any identified deficiencies
- Documentation of interviews with key responding City personnel and any contractors utilized
- Recorded notes of operational observations, especially of each SSO event
- Records of related equipment inspections
- Findings of all reviews of related records.
- Capital improvement projects that have been implemented
- Next year's capital improvement program

Refer to Appendix 'T' for a sample audit development guide. Note that Appendix 'T' is merely intended as a guide for developing a bi-annual audit. It is up to the City to determine if the criteria included in the list is complete enough to assess the effectiveness of the City's efforts to prevent and minimize the effects of SSO's. The most recent report of the audit must be kept on file in the Office of the City Clerk, the PWD office and at the City Public Works maintenance yard.

10.2 Plan Certification

The SSMP shall be certified by the City Manager or authorized representatives to be in compliance with the requirements set forth in the WDR and be presented to the City Council for approval at a public meeting. The City authorized representative must also 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 signed form to:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
1001 I Street, 15th Floor
Sacramento, CA 95814

10.3 Plan Modification and Re-certification

The SSMP must be updated every five years to keep it current. When significant amendments are made to any portion or portions of the SSMP, it must be resubmitted to the City Council for approval at a public hearing and re-certification. The re-certification shall be in accordance with the certification process described in section 10.2 above.

CHAPTER 11

COMMUNICATION AND SSMP AVAILABILITY

11.1 Communication

The City must provide all stakeholders and interested parties, the general public, and other agencies with status updates on the development and implementation of the SSMP and consider comments made by them. The City must also utilize media such as letters, newsletters, brochures, annual reports, notices in newspapers, and the City's home web page for conveying this information. The City will hold a public hearing to present the revised SSMP to the public and will give at least one week advanced notice.

11.2 SSMP Availability

Copies of the SSMP will be maintained in the office of the PWD/City engineer, the City Clerk's Office, County library, and PWD maintenance yard, and posted in the City's home web page. The document shall also be made readily available to the Regional Water Quality Control Board (Region 4) representatives upon request and to the operators of any collection system or treatment facility downstream of the City sewer system.

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APPENDIX 'A'

Waste Discharge Requirements (Order No. 2006-0003-DWQ)

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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 'B'

Amended Monitoring and Reporting Program (No. 2013-0058)

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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

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[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 <u>any volume</u> 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 <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 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 <u>within a privately owned sewer lateral</u> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <u>voluntarily</u> 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

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APPENDIX 'C'

WDR 'Fact Sheet'

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FACT SHEET

STATE WATER RESOURCES CONTROL BOARD

ORDER NO. 2006-0003

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

The State Water Resources Control Board (State Water Board) adopted Resolution 2004-80 in November 2004, requiring staff to work with a diverse group of stakeholders (known as the SSO Guidance Committee) to develop a regulatory mechanism to provide a consistent statewide approach for reducing Sanitary Sewer Overflows (SSOs). Over the past 14 months, State Water Board staff in collaboration with the SSO Guidance Committee, developed draft statewide general waste discharge requirements (WDRs) and a reporting program. The WDRs and reporting program reflect numerous ideas, opinions, and comments provided by the SSO Guidance Committee.

The SSO Guidance Committee consists of representatives from the State Water Board's Office of Chief Counsel, several Regional Water Quality Control Boards (Regional Water Boards), United States Environmental Protection Agency (USEPA), Region IX, non-governmental environmental organizations, as well as publicly-owned sanitary sewer collection system agencies. The draft WDRs, reporting program, and associated documents result from a collaborative attempt to create a robust and rigorous program, which will serve as the basis for consistent and appropriate management and operation of sanitary sewer systems.

During the collaborative process, several key issues regarding the draft WDRs were identified. These include:

- Is there a need for statewide collection system requirements?
- Should these systems be regulated under a National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to the Federal Clean Water Act or under WDRs issued pursuant to the California Water Code (the Porter-Cologne Water Quality Control Act or Porter-Cologne)?
- Should the regulatory mechanism include a prohibition of discharge and, if so, should the prohibition encompass only SSOs that reach surface waters, ground water, or should all SSOs be prohibited?
- Should a regulatory mechanism include a permitted discharge, an affirmative defense, or explicit enforcement discretion?
- Should the regulated facilities include publicly-owned facilities, privately owned facilities, satellite systems (public and private), and/or private laterals?

- Should all SSOs be reported, and if not, what should the reporting thresholds be; and what should the reporting timeframes be?
- How will existing permits and reporting requirements incorporate these new WDRs?
- How much will compliance with these new WDRs cost?

The WDRs and Reporting Program considered the comments of all stakeholders and others who commented on the two drafts circulated to the public. These documents also incorporate legal requirements and other revisions to improve the effectiveness and management of the regulatory program. Following is a discussion of the above issues, comments received on the drafts and an explanation of how issues were resolved.

The Need

As California's wastewater collection system infrastructure begins to age, the need to proactively manage this valuable asset becomes increasingly important. The first step in this process is to have a reliable reporting system for SSOs. Although there are some data systems to record spills and various spill-reporting requirements have been developed, inconsistent requirements and enforcement have led to poor data quality. A few Regional Water Boards have comprehensively tracked SSOs over the last three to five years, and from this information we have been able to determine that the majority of collection systems surveyed have had SSOs within this time period.

Both the San Diego and Santa Ana Regional Water Boards have issued WDRs over the last several years to begin regulating wastewater collection systems in an attempt to quantify and reduce SSOs. In fact, 44 out of 46 collection system agencies regulated by the San Diego Regional Water Board have reported spills over the last four and a half years, resulting in 1467 reported SSOs. Twenty-five out of 27 collection system agencies subject to the Santa Ana Regional Water Board's general WDRs reported SSOs between the years of 1999-2004. During this time period, 1012 SSOs were reported.

The 2004 Annual Ocean and Bay Water Quality Report issued by the Orange County Environmental Health Care Agency shows the number of SSOs increasing from 245 in 1999 to 399 in 2003. While this number indicates a concerning trend, the total annual spill volume from these SSOs has actually decreased dramatically, as has the number of beach closures due to SSOs. It is likely, therefore, that the rise in number of SSOs reflects better reporting, and not an actual increase in the number of SSOs.

This information also suggests that the Santa Ana Regional Water Board's WDRs, which contain sanitary sewer management plan (SSMP) requirements similar to those in the proposed statewide general WDRs, have been effective in

not only increasing the number of spills that are reported but also in mitigating the impacts of SSOs that do occur.

Data supports the conclusion that virtually all collection systems have SSOs and that implementation of a regulatory measure requiring SSO reporting and collection system management, along with required measures to limit SSOs, will greatly benefit California water quality. Implementation of these requirements will also greatly benefit and prolong the useful life of the sanitary sewer system, one of California's most valuable infrastructure items.

NPDES vs. WDRs

Porter-Cologne subjects a broader range of waste discharges to regulation than the Federal Clean Water Act. In general, the Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). Since not all SSOs result in a discharge to surface water, however, not all SSOs violate the Clean Water Act's NPDES permitting requirements. Porter-Cologne, on the other hand, covers all existing and proposed waste discharges that could affect the quality of state waters, including both surface waters and groundwater. (Wat. Code §§13050(e), 13260). Hence, under Porter-Cologne, a greater SSO universe is potentially subject to regulation under WDRs. In addition, WDRs under Porter-Cologne can address both protection of water quality as well as the prevention of public nuisance associated with waste disposal. (*Id.* §13263).

Some commenters contend that because all collection systems have the potential to overflow to surface waters the systems should be regulated under an NPDES permit. A recent decision by the United States Court of Appeals for the 2nd Circuit, however, has called into question the states' and USEPA's ability to regulate discharges that are only "potential" under an NPDES permit. In *Waterkeeper Alliance v. United States Environmental Protection Agency* (2005) 399 F.3d 486, 504-506, the appellate court held that USEPA can only require permits for animal feedlots with "an actual addition" of pollutants to surface waters. While this decision may not be widely followed, especially in the area of SSOs, these are clearly within the jurisdiction of the California Water Code.

USEPA defines a publicly owned treatment works (POTW) as both the wastewater treatment facility and its associated sanitary sewer system (40 C.F.R. §403.3(o)[1]). Historically, only the portion of the sanitary sewer system that is owned by the same agency that owns the permitted wastewater treatment facility has been subject to NPDES permit requirements. Satellite sewer collection systems (i.e. systems not owned or operated by the POTW) have not been

[1] The regulation provides that a POTW include sewers, pipes, and other conveyances only if they convey wastewater to a POTW.

typically regulated as part of the POTW and, therefore, have not generally been subject to NPDES permit requirements.

Comments were received that argued every collection system leading to a POTW that is subject to an NPDES permit should also be permitted based upon the USEPA definition of POTW. Under this theory, all current POTW NPDES permits could be expanded to include all satellite sewer collection systems, or alternatively, the satellite system owners or operators could be permitted separately. However, this interpretation is not widely accepted and USEPA has no official guidance to this fact.

There are also many wastewater treatment facilities within California that do not have discharges to surface water, but instead use percolation ponds, spray irrigation, wastewater reclamation, or other means to dispose of the treated effluent. These facilities, and their satellite systems, are not subject to the NPDES permitting process and could not be subject to a statewide general NPDES permit. POTWs that fall into this category, though, can be regulated under Porter-Cologne and do have WDRs.

In light of these factors, the State Water Board has determined that the best approach is to propose statewide general WDRs at this time.

Prohibition of Discharge

The Clean Water Act prohibits the discharge of wastewater to surface waters except as authorized under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations that are necessary to achieve water quality standards. (33 U.S.C. §1311(b)(1)(B) and (C)). Thus, an SSO that results in the discharge of raw sewage to surface waters is prohibited under the Clean Water Act.

Additionally, California Water Code section 13263 requires the State 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.

California Water Code section 13050 (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.

Some SSOs do create a nuisance as defined in state law. Therefore, based upon these statutory requirements, the WDRs include prohibitions in Section C. of the WDRs. Section C. states:

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, which creates a nuisance as defined in California Water Code section 13050(m) is prohibited.

Furthermore, the State Water Board acknowledges the potential for more stringent water quality standards that may exist pursuant to a Regional Water Board requirement. Language included in Section D.2 of the WDRs allows for these more stringent instances.

D. PROVISIONS

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 WDRs, superseding the general WDRs, 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.

Permitted Discharge, Affirmative Defense, and Enforcement Discretion

Commenters from the discharger community have requested inclusion of an affirmative defense to an SSO on the grounds that certain SSO events are unforeseen and unavoidable, such as SSOs due to extreme wet weather events. An affirmative defense is a mechanism whereby conduct that otherwise violates WDRs or a permit will be excused, and not subject to an enforcement action, under certain circumstances. Since many collection system industry experts believe that not all SSOs may be prevented, given certain circumstances (such as unforeseen vandalism, extreme wet weather, or other acts of God), many

collection system owner representatives believe this should formally be recognized by including an affirmative defense for these unavoidable SSOs.

Previous informal drafts of the general WDRs included affirmative defense language, which was contingent upon appropriate development and implementation of sanitary sewer management plan (SSMP) requirements, as well as a demonstration that the SSO was exceptional and unavoidable. Other stakeholders, including USEPA and the environmental groups opposed the concept of an affirmative defense for SSOs. They argued that its inclusion in the WDRs would undermine the Clean Water Act and inappropriately limit both Regional Water Board and third party enforcement.

After considering input from all stakeholders, and consulting with USEPA, staff is not recommending inclusion of an affirmative defense. Rather, the draft WDRs incorporate the concept of enforcement discretion, and explicitly identify what factors must be considered during any civil enforcement proceeding. The enforcement discretion portion of the WDRs is contained within Sections D. 6 and 7, and is consistent with enforcement discretion provisions within the California Water Code.

Facilities Subject to WDRs

Collection systems consist of pipelines and their appurtenances, which are intended to transport untreated wastewater to both publicly-owned and private wastewater treatment facilities. While wastewater treatment facilities are owned by a wide variety of public and private entities, public agencies (state and federal agencies, cities, counties, and special districts) own the vast majority of this infrastructure.

Collection systems that transport wastewater to POTWs could be grouped into four different categories:

1. Publicly-owned treatment works – pipelines and appurtenances that are owned by a public agency that also owns a wastewater treatment facility;
2. Publicly-owned satellites – pipelines and appurtenances that are owned by a public agency that does not own a wastewater treatment facility; and
3. Private laterals - pipelines and appurtenances that are not owned by a public agency, but rather discharge into one of the above types of facilities.
4. Privately owned treatment works – pipelines and appurtenances that are owned by a private entity, which also owns a wastewater treatment facility (often a septic tank and leach field).

The WDRs require all public agencies, which own wastewater collection systems (category 1 and 2 above) to enroll in the WDRs. Privately owned systems (categories 3 and 4) are not subject to the WDRs; however, a Regional Water

Board may at its discretion issue WDRs to these facilities on a case-by-case or region wide basis.

Collection systems discharging into POTWs (categories 1, 2, and 3) represent, by far, the greatest amount of collection system infrastructure within California. Since regulating private entities (categories 3 and4) on a statewide basis would be unmanageable and impractical (because of the extremely large number and lack of contact information and other associated records), staff believes focusing on the public sector is the best option for meaningful and consistent outcomes. The legal authority and reporting provisions contained in the WDR do require limited oversight of private laterals (category 3) by public entities. Given this limited responsibility of oversight, public entities are not responsible or liable for private laterals.

State Water Board staff will notify all known public agencies that own wastewater collection systems, regarding their obligation to enroll under these WDRs. However, because of data inaccuracies, State Water Board staff may inadvertently not contact an agency that should enroll in the WDRs or erroneously contact a public agency that does not own a collection system. Staff will make every effort to accurately identify public agencies. In the event that a public agency is overlooked or omitted, however, it is the agency's responsibility to contact the State Water Board for information on the application process. An agency can find the appropriate contact by visiting the State Water Board's SSO homepage at www.waterboards.ca.gov/sso.

SSO Reporting

SSOs can be distinguished between those that impact water quality and/or create a nuisance, and those that are indicators of collection system performance. Additionally, SSO liability is attributed to either private entities (homeowners, businesses, private communities, etc...) or public entities. Although all types of SSOs are important to track, the reporting time frames and the type of information that need to be conveyed differ.

The Reporting Program and Online SSO Database clearly distinguish the type of spill (major or minor) and the type of entity that owns the portion of the collection system that experienced the SSO (public or private entity). The reason to require SSO reporting for SSOs that do not necessarily impact public health or the environment is because these types of SSOs are indicators of collection system performance and management program effectiveness, and may serve as a sign of larger and more serious problems that should be addressed. Although these types of spills are important and must be regulated by collection system owners, the information that should be tracked and the time required to get them into the online reporting system are not as stringent.

Obviously, SSOs that are large in nature, affect public health, or affect the environment must be reported as soon as practicable and information associated with both the spill and efforts to mitigate the spill must be detailed. Since the Online SSO Database is a web based application requiring computer connection to the internet and is typically not as available as telephone communication would be, the Online Database will not replace emergency notification, which may be required by a Regional Water Board, Office of Emergency Services, or a County Health or Environmental Health Agency.

Incorporating Existing Permits

It is the State Water Board's intent to have one statewide regulatory mechanism that lays out the foundation for consistent collection system management requirements and SSO reporting. While there are a significant number of collection systems that are not actively regulated by the State or Regional Water Boards, some efforts have been made to regulate these agencies on a facility-by-facility or region-by-region basis. General WDRs, individual WDRs, NPDES permits, and enforcement orders that specifically include collections systems are mechanisms that have been used to regulate collection system overflows.

However, because of these varying levels of regulatory oversight, confusion exists among collection system owners as to regulatory expectations on a consistent and uniform basis (especially with reporting spills). Currently, there are a myriad of different SSO reporting thresholds and a number of different spill report repositories. Because of the varying levels of reporting thresholds and the lack of a common database to capture this information, an accurate picture of SSOs throughout California is unobtainable.

In order to provide a consistent and effective SSO prevention program, as well as to develop reasonable expectations for collection system management, these General WDRs should be the primary regulatory mechanism to regulate public collection systems. The draft WDRs detail requirements associated with SSMP development and implementation and SSO reporting.

All NPDES permits for POTWs currently include federally required standard conditions, three of which apply to collection systems. NPDES permits must clarify that the following three conditions apply to that part of the collection system that is owned or operated by the POTW owner or operator. These conditions are:

- Duty to mitigate discharges (40 CFR 122.41(d))
- Requirement to properly operate and maintain facilities (40 CFR 122.41(e))
- Requirement to report non-compliance (40 CFR 122.41(l)(6) and (7))

Understandably, revising existing regulatory measures will not occur immediately. However, as time allows and, at a minimum, upon readopting existing WDRs or WDRs that serve as NPDES permits, the Regional Water Boards should rescind redundant or inconsistent collection system requirements. In addition, the Regional Water Boards must ensure that existing NPDES permits clarify that the three standard permit provisions discussed above apply to the permittee's collection system.

Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, there will be some instances when Regional Water Boards will need to impose more stringent or prescriptive requirements. In those cases, more specific or more stringent WDRs or an NPDES permit issued by a Regional Water Board will supersede this Order. Finding number 11, in the WDRs states:

> 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.

Cost of Compliance

While the proposed WDRs contain requirements for systems and programs that should be in place to effectively manage collection systems, many communities have not implemented various elements of a good management plan. Some agencies are doing an excellent job managing their collection systems and will incur very little additional costs. Other agencies will need to develop and implement additional programs and will incur greater costs. However, any additional costs that a public agency may incur in order to comply with these General WDRs are costs that an agency would necessarily incur to effectively manage and preserve its infrastructure assets, protect public health and prevent nuisance conditions. These General WDRs prescribe minimum management requirements that should be present in all well managed collection system agencies.

In order to estimate the compliance costs associated with the proposed WDRs, staff analyzed costs associated with implementing the Santa Ana Regional Water Board's general WDRs. Twenty-one agencies, which discharge to Orange County Sanitation District, submitted financial summaries for the last five years, representing both pre- and post-WDRs adoption. Operation and maintenance costs, program development costs, as well as capital improvement costs were

considered and fairly accurately represent what can be expected statewide with the adoption of the General WDRs.

After extrapolating the sample to yield a statewide cost perspective, the projected annual cost of implementing the statewide WDRs is approximately $870 million. This total represents $345.6 million in O&M costs and $524.5 for capital improvement projects.

While this sum is substantial, presenting the costs on a per capita or per household basis puts the figure in perspective. Department of Finance estimated the total population for Californians that may be subject to the WDRs to be 30.3 million persons (1/1/05). Dividing the population by the approximate average household size of 2.5 yields 12 million households. The average household in California is assumed to be 2.5 persons. The increased average annual cost (in order to comply with these WDRs) per person is estimated to be $28.74 and $71.86 per household (or $5.99 per month per household)

Given these average costs there will be some communities that realize higher costs on a per household basis and some that realize less cost. Furthermore, larger communities will probably also realize an economy of scale, which is dependent upon a community's size. While larger communities may see lower costs associated with compliance, smaller communities will probably see a higher cost associated with compliance. Costs for compliance in small communities may be as high as $40 per month per household.

APPENDIX 'D'

Table and Graphs of Past SSO Events

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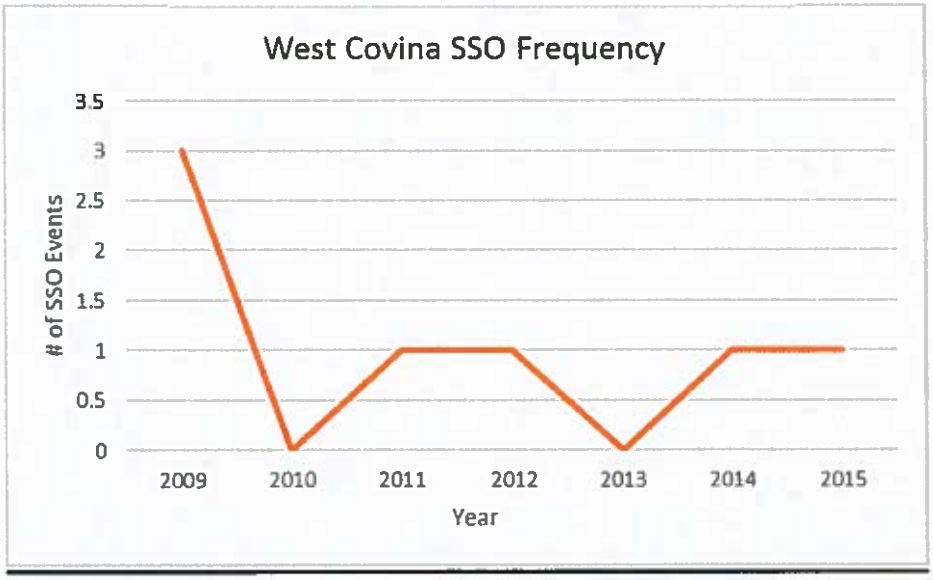
Trends in Past Sanitary Sewer Overflow Events

The City submits records of all SSO events to CIWQS. The following list of SSO events was compiled from the information available on the CIWQS website. All of the SSO events appear to be either caused by FOG or roots. There are also sites that had more than one SSO event such as Robindale Street. This should be taken into consideration as the City focuses their SSO prevention efforts. A Map of the SSO locations is provided in **Appendix 'F'**.

WEST COVINA SSO Event Matrix-Since January 2009

Event ID	Date	Category	Location	Total Spill Volume (gal)	Explanation
733175	1/29/2009	3	Stuart Avenue and Robin road	19	FOG and root intrusion
742169	7/28/2009	3	Intersection of Garvey Ave North and Yaleton Ave	150	Grease Deposition (FOG)
747302	12/3/2009	3	3227 Whitebirch Drive	60	Root Intrusion
773517	11/28/2011	3	Robindale Street 550 feet west of Glendora Ave	30	Root Intrusion
786344	9/17/2012	3	Amar Road 520' east of Officer Chiles Way	630	Grease Deposition (FOG)
805273	3/29/2014	3	E Doublegrove Street at E Autumn Drive	300	Grease Deposition (FOG)
820229	11/16/2015	3	Robindale Street 550 feet west of Glendora Ave	70	Grease Deposition (FOG)



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APPENDIX 'E'

Sewer O&M Inventory of Sewer Maintenance Equipment

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INVENTORY OF SEWER MAINTENANCE EQUIPMENT

A. Equipment Owned by the City

1 – Rodder truck
1 – Vactor truck
1 – Camera van with camera and assorted equipment
1 – Case Backhoe and trailer
2 – Pick-up trucks
2 – Dump trucks
1 – Flat bed truck
1 – Utility truck
1 – Sewer pump and trailer (Ditch Witch)

B. Equipment owned by emergency service provider(s)

In addition to the normal compliment of equipment utilized by the PWD for maintenance and repair of the sewerage system, specific items are maintained for use during emergency conditions. Such equipment includes:

- Jet vactor and rodding machine to clear pipe blockages
- Portable engine driven electrical generators for use at pumping plants during power outages
- Vacuum tankers to transport flow around blockages or to remove wastewater from a containment location in a street or storm drain
- Pre-filled sand bags and flat bed trucks for use in establishing containment dams
- Front loaders for emergency earth moving operations
- Portable engine driven centrifugal pumps (trash pumps) to bypass wastewater around pipe blockages and remove wastewater from storm drain channel containment locations
- Hoses and lightweight quick-coupling piping in various sizes for use in bypass pumping
- Pipe repair clamps, inflatable sewer plugs, and other miscellaneous pipe repair parts
- Water trucks and bottled chlorine solution for use in clean up operations
- Portable lights, air compressors, centrifugal blowers, and other miscellaneous equipment
- Protective clothing and supplies for safe use by personnel

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APPENDIX 'F'

Map of Sewer Operations Yard and SSO Locations

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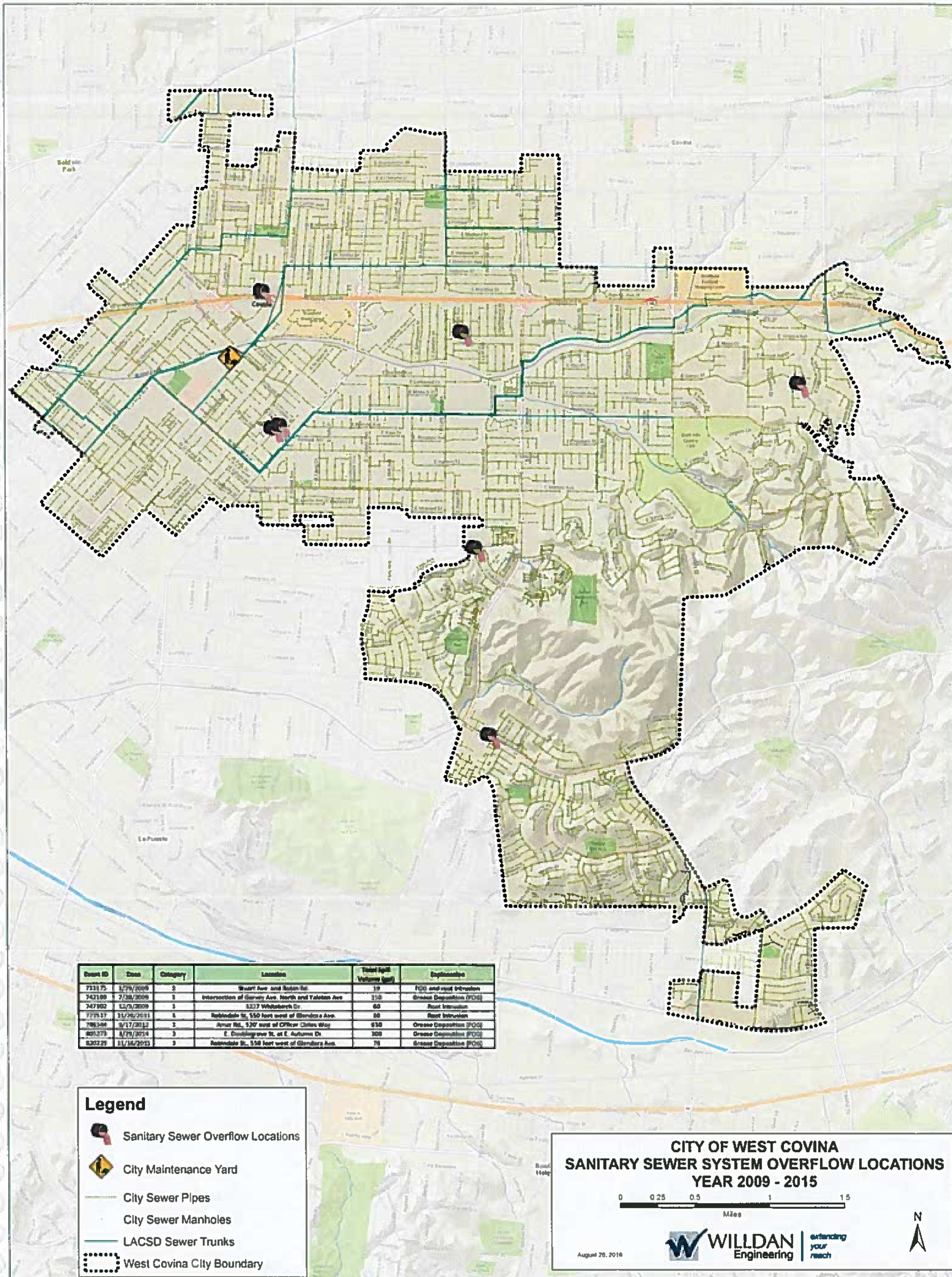

Event ID	Date	Category	Location	Total Spill Volume (gal)	Explanation
733175	1/29/2009	[illegible]	[illegible] Ave. and [illegible] Rd.	19	FOG and root intrusion
742100	7/28/2009	1	Intersection of Garvey Ave. North and [illegible] Ave	150	Grease Deposition (FOG)
747302	12/3/2009	3	3237 Whitebirch Dr.	60	Root Intrusion
[illegible]	11/[illegible]/2011	[illegible]	Robindale St., 550 feet west of Glendora Ave.	80	Root Intrusion
786344	9/17/2012	3	Amar Rd., 520' east of Officer [illegible] Way	630	Grease Deposition (FOG)
[illegible]	8/29/2014	3	E. [illegible] St. at E. Autumn Dr.	300	Grease Deposition (FOG)
820225	11/16/2015	3	Robindale St., 550 feet west of Glendora Ave.	75	Grease Deposition (FOG)

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APPENDIX 'G'

Inventory of Sewer Collection Facilities by Sewer Maintenance Zones

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Inventory of Sewer Collection Facilities by SMZ

Summary:

1. The total number of sewer manholes in the system is **5,187**

2. Total lineal feet of sewer is as follows:

a.	4-inch Sewer in the System =	458	feet
b.	6-inch Sewer in the System =	1,656	feet
c.	8-inch Sewer in the System =	1,108,939	feet
d.	10-inch Sewer in the System =	38,739	feet
e.	12-inch Sewer in the System =	28,192	feet
f.	15-inch Sewer in the System =	18,340	feet
g.	18-inch Sewer in the System =	4,158	feet
	Total:	1,200,482	feet
		227.4	**Miles**

3. The total number of laterals in the system is **Not identified**

4. The total number of siphons in the system is **Not identified**

5. The total number of lift stations in the system **6 Stations with Varying Amounts of Pumps**

Inventory by SMZ:

The capacity analysis for the City of West Covina subdivided the City into 179 SMZ's according to tributary flow areas. A graphic representation of where these SMZ's are located is provided in Appendix O, Exhibits A, B, and C.

SMZ	MH's	Pipe Length [Ft]	Siphons	Lift Stations	Inflow From	Delivery To
1	2	646	0	0	West Covina	CSD Trunk
2	8	2160	0	0	LA. Co.	CSD Trunk
3	30	8535	0	0	LA. Co.	Baldwin Park
4	13	2708	0	0	West Covina	CSD Trunk
5	325	83594	0	0	LA. Co. & Baldwin Park	CSD Trunk
6	1	41	0	0	West Covina	CSD Trunk
7	66	17530	0	0	LA. Co.	CSD Trunk
8	7	2002	0	0	West Covina	CSD Trunk
9	7	1978	0	0	West Covina	CSD Trunk
10	23	5856	0	0	West Covina	CSD Trunk
11	5	1255	0	0	West Covina	CSD Trunk
12	3	752	0	0	West Covina	CSD Trunk
13	35	7977	0	0	LA. Co.	CSD Trunk
14	3	1026	0	0	West Covina	CSD Trunk
15	73	19034	0	0	West Covina	CSD Trunk
16	2	265	0	0	West Covina	CSD Trunk
17	2	529	0	0	West Covina	CSD Trunk
18	42	11384	0	0	West Covina	CSD Trunk
19	12	3211	0	0	West Covina	CSD Trunk
20	16	3553	0	0	West Covina	CSD Trunk
21	32	7309	0	0	West Covina	CSD Trunk
22	3	535	0	0	West Covina	CSD Trunk
23	16	3963	0	0	West Covina	CSD Trunk
24	17	4909	0	0	West Covina	CSD Trunk
25	2	247	0	0	West Covina	CSD Trunk
26	2	504	0	0	West Covina	CSD Trunk
27	9	2182	0	0	West Covina	CSD Trunk
28	10	2317	0	0	West Covina	CSD Trunk
29	5	452	0	0	West Covina	CSD Trunk
30	2	527	0	0	West Covina	CSD Trunk
31	2	527	0	0	West Covina	CSD Trunk
32	2	527	0	0	West Covina	CSD Trunk
33	3	546	0	0	West Covina	CSD Trunk
34	3	661	0	0	West Covina	CSD Trunk
35	8	1953	0	0	West Covina	CSD Trunk
36	29	6987	0	0	West Covina	CSD Trunk
37	20	5482	0	0	West Covina	CSD Trunk
38	5	1218	0	0	West Covina	CSD Trunk
39	14	3530	0	0	West Covina	CSD Trunk

SMZ	MH's	Pipe Length [Ft]	Siphons	Lift Stations	Inflow From	Delivery To
40	6	1186	0	0	West Covina	CSD Trunk
41	20	3842	0	0	West Covina	CSD Trunk
42	4	861	0	0	West Covina	CSD Trunk
43	5	1228	0	0	West Covina	CSD Trunk
44	33	8244	0	0	West Covina	CSD Trunk
45	8	1444	0	0	West Covina	CSD Trunk
46	29	7559	0	0	West Covina	CSD Trunk
47	2	396	0	0	West Covina	CSD Trunk
48	2	340	0	0	West Covina	CSD Trunk
49	8	1336	0	0	West Covina	CSD Trunk
50	1	347	0	0	West Covina	CSD Trunk
51	32	6541	0	0	West Covina	CSD Trunk
52	19	4448	0	0	West Covina	CSD Trunk
53	7	1597	0	0	West Covina	CSD Trunk
54	5	1208	0	0	West Covina	CSD Trunk
55	3	1030	0	0	West Covina	CSD Trunk
56	6	1134	0	0	West Covina	CSD Trunk
57	3	733	0	0	West Covina	CSD Trunk
58	7	1952	0	0	West Covina	CSD Trunk
59	1	346	0	0	West Covina	CSD Trunk
60	6	1829	0	0	West Covina	CSD Trunk
61	19	3573	0	0	West Covina	CSD Trunk
62	370	88629	0	1	LA. Co.	CSD Trunk
63	1	196	0	0	West Covina	CSD Trunk
64	1	196	0	0	West Covina	CSD Trunk
65	1	188	0	0	West Covina	CSD Trunk
66	1	224	0	0	West Covina	CSD Trunk
67	1	225	0	0	West Covina	CSD Trunk
68	1	193	0	0	West Covina	CSD Trunk
69	2	522	0	0	West Covina	CSD Trunk
70	2	522	0	0	West Covina	CSD Trunk
71	4	1111	0	0	West Covina	CSD Trunk
72	11	2628	0	0	West Covina	CSD Trunk
73	2	456	0	0	West Covina	CSD Trunk
74	25	6001	0	0	LA. Co.	CSD Trunk
75	83	21199	0	0	West Covina	CSD Trunk
76	4	747	0	0	West Covina	CSD Trunk
77	2	547	0	0	West Covina	CSD Trunk
78	8	1917	0	0	West Covina	CSD Trunk
79	8	1522	0	0	West Covina	CSD Trunk

SMZ	MH's	Pipe Length [Ft]	Siphons	Lift Stations	Inflow From	Delivery To
80	151	33372	0	0	LA. Co.	CSD Trunk
81	72	18061	0	0	West Covina	CSD Trunk
82	475	100036	0	0	West Covina	CSD Trunk
83	218	54116	0	0	West Covina	CSD Trunk
84	33	8535	0	0	West Covina	CSD Trunk
85	40	10409	0	0	West Covina	CSD Trunk
86	10	2392	0	0	West Covina	CSD Trunk
87	5	1169	0	0	West Covina	CSD Trunk
88	3	624	0	0	West Covina	CSD Trunk
89	3	602	0	0	West Covina	CSD Trunk
90	26	6223	0	0	West Covina	CSD Trunk
91	1	221	0	0	West Covina	CSD Trunk
92	1	214	0	0	West Covina	CSD Trunk
93	1	428	0	0	West Covina	CSD Trunk
94	2	324	0	0	West Covina	CSD Trunk
95	1	260	0	0	West Covina	CSD Trunk
96	3	730	0	0	West Covina	CSD Trunk
97	4	701	0	0	West Covina	CSD Trunk
98	1	160	0	0	West Covina	CSD Trunk
99	1	196	0	0	West Covina	CSD Trunk
100	1	196	0	0	West Covina	CSD Trunk
101	16	3620	0	0	West Covina	CSD Trunk
102	1	216	0	0	West Covina	CSD Trunk
103	1	216	0	0	West Covina	CSD Trunk
104	11	2946	0	0	West Covina	CSD Trunk
105	72	18158	0	0	West Covina	CSD Trunk
106	10	1978	0	0	West Covina	CSD Trunk
107	91	22754	0	0	West Covina	CSD Trunk
108	1	268	0	0	West Covina	CSD Trunk
109	8	1282	0	0	West Covina	CSD Trunk
110	7	965	0	0	West Covina	CSD Trunk
111	5	541	0	0	West Covina	CSD Trunk
112	2	262	0	0	West Covina	CSD Trunk
113	11	2695	0	0	West Covina	CSD Trunk
114	3	613	0	0	West Covina	CSD Trunk
115	6	1398	0	0	West Covina	CSD Trunk
116	335	81830	0	0	LA. Co.	CSD Trunk
117	31	6578	0	0	West Covina	CSD Trunk
118	7	1520	0	0	LA. Co.	CSD Trunk
119	23	6240	0	0	Baldwin Park	CSD Trunk

SMZ	MH's	Pipe Length [Ft]	Siphons	Lift Stations	Inflow From	Delivery To
120	18	3970	0	0	West Covina	CSD Trunk
121	20	4513	0	0	West Covina	CSD Trunk
122	28	7125	0	0	West Covina	CSD Trunk
123	3	833	0	0	West Covina	CSD Trunk
124	2	414	0	0	West Covina	CSD Trunk
125	12	2164	0	0	West Covina	CSD Trunk
126	3	534	0	0	West Covina	Baldwin Park
127	3	592	0	0	West Covina	Baldwin Park
128	6	1556	0	0	West Covina	CSD Trunk
129	4	1057	0	0	West Covina	CSD Trunk
130	4	1054	0	0	West Covina	CSD Trunk
131	51	12464	0	0	West Covina	CSD Trunk
132	61	14040	0	4	West Covina	CSD Trunk
133	39	8572	0	0	West Covina	LA. Co.
134	3	506	0	0	West Covina	CSD Trunk
135	24	5194	0	0	West Covina	CSD Trunk
136	12	2476	0	0	West Covina	CSD Trunk
137	3	738	0	0	West Covina	CSD Trunk
138	4	919	0	0	West Covina	CSD Trunk
139	50	12871	0	0	West Covina	CSD Trunk
140	50	12509	0	0	West Covina	CSD Trunk
141	5	5	0	0	West Covina	CSD Trunk
142	2	392	0	0	West Covina	CSD Trunk
143	3	800	0	0	West Covina	CSD Trunk
144	7	976	0	0	West Covina	CSD Trunk
145	12	1726	0	0	West Covina	CSD Trunk
146	17	3132	0	0	West Covina	CSD Trunk
147	2	520	0	0	West Covina	CSD Trunk
148	2	520	0	0	West Covina	CSD Trunk
149	7	1914	0	0	West Covina	CSD Trunk
150	33	8406	0	0	West Covina	CSD Trunk
151	29	7565	0	0	LA. Co.	CSD Trunk
152	11	3356	0	0	LA. Co.	CSD Trunk
153	7	1659	0	0	LA. Co.	LA. Co.
154	27	7035	0	0	LA. Co.	LA. Co.
155	9	1243	0	0	LA. Co.	CSD Trunk
156	69	14289	0	0	West Covina	LA. Co.
157	524	106705	0	1	West Covina	LA. Co.
158	44	8934	0	0	West Covina	CSD Trunk
159	35	9164	0	0	West Covina	CSD Trunk

SMZ	MH's	Pipe Length [Ft]	Siphons	Lift Stations	Inflow From	Delivery To
160	74	15958	0	0	West Covina	CSD Trunk
161	115	26473	0	0	West Covina	LA. Co.
162	58	9996	0	0	West Covina	LA. Co.
163	32	7802	0	0	West Covina	CSD Trunk
164	28	3790	0	0	West Covina	LA. Co.
165	9	1728	0	0	West Covina	CSD Trunk
166	43	5712	0	0	West Covina	CSD Trunk
167	31	4325	0	0	West Covina	CSD Trunk
168	12	2882	0	0	Rowland Heights	LA. Co.
169	20	4863	0	0	West Covina	LA. Co.
170	10	2871	0	0	Rowland Heights	CSD Trunk
171	7	1313	0	0	West Covina	CSD Trunk
172	14	2815	0	0	West Covina	LA. Co.
173	6	1150	0	0	West Covina	CSD Trunk
174	143	38255	0	0	Walnut	CSD Trunk
175	11	3325	0	0	West Covina	CSD Trunk
176	1	183	0	0	West Covina	CSD Trunk
177	4	825	0	0	West Covina	CSD Trunk
178	17	3794	0	0	West Covina	Covina
179	2	267	0	0	West Covina	CSD Trunk
Totals:	**5187**	**227.4 (miles)**	**0**	**6**		

APPENDIX 'H'

CCTV Inspections Report

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CCTV INSPECTION REPORT

Introduction and History

The City owns and operates its local sanitary sewer system consisting of approximately 227 miles of gravity flow sewer pipelines (consisting of 4-inch to 18-inch diameter pipe), six pump (lift) stations and 5,187 manholes. The existing sewer system consists completely of local collector sewers that discharge to trunk sewers owned and operated by the County Sanitation Districts of Los Angeles County and to the adjacent Cities of Baldwin Park and Covina, and some unincorporated county area sewers. The City also receives some sewage flow from the City of Baldwin Park and adjacent unincorporated County areas. The City conducts CCTV video inspection of the entire sewer system on a ten-year cycle or as maintenance issues arise. The primary intent of these investigations is to determine the need to clean particular segments.

Segments Reviewed

For the purposes of this updated report a representative sample of CCTV video were reviewed from the City's available records for analysis of typical maintenance and structural conditions within the City's sewer system. The videos selected for review corresponded to areas included in the City's list of Enhanced Maintenance Areas. These areas are more likely to have maintenance issues such as excessive FOG, root intrusion, or excessive calcium buildup than areas not on this list. The City's Hot Spots are inspected and cleaned by City Operations Staff on a monthly basis. Attachment 'H-1' provides a log of the CCTV videos reviewed and the information recorded. Additional segments reviewed were selected due to their proximity to large commercial areas, connection points to County trunk sewers, or known hydraulic capacity deficiencies. Commercial areas have different flow patterns from residential areas, particularly near Food Service Establishments which produce more Fats, Oils, and Grease (FOG, see Appendix M) than residential areas.

In the videos that were reviewed, the following information was provided: starting address/cross street, direction of travel, and distance travelled. However, there were multiple manholes at some intersections, so in some cases not enough information was provided to quickly identify the segment of interest. For each pipe segment that was reviewed, observed defects or abnormal flow conditions were recorded. Attachment 'H-1' summarizes the findings for all of the CCTV videos reviewed. Details for the most common types of deficiencies identified with photos are discussed on the following pages.

Each segment that was reviewed was assigned a rating according to the National Association of Sewer Service Companies (NASSCO) Condition Assessment Program quick rating system. The rating system assigns a structural rating for a particular pipe segment based on the likelihood of a failure due to the observed deficiencies. The program also utilizes a matrix to link common deficiencies with a standardized code. A copy of this matrix is provided in Attachment 'H-2'. The code listed in column labeled NASSCO Code in Attachment 'H-1' corresponds to the code description found in Attachment 'H-2'.

Attachment 'H-3' includes an exhibit of the sewer segments that were reviewed and identified according to the description provided in the video. The exhibit identifies the condition assigned to each segment according to the review observations.

Investigation Observations

Fats, Oils, and Grease (FOG) Buildup

The condition of the segments reviewed varied significantly. Of note, the pipe segments adjacent to Hong Kong Plaza on Robindale exhibited heavy FOG buildup in the mainline (Figure 1). In some cases, the buildup was so severe that it constricted flow in some laterals where they connect to the mainline (Figure 2). This is a strong indication the FSE's in the plaza are not properly cleaning or maintaining their grease interceptors. FOG was identified in additional locations such as Hollenbeck near Garvey as can be seen in Figure 3. Though it was observed that FOG occupied a greater distance of the segment at Robindale and Hong Kong Plaza.

Figure 1 – FOG Buildup in Mainline on Robindale St

Figure 2 –FOG Buildup in Lateral on Robindale St

Figure 3—FOG Buildup in Mainline on Hollenbeck Ave

Structural Deficiencies

Additional deficiencies were identified such as cracks and chips in the mainline. Though some cracking in the pipes may occur over time, in some cases it was determined that the cracks may have developed or will develop into a break, which means the pipe will require replacement or repair. **Figure 4** below shows an example of a crack in the flow path of the pipe. This could be one indication of a break in the pipe. **Figure 5** shows a pipe segment which was severely cracked at the pipe joint.

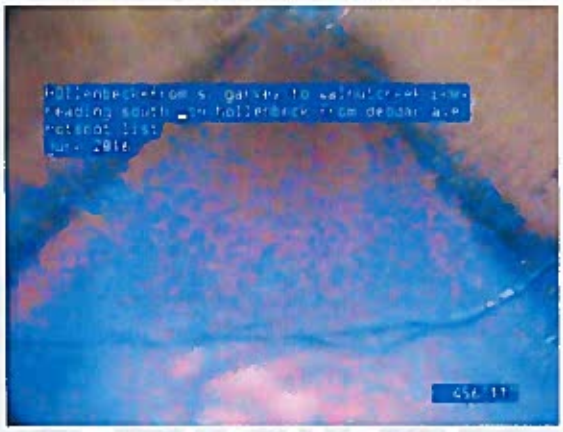


Figure 4—Crack in Channel Mainline on Hollenbeck Ave

Figure 5—Crack at Joint Mainline on Spring Meadow Drive

Root Intrusion

The third type of deficiency is root intrusion which was frequently identified on Spring Meadow Drive and Cameron Drive. Growth of roots into the sewer mainline in an indication that more frequent hydro-jetting or chemical treatment of the roots is needed to prevent growth from causing a blockage. Figure 6 below shows one case of severe root intrusion. In some cases, it appeared that FOG and other debris had accumulated around the roots (**Figure 7**). This presents a particularly hazardous operating condition as the size of the blockage can fill a considerable portion of the pipe.

Figure 6—Root Intrusion
Mainline on Spring Meadow Dr

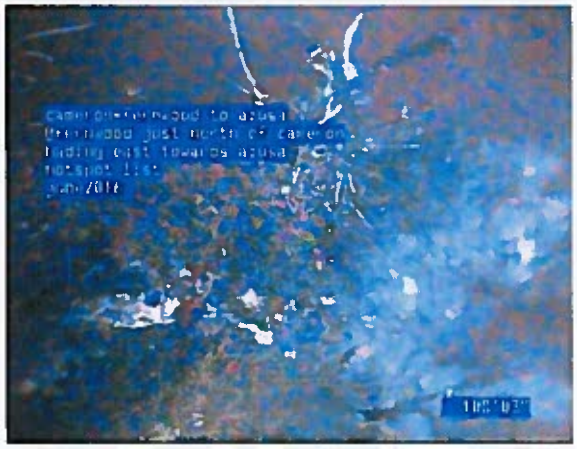


Figure 7—Roots and FOG
Lateral on Cameron Dr

Recommendation

All future CCTV investigations should utilize the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) rating system. This system utilizes a standardized manhole numbering system based on the City's GIS map and assigns a rating to each segment reviewed that can be used when planning sewer maintenance and repair priorities.

It appears that FOG and root intrusion are major problems in many of the locations reviewed. Diligent cleaning of these sewer segments is necessary to prevent SSO's at these locations. A robust public outreach and FOG enforcement program is also critical in reducing the amount of FOG that is discharged to the sewer.

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
Disks A-F Correspond to Enhanced Maintenance Videos recorded in 2016										
A	1	Hollenbeck Dupler to Garvey East 476'	Dupler to Jones 289' ID: 2254 Jones towards Garvey 146' ID: 2252	2	CL, JOM, DAGS	Structural	Broken pipe	1.1	7:15"	101'-06"
						Maintenance	Debris in MH	1.2	5:52"	253'-05"
						Structural	Possible Offset Pipe	1.3	8:05"	308'-11"
						Maintenance	Buildup in Pipe	1.4	10:53"	356'-07"
				3		Video restarts after 405'; 11:05				
					FM	Structural	Crack in top of pipe	1.5	16:50"	199'-07"
						Structural	Large Crack and buildup in channel	1.6	22:35"	252'-08"
						Structural	Crack in top of pipe	1.7	25:10"	348'-04"
						Structural	Large Crack and buildup in channel	1.8	31:31"	456'-11"
						Structural	Crack in top of pipe	1.9	32:11"	459'-10"
B	2	Stuart Butterfield to Homerest West 584'	ID's 1888, 2134, 2133, 2132, 2131 Lengths, 295, 300, 292, 280, 298	1, 2, 2, 3, 3	DAGS	Unknown	Possible Evidence of backcharge	2.1	5:31"	270'-01"
						MH #1; 297'; 6:11; operator spent some time apparently trying to get camera onto shelf?				
						Maintenance	Buildup on pipe walls	2.2	23:49"	417'-02"
						MH #2; 589'; 32:06; distance counter restarts				
						Structural	crack at joint	2.3	34:32"	83'-08"
						MH #3; 280'; 36:01				
						Maintenance	Possible root intrusion	2.4	41:37"	286'-07"
						Maintenance	root intrusion		44:17"	367'-10"
						Maintenance	high flow - over 1/2 full at MH		50:49"	580'
						MH #4; 581'06"; 50:36				
	3	San Bernadino Azusa Canyon Road Heading East (backwards) 298'	ID 1434, 1437 Length: 272'	1, 1		Structural	Abrupt Grade Change	3.1	4:39"	138'-04"
						Unknown	Pipe Half Full	3.2	6:20"	90'-05"
						Maintenance	Small root intrusion	3.3	7:03"	70'-02"
	4	Rubidoux to manhole behind Hong Kong Plaza South	Cannot locate on map		DAGS, DAE	Maintenance	FOG or calcium buildup, roaches	4.1	0:19"	10'-05"
						Maintenance	Severe FOG	4.2	1:15"	19'-01"
						Structural	Pipe Offset	4.3	2:39"	73'-01"
						Maintenance	Severe FOG	4.4	4:27"	135'-10"
						MH #1; 173'-01"; 7:32				
	5	Rubidoux n/b @ driveway to Glendoro East 535'	Cannot locate on map		DAGS, DAE, RFC	Maintenance	Evidence of surcharge on pipe ceiling	5.1	0:13"	7'-10"
						Maintenance	FOG buildup	5.2	2:00"	59'-05"
						MH #1; 171'-05"; 5:06				
						MH #2; 214'-06"; 6:08				
						Maintenance	root intrusion	5.3	8:17"	314'-05"
						Maintenance	Severe FOG in lateral-constricting flow	5.4	9:01"	337'-02"
						Unknown	Severe FOG in lateral-constricting flow	5.5	10:46"	394'-07"
						Maintenance	Severe FOG in mainline	5.6	11:59"	423'-06"
						Maintenance	FOG in Lateral	5.7	16:26"	430'-10"
						MH #3; 434'-08"; 17:00				
						MH #4; 535';				
	6	New Line to Chevy's from California 2 South Garvey North 182'	Cannot locate on map			MH #1; 158'-05"; 3:21				
C	7	California Service to Bluemb North - 634 California 999'-11"	ID's: 634, 635 Lengths: 335', 315'	2, 2	CL	Structural	Crack in Pipe ceiling	6.1	7:35"	320'10"
						MH #1; 335'; 7:49				
						Structural	Crack at joint	6.2	21:10"	109'02"
						MH #2; 305'06"; 23:01				
						Structural	Crack at joint	6.3	24:15"	560'11"
	8	Hong Kong Plaza North from South Corner of Plaza 530'	Cannot locate on map		DAGS, DAE,	Maintenance	Possible Root Intrusion	7.1	1:48"	83'05"
						Maintenance	FOG Buildup	7.2	3:07"	133'03"
						Maintenance	Severe FOG in Lateral	7.3	4:06"	159'02"
						Maintenance & Structural	Severe FOG & Joint Offset	7.4	6:22"	187'08"
						Unknown	High Water Level	7.5	8:56"	187'03"
							Blockage Cleared	7.6	12:13"	191'11"
						MH #1; 238'10"; 13:48				
						Maintenance	Severe Root Intrusion	7.7	18:45"	341'06"
						MH #2; 472'05"; 26:06				
						MH #3; 118'07"; 28:37				
						MH #4; 138'10"; 28:55				
							Drop Inlet	7.8	35:10"	332'07"
						MH #5; 423'05"; 36:48				
							Drop Inlet	7.9	40:44"	481'-04"
						MH #6; 517'07"; 47:46				
						Structural	Major Pipe Crack/Chip	7.10	1:02:48"	542'10"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
D	9	Vincent/Glendora Split North towards West Covina Pkwy 472'	ID: 610, 609 Lengths: 301', 171'	2, 1	CL	Structural	Crack in top of pipe	8.1	"8:10"	300'10"
							MH #1; 345'01"; 9:07			
							MH #2; 470'10"; 13:12; Photo 8.2; FOG in MH			
	10	Vincent/Glendora To MH by Stop Light West Heading Northwest from Split 135'	ID: 611 Length: 131'	1			MH #1; 137'04"; 1:47			
	11	Vincent/Glendora Split Heading South 249'	ID: 612 Length: 247'	1	DAGS	Maintenance	FOG in Manhole	11.1	"7:02"	249'00"
	12	Glendora/Service 1st MH west on Christopher/Glendora to MH at Glendora/Service East West, 62'	ID: 613 Length 63'	1			MH #1; 61'03"; 1:57			
	13	425 Mercedo Pl/Glendora to Merced Glendora West, 426'	ID: 1029, 1030 Length: 240', 345'	3, 1	CL	Structural	Large Crack at top of pipe	13.1	"4:12"	152'04"
							MH #1; 344'10"; 9:09			
							Rig stops mid pipe for several minutes			
	14	Shadydale at Mercedo to LA County South, 23	ID: 821 Length: 25'	2		Unknown	High Water Volume	14.1	"1:58"	12'11"
						Structural	Material Flaked Off	14.2	"5:37"	0'10"
	15	921 Spring Meadow Dr North from 840 Springmeadow 349	ID: 3723 Length: 286'	4	CM, RMC	Maintenance	Severe Root Intrusion	15.1	"0:52"	31'04"
						Maintenance & Structural	Roots longitudinal crack to pipe	15.2	"2:30"	37'07"
						Maintenance	More roots	15.3	"3:16"	46'02"
						Maintenance	Roots and FOG in pipe	15.4	"8:07"	167'04"
						Structural	Possible Break	15.5	"13:51"	249'03"
							MH #1; 252'03"; 16:00			
						Unknown	Low Flow	15.6	"16:42"	9'01"
							MH #2; 320'00"; 20:17			
E	16	Homenhorest-Workman to Idahome North from Workman/Idahome 345	ID: 2054, 2055 Lengths: 76', 264'	1, 2	CL		MH #1; 74'06"; 1:36			
						Unknown	High Water Level	16.1	"3:34"	117'10"
						Maintenance & Structural	Possible Chip and FOG buildup	16.2	"10:01"	344'11"
						Structural	Large Crack	16.3	"11:51"	36'05"
							MH #2; 180'11"; 16:48			
F	17	Homerest between Workman and Roland at Homerest and Thelborn North on Homerest, 325	ID: 2050 Length: 335'	1		Unknown	Low Flow	17.1	"8:41"	249'04"
							MH #1; 334'00"; 10:19			
	18	Homerest between Workman and Merbury at Homerest and Thelborn South on Homerest, 600	ID: 2051, 2053 Length: 329', 264'	2, 1	CL	Structural	Crack in top of pipe	18.1	"12:52"	302'11"
						Structural	Crack in top of pipe	18.2	"14:13"	136'05"
							MH #1; 323'03"; 18:44			
							MH #2; 597'00"; 22:26			
	19	Cameron-Fernwood to Azusa at fernwood to north of Cameron East towards Azusa 600	WC Trunk Sewer, no ID's provided	4	RBC	Maintenance	Root Intrusion	19.1	"1:14"	61'04"
						Maintenance	Roots Filled Lateral Inlet	19.2	"2:08"	104'04"
						Maintenance	Roots and FOG in lateral	19.3	"4:45"	108'03"
						Maintenance	Large Root Block	19.4	"6:11"	142'06"
						Maintenance	FOG at lateral	19.5	"7:18"	172'05"
						Maintenance	Roots in Lateral	19.6	"7:33"	175'11"
							MH #1; 348'08"; 12:02			
						Flow	Low Flow	19.7	"14:29"	495'11"
	20	Stuart- Turner to Homerest at Stuart and Myrtlewood East on Stuart, 570'	Could not locate, label does not make sense, only overlaps segment 2131 previously included		RFC		MH #1; 291'05"; 3:52			
						Maintenance	Signs of root intrustion	20.1	"15:50"	219'01"
							MH #2; 276'07"; 16:38			
						Maintenance	Roots	20.2	"17:32"	356'11"
						Maintenance	Roots	20.3	"20:54"	505'00"
							MH #3; 571'06"; 22:19			
The following videos correspond to the City's CCTV video inspection map by Area. Refer to this document to determine which areas are covered by a particular Disk #										
44-Reclear	21	707 Inman Heading East	ID: 3780	2	NA	Enforcement	FOG in Lateral	21.1		75'01"
						Structural	Crack in top of pipe at joint	21.2	"2:42"	114'02"
						Maintenance	root intrusion + cracked pipe	21.3	"3:33"	122'04"
						Capacity	Possible sign of high flow on walls	21.4	"8:14"	320'01"
							End 328'07"			
	22	2834 Cortez Heading East	ID: 3814, and 3813	2 & 1	NA	Structural	Crack in Pipe at joint	22.1	"0:16"	1'08"
						Structural	Crack in Pipe at joint	22.2	"1:00"	23'08"
						Structural	Crack in Pipe at joint	22.3	"2:59"	90'02"
							MH1 at "4.36" 186'02"			
							End 246'05"			
44	23	2635 charlinda heading east (camera backs up then goes west)	ID: 3775 and 3774	3 & 1	CM	Structural	Circular crack in wall	23.1	"2:24"	125'01"
							MH1 at "2:41" at 143'05"			
							MH2 at "6:48" at 326'05"			
	24	2635 charlinda heading west	ID: 3776 and 3777	1 & 2			MH1 at "22:15" and 217'11"			
						Maintenance	Root intrusion	24.1	"22:51"	251'08"
						Maintenance	Roots + FOG	24.2	"23:13"	251'03"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
							MH2 at "31:30" and 567'10" end			
	25	2620 Evergreen heading west	ID: 3778	3	CM	Structural	Large crack and chip in pipe at joint	25.1	"32:50"	52'10"
						Maintenance	FOG and roots in lateral	25.2	"33:47"	80'05"
						Maintenance	FOG and roots in lateral	25.3	"34:15"	108'08"
							MH1 at "39:12" and 321'01" end			
	26	704 Inman heading south	ID: 3780 and 3779	3 & 2	RBC, RBL	Maintenance	Large clot of Roots in pipe (camera gets stuck, removes partial blockage, resumes at 56:42)	26.1	"42:47"	65'03"
						Maintenance	FOG clump	26.2	"57:16"	112'04"
						Maintenance	FOG+roots	26.3	"1:03:08"	273'08"
							MH1 at "1:07:04" and 322'08"			
							Terminal MH2 at "1:18.44" and 537'02" end			
		704 Inman heading north	ID: 3781 and 3782	1	NA		MH1 at "1:49:08" and 331'02"			
							MH2 at "1:56:59" and 521'11" end			
		1639 Larkwood heading east	ID: 4824, 4823, 4822	1	NA		MH1 at "2:02:25" and 277'02"			
							MH2 at "2:04:40" and 447'04"			
							MH3 at "2:13:15" and 601'08" end			
		1639 Larkwood heading west	ID: 4825 and 4826	1	NA		MH1 at "2:16:45" and 273'05"			
							MH2 at "2:27:07" and 574'05" end			
		2816 rosemary heading east	ID: 3823 and 3822	1	NA		MH1 at "2:30:05" and 180'04"			
							MH2 at "2:32:35" and 367'04" end			
	27	2816 rosemary heading south	ID: 3824	2	DAGS	Maintenance	Severe FOG deposits in pipe	27.1	"2:39:16"	64'05"
						Maintenance	Root intrusion	27.2	"2:40:51"	122'04"
						Maintenance	FOG buildup	27.3	"2:41:16"	142'08"
							MH1 at "2:41:55" and 174'05" end			
60	28	719 Evanewood heading east up camilla	ID: 773	1	NA	Flow	Pipe is 1/3 full and slow flow	28.1	"2:08"	108'11"
							MH1 at "3:46" and 242'04"			
							MH2 at "11.25" and 494'11"			
		719 Evanwood heading south towards cameron	ID: 775	1	NA		MH1 at "15:50" and 333'08"			
							End at "24:58" and 612'10"			
	29	719 Evanwood heading north towards service	ID: 774	1	NA	Flow	Almost Dry	29.1	"27:35"	39'00"
						Flow	Stagnant	29.2	"28:56"	117'01"
							MH1 at "29:01" and 134'07" end			
		718 Greenberry heading south towards cameron	ID: 766	1	NA		MH1 at "34:17" and 229'01"			
							MH2 at "42:30" and 478'11" end			
	30	728 Glenshaw heading south towards cameron	ID: 769	1	B, BVV	Flow	Sludge buildup in channel	30.1	"45:08"	87'11"
							MH1 at "47:57" and 224'10"			
			ID: 770	5		Structural	Broken pipe	30.2, 30.2A	"55:42"	453'09"
						Structural	Broken pipe	30.3, 30.3A	"55:54"	459'01"
							End 459'01"			
	31	Cameron/greenberry east bound	ID: 767	4	H		MH1 at "2:48" and 170'11"			
						Structural	Deteriorated concrete in MH	31.1	"3:00"	171'02"
	32	Cameron/greenberry west bound	ID: 768	4	B		MH1 at "9:57" and 278'07"			
						Flow	Low flow - sludge in channel	32.1	"10:40"	320'10"
						Structural	Crack in top of pipe at joint	32.2	"13:03"	413'06"
						Structural	Crack/Chip missing in pipe at joint	32.3	"13:47"	429'05"
							MH2 at "17:09" and 576'11" end			
	33	713 California heading south	ID: 742	2		Structural	Chip in pipe at lateral connect	33.1	"26:34"	25'06"
							MH1 at "31:55" and 340'04"			
						Structural	Small crack at joint	33.2	"35:05"	346'10"
						Flow	High Water Level	33.3	"37:05"	477'00"
							MH2 at "37:22" and 491'04"			
							611'0" End			
	34	905 cameron going east towards vons	ID: 739	4	DAGS, DAR		MH1 at "5:39" and 240'07"			
						Maintenance	Channel lined with roots	34.1	"7:23"	383'10"
						Maintenance	FOG / roots	34.2	"7:57"	399'08"
						Maintenance	Severe FOG / Roots	34.3	"8:33"	411'08"
						Maintenance	Rags / FOG	34.4	"12:39"	419'03"
							End Video at clog (above) 419'03"			
	35	905 Cameron going west to california appts	ID: 740	1	NA	Flow	1/3 full flow	35.1	"15:52"	246'06"
							MH1 at "18:02" and 341'02"			
							end 521'09"			
83	36	1346 South Hills Dr Job 8387 heading south	ID: 4373	1	NA	Maintenance	Small FOG formation	36.1	"0:29"	12'03"
							MH1 (terminal MH) at "3:27" and 154'04"			
	37	1346 South Hills Dr Job 8387 heading north	ID: 4374	3	CM	Structural	Severely cracked pipe at lateria/joint	37.1	"5:08"	84'09"
						Structural	Pipe in crack at joint	37.2	"6:39"	152'08"
						Structural	FOG+possible crack in channel	37.3	"11:13"	195'05"

"\\wgi-anheng-nas\Engineering\105508 W. Covina SSMP Update 2015\CCTV - Review\Review of CCTV Videos Notes.xlsx"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
						MH1 at "13:28" and 282'07" end				
	36	1346 South Hills Dr Job 83 #7-1 heading south	ID: 4373 (2nd review on same video)		NA	MH1 at "20:04" and 333'01" end				
	38	1321 south Hills Dr Job 83 #7-1 heading north	ID: 4376	3	RML, RMC	Maintenance	Roots and FOG at lateral connection	38.1	"25:57"	95'07"
						Maintenance	Root intrusion at joint	38.2	"25:52"	102'04"
						Maintenance	Root intrusion at joint	38.3	"27:46"	150'10"
						MH1 at "30:03" and 267'04" end				
		1250 South Hills Dr Job 83 #7-1 heading north	ID: 4377	1	NA	MH1 (terminal MH) at "31:35" and 72'05" (End)				
		2037 Casa Linda Dr Job 83 #8-02 heading east	ID: 4392	1	NA	MH1 at "7:08" and 293'06" (End)				
	39	2037 Casa Linda Dr Job 83 #8-02 heading west	ID: 4393	2	CL	Structural	Crack in pipe at joint	39.1	"9:15"	90'04"
						Maintenance	Roots near lateral	39.2	"11:00"	132'10"
						Structural	Crack in pipe at joint	39.3	"12:54"	219'04"
						Structural	Crack in pipe at joint	39.4	"15:10"	267'01"
						Structural	Crack where different materials join	39.5		293'03"
						MH1 at "16:43" and 300'08" end				
	40	2108 Casa Linda Dr Job 83 #8-02 heading east	ID: 4394	2	CL	Structural	Crack in pipe at joint	40.1	"25:16"	
						MH1 at "24:42" and 306'10"				
	41	1345 Hillward Ave Job 83 #9-3 heading south	ID: 4398	2	RFC	Maintenance	Roots in pipe	41.1	"4:05"	189'01"
						MH1 at "6:59" and 282'05" end				
	42	1345 Hillward Ave Job 83 #9-3 heading north	ID: 4399	2	RFC	Maintenance	Roots in pipe	42.1	"8:36"	101'11"
						Maintenance	Roots in pipe	42.2	"9:08"	139'07"
						MH1 at "11:14" and 281'07"				
						MH2 at "12:14" and 359'09" end				
	43	1245 Hillward Ave Job 83 #9-3 heading south	ID: 4401	3	RMC, CM	MH1 at "13:08" and 358'10" end and reset to 3'				
						Maintenance	Roots in manhole	43.1	"17:15"	275'01"
						MH2 at "18:50" and 322'01" video resets				
						Maintenance	FOG / Roots in pipe	43.2	"26:24"	184'08"
						Structural	Crack in pipe at joint	43.3	"27:02"	198'07"
						Structural	Crack in pipe at joint	43.4	"27:26"	205'06"
						Structural	Crack and chip in pipe at joint	43.5	"28:43"	218'03"
						Structural	Large chip in ceiling of pipe operater notes to repair	43.7	"29:41"	225'11"
						MH3 at "30:26" and 265'07" (End)				
		2125 Casa Grande Job 83 #10-4 heading east	ID: 4388	1	NA	MH1 at 3:02 and 227'02" (end)				
		2125 Casa Grande Job 83 #10-4 heading west	ID: 4389	1	NA	MH2 at "17:20" and 342'02"				
	44	2101 Casa Grande Job 83 #10-4 heading west	ID: 4390	3	RM	Structural	Multiple cracks in pipe at joint	44.1	"20:11"	134'03"
						video restarts but maintains same counter...				
						Structural	Crack in top of pipe	44.2	"25:08"	320'11"
						Structural	Crack near joint	44.3	"26:07"	340'08"
						end 347'				
	45	2132 Merced Ave Job 83 #11-5 heading east	ID: 4403	1	CC	Structural	Crack in pipe near joint	45.1	"2:54"	202'04"
						end 203'				
	46	2132 Merced Ave Job 83 #11-5 heading west	ID: 4404	3	RMC	Maintenance	Roots	46.1	"7:20"	73'00"
						Maintenance	Roots	46.2	"7:28"	79'04"
						end 79'				
	47	2100 Merced Ave Job 83 #11-5 heading east	ID: 4404 (reverse inspection of previous segment)	3	RMC	Maintenance	Roots	47.1	"11:24"	249'08"
						Maintenance	Severe roots	47.2	"11:52"	252'08"
						end 300'				
		1344 Glen Alan Ave Job 83 #12-6 heading west	ID: 4408	1	NA	Terminal MH at 3:17 and 129'08"				
	48	1344 Glen Alan Ave Job 83 #12-6 heading west	Could not identify. Segment recorded distance does not match distances observed from GIS system Video may be mislabeled		NA	Maintenance	Large roots in pipe	48.1	"5:18"	140'03"
						Maintenance	Extensive root intrusion	48.2	"5:50"	167'00"
	49	1344 Glen Alan Ave Job 83 #12-6 heading south	Could not identify. Segment recorded distance does not match distances observed from GIS system Video may be mislabeled			MH1 at 9:03 and 213'04"				
						Maintenance	Substance on pipe ceiling	49.1	"9:57"	285'08"
						MH2 at 10:45 and 357'10"				
	50	1304 Glen Alan Ave Job 83 #12-6 heading south	ID: 4411	2	CL	Structural	Crack in top of pipe	50.1	"11:38"	154'06"

"\\wg1-ashares-nas\Engineering\105508 W. Covina SSMP Update 2015\CCTV - Review\Review of CCTV Videos Notes.xlsx"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
	51	1304 Glen Alan Ave Job 83 #12-6 heading north	ID: 4413	2	CL	Structural	Small chip in pipe at joint	51.1	"13:36"	47'07"
						Structural	Cracks in pipe at joint	51.2	"14:41"	100'04"
						Flow	Pipe over 1/3 full	51.3	"20:17"	119'05"
							MH1 at "23:41" and 245'03"			
21		526 Taylor heading south	ID: 1502	1	NA		MH at "3:46" and 142'02"			
		1223 Casad heading west	ID: 1516	1	NA		MH1 at "9:10" and 210'05"			
75		1834 Valinda North	ID: 890	1	NA		MH1 at 1:08 and 235'07"			
							MH2 at "6:26" and 324'08"			
		921 Atwood East	ID: 938	1	NA		MH1 at "4:07" and 333'02"			
	52	921 Atwood West	ID: 939	3	RTL	Maintenance	Roots	52.1	"5:37"	130'04"
						Maintenance	Roots in lateral	52.2	"7:54"	273'07"
							MH1 at "8:23" and 341'08"			
		Atwood @ Indian Summer East	ID: 940	1	NA		MH1 at "12:36" and 330'04"			
		1433 Indian Summer South	ID: 937	1	NA		MH1 at "2:39" and 181'01" end			
		1433 Indian Summer North	ID: 5090	1	NA		MH1 at "5:42" and 207'03"			
		1428 Princedale North	ID: 942	1	NA		MH1 at "2:09" and 172'04"			
		734 Atwood West	ID: 943	1	NA		MH1 at "11:16" and 197'05"			
		638 Atwood East	ID: 946	1	NA		MH1 at "12:23" and 85'08" end			
	53	1421 Frandale South	ID: 947	1	RFC	Maintenance	Roots	53.1	"2:07"	101'08"
						Maintenance	Roots	53.2	"2:56"	158'09"
		1421 Frandale North	ID: 948	1	NA		MH1 at "9:00" and 248'05" end			
		1416 Craig North	ID: 941	NA	NA					
	54	917 Francisquito West	ID: 893	2	DAE	Records	Part of Video is obscured by condensation. Reperform investigate at different time in future	54.1	"0:30"	20'07"
						Maintenance	Hardened substance built up on walls	54.2	"4:44"	157'06"
							MH1 at "7:26" and 293'08"			
		910 Francisquito West	ID: 933	1	NA		MH1 at "12:08" and 296'06" end			
		836 Francisquito West	ID: 935	1	NA		MH1 at "17:11" and 291'02" end			
	55	813 Francisquito West	ID: 934	2	DAE	Other	Building on MH walls, consistent with the rest of this area	55.1	"19:17"	200'02"
							MH1 at "20:53" and 340'05"			
47	56	Cortez at Fircroft heading west	ID: 4857	2	CL	Structural	Crack in pipe ceiling at joint	56.1	"8:07"	304'01"
						Structural	Crack in pipe ceiling at joint	56.2	"8:40"	324'02"
							MH1 at "9:00" and 340'06"			
							Stops at "16:33" and 629'08" then heads back			
							Video is generally too low of resolution to glean useful information			
52	57	508 Milborn heading south	ID: 4907	1	NA	Flow	Pipe appears dry	57.1		
							MH1 at "3:14" and 277'01"			
							MH2 at "6:15" and 273'07"			
							MH3 at "9:44" and 55'06"			
16				NA			End review due to resolution			
							Disk does not have direction of travel. Cannot review.			
79	58	1334 Golden Vista heading east	ID: 4215	4	RB	Maintenance	Root intrusion	58.1	"0:13"	6'08"
						Maintenance	Root intrusion	58.2	"1:39"	29'04"
						Maintenance	Root intrusion	58.3	"2:29"	47'01"
						Maintenance	Root intrusion	58.4	"3:41"	61'04"
						Maintenance, Structural	Root intrusion, pipe offset	58.5	"4:09"	66'08"
						Structural	Pipe offset	58.6	"4:23"	76'02"
						Maintenance	Root intrusion	58.7	"4:40"	86'10"
						Maintenance	Root intrusion	58.8	"4:59"	107'03"
						Maintenance	Root intrusion	58.9	"5:26"	112'04"
						Maintenance, Structural	Root intrusion, pipe offset	58.11	"5:27"	122'03"
						Maintenance	FOG	58.12	"5:41"	123'07"
						Maintenance	FOG	58.13	"5:43"	132'07"
							MH1, turn and drop at "9:16" and 299'09"			
	59	1334 Golden Vista heading north	ID: 4214	4	RB	Flow	Low flow	59.1	"10:07"	7'10"
						Maintenance	Root intrusion	59.2	"10:19"	11'04"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
						Maintenance	Root intrusion	59.3	"10:25"	96'08"
						Flow	Low flow	59.4	"10:56"	59'04"
						Maintenance	Root intrusion	59.5	"11:13"	74'04"
						Maintenance	Root intrusion	59.6	"11:20"	80'08"
						Maintenance	Root intrusion	59.7	"11:40"	96'09"
						Maintenance	Root intrusion	59.8	"11:59"	103'10"
						Maintenance	Root intrusion	59.9	"12:05"	108'10"
						Maintenance	Root intrusion	59.11	"12:11"	114'02"
						Maintenance	Root intrusion	59.12	"12:18"	119'04"
						Maintenance	Root intrusion	59.13	"12:23"	124'02"
						Maintenance	Root intrusion	59.14	"12:28"	124'09"
						Maintenance	Root intrusion	59.15	"12:41"	139'05"
						Maintenance	Root intrusion	59.16	"12:47"	144'08"
						Maintenance	Root intrusion	59.17	"12:51"	147'08"
						Maintenance	Root intrusion	59.18	"13:02"	157'05"
						Maintenance	Root intrusion	59.19	"13:08"	162'06"
						Maintenance	FOG, root intrusion	59.21	"13:20"	173'09"
						Maintenance	Root intrusion	59.22	"13:33"	183'02"
						Maintenance	FOG	59.23	"14:16"	241'11"
						Structural	Pipe offset	59.24	"15:46"	286'09"
						Maintenance	FOG	59.25	"15:53"	292'04"
						Structural	Pipe offset	59.26	"16:20"	314'11"
						Maintenance	FOG at MH 2	59.27	"17:07"	346'08"
						MH2 "17:14" and 351'0"				
		1316 Golden Vista heading south	ID: 4216	1		MH1 "20.50" and 233'0"				
						MH2 "22:51" and 167'0"				
		1316 Golden Vista heading north	ID: 4217	1		MH1 "25.59" and 167'0"				
		1300 Golden Vista heading south	ID: 4218	1		MH1 "31.22" and 264'0"				
	60	1300 Golden Vista heading north	ID:4219	3	CL, RFC	Maintenance	Root intrusion, pipe offset	60.1	"31:39"	11'04"
						Structural	Crack in upper portion of pipe, offset	60.2	"35:02"	121'04"
						MH1 "36.07" and 203'0"				
	61	2408 Crescent View heading east	ID: 4202	4	RB, DGZ	Maintenance	Root intrusion	61.1	"0:34"	26'08"
						Maintenance	Root intrusion	61.2	"1:01"	42'07"
						Maintenance	Root intrusion	61.3	"1:15"	57'03"
						Maintenance	Root intrusion	61.4	"1:37"	78'10"
						Maintenance	Root intrusion, FOG	61.5	"1:43"	81'02"
						Maintenance	Root intrusion, FOG	61.6	"1:47"	87'04"
						Maintenance	Root intrusion	61.7	"1:48"	88'04"
						Maintenance	Root intrusion	61.8	"2:04"	104'10"
						Maintenance	Root intrusion	61.9	"2:13"	109'08"
						Maintenance	Root intrusion	61.11	"2:22"	117'09"
						Maintenance	Root intrusion	61.12	"2:31"	124'11"
						Maintenance	Root intrusion	61.13	"2:47"	140'10"
						Maintenance	Root intrusion	61.14	"2:58"	161'01"
						Maintenance	Root intrusion	61.15	"3:29"	168'11"
						Maintenance	Root intrusion, FOG	61.16	"3:39"	173'10"
						Maintenance	Root intrusion	61.17	"3:51"	178'06"
						Maintenance	Root intrusion	61.18	"4:05"	185'03"
						Maintenance	Root intrusion	61.19	"4:16"	193'05"
						Maintenance	Root intrusion	61.21	"4:30"	198'04"
						Maintenance	Root intrusion	61.22	"4:37"	206'00"
						Maintenance	Root intrusion	61.23	"4:45"	212'06"
						Maintenance	Root intrusion, FOG	61.24	"4:50"	215'07"
						Maintenance	FOG or debris	61.25	"5:33"	253'05"
						Maintenance, Structural	FOG, pipe offset	61.26	"6:26"	269'08"
						Maintenance	Root intrusion	61.27	"6:45"	283'08"
						Maintenance	FOG	61.28	"7:24"	306'07"
						Maintenance	Root intrusion	61.29	"7:32"	311'09"
						Maintenance	FOG	61.31	"8:03"	325'10"
						End Video at clog (above) 325'10"				
	62	2408 Crescent View heading west	ID: 4203	4	RB	Maintenance	Root intrusion	62.1	"9:23"	23'02"
						Maintenance	Root intrusion	62.2	"10:52"	118'10"
						Maintenance	Root intrusion	62.3	"10:58"	129'02"
						Maintenance	Root intrusion	62.4	"11:39"	137'01"
						Maintenance	Root intrusion	62.5	"11:45"	141'07"
						Maintenance	Root intrusion	62.6	"11:58"	153'05"
						Maintenance	Root intrusion	62.7	"12:08"	162'05"
						Maintenance	Root intrusion	62.8	"12:29"	184'04"
						Maintenance	Root intrusion	62.9	"12:51"	196'11"
						Maintenance	Root intrusion	62.11	"13:10"	212'01"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
						Maintenance	Root intrusion	62.12	"13:29"	227'02"
						Maintenance	Root intrusion	62.13	"14:07"	262'10"
						MH1 & turn at "14.45" and 289'08"				
	63	1336 Sandy Hill Dr heading east	ID: 4194	4	RB, DAE	Maintenance	Root intrusion	63.1	"00:03"	3'04"
						Maintenance	Root intrusion	63.2	"00:11"	10'01"
						Maintenance	Root intrusion	63.3	"00:20"	17'10"
						Maintenance	Root intrusion	63.4	"00:27"	23'07"
						Maintenance	Root intrusion	63.5	"00:38"	33'04"
						Maintenance, Structural	Root intrusion, pipe offset	63.6	"00:44"	37'11"
						Maintenance	Root intrusion	63.7	"01:06"	42'05"
						Maintenance	Root intrusion	63.7	"01:06"	42'05"
						Maintenance	Severe Root intrusion, FOG	63.8	"01:40"	46'02"
						End Video at clog (above) 49'00"				
	64	1336 Sandy Hill Dr heading west	ID: 4195	3	RMC	Maintenance	Root intrusion	64.1	"1:44"	3'05"
						Maintenance	Root intrusion	64.2	"1:52"	8'05"
						Maintenance	Root intrusion	64.3	"1:57"	13'01"
						Maintenance	Root intrusion	64.4	"2:03"	18'06"
						Maintenance	Root intrusion, pipe offset	64.5	"2:09"	23'09"
						Maintenance	Root intrusion, pipe offset	64.6	"2:15"	28'06"
						Maintenance	Root intrusion	64.7	"2:20"	32'10"
						Maintenance	Root intrusion	64.8	"2:26"	38'10"
						Maintenance	Root intrusion	64.9	"3:11"	43'0"
						Maintenance	Root intrusion	64.11	"3:18"	49'01"
						Maintenance	Severe Root intrusion	64.12	"3:23"	53'06"
						Structural	Pipe offset	64.13	"3:26"	59'11"
						Maintenance	Root intrusion	64.14	"5:29"	129'09"
						Maintenance	Root intrusion, pipe offset	64.15	"6:12"	150'09"
						Maintenance	Root intrusion	64.16	"6:23"	160'00"
						Maintenance	Root intrusion, pipe offset	64.17	"6:36"	169'10"
						Maintenance	FOG causing backup	64.18	"7:23"	170'04"
						Maintenance	Root intrusion	64.19	"9:00"	189'10"
						Maintenance	Root intrusion	64.21	"9:22"	198'01"
						Maintenance	Root intrusion	64.22	"9:56"	210'08"
						Maintenance	Root intrusion	64.23	"10:10"	225'08"
						Maintenance	Root intrusion	64.24	"10:16"	230'10"
						MH1 at "[illegible]:38" and 349'01"				
	65	1308 Sandy Hill Dr heading east	ID: 4196	2	RFB, RFC	Maintenance	Root intrusion	65.1	"13:39"	34'08"
						Maintenance	Root intrusion, FOG	65.2	"14:53"	137'03"
						Maintenance	Root intrusion, FOG	65.3	"14:55"	138'11"
						Maintenance	Root intrusion	65.4	"15:21"	149'10"
						Maintenance	Root intrusion	65.5	"15:27"	154'10"
						Maintenance	Root intrusion	65.6	"15:34"	160'03"
						MH1 at "18:27" and 345'05"				
		1308 Sandy Hill Dr heading west	ID: 4197	3	NA	MH1 at "20.38" and 176'08"				
	66	1308 Sandy Hill Dr heading west	ID: 4198	3	RMC	Maintenance	Root intrusion	66.1	"24:21"	178'03"
						Maintenance	Root intrusion	66.2	"24:24"	180'02"
						Maintenance	Root intrusion	66.3	"24:27"	182'04"
						Maintenance	Root intrusion	66.4	"24:32"	187'01"
						Maintenance	Root intrusion	66.5	"24:38"	192'03"
						MH2 at "28:41" and 352'07"				
	67	1230 Sandy Hill Dr heading west (possibly east see note below)	ID: 4200	4	DAGS, RB	Maintenance	Root intrusion, FOG	67.1	"26:52"	3'02"
						Maintenance	Root intrusion, FOG	67.2	"27:54"	3'04"
						Structural	Pipe Cracked at roof	67.3	"28:12"	6'01"
						Maintenance	Root intrusion, FOG	67.4	"28:26"	10'08"
						Maintenance	Root intrusion, FOG	67.5	"28:35"	15'07"
						Maintenance	Root intrusion, FOG	67.6	"28:53"	20'01"
						Maintenance	Root intrusion, FOG	67.7	"29:41"	23'08"
						Maintenance	Root intrusion, FOG	67.8	"30:00"	29'05"
						Maintenance	Root intrusion, FOG	67.9	"30:16"	23'00"
						Maintenance	Severe Root intrusion, FOG	67.11	"30:27"	37'01"
						Maintenance	Severe Root intrusion, FOG	67.12	"30:51"	37'07"
						Video stops at blockage "30:59" 39'02" and restarts at 3'02"				
					NA	Maintenance	Severe Root intrusion, FOG	67.13	"31:05"	3'02"
						Video stops at blockage "31:09" 4'01" and restarts at "31.20" 7'06"				
					NA	Maintenance	Severe Root intrusion, FOG	67.14	"31:20"	7'06"
						Maintenance	Severe Root intrusion, FOG	67.15	"31:26"	10'11"
		(video is relabeled heading east)				Maintenance	Severe Root intrusion, FOG	67.16	"31:43"	14'02"
						Video stops at blockage "31:43" 14'02"				
	68	1226 Sandy Hill Dr heading north west	ID: 4201	4	RBL, RBC	Maintenance	Root intrusion	68.1	"32:36"	3'01"
						Maintenance	Root intrusion	68.2	"32:41"	4'05"
						Maintenance	Root intrusion	68.3	"32:46"	9'01"

Disk #	Video #	CCTV Area Description	Location WC GIS Segment ID	NASSCO PACP Quick Rating	NASSCO Code	Defect Type	Description	Photo #	Time (min:sec)	Distance (ft)
						Maintenance	Root intrusion	68.4	"32:56"	13'10"
						Maintenance	Root intrusion	68.5	"32:58"	19'04"
						Maintenance	Root intrusion	68.6	"33:04"	24'02"
						Maintenance	Root intrusion	68.7	"33:14"	29'01"
						Maintenance	Root intrusion	68.8	"33:21"	33'11"
						Maintenance	Root intrusion	68.9	"33:31"	39'02"
						Maintenance	Root intrusion	68.11	"33:37"	44'05"
						Maintenance	Root intrusion	68.12	"33:43"	49'08"
						Maintenance	Root intrusion, FOG	68.13	"33:56"	54'08"
						Maintenance	Root intrusion	68.14	"34:03"	59'07"
						Maintenance	Root intrusion	68.15	"34:08"	64'07"
						Maintenance	Root intrusion	68.16	"34:14"	69'11"
						Maintenance, Structural	Root intrusion, pipe offset	68.17	"34:27"	75'08"
						Maintenance	Severe Root intrusion, FOG	68.18	"34:38"	82'04"
							Video stops at blockage "35:05" 84'07" and restarts at "35:44" 87'08"			
						Maintenance	Root intrusion	68.19	"35:09"	89'08"
						Maintenance	Root intrusion, FOG	68.21	"36:09"	105'03"
						Maintenance, Structural	Root intrusion, pipe offset	68.22	"36:15"	109'11"
						Maintenance	Root intrusion	68.23	"36:28"	114'11"
						Maintenance	Root intrusion	68.24	"36:30"	116'01"
						Maintenance	Root intrusion	68.25	"36:55"	145'04"
						Maintenance	Root intrusion	68.26	"36:58"	147'11"
						Maintenance	Root intrusion	68.27	"37:04"	152'10"
						Maintenance	Root intrusion	68.28	"37:10"	158'01"
						Maintenance	Root intrusion	68.29	"37:25"	162'11"
						Maintenance	Root intrusion	68.31	"38:26"	223'11"
						Maintenance	Root intrusion	68.33	"38:36"	234'08"
						Maintenance	Root intrusion	68.35	"38:53"	240'05"
						Maintenance	Root intrusion	68.34	"39:03"	248'11"
						Maintenance	Root intrusion	68.35	"39:48"	302'04"
						Maintenance	Root intrusion	68.36	"39:53"	306'07"
						Maintenance	Root intrusion	68.37	"40:05"	308'07"
						Maintenance	Root intrusion	68.38	"40:13"	313'02"
						Maintenance	Root intrusion	68.39	"40:18"	319'05"
						Maintenance	Root intrusion	68.41	"40:24"	323'11"
						Maintenance	Root intrusion, FOG	68.42	"40:29"	327'08"
						Maintenance	Severe FOG, blockage	68.43	"41:18"	330'08"
							Video stops at blockage "42:14" 332'01" and restarts at "42:14" 333'07"			
						Maintenance	Root intrusion	68.44	"42:26"	333'09"
						Maintenance	Root intrusion	68.45	"42:35"	337'04"
						Maintenance	Root intrusion	68.46	"42:39"	339'11"
						Maintenance	Root intrusion, FOG	68.47	"42:42"	342'10"
							MH1 at "42:52" and 346'06"			
	69	1125 Serena Dr heading south	ID: 4204	3	NA	Maintenance	FOG	69.1	"6:59"	334'04"
						Maintenance	FOG or debris	69.2	"7:05"	340'11"
							MH1 at "7:10" and 341'01"			
	70	1125 Serena Dr heading north	ID: 4205	3	RFL	Maintenance	Root intrusion	70.1	"7:23"	7'00"
							MH1 and turn at "9:31" and 157'10"			
			ID: 4206			Maintenance	Root intrusion	70.2	"9:32"	164'07"
						Maintenance	Root intrusion	70.3	"10:47"	263'11"
							MH2 at junction "13:39" and 421'02"			
	71	1415 Montezuma heading west	ID: 4239	4 & 4	RB, DAE	Maintenance	Root intrusion, FOG	71.1	"1:02"	171'04"
						Maintenance	Root intrusion	71.2	"1:51"	178'11"
						Maintenance	Root intrusion	71.3	"3:57"	184'02"
						Maintenance	Root intrusion	71.4	"4:06"	188'05"
						Maintenance	Root intrusion	71.5	"4:23"	193'02"
							MH3 at "4:32" and 196'10"			
			ID: 4238			Maintenance	Root intrusion	71.6	"4:52"	201'05"
						Maintenance	Root intrusion	71.7	"5:00"	206'08"
						Maintenance	Root intrusion	71.8	"5:07"	211'05"
						Maintenance	Root intrusion	71.9	"5:12"	215'05"
						Maintenance	Root intrusion	71.11	"5:30"	221'06"
						Maintenance	Root intrusion	71.12	"6:35"	232'04"
						Maintenance	Root intrusion	71.13	"6:40"	236'11"
						Maintenance	Root intrusion, FOG	71.14	"6:41"	304'07"
							MH2 at "7:27" and 349'05"			
	72	1415 Montezuma heading east	ID: 4240	2	RFB	Maintenance	Root intrusion	72.1	"8:05"	46'02"

NASSCO PACP Condition Grading System
Code Matrix

Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
Structural	Crack (C)	Circumferential (C)		CC	1	
		Longitudinal (L)		CL	2	
		Multiple (M)		CM	3	
		Spiral (S)		CS	2	
Structural	Fracture (F)	Circumferential (C)		FC	2	
		Longitudinal (L)		FL	3	
		Multiple (M)		FM	4	
		Spiral (S)		FS	3	
Structural	Pipe Failures (Silent)	Broken (B)		B	clock pos -4, >=3 clock pos - 5	
		Broken (B)	Soil Visible (SV)	BSV	5	
		Broken (B)	Void Visible (VV)	BVV	5	
		Hole (H)		H	clock pos -4, >=3 clock pos - 5	
		Hole (H)	Soil Visible (SV)	HSV	5	
		Hole (H)	Void Visible (VV)	HVV	5	
Structural	Collapse (X)	Pipe (P)		XP	5	
		Brick (B)		XB	5	
Structural	Deformed (D)	Pipe (P)		D	<=10% - 4, >10% - 5	
		Brick (B)	Horizontally (H)	DH	5	
		Brick (B)	Vertically (V)	DV	5	
Structural	Joint (J)	Offset (displaced)(O)	Med (M)	JOM	1	
			Large (L)	JOL	2	
		Seperated (open) (S)	Med (M)	JSM	1	
			Large (L)	JSL	2	
		Anglar (A)	Med (M)	JAM	1	
			Large (L)	JAL	2	
	Surface Damage Chemical (S)	Roughness Increased (RI)	C	SRIC	1	
		Surface Spalling (SS)	C	SSSC	2	
		Aggregate Visible (AV)	C	SAVC	3	
		Aggregate Projecting (AP)	C	SAPC	3	
		Aggregate Missing (AM)	C	SAMC	4	
		Reinforcement Visible (RV)	C	SRVC	5	
		Reinforcement Corroded (RC)	C	SRCC	5	
		Missing Wall (MW)	C	SNWC	5	
		Other (Z)	C	SZC		
	Surface Damage Mechanical (M)	Roughness Increased (RI)	M	SRIM	1	
		Surface Spalling (SS)	M	SSSM	2	
		Aggregate Visible (AV)	M	SAVM	3	
		Aggregate Projecting (AP)	M	SAPM	3	

NASSCO PACP Condition Grading System
Code Matrix

Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
		Aggregate Missing (AM)	M	SAMM	4	
		Reinforcement Visible (RV)	M	SRVM	5	
		Reinforcement Corroded (RC)	M	SRCM	5	
		Missing Wall (MW)	M	SMWM	5	
		Other (Z)	M	SZM	N/A	
	Surface Damage Not Evident (Z)	Roughness Increased (RI)	Z	SRIZ	1	
		Surface Spalling (SS)	Z	SSSZ	2	
		Aggregate Visible (AV)	Z	SAVZ	3	
		Aggregate Projecting (AP)	Z	SAPZ	3	
		Aggregate Missing (AM)	Z	SAMZ	4	
		Reinforcement Visible (RV)	Z	SRVZ	5	
		Reinforcement Corroded (RC)	Z	SRCZ	5	
		Missing Wall (MW)	Z	SMWZ	5	
		Other (Z)	Z	SZZ	N/A	
	Surface Damage (Metal Pipes)	Corrosion (CP)		SCP	3	
Structural	Lining Failure (LF)	Detached (D)		LFD	3	
		Defective End (DE)		LFDE	3	
		Blistered (B)		LFB	3	
		Service Cut Shifted (CS)		LFCS	3	
		Abandoned Connection (AC)		LFAC		
		Overcut Service (OC)		LFOC	3	
		Undercut Service (UC)		LFUC	3	
		Buckled (BK)		LFBK	3	
		Wrinkled (W)		LFW	3	
		Other (Z)		LFZ		
Structural	Weld Failure (WF)	Circumferential (C)		WFC	2	
		Longitudinal (L)		WFL	2	
		Multiple (M)		WFM	3	
Structural	Point Repair (RP)	Localized Lining (L)		RPL		
		Localized Lining (L)	Defective (D)	RPLD	4	
		Patch Repair (P)		RPP		
		Patch Repair (P)	Defective (D)	RPPD	4	
		Pipe Replacement (R)		RPR		
		Pipe Replacement (R)	Defective (D)	RPRD	4	
		Other (Z)		RPZ		
		Other (Z)	Defective (D)	RPZD		
Structural	Brickwork (Silent)	Displaced (DB)		DB	3	
		Misssing (MB)		MB	4	
		Dropped Invert (DI)		DI	5	
		Missing Mortar	Slight	MMS	2	

NASSCO PACP Condition Grading System
Code Matrix

Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
			Medium	MMM	3	
			Large	MML	3	
O&M	Deposits Attached (DA)	Encrustation (E)		DAE	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Grease (G)		DAGS	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Ragging (R)		DAR	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Other (Z)		DAZ	<=10% -2, <=20% -3, <=30% -4, >30% -5	
	Deposits Settled (DS)	Hard/Compacted (C)		DCS	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Fine (F)		DSF	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Gravel (G)		DSGV	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Other (Z)		DSZ	<=10% -2, <=20% -3, <=30% -4, >30% -5	
	Deposits Ingress (DN)	Fines silt/sand (F)		DNF	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Gravel (GV)		DNGV	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Other (Z)		DNZ	<=10% -2, <=20% -3, <=30% -4, >30% -5	
O&M	Roots (R)	Fine (F)	Barrel (B)	RFB	2	
			Lateral (L)	RFL	1	
			Connection (C)	RFC	1	

NASSCO PACP Condition Grading System
Code Matrix

Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
	Roots (R) at a Joint		N/A	RF	1	
		Tap (T)	Barrel (B)	RTB	3	
			Lateral (L)	RTL	2	
			Connection (C)	RTC	2	
	Roots (R) at a Joint		N/A	RT	2	
		Medium (M)	Barrel (B)	RMB	4	
			Lateral (L)	RML	3	
			Connection (C)	RMC	3	
	Roots (R) at a Joint		N/A	RM	3	
		Ball (B)	Barrel (B)	RBB	5	
			Lateral (L)	RBL	4	
			Connection (C)	RBC	4	
	Roots (R) at a Joint			RB	4	
O&M	Infiltration (I)	Weeper (W)		IW	2	
		Dripper (D)		ID	3	
		Runner (R)		IR	4	
		Gusher (G)		IG	5	
O&M	Obstacles/Obstructions (OB)	Brick or Masonry (B)		OBB	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Pipe Material in Invert (M)		OBM	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Object Protruding Thru Wall (I)		OBI	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Object Wedged in Joint (J)		OBJ	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Object Thru Coneection (C)		OBC	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		External Pipe or cable in Sewer (P)		OBP	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Built into Structure (S)		OBS	<=10% -2, <=20% -3, <=30% -4, >30% -5	

NASSCO PACP Condition Grading System
Code Matrix

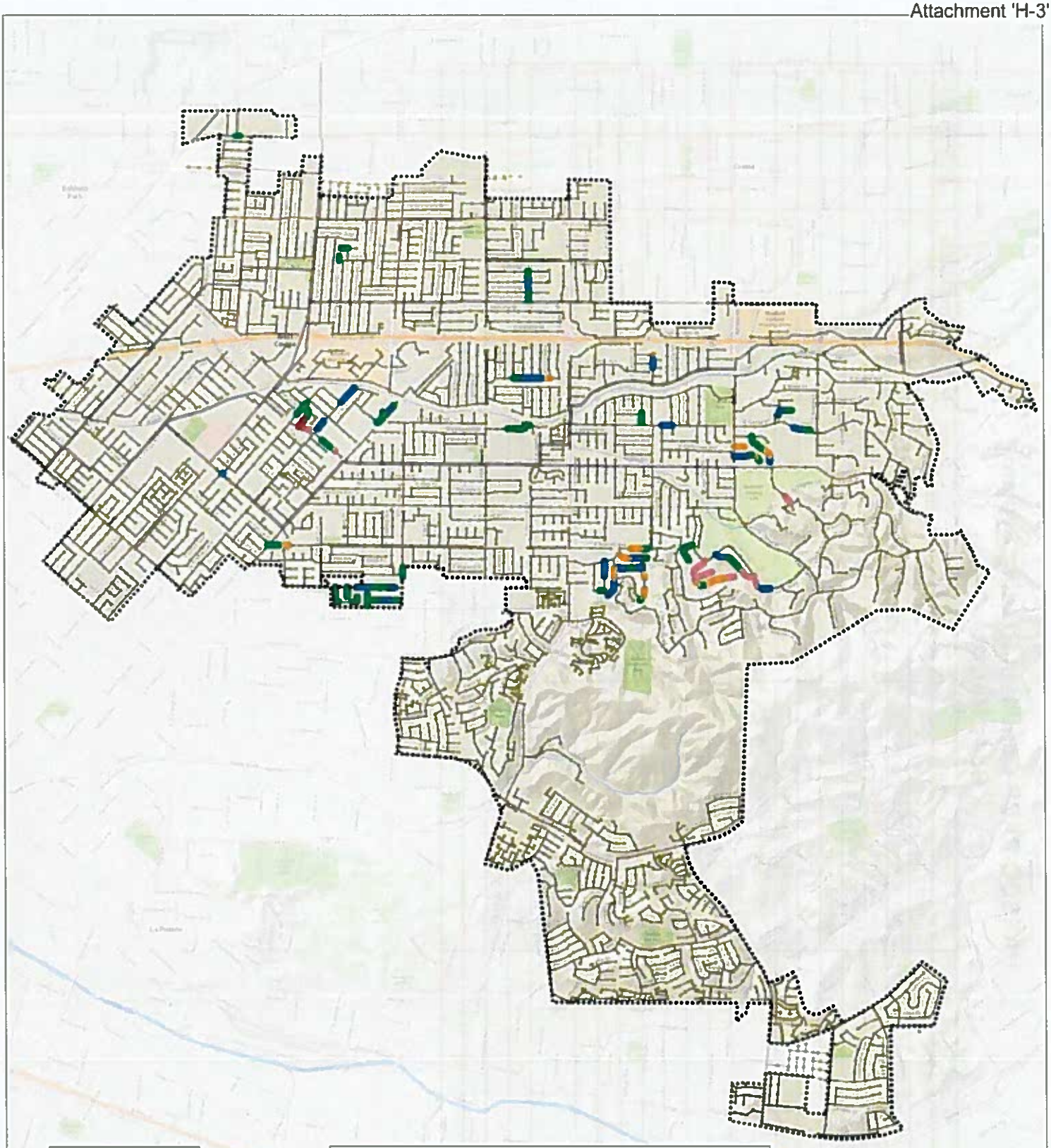
Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
		Construction Debris (N)		OBN	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Rocks (R)		OBR	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Other Objects (Z)		OBZ	<=10% -2, <=20% -3, <=30% -4, >30% -5	
O&M	Vermin (V)	Rat (R)		VR	2	
		Cockroach (C)		VC	1	
		Other (Z)		VZ	1	
Construction Features	Tap (T)	Factory Made (F)		TF		
			Capped (C)	TFC		
			Defective (D)	TFD	2	
			Intruding (I)	TFI	<=10% -2, <=20% -3, <=30% -4, >30% -5	
			Active (A)	TFA		
			Leaking (L)	TFL	3	
		Break-in/Hammer (B)		TB		
			Capped (C)	TBC	2	
			Defective (D)	TBD	3	
			Intruding (I)	TBI	<=10% -2, <=20% -3, <=30% -4, >30% -5	
			Active (A)	TBA		
			Leaking (L)	TBL	3	
		Saddle (S)		TS		
			Capped (C)	TSC		
			Defective (D)	TSD	2	
			Intruding (I)	TSI	<=10% -2, <=20% -3, <=30% -4, >30% -5	
			Active (A)	TSA		
			Leaking (L)	TSL	2	
Construction Features	Intruding Seal Material (IS)			IS		

NASSCO PACP Condition Grading System
Code Matrix

Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
		Sealing Ring (SR)		ISSR	<=10% -2, <=20% -3, <=30% -4, >30% -5	
			Hanging	ISSRH	<=10% -2, <=20% -3, <=30% -4, >30% -5	
			Broken	ISSRB	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Grout (GT)		ISGT	<=10% -2, <=20% -3, <=30% -4, >30% -5	
		Other (Z)		ISZ	<=10% -2, <=20% -3, <=30% -4, >30% -5	
Construction Features	Line (L)	Left (L)		LL	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Left/Up (LU)		LLU	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Left/Down (LD)		LLD	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Right (R)		LR	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Right/Up (RU)		LRU	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Right/Down (RD)		LRD	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Up (U)		LU	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
		Down (D)		LD	<=10 Deg -1, <=20 Deg -2, >20 Deg -4	
Construction	Access Points (A)					
		Cleanout (CO)		ACO		
			Mainline (M)	ACOM		
			Property (P)	ACOP		
			House (H)	ACOH		
		Discharge Point (DP)		ADP		
		Junction Box (JB)		AJB		
		Meter (M)		AM		

NASSCO PACP Condition Grading System
Code Matrix

Family	Group	Descriptor	Modifier	Code	Structural Grade	O&M Grade
		Manhole (MH)		AMH		
		Other Special Chamber (OC)		AOC		
		Tee Connection (TC)		ATC		
		WW Access Device (WA		AWA		
		Wet Well (WW)		AWW		
Other	Miscellaneous (M)	Camera Underwater (CU)		MCU		
		Dimension/Dia/Shape Change (SC)		MSC		
		General Observation (GO)		MGO		
		General Photograph (GP)		MGP		
		Material Change (MC)		MMC		
		Lining Change (LC)		MLC		
		Joint Length Change (JL)		MJL		
		Survey Abandoned (SA)		MSA		
		Water Level (WL)		MWL		
		Water Level (WL)	(S)	MWLS	<=30% -2, <=50% -3, >50% -4	
		Water Mark (WM)		MWM	>=50% 4, >=75% 5	
		Dye Test (Y)		MY		
			Visible (V)	MYV	5	
			Not Visible (N)	MYN	3	


Legend
Pipe PACP Quick Rating
1: Excellent - 55 Pipes
2: Good - 26 Pipes
3: Fair - 15 Pipes
4: Poor - 13 Pipes
5: Immediate Attention - 1 Pipe
Other City Sewer Pipes
City Sewer Manholes
LACSD Sewer Trunks
West Covina City Boundary
CITY OF WEST COVINA
NASSCO PACP QUICK RATINGS
FOR SELECTED SEWER MAIN LINES
0 0.25 0.5 1
Miles
N
January 20, 2017
WILLDAN Engineering
extending your reach

APPENDIX 'I'

Sewer Maintenance Records
&
Industrial Discharge Permits

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Manhole Inspection Report

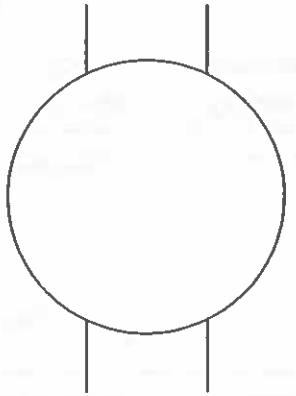
Attachment 'I-1'

Overview	City of West Covina	Weather:	
Manhole Number:	M/H #	Inspector Name:	
Location:		Date of Inspection:	
Atlas Page Number:		Time of Inspection:	

Pictures	Notes
Cover On	
General Area	
Down Manhole	
Other:	
Other:	

		Pipe Diameter	Pipe Material
Line 1 (Effluent):			
Line 2 (Influent)			
Line 3 (Influent):			
Line 4 (Influent)			
Other:			

M.H. Layout



North

Site Information

Status:	☐ Located	☐ Not Located	☐ Could Not Open	☐ Not Accessible			
Surface Cover:	☐ Pavement	☐ Off Pavement	☐ Sidewalk	☐ Parking Lot	☐ Landscape	☐ Back Yard	☐ Open Field
Surface Condition:	☐ No Problem	☐ Cracked	☐ Pothole	☐ Raised	☐ Concrete Collar		
Traffic Setup:	☐ Roadway	☐ Off Roadway	☐ Intersection	☐ Sidewalk	☐ Driveway	☐ Private Property	☐ Highway
Traffic Volume:	☐ None	☐ Light Night TC	☐ Heavy				

Manhole Cover

Status when located:	☐ Normal	☐ Missing	☐ Cracked	☐ Rocking	☐ Seized	☐ Sealed	☐ Bolted/Locked	☐ Buried/Covered
Shape:	☐ Round	☐ Square	☐ Other					
Size:	☐ 24" Diameter	☐ 36" Diameter	☐ Other	Shape: _____	Size_____			
Material:	☐ Iron	☐ Plastic/Composite	☐ Other					
Corrosion on Bottom:	☐ None	☐ Light	☐ Medium	☐ Heavy				

Grade Ring/Frame

Condition:	☐ Good	☐ Cracked	☐ Missing	
Corrosion:	☐ None	☐ Light	☐ Medium	☐ Heavy
Cover to Frame Seal:	☐ None	☐ Good	☐ Poor	
Frame to MH Seal:	☐ None	☐ Good	☐ Poor	

General

Steps/Rungs:	☐ None	☐ Iron	☐ Plastic/Coated	☐ Other
Step Condition:	☐ Good	☐ Deteriorated		
Evidence of Surcharge:	☐ No	☐ Yes	Height__no_____	
Vandalism:	☐ No	☐ Yes	Description_____	

Chimney & Cone

Shape:	☐ Concentric	☐ Eccentric	☐ Other	Describe_____	
Material:	☐ CIP Concrete	☐ PreCast Concrete	☐ Lined	☐ Brick	☐ Other
Condition – Visual:	☐ Good	☐ Fair	☐ Poor		
Scrape/Penetrate – Near Surface:	☐ Hard	☐ Soft	Inches_____		
Scrape/Penetrate @ Cone:	☐ Hard	☐ Soft	Inches_____		
Infiltration/Inflow:	☐ None	☐ Stains/Deposits	☐ Dripping	☐ Running	☐ Streaming

Barrel / Wall

Material:	☐ CIP Concrete	☐ PreCast Concrete	☐ Lined	☐ Brick	☐ Other
Condition-Visual:	☐ Good	☐ Fair	☐ Poor		
Scrape/Penetrate invert +4ft:	☐ Hard	☐ Soft	Inches_____		
Scrape/Penetrate @ Bench:	☐ Hard	☐ Soft	Inches_____		
Infiltration/Inflow:	☐ None	☐ Stains/Deposit	☐ Dripping	☐ Running	☐ Streaming

Bench

Material:	☐ CIP Concrete	☐ PreCast Concrete	☐ Lined	☐ Brick	☐ Other
Condition-Visual:	☐ Good	☐ Fair	☐ Poor		
Scrape/Penetrate near wall:	☐ Hard	☐ Soft	Inches_____		
Scrape/Penetrate near channel:	☐ Hard	☐ Soft	Inches_____		
Infiltration/Inflow:	☐ None	☐ Stains/Deposits	☐ Dripping	☐ Running	☐ Streaming

Channel

Material:	☐ CIP Concrete	☐ PreCast Concrete	☐ Lined	☐ Brick	☐ Other
Condition-Visual:	☐ Good	☐ Fair	☐ Poor		
Scrape/Penetrate @ crown of pipe:	☐ Hard	☐ Soft	Inches_____		
Scrape/Penetrate @ invert:	☐ Hard	☐ Soft	Inches_____		
Infiltration/Inflow:	☐ None	☐ Stains/Deposits	☐ Dripping	☐ Running	☐ Streaming

Flow Velocity:	☐ Dry	☐ Stagnant	☐ Slow (0-1 fps)	☐ Normal (1-4 fps)	☐ Fast (>4 fps)	☐ Turbulent
Flow Depth:	☐ Dry	☐ ≤1/4 Pipe Dia.	☐ ≤1/2 Pipe Dia.	☐ ≤3/4 Pipe Dia.	☐ Full Pipe	☐ Surcharged
Grease:	☐ None	☐ Light	☐ Medium	☐ Heavy		
Pests/Insects:		☐ Few	☐ Many	☐ Infested	Type _____	
Manhole Rim to Invert Depth:	_____					
Silt:	☐ No	☐ Yes	Inches_____			
Unusual odor	☐ No	☐ Yes	Description_____			

CITY HALL PARKING LOT
PUMP STATION MAINTENANCE RECORD

YEAR:_____ MONTH:_____

Date	Clean Pit	Grease Pumps Grease Motors	Hour Meter #1	Hour Meter #2	Test Run Motor/Pumps	Check Oil Level	Check All Panel Lights	Clean Pump House	Change Cotton Filter Air Box	Outside Clean-up	Electrodes Pressure Switches	Check Compressor Pressure	AUTO-ON	Lube Drip Rate	Exercise Valve	Reason for Visit	Checked By:

"QUAIL VALLEY" PUMP STATION MAINTENANCE RECORD

YEAR:_____ MONTH:_____

Date	Time	Grease Pumps	Hour Meter #1	Hour Meter #2	Test Run Motor/Pumps	Check Oil Level	Check All Panel Lights	Clean Pump House	Change Cotton Filter Air Box	Outside Clean-up	Exercise Valve	Check Compressor Pressure	AUTO-ON	Add Degreaser	Reason for Visit	Checked By:

2700 AZUSA PUMP STATION MAINTENANCE RECORD

YEAR:________________

		RECORD DAILY				DAILY				WEEKLY				MONTHLY									
Date	Time	Hour Meter #1	Hour Meter #2	Hour Meter #3	Hour Meter #4	Test Run Motor/Pumps	Compressor Pressure	Check All Panel Lights	Back on Auto	Switch Over Air Box	Check Oil Level	Test Run Sump Pumps Clean Sump Pump Pits	Outside Clean-up	Grease Pumps - New Side	Grease Pumps - Old side	Exercise Valves - New Side	Exercise Valves - Old Side	Degrease Both Wet Wells	Clean & Wash Down Both Pump Stations	Change Cotton / Filter - Air Boxes	Weekday Run	Weekend Run	Checked By:
24-Hour Run Time						Comments:																	
24-Hour Run Time						Comments:																	
24-Hour Run Time						Comments:																	
24-Hour Run Time						Comments:																	
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24-Hour Run Time						Comments:																	
24-Hour Run Time						Comments:																	

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
1955 Workman Mill Road / Whittier, CA
Mailing Address: P.O. Box 4998 / Whittier, California 90607-4998
Stephen R. Maguin, Chief Engineer and General Manager
(562) 699-7411

PERMIT NO: 20935

Facility ID: 9245758

01 CHECK ONE: New Sewer Connection ☐ Existing Sewer Connection ☒

02 Applicant Golden Heights Investment, LLC
(Legal Company Name)

03 Check one and fill in appropriate information

☒ Corporation Name Golden Heights Investment, LLC
Year Incorporated 2009 State of Incorporation California ID# 200919110109

☐ Partnership Name _____ Partners _____

☐ Sole Proprietor Name _____ Business Names _____

04 Situs Address 2200-2370 S. Azusa Avenue, West Covina, CA 91792
(Street) (City) (State) (Zip)

05 Mailing Address 17165 Newhope Street, Suite H, Fountain Valley, CA 92708
(Street) (City) (State) (Zip)

06 Point of Discharge Northwest Corner of Home Depot

07 Number of years applicant has been in business at present location 2 (yrs) _____ (months)

08 Name of Property Owner James Chou
Address of Property Owner 1611 S. Garfield Avenue, Alhambra, CA 91801 714-241-1550
(Street) (City) (Zip) (Telephone Number)

09 Assessors Map Book No. 8 7 3 5 Page No. 0 0 1 Parcel No. 0 3 1

10 Type of Industry Rental - Commerical Property 9 9 9 9 , ☐ ☐ ☐ ☐
(General Description) (Federal SIC No.)

11 Number of Employees (Full Time) 0 (Part Time) _____

12 Raw Materials Used None
(General Description – Add Additional Sheets as Needed)
(Daily Amount Used)

13 Products Produced None
(General Description – Add Additional Sheets as Needed)
(Daily Amount Produced)

14 Wastewater Producing Operations Ground Water Dewatering
(Full Description – Add Additional Sheets as Needed)

15 Time of Discharge 12:01 AM☒ PM☐ 12:01 AM ☒ PM☐, Shifts per day _____ Days per Week M☒ T☒ W☒ Th☒ F☒ Sa☒ Su☒

16 Wastewater Flow Rate ~~1250~~ 1500 (Average) Gallons per Day 10 (Peak) Gallons per Minute

17 Constituents of Wastewater Discharge Ground Water - (See Attachment Results)
(General Description – Attach Chemical Analysis Results to the Application)

18 Person in company responsible for industrial wastewater discharge
Chi Vu (Name) Property Manager (Position) 714-724-1558 (Telephone Number)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date Sept 26 ,2011

19 Signature for Applicant _____ Chi Vu property manager
(Company Administrative Official) (Name) (Position)

20 Approved/Reviewed by City or County Official
Date 10-19-11
For L.A. County Dept. of Public Works . . . ☐
City of West Covina
Name Oscar Caplin
Position Civil Engineering Associate

Approved by Sanitation Districts of Los Angeles County
Date 06/14/2012
Expiration Date Not Applicable
Stephen R. Maguin, Chief Engineer and General Manager
By _____
Position Senior Engineer

Note: Please submit application first to the applicable City or County agency in which the point of discharge is located. Please contact the local agency for the required permit-processing fee. Submit the original application (Do not send copies).

DOC # 2065066

OCT 21 2011 AM 10:00

Wenke S

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
1955 Workman Mill Road / Whittier, CA
Mailing Address: P.O. Box 4998 / Whittier, California 90607-4998
Grace Robinson Chan, Chief Engineer and General Manager
(562) 699-7411

PERMIT NO: 20934
Facility ID: 9245758

01 CHECK ONE: New Sewer Connection ☐ Existing Sewer Connection ☒

02 Applicant Golden Heights Investment, LLC
(Legal Company Name)

03 Check one and fill in appropriate information
☒ Corporation Name Golden Heights Investment, LLC
Year Incorporated 2009 State of Incorporation California ID# 200919110109
☐ Partnership Name _____ Partners _____
☐ Sole Proprietor Name _____ Business Names _____

04 Situs Address 2322-2370 S. Azusa Avenue, West Covina, CA 91792
(Street) (City) (State) (Zip)

05 Mailing Address 17165 Newhope Street, Suite H, Fountain Valley, CA 92708
(Street) (City) (State) (Zip)

06 Point of Discharge Northwest Corner of Home Depot

07 Number of years applicant has been in business at present location 2 (yrs) _____ (months)

08 Name of Property Owner James Chou
Address of Property Owner 1611 S. Garfield Avenue, Alhambra, CA 91801 714-241-1550
(Street) (City) (Zip) (Telephone Number)

09 Assessors Map Book No. 8 7 3 5 Page No. 0 0 1 Parcel No. 0 3 1

10 Type of Industry Rental - Commerical Property 9 9 9 9 , ☐ ☐ ☐ ☐
(General Description) (Federal SIC No.)

11 Number of Employees (Full Time) 0 (Part Time) _____

12 Raw Materials Used None
(General Description – Add Additional Sheets as Needed)
(Daily Amount Used)

13 Products Produced None
(General Description – Add Additional Sheets as Needed)
(Daily Amount Produced)

14 Wastewater Producing Operations Ground Water Dewatering for Slope Stability Purposes.
(Full Description – Add Additional Sheets as Needed)

15 Time of Discharge 12:01 AM☒ PM☐ 12:01 AM ☒ PM☐, Shifts per day _____ Days per Week M☒ T☒ W☒ Th☒ F☒ Sa☒ Su☒

16 Wastewater Flow Rate 500 (Average) Gallons per Day 20 (Peak) Gallons per Minute

17 Constituents of Wastewater Discharge Ground Water - (See Attachment Results)
(General Description – Attach Chemical Analysis Results to the Application)

18 Person in company responsible for industrial wastewater discharge
Chi Vu (Name) Property Manager (Position) 714-724-1556 (Telephone Number)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date Sept. 26, 2011

19 Signature for Applicant (Company Administrative Official) Chi Vu (Name) property manager (Position)

20 Approved/Reviewed by City or County Official
Date 10-19-11
For L.A. County Dept. of Public Works . . . ☐
City of West Covina
Name Oscar Caplin
Position Civil Engineering Associate

Approved by Sanitation Districts of Los Angeles County
Date 06/14/2012
Expiration Date Not Applicable
Grace Robinson Chan, Chief Engineer and General Manager
By June Nguyen
Position Senior Engineer

Note: Please submit application first to the applicable City or County agency in which the point of discharge is located. Please contact the local agency for the required permit-processing fee. Submit the original application (Do not send copies).

OCT 21 2011 AM 10:00

DOC # 2065066

Wenke S

FedEx 8630484 67182

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
1955 Workman Mill Road / Whittier, CA
Mailing Address: P.O. Box 4998 / Whittier, California 90607-4998
Grace Robinson Hyde, Chief Engineer and General Manager
(562) 699-7411

PERMIT NO: 6454
Facility ID: 1825845

01 CHECK ONE: ☐ New Sewer Connection ☒ Existing Sewer Connection

02 Applicant Interspace Battery Corporation
(Legal Company Name)

03 Check one and fill in appropriate information
☒ Corporation Name Interspace Battery Corporation
Year Incorporated 1977 State of Incorporation CA ID# 95-2547334
☐ Partnership Name _____ Partners _____
☐ Sole Proprietor Name _____ Business Names _____

04 Situs Address 2009 San Bernardino Road (Street) West Covina (City) CA (State) 91790 (Zip)

05 Mailing Address 2009 San Bernardino Road (Street) West Covina (City) CA (State) 91790 (Zip)

06 Point of Discharge Southwest Corner of Property (Connects to JOH Unit 8E in San Bernardino Road)

07 Number of years applicant has been in business at present location 45 (yrs) 0 (months)

08 Name of Property Owner Godber & Hollett Partnership
Address of Property Owner 2009 San Bernardino Road, West Covina (Street) (City) 91790 (Zip) (626) 813-1234 (Telephone Number)

09 Assessors Map Book No. 8 4 3 7 Page No. 0 2 8 Parcel No. 0 1 3

10 Type of Industry Lead-Acid Battery Manufacturing (General Description) 3691 (Federal SIC No.)

11 Number of Employees (Full Time) ~~230~~ 404 (normal sanitary allowance for 235 employees plus shower allowance: (1.6 x 1,000,000)/(264 x 15)

12 Raw Materials Used Lead (Pb), Lead Oxide (PbO), Sulfuric Acid (H2SO4)
(General Description – Add Additional Sheets as Needed)
Variable (Daily Amount Used)

13 Products Produced Lead-Acid Batteries
(General Description – Add Additional Sheets as Needed)
Variable (Daily Amount Produced)

14 Wastewater Producing Operations Closed Formation, Battery Wash with Detergent, Mold Release Formulation, Truck Wash, Miscellaneous Waste Streams.
(Full Description – Add Additional Sheets as Needed)

15 Time of Discharge 6:00 AM☒ PM☐ 4:00 AM☐ PM☒, Shifts per day 1 Days per Week M☒ T☒ W☒ Th☒ F☒ Sa☒ Su☐

16 Wastewater Flow Rate 2100 (Average) Gallons per Day ~~13~~ 20 (Peak) Gallons per Minute

17 Constituents of Wastewater Discharge See Attached
(General Description – Attach Chemical Analysis Results to the Application)

18 Person in company responsible for industrial wastewater discharge
Steve Delmar (Name) Director Environmental, Health and Safety (Position) (626) 813-1234 ext.252 (Telephone Number)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date November 19, 20 14

19 Signature for Applicant _____ (Company Administrative Official) (Name) Director Environmental, Health and Safety (Position)

20 Approved/Reviewed by City or County Official
Date 12/18/2014
☐ L.A. County Department of Public Works
City of West Covina
Name Miguel Hernandez
Position Civil Engineering Associate

Approved by Sanitation Districts of Los Angeles County
Date 10/09/2015
Expiration Date 10/08/2020
Grace Robinson Hyde, Chief Engineer and General Manager
By _____
Position Senior Engineer

Note: Please submit application first to the applicable City or County agency in which the point of discharge is located. Please contact the local agency for the required permit-processing fee. Submit the **original application** (Do not send copies).

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DOC # 3185033
DEC 23 '14 AM 11:14

Smith L.

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
1955 Workman Mill Road / Whittier, CA
Mailing Address: P.O. Box 4998 / Whittier, California 90607-4998
Grace Robinson Hyde, Chief Engineer and General Manager
(562) 699-7411

PERMIT NO: 014655

01 CHECK ONE: ☐ New Sewer Connection ☒ Existing Sewer Connection

02 Applicant BKK Landfill - CoGeneration Plant
(Legal Company Name)

03 Check one and fill in appropriate information

☒ Corporation Name BKK Corporation
Year Incorporated 1952 State of Incorporation CA ID# C0261570

☐ Partnership Name _____ Partners _____

☐ Sole Proprietor Name _____ Business Names _____

04 Situs Address 2210 South Azusa Avenue (Street) West Covina (City) CA (State) 91792 (Zip)

05 Mailing Address 2210 South Azusa Avenue (Street) West Covina (City) CA (State) 91792 (Zip)

06 Point of Discharge Tie-Ins connect into existing sewer discharge line at 2210 S. Azusa Ave

07 Number of years applicant has been in business at present location 63 (yrs) _____ (months)

08 Name of Property Owner BKK Landfill
Address of Property Owner 2210 South Azusa Avenue (Street) West Covina (City) 91792 (Zip) (626) 965-0911 (Telephone Number)

09 Assessors Map Book No. 8 7 3 5 Page No. 0 0 1 Parcel No. 0 0 9

10 Type of Industry CoGeneration of Electricity (General Description) ☐☐☐☐, ☐☐☐☐ (Federal SIC No.)

11 Number of Employees (Full Time) 2 (Part Time) _____

12 Raw Materials Used Methane, Betz Inhibitor 26k (1-2 GPD), Slimicide C-77P (0.2 GPD), Sulfuric Acid (10-15 GPD)
(General Description – Add Additional Sheets as Needed)

(Daily Amount Used)

13 Products Produced Electricity
(General Description – Add Additional Sheets as Needed)

(Daily Amount Produced)

14 Wastewater Producing Operations cooling tower blowdown, reverse osmosis reject water
(Full Description – Add Additional Sheets as Needed)

M☒ T☒ W☒ Th☒

15 Time of Discharge 12 AM☒ PM☐ 12 AM☐ PM☒, Shifts per day 3 Days per Week F☒ Sa☒ Su☒

16 Wastewater Flow Rate 24,000 (Average) Gallons per Day 60 (Peak) Gallons per Minute

17 Constituents of Wastewater Discharge cooling tower blowdown (~94%), reverse osmosis reject water (~6%), analysis attached.
(General Description – Attach Chemical Analysis Results to the Application)

18 Person in company responsible for industrial wastewater discharge
Kelly P. McGregor (Name) Agent for BKK Landfill (Position) (626) 965-0911, ext. 353 (Telephone Number)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date 11-19, 2015

19 Signature for Applicant _____ (Company Administrative Official) (Name) Pres. of BAS Construction acting as Agent for BKK (Position)

20 Approved/Reviewed by City or County Official
Date 12-21-2015
☐ L.A. County Department of Public Works
City of WEST COVINA
Name Miguel Hernandez
Position P.W. Project Supervisor

Approved by Sanitation Districts of Los Angeles County
Date _____
Expiration Date _____
Grace Robinson Hyde, Chief Engineer and General Manager
By _____
Position _____

Note: Please submit application first to the applicable City or County agency in which the point of discharge is located. Please contact the local agency for the required permit-processing fee. Submit the **original application** (Do not send copies).

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APPENDIX 'J'

Enhanced Maintenance Areas (Hotspots) List

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APPENDIX 'J'
CITY OF WEST COVINA
SEWER ENHANCED MAINTENANCE AREAS

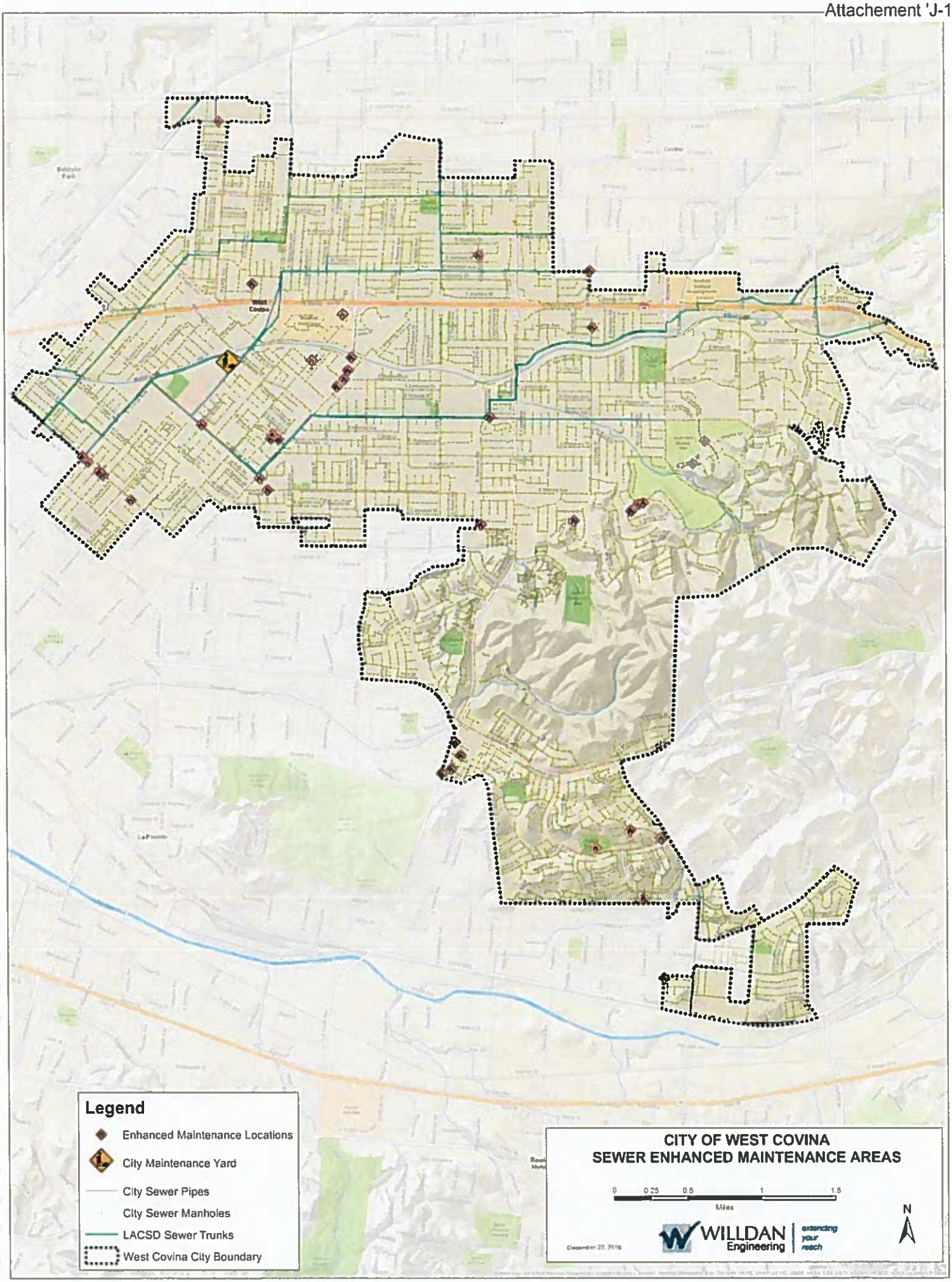
NO.	LOCATION	FOOTAGE
1.	Roberto @ Dennis	200'
2.	San Bernardino Road – 1st Manhole East of Azusa Cyn Rd. East	610'
3.	Homerest N/O Workman North	1200'
4.	Hollenbeck at Workman	180'
5.	Hollenbeck – from S. Garvey to Walnut Creek Parkway North	1220'
6.	Cameron @ Fernwood	600'
7.	Alley Behind Great Wall North	1720'
8.	S. Garvey at California – New Line to Chevy's North	400'
9.	California from Service to Blue Ash North	1220'
10.	Vincent / Glendora to Manhole by Stop Light West	125'
11.	Vincent / Glendora to West Covina Parkway North	610'
12.	Glendora / Service to Vincent / Glendora North	240'
13.	From 1st Manhole West on Christopher / Glendora to Manhole at Glendora / Service East	350'
14.	Hong Kong Plaza	600'
15.	Shadydale at Merced to L. A. County	50'
16.	417 East Merced to Merced / Glendora (reverse)	350'
17.	425 Merced Pl. / Glendora to Merced / Glendora (Reverse) West	
18.	Francisquito inverted siphons at: (check)	
	Shopping Center	60'
	Tonopah at Francisquito	180'
	Conlon a Francisquito	180'
	Lang at Francisquito	180'
	Orange at Francisquito	180'
19.	281 Lark Hill Drive	225'
20.	Glenview / McWood to Francisquito South	450'
21.	2595 & 2599 S. Azusa Avenue	300'
22.	2700 S. Azusa Avenue	700'
23.	2700 S. Azusa Avenue Lift Station	Clean
24.	2600 S. Azusa Avenue	350'
25.	Dirt Sewer Pit to first manhole East	150 lnft
26.	Arline @ Alicia	300'
27.	Gehrig @ Tinker	200'
28.	End of Fenmead – under wash to Elizondo	400'
29.	2117 Cameo Vista Drive – Manhole	Clean
30.	On Shadow Oak 250 t. W. of Nogales	50'
31.	On Shadow Oak on the sidewalk – Clean manhole	0'
32.	Robindale St from manhole at driveway end of robindale south to manhole inside driveway behind Hong Kong plaza	125'
33.	Robindale St from manhole at driveway east to Glendora Ave	583'
34.	Shadow Oak park manhole next to restrooms	300'
35.	1216 Montezuma way	200'

APPENDIX 'J'
CITY OF WEST COVINA
SEWER ENHANCED MAINTENANCE AREAS

36.	1216 Montezuma to 1223 Sandy Hill	300'
37.	1220 Montezuma to 1216 Montezuma	175'
38.	921 Spring Meadow Drive	340'

Total Length = 15,603 LF

(1.3% of the sewer system)


Legend
Enhanced Maintenance Locations
City Maintenance Yard
City Sewer Pipes
City Sewer Manholes
LACSD Sewer Trunks
West Covina City Boundary
CITY OF WEST COVINA
SEWER ENHANCED MAINTENANCE AREAS
0 0.25 0.5 1 1.5
Miles
N
WILLDAN Engineering
extending your reach

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APPENDIX 'K'

Recent and Projected Fiscal Years Sanitary Sewer Rates

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SSMP Funding

12/21/2016

CITY OF WEST COVINA
Sanitary Sewer Operations and Capital Outlay Budgeting

	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2018 -2019	2019 - 2020	2020 - 2021
Revenues									
Charges for Services & Facilities	28,000	184	-	-	-	-	-	-	-
Sewer Permit Fees	764		-	0					
Special Assessments	2,442,851	2,846,527	2,840,828	2,880,094	2,723,592	2,723,592	2,723,592	2,723,592	2,723,592
Investment Earnings	10,000	3,455	4,649	2,800	3,500	3,500	3,500	3,500	3,500
Total Revenues	2,481,615	2,850,166	2,845,477	2,882,894	2,727,092	2,727,092	2,727,092	2,727,092	2,727,092
Expenditures									
Salaries & Benefits	1,325,796	1,264,757	1,068,081	1,159,087	1,340,541	1,404,001	1,464,287	1,530,535	1,599,886
Transmission & Treatment	Collected by CSD on annual property tax bill								
Professional & Technical	180,000	0	0	60,000					
Interdepartmental Services	226,880	238,750	232,960	232,390	317,944	320,000	320,000	320,000	320,000
Service Contracts	583,620	637,280	651,223	0					
Other Services & Costs	99,729	206,477	258,817	264,557	235,253	240,000	245,000	250,000	255,000
Capital Outlay	51,973	44,620	57653	422,264	500,000	750,000	1,000,000	1,000,000	500,000
Total Expenditures	2,467,998	2,391,884	2,268,734	2,138,298	2,393,738	2,714,001	3,029,287	3,100,535	2,674,886
Balances	13,617	458,282	576,743	744,596	333,354	13,091	-302,195	-373,443	52,206

APPENDIX 'K'

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APPENDIX 'L'

Sewer Overflow Emergency Response Plan

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SANITARY SEWER OVERFLOW RESPONSE PLAN

INTRODUCTION

The City of West Covina provides wastewater disposal needs of approximately 112,670 people within the San Gabriel Valley area in eastern Los Angeles County. The community sewers receive and convey approximately 14.1 mgd (million gallons per day) of wastewater. This waste flow goes to the regional trunk sewers and wastewater treatment plant. The City service area covers 17.0 square miles and its wastewater collection system consists of 227 miles of community sewer facilities, with 31 miles of regional trunk sewers (owned and operated by CSD of Los Angeles County) also located within the City area.

The primary goal of the City's sewer maintenance program has been and remains the protection of public health, safety and the environment. As a matter of State and Federal regulations, SSOs are prohibited, and moreover, are inconsistent with the City's goal of providing the highest level of sewer service to the public. The City places high priority on capacity assurance, repair and replacement, and proper operation and maintenance of its sewerage system. While the City desires to completely eliminate sanitary sewer overflows, it is also understood that manmade systems do fail. Regardless of the level of scrutiny and control provided, overflows will, on occasion, occur.

Therefore, when an SSO event does occur, this response plan encompasses measures necessary to minimize public health and environmental impacts. To accomplish this, the City operates a two-pronged response to SSOs that directs efforts to stop the overflow simultaneously with efforts to contain and then recover the wastewater discharged. Quick response to emergency situations can prevent overflows of wastewater from reaching the water of the United States.

The City is responsible for response to, and reporting of, all SSOs caused by problems within the City's sanitary sewer system. Under certain emergency circumstances, the City may also provide assistance to the CSD and sewering entities within the surrounding area during an overflow response situation.

OVERFLOW RESPONSE GOALS

1. The City's goals and actions regarding overflow response are stated in Chapter 1 of the SSMP.

NOTIFICATION, INVESTIGATION AND MOBILIZATION

1. The City's chain of communication and reporting are stated in Chapter 2 of the SSMP.

2. The following occurs upon receiving notification of an overflow:

- The notification is logged on a form (See Attachment 'L-1') and promptly assigned for follow-up actions.

- Dispatch of Personnel to Investigate - For overflows reported during the workday, a supervisor or other trained representative is immediately dispatched to investigate; during non-working hours, an on-duty employee or supervisor is dispatched.

- Dispatch of Staff and Equipment - When the initial investigation report indicates that a wastewater overflow has occurred from the City's sewer system, both equipment and personnel are mobilized and dispatched immediately to the overflow site. During non-workday hours, staff members are contacted and directed to report to their mobilization site for instructions.

- Notification for Outside Support – When the initial investigation determines that additional 'Outside Support' resources will be necessary to accomplish the containment and clean-up, the DPW is notified and informed of the situation and the perceived needs.

- Notification of Sewer Agencies - When the initial investigation indicates that an overflow has occurred from another agency's sewer or may have resulted from blockage in another agency's sewer, the potentially responsible agency is immediately notified. If the additional on-site investigation indicates that the overflow is the responsibility of the other agency, then the response efforts are turned over to that agency, with assistance from the City, if necessary and requested. Regardless of cause, once the overflow response has occurred, the primary objective is to minimize the risk to human health and to the environment (i.e Waters of the United States). Containment is the top priority.

- Notification of Management Personnel - Appropriate management personnel are notified (if they have not already been notified) and any personnel necessary for office support of the field response are mobilized.

RESPONSE

The overflow response is directed in the field by supervisors and/or managers who are trained and experienced in responding to SSOs, with additional operations, maintenance, engineering and agency support staff available as needed for public notification, protection, resource supply, expense authorization and tracking, and coordination of available support resources.

The steps involved in responding to a wastewater overflow event in order of priority are:

1. Site Control and Containment
2. Corrective Action and Recovery
3. Clean-up
4. Sampling
5. Notification and Reporting
6. Post-Clean-up Activities

1. Site Control and Containment

Upon arriving at the overflow location, concurrent actions can be taken by the various crews. However, if performing these actions concurrently will potential delay sewer operations staff in containing the sewer discharge, the first priority is containment. Sewer operations staff should contact the Police and/or the Fire department if additional assistance is needed for preventing public access to the site.

a) Prevent Public Access - Access to the immediate area of the overflow is restricted to minimize potential impacts to public health by redirecting pedestrian and automobile traffic away from the overflow through the use of traffic cones, plastic tape, barricades, and/or local law enforcement.

The extent of the overflow and its potential impacts to the public health are assessed by City personnel. This process involves determining if any private property owners/residents may be exposed to raw sewage, making direct contact with those parties who have been or may be directly affected by the overflow, advising those individuals of the potential health hazards associated with contact with raw sewage, and identifying prudent measures to be taken by private property owners/residents, such as vacating the property/area, to prevent contact with the overflow.

Simultaneous efforts include determining the path and final destination of the sewage spill and potential exposure to the public. If wastewater from the overflow is ponding in a location that can be isolated, then set up barricades to prevent public access. Traffic control is set up to prevent vehicles from entering locations where the overflow has contaminated public or private travel ways. City personnel are instructed to direct pedestrians and automobile traffic away from the spill path and final destination of the overflow. All involved persons must cooperate with local law enforcement and public works officials to ensure that public exposure to the overflow is minimized and to ensure spill site security.

b) Prevent Wastewater Entry to Storm Drain System - When possible, contain and recover the overflow in the immediate vicinity of the overflow before it enters a storm drain catch basin. Measures to effect such containment include damming the overflow path with sandbags in the street gutter and recovering the impounded water with a

vacuum truck or jet vactor, or using sandbags to divert the overflow back into a nearby sewer manhole.

c) Containment – Containment and recovery of an overflow should occur as close as possible to the site of the overflow, preferably in the street curb and gutter, to minimize the length of the storm drain system affected by the wastewater. When a storm drain system is nearby, the overflow may enter the storm drain system prior to arrival of the first responding personnel. In these cases, engineering, supervisory and/or management staff identify the most practical containment location in the storm drain system downstream of the overflow. In selecting the best containment location, staff must consider many factors, including:

- time the overflow started,
- overflow route through the storm drain system,
- time needed to install a containment dam,
- travel time for the overflow to reach the containment location,
- safe access to the containment location for personnel and equipment, and
- availability of a nearby sewer with sufficient capacity into which recovered wastewater can be returned.

Access and safety considerations generally require establishment of containment in open storm drain channels. Containment in buried storm drains pipes upstream of any open channels is preferable when possible. However, the physical difficulty of deploying personnel and materials through a manhole into a buried storm drain pipe to construct a containment dam, the dimensions of the storm drain itself, and/or the safety procedures and authorization needed to enter confined space generally preclude rapid and practical establishment of containment within a buried storm drain pipe. City staff can usually and safely enter the storm drain system to establish containment during dry weather conditions only. A containment location close to the overflow location is only possible when a containment dam can be deployed very quickly after the start of an overflow.

Once a suitable containment location is identified, the crew responsible for containment:

- deploys a sandbag containment dam or otherwise prevents the movement of the overflow and contaminated street runoff further downstream in the storm drain system, and
- deploys the vacuum trucks or portable pumps and piping necessary to return the contained wastewater, dry weather runoff, and clean-up water back to the sewer system.

2. Corrective Action and Recovery

a) Stop Overflow - The cause of the overflow is identified and necessary corrective action is taken to stop the overflow and/or correct the condition that caused the overflow if the overflow has already stopped.

Typical corrective actions to stop a sewer overflow include:

- o clearing a pipe blockage with a jet vactor or rodding machine,
- o removing debris from a manhole,
- o upstream flow diversion,
- o bypass of wastewater around the blockage using vacuum trucks or pumps
- o bypass and repair of a damaged force main.

Bypass pumping is typically accomplished by the use of portable pumps and hoses to convey flow around the blocked or damaged sewer, the inoperative pumping plant or the damaged force main. The Sewer Operations and Maintenance team maintains an Overflow Response Trailer, which is equipped with portable pumps and hoses of various sizes (designed to bypass flows of up to 450 gallons per minute), sandbags, fittings, and tools to facilitate pumped bypass. When possible, diversions are used to redirect a portion or all of the wastewater around the affected area in the system. Maintaining accurate and complete sewerage system maps is essential to expeditiously accomplish wastewater diversion during an emergency response.

- Pumping Plants - Emergency Procedure Operating Manuals for pumping plants (Lift Stations) are available in the DPW as references for operations, maintenance, engineering, supervisory, and management staff. The manuals provide comprehensive information on the proper response to all types of pumping plant failures, potential overflows and force main leaks and failures. Available information includes proper response to power failure, high wet well level, telemetry system failure, control system failure, procedures to bypass the plant, and emergency overflow information including low manhole location, storage time in the tributary sewer system, containment location and estimated travel time to the containment location.

3. Clean-up

After the overflow has been stopped, the following steps are taken:

- Recover Locally Impounded Wastewater - All locally impounded wastewater is recovered with a vacuum truck or jet vactor and returned to the sewer system
- Collect Wastewater Debris - All visible debris of wastewater origin from the overflow location(s), street(s), curb and gutters, and the overflow runoff path is physically removed.
- Flush Affected Area - Overflow location(s), street(s), curb and gutters, and the runoff path are flushed with lightly chlorinated potable water, typically delivered by a vacuum truck or water truck. The flush water is also recovered and returned to the sewer system.
- Flush Storm Drain and Conduct Dye Study - Additional potable water is used to flush the overflow runoff path within the storm drain system. When appropriate, this flush water is marked with a nontoxic, visible dye. Arrival of the dye at the containment location establishes the actual travel time to the containment location. Recovery of the dye confirms completion of spilled wastewater and flush water

recovery.

- Complete Clean-up - All sandbags and other containment are removed to complete the clean-up in the storm drain system. If spilled wastewater reaches natural watercourses or other areas accessible to the public, input is solicited from the responsible jurisdiction regarding additional measures which may be necessary or appropriate for a complete clean-up. Additional clean-up measures are completed as directed.

Private properties impacted by overflows or backups from problems within the City's sewer system should be cleaned up by a professional restoration company dispatched by the City. The City may offer residents meals, lodging, and reasonable expenses when they are temporarily displaced by private property restoration operations. Claims for property damage are handled by the City's Risk Management Office.

4. Receiving Water Sampling

Bacterial test samples of SSOs should be collected by the first responder, whenever possible. If it is probable that an overflow may reach receiving waters, samples should also be taken of the receiving waters to evaluate the potential impact on the receiving water quality. Samples should be drawn from the location(s) most likely to be impacted by the overflow and also from a receiving waters location or locations that can be used to establish background water quality. Advance coordination with a certified laboratory for pre-arrangement of sampling supplies, notification protocol for urgent services, and training as may be required, will facilitate emergency sample delivery so that bacterial testing can begin immediately when needed. Delivered samples are analyzed for total coliform, fecal coliform, and enterococcus and other constituents that may be appropriate based on the nature of the receiving water and the spilled wastewater. Because it takes approximately 24 hours for the bacterial analyses, a second round of sampling is conducted within 24 hours of the first unless full containment and recovery of the overflow can be confirmed. If sample results indicate elevated bacterial levels in receiving waters, sampling is continued until results indicate a return to background levels.

5. Notification and Reporting

Sewering entities are required to report to various regulatory agencies, including the appropriate Regional Water Quality Control Board, the County Department of Health Services, and the State Office of Emergency Services, any wastewater overflows greater than 1,000 gallons and, in some cases, overflows less than 1,000 gallons. The reporting requirements vary according to location of the overflow and the amount of wastewater spilled. The City's guideline for *Notification and Reporting Procedures for SSO's,* (included as Attachment 'L-2'), contains an outlined notification and reporting procedures for the two categories of overflows. Chapter 2 of the SSMP contains a flow chart which is used to determine the notification and reporting procedures that apply to a given overflow incident. The SSMP also contains all of the appropriate contacts for reporting. The City's Public Works Superintendent and/or Street/Sewer Maintenance Supervisor makes the notifications. When required, telephone notification should be made as soon as possible

without substantially impeding response activities and always within 24 hours of the incident occurrence. The following information shall be provided, if available, when reporting an overflow by telephone:

- name of person reporting,
- name of agency,
- location of overflow,
- whether the overflow has entered or will enter receiving waters (rivers, lakes, storm drains, or ocean) of the State or the United States,
- date and time overflow began and ended,
- estimated volume of overflow,
- cause of overflow,
- corrective actions taken,
- estimated time of repair, and
- agencies involved in repair and clean-up.

All overflows, regardless of quantity, which reach receiving waters, impact groundwater, or endanger public health or the environment require immediate telephone notification of the County Department of Health Services, which is responsible for beach postings and closures and other forms of public notification deemed necessary to protect the public health.

Written notification of the overflow, when required, must be submitted within the required time period to the Regional Water Quality Control Board (RWQCB), typically within 30-days of an overflow and within 3 days if the incident has or may endangered public health or the environment. Written reports should be submitted to the local RWQCB for overflows occurring within their jurisdiction. To satisfy this requirement, the City may choose to submit a brief written confirmation of the reported overflow to the appropriate RWQCB within the time frame required. A follow-up, detailed written report, pursuant to the guideline as contained in Attachment 'L-2', will meet the statutory provisions of the State Water Code. This detailed report usually requires three to four weeks to complete. Copies of the detailed report is sent to those agencies which were initially noticed, unless otherwise notified.

6. Post Clean-up Activities

Once clean-up of an overflow is complete, the incident must be reviewed and any appropriate measures to prevent recurrence must be implemented. Follow-up CCTV inspection is performed when an overflow was caused by a blockage to verify complete removal of the material causing the blockage. If the overflow was avoidable by preventative maintenance, then maintenance activities are added or adjusted as necessary. An example is to increase the frequency of line cleaning where heavy grease build-up has caused an overflow to occur, while source control efforts are reviewed. If the overflow was caused by factors generally outside the City's control, such as vandalism, steps are still

taken to minimize recurrence such as strengthening security by locking down manhole covers, increasing area surveillance, and requesting neighborhood assistance in reporting vandalism and unauthorized dumping.

Regardless of the size or type of overflow, all overflows are investigated thoroughly. Following the investigation, the information as noted on Attachment 'L-1' is documented and included as part of the City's internal spill records.

Policies and procedures are upgraded as appropriate to prevent recurrence of accidental spills due to procedural errors by City's staff and contractors. As part of their training, all involved employee's must thoroughly familiarize themselves with these emergency procedures. City's personnel administering contract sewer repair, rehabilitation and replacement projects must rigidly enforce contract provisions. Especially important is enforcing contractors' approved *Emergency Spill Response Plan* requirements (see Attachment 'L-3' for guidelines) intended to prevent and limit the impact of accidental spills.

An approved *Overflow Action Plan,* which is activated if an overflow from a contract activity enters a storm drain, should be incorporated into the contract documents of all sewer repair, rehabilitation, or replacement contracts involving sewage bypass operations. When successful execution of an *Overflow Action Plan* requires pre-deployment of containment or pumping equipment, City's personnel administering the contract must ensure the necessary pre-deployment measures are taken. Guidelines for the preparation of an *Emergency Spill Response Plan* and an *Overflow Response Plan* are included as Attachment 'L-3'.

EMERGENCY RESPONSE PERSONNEL AND EQUIPMENT

Personnel

The City has *the necessary* personnel to respond to *almost any* emergency, including *power failure, mechanical and electrical equipment breakdown, sewer blockage, pipe failure, and vandalism.* The urgency and seriousness of any wastewater overflow results in the full commitment and availability of all staff in the PWD to respond. Additional City's personnel are utilized for specialized assistance as needed. Contractors with emergency response capabilities are also used to assist in emergencies as needed.

An emergency contact list is maintained which includes the home phone number of all employees in the PWD. All supervisors and managers in the PWD are assigned cell phones and/or pagers and are accessible 24-hours a day. A table of organization for the SSO responses and each supporting unit or group are included in Chapter 2 of the SSMP.

Emergency Equipment

In addition to the normal compliment of equipment utilized by the PWD for maintenance

and repair of the sewerage system, specific items are maintained for use during emergency conditions. Such equipment includes:

- jet vactor and rodding machines to clear pipe blockages
- portable engine driven electrical generators for use at pumping plants during power outages
- vacuum tankers to transport flow around blockages or to remove wastewater from a containment location in a street or storm drain
- submersible pumps for use as emergency pumps to bypass wastewater around a pipe blockage or a malfunctioning pumping plant
- pre-filled sand bags, flat bed and crane trucks for use in establishing containment dams
- front loaders for emergency earth moving operations
- portable engine driven centrifugal pumps (trash pumps) to bypass wastewater around pipe blockages and remove wastewater from storm drain channel containment locations
- hoses and lightweight quick-coupling piping in various sizes for use in bypass pumping
- pipe repair clamps, inflatable sewer plugs, and other miscellaneous pipe repair parts
- water trucks and bottled chlorine solution for use in clean-up operations
- portable lights, air compressors, centrifugal blowers, and other miscellaneous equipment
- Protective clothing and supplies for safe use by personnel

A current listing of emergency equipment available from the Public Works maintenance yard is included as Appendix 'E'.

TRAINING

Training of City personnel in the goals and procedures of this plan is accomplished in annual emergency response classroom training. A checklist used by staff to check off and record information regarding the various procedures completed during a spill response is utilized during the training process. The checklist is included as Attachment 'L-4'. Secondly, on-the-job training is administered to subordinate staff, by experienced supervisors and lead workers, during and following actual overflow events to further reinforce the annual training and to analyze event specific issues.

NOTIFICATION REPORTING FORM

Time: _____ a.m./p.m. Date: _____ Report taken by: _____

Location of Problem: _____

_____

_____

(Repeat for clear understanding)

Nature and Details of Problem: _____

_____

_____

(Repeat for clear understanding)

Reporting Party: _____ Telephone No. _____

Address: _____

Assigned to: _____ Assigned by: _____ Time assigned: _____

Field Report (for responder use)

Time arrived at site: _____ Time overflow stopped: _____
Duration of overflow: _____ Estimate of overflow volume: _____
U/S MH # _____ D/S MH # _____ Pipe size/length: _____
Findings: _____

_____

_____

_____

_____

_____

Samples taken by: _____ Location of samples taken: _____

_____

Describe cause of overflow:

_____

_____

_____

Describe cleanup method(s):

_____

_____

_____

Describe receiving water affected & location:

_____

_____

_____

Were photographs taken? _____ Yes _____ No

Describe any property damaged and affected area:

Signs posted? _____ Yes _____ No Barricaded? _____ Yes _____ No

Neighbors notified:

Individuals and Regulators Notified & Times:

Follow-up measures:

Detailed sketch of affected area:

My signature indicates responsibility for content and accuracy of above information: _____

NOTIFICATION and REPORTING PROCEDURES for SSO'S

Category 1 – Any volume impacting Waters of the State or the United States:

- Initial notifications ASAP per agency procedure described in this chapter (verbal, phone, fax or E-mail)

Letter Reports with attachments

- Confirmation letter of initial notification(s) including recovery results and status of any ongoing investigation report and expected date of completion.
- Final investigation report, including:
  1. Summary
  2. Event Date / Time / Duration:
  3. Description of affected sewer(s)
  4. Events during the Overflow
  5. Cause of the Overflow (specifically)
  6. Overflow quantity and how determined
  7. Discharge route, Containment and Clean-up
  8. Response and Corrective Action(s) taken
  9. Impact(s) of the Overflow
  10. Did overflow result in a beach closure?
  11. Sewerage Management Program in effect
  12. Measures to Prevent Recurrence
  13. Name, Address, Telephone of reporting system owner and specific contact name
  - Cc: to other required reporting agencies
  - System map of offending area, with relevant photographs
  - Overflow route and Containment site, with relevant photographs
  - Containment site and Sampling Locations, with laboratory results
  - Analysis tools and records used in impact evaluation
  - Maintenance management records

Category 1 – Greater than 50,000 gallon and impacting Waters of the State or the United States:

- Confirmation letter of initial notification(s) including recovery results and status of any ongoing investigation report and expected date of completion (same as Category 1 less than 50,000 gallons).
- Final investigation report (same as Category 1 less than 50,000 gallons)
- Prepare an SSO technical report with 45 calendar days of the SSO end date. The report must contain the following per the guidelines set forth in the 2013 SWRCB General Order.
  - Causes and Circumstances of the SSO
  - Enrollee's Response to the SSO
  - Water Quality Monitoring Report

Category 2 - 1,000 Gallons or greater

- Same as Category 1 for less than 50,000 gallons

Category 3 - Less than 1,000 Gallons to be reported within 30 days of SSO identification:

- Initial notifications per agency procedures in this chapter (verbal, phone, fax or E-mail)

Memorandum report format

- Event Date / Time / Duration:
- Event Location:
- Involved Sewer Data: (include: size, material, year constructed, date last inspected, etc.)
- Estimated Overflow Quantity:
- Cause of Overflow:
- Affected Area:
- Action(s) taken:
- Preparing party signature and date

Private Lateral Sewage Discharge:

Enrollee's discretion in reporting to the Online Data Base. Min. required information for reporting:

- Identify discharge as occurring and caused by a private lateral
- Identify responsible party for the private lateral

EMERGENCY SPILL RESPONSE PLAN and OVERFLOW ACTION PLAN

Outline for a Contractor's Emergency Spill Response Plan:

- Identification of Project, Sewer owner, Contractor and Location of affected sewer(s)
- Description of Installation criteria, procedures, layout (with diagrams) and operations.
- Description of Spill prevention and protection measures/actions.
- Spill control (discharge) actions/measures, to minimize impacts.
- Remediation (Clean-up) measures.
- Emergency Materials and Equipment Onsite
- Emergency Equipment specifications that meet the potential spill risk
- Emergency Phone Numbers

Outline for a Overflow Action Plan [Where receiving waters are or will be affected]:

- Identification of Project, Sewer owner, Contractor and Location of affected sewer(s)
- Identification of affected drainage course/piping owner, proximity and emergency contacts
- Map of drainage path, access and containment points, with relevant photographs
- Identification of closest sewer to the containment point(s)
- Travel time to the containment point
- Emergency support resources and contacts
- Equipment and Materials necessary for containment and for Clean-up
- Require notification contacts

SSO RESPONSE CHECKLIST				
General Information				
Sewer location:				
Date & time of report:		Caller:		Phone:
Person receiving report				Phone:
Time overflow started:	Where:			Noticed:
SSO response checklist completed by:				
Initial Response	Yes	No	N/A	Comments:
A. Initial on-scene response within 60 min.:(time)				
B. Sanitation District's responsible?				
C. Responsible agency contacted: (name/time)				
D. Manhole still overflowing (approx. flow rate)				
E. Containment to prevent SSO into storm drain				
F. Public excluded from affected area				
Gravity Sewer	Yes	No	N/A	Comments
A. Cause				
B. Corrective action to stop overflow				
Used jetter to remove blockage				
Removed blockage by man entry				
Removed wastewater with vac.trk.(loads)				
Set up pumped bypass system				
C. Time overflow stopped				
Pump STA./Force Main Overflows	Yes	No	N/A	Comments
A. Cause				
B. Corrective action to stop overflow				
Utility power restored (time)				
Portable generator to respond				
Portable/on-site generator operating (time)				
Bypass pumps installed				

SSO RESPONSE CHECKLIST				
Force main bypassed				
C. Time overflow stopped				
Containment	Yes	No	N/A	Comments
A. Containment established in stormdrain				
Location				
Time				
B. Pumping start time				
C. Pumping stop time				
D. Spill contained				
Clean-up	Yes	No	N/A	Comments
A. Area washed down & debris removed				
B. Wash water recovered				
C. Restoration company contacted				
D. Stormdrain flushed				
Time				
Volume of water used				
Dye used				
Sampling	Yes	No	N/A	Comments
A. Overflow sample				
B. U/S D/S receiving water samples				
C. Samples analyzed				
D. Receiving water locations resampled				
Reporting	Yes	No	N/A	Comments
A. Department head notified				
B. Appropriate regulatory agencies notified				

Collection System Collaborative Benchmarking Group
Best Practices for Sanitary Sewer Overflow (SSO) Prevention and Response Plan

Attachment D - Sample Templates for SSO Volume Estimation

TABLE 'A'

ESTIMATED SSO FLOW OUT OF M/H WITH COVER IN PLACE

24" COVER

Height of spout above M/H rim H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/4	1	0.001	
1/2	3	0.004	
3/4	6	0.008	
1	9	0.013	
1 1/4	12	0.018	
1 1/2	16	0.024	
1 3/4	21	0.030	
2	25	0.037	
2 1/4	31	0.045	
2 1/2	38	0.054	
2 3/4	45	0.065	
3	54	0.077	
3 1/4	64	0.092	
3 1/2	75	0.107	
3 3/4	87	0.125	
4	100	0.145	
4 1/4	115	0.166	
4 1/2	131	0.189	
4 3/4	148	0.214	
5	166	0.240	
5 1/4	185	0.266	
5 1/2	204	0.294	
5 3/4	224	0.322	6"
6	244	0.352	
6 1/4	265	0.382	
6 1/2	286	0.412	
6 3/4	308	0.444	
7	331	0.476	
7 1/4	354	0.509	
7 1/2	377	0.543	
7 3/4	401	0.578	8"
8	426	0.613	
8 1/4	451	0.649	
8 1/2	476	0.686	
8 3/4	502	0.723	
9	529	0.761	

36" COVER

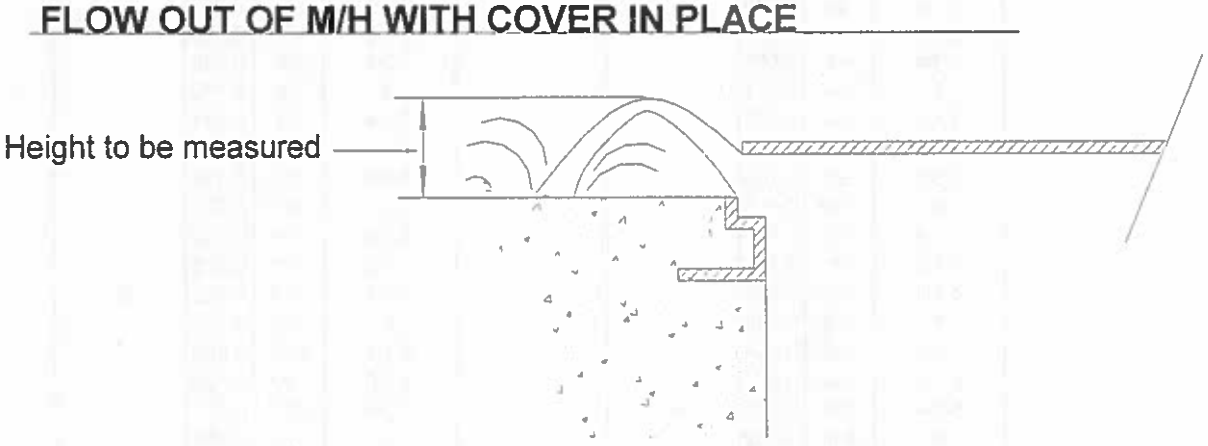
Height of spout above M/H rim H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/4	1	0.002	
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
3 1/2	109	0.157	
3 3/4	127	0.183	
4	147	0.211	
4 1/4	169	0.243	
4 1/2	192	0.276	
4 3/4	217	0.312	6"
5	243	0.350	
5 1/4	270	0.389	
5 1/2	299	0.430	
5 3/4	327	0.471	
6	357	0.514	
6 1/4	387	0.558	8"
6 1/2	419	0.603	
6 3/4	451	0.649	
7	483	0.696	
7 1/4	517	0.744	
7 1/2	551	0.794	
7 3/4	587	0.845	10"
8	622	0.896	
8 1/4	659	0.949	
8 1/2	697	1.003	
8 3/4	734	1.057	
9	773	1.113	

Disclaimer:
This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

The formula used to develop Table A measures the maximum height of the water coming out of the maintenance hole above the rim. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is unseated and slightly elevated on a 24" casting. The maximum height of the discharge above the rim is 5 ¼ inches. According to Table A, these conditions would yield an SSO of 185 gallons per minute.



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

TABLE 'B'

ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED

24" FRAME

Water Height above M/H frame H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/8	28	0.04	
1/4	62	0.09	
3/8	111	0.16	
1/2	160	0.23	
5/8	215	0.31	6"
3/4	354	0.51	8"
7/8	569	0.82	10"
1	799	1.15	12"
1 1/8	1,035	1.49	
1 1/4	1,340	1.93	15"
1 3/8	1,660	2.39	
1 1/2	1,986	2.86	
1 5/8	2,396	3.45	18"
1 3/4	2,799	4.03	
1 7/8	3,132	4.51	
2	3,444	4.96	21"
2 1/8	3,750	5.4	
2 1/4	3,986	5.74	
2 3/8	4,215	6.07	
2 1/2	4,437	6.39	
2 5/8	4,569	6.58	24"
2 3/4	4,687	6.75	
2 7/8	4,799	6.91	
3	4,910	7.07	

36" FRAME

Water Height above M/H frame H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/8	49	0.07	
1/4	111	0.16	
3/8	187	0.27	6"
1/2	271	0.39	
5/8	361	0.52	8"
3/4	458	0.66	
7/8	556	0.8	10"
1	660	0.95	12"
1 1/8	1,035	1.49	
1 1/4	1,486	2.14	15"
1 3/8	1,951	2.81	
1 1/2	2,424	3.49	18"
1 5/8	2,903	4.18	
1 3/4	3,382	4.87	
1 7/8	3,917	5.64	21"
2	4,458	6.42	
2 1/8	5,000	7.2	24"
2 1/4	5,556	8	
2 3/8	6,118	8.81	
2 1/2	6,764	9.74	
2 5/8	7,403	10.66	
2 3/4	7,972	11.48	30"
2 7/8	8,521	12.27	
3	9,062	13.05	
3 1/8	9,604	13.83	
3 1/4	10,139	14.6	
3 3/8	10,625	15.3	36"
3 1/2	11,097	15.98	
3 5/8	11,569	16.66	
3 3/4	12,035	17.33	
3 7/8	12,486	17.98	
4	12,861	18.52	
4 1/8	13,076	18.83	
4 1/4	13,285	19.13	
4 3/8	13,486	19.42	

Disclaimer:

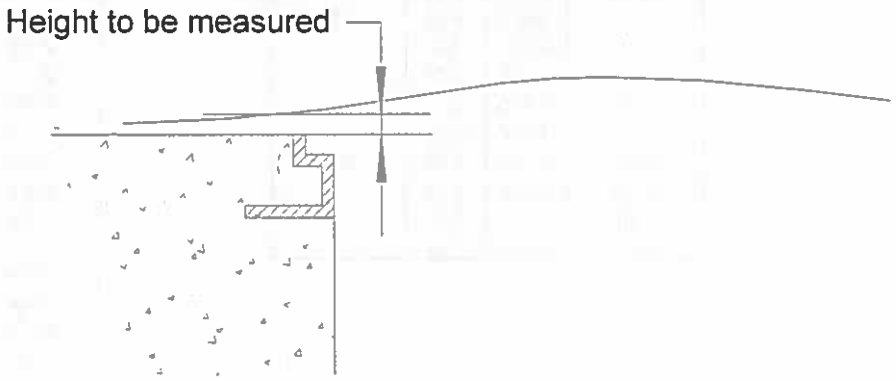
This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

The formula used to develop Table B for estimating SSO's out of maintenance holes without covers is based on discharge over curved weir -- bell mouth spillways for 2" to 12" diameter pipes. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is off and the flow coming out of a 36" frame maintenance hole at one inch (1") height will be approximately 660 gallons per minute.

FLOW OUT OF M/H WITH COVER REMOVED (TABLE "B")



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

TABLE 'C'

ESTIMATED SSO FLOW OUT OF M/H PICK HOLE

Height of spout above M/H cover H in inches	SSO FLOW Q in gpm
1/8	1.0
1/4	1.4
3/8	1.7
1/2	1.9
5/8	2.2
3/4	2.4
7/8	2.6
1	2.7
1 1/8	2.9
1 1/4	3.1
1 3/8	3.2
1 1/2	3.4
1 5/8	3.5
1 3/4	3.6
1 7/8	3.7
2	3.9
2 1/8	4.0
2 1/4	4.1
2 3/8	4.2
2 1/2	4.3
2 5/8	4.4
2 3/4	4.5
2 7/8	4.6
3	4.7
3 1/8	4.8
3 1/4	4.9
3 3/8	5.0
3 1/2	5.1
3 5/8	5.2
3 3/4	5.3
3 7/8	5.4
4	5.5
4 1/8	5.6
4 1/4	5.6
4 3/8	5.7
4 1/2	5.8
4 5/8	5.9
4 3/4	6.0
4 7/8	6.0
5	6.1

Height of spout above M/H cover H in inches	SSO FLOW Q in gpm	
5 1/8	6.2	
5 1/4	6.3	
5 3/8	6.3	
5 1/2	6.4	
5 5/8	6.5	
5 3/4	6.6	
5 7/8	6.6	
6	6.7	
6 1/8	6.8	
6 1/4	6.8	
6 3/8	6.9	
6 1/2	7.0	Unrestrained M/H cover will start to lift
6 5/8	7.0	
6 3/4	7.1	
6 7/8	7.2	
7	7.2	
7 1/8	7.3	
7 1/4	7.4	
7 3/8	7.4	
7 1/2	7.5	
7 5/8	7.6	
7 3/4	7.6	
7 7/8	7.7	
8	7.7	
8 1/8	7.8	
8 1/4	7.9	
8 3/8	7.9	
8 1/2	8.0	
8 5/8	8.0	
8 3/4	8.1	
8 7/8	8.1	
9	8.2	
9 1/8	8.3	
9 1/4	8.3	
9 3/8	8.4	
9 1/2	8.4	
9 5/8	8.5	
9 3/4	8.5	
9 7/8	8.6	
10	8.7	

Note: This chart is based on a 7/8 inch diameter pick hole

Disclaimer: This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

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APPENDIX 'M'

Public Outreach Materials

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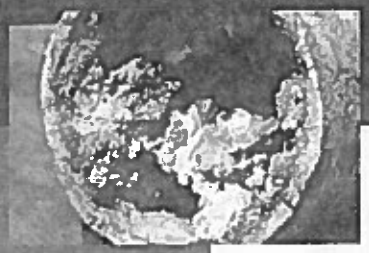


Clean beaches and healthy creeks, rivers, bays, and ocean are important to Los Angeles County. Fats, oils and grease from restaurants and food service facilities can cause sewer line blockages that may result in sewage overflow into your facility and into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways and should never contain washwater, trash, grease or other materials.

You would never dump oil and trash into the ocean, so don't let it enter the storm drains. Follow these tips to help prevent water pollution.

For more information, please call the
City of West Covina
Public Works Department
at **(626) 939-8425**
or visit
www.westcovina.org

Report sewage spills and discharges that are not contained to your site to the
Los Angeles County
24-Hour Water Pollution Reporting Hotline
at **1-888-CLEAN-LA**
(1-888-253-2652)

For emergencies, dial 911.

CALIFORNIA Restaurant ASSOCIATION SINCE 1906

This brochure was created by the Orange County Stormwater Program and modified for the Greater Los Angeles area by the City of West Covina.

Help Prevent Ocean Pollution:

Tips for the Food Service Industry

The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Best Kitchen Practices

Food Waste Disposal

- Scrape food waste off of plates, utensils, pots, food preparation and cooking areas and dispose of it in the trash.
- Never put food waste down the drain. Food scraps often contain grease, which can clog sewer pipes and result in sewage backups and overflows.

Grease & Oil Disposal

- Never put oil or grease down the drain. Contain grease and oil by using covered grease storage containers or installing a grease interceptor.
- Never overfill your grease storage container or transport it without a cover.
- Grease control devices must be emptied and cleaned by permitted companies.
- Keep maintenance records on site.

- For a list of oil/grease recycling companies, contact the CalRecycle at **www.calrecycle.ca.gov/organics/food/Rendering** or contact your local sanitation district.

Minor Spill Cleanup

- Always use dry cleanup methods, such as a rag, damp mop or broom.
- Never hose a spill into the street, gutter or storm drain.

Major Spill Cleanup

- Have spill containment and clean-up kits readily available, and train all employees on how to use them.
- Immediately contain and clean the spill using dry methods.
- If the spill leaves your site, call **(888) 253-2652.**

Dumpster Cleanup

- Pick up all debris around the dumpster.
- Always keep the lid on the dumpster closed.
- Never pour liquids into the dumpster or hose it out.

Floor Mat Cleaning

- Sweep the floor mats regularly, discarding the debris into the trash.
- Hose off the mats in a mop sink, at a floor drain, or in an outdoor area that can contain the water.
- Never hose the mats in an area where the wastewater can flow to the street, gutter or storm drain.

Washwater Disposal

- Dispose of washwater in a mop sink or an area with a floor drain.
- Never dispose of washwater in the street, gutter or storm drain.

PROJECT Pollution PREVENTION

Where to Call

Obtaining an Industrial Waste Permit

Los Angeles County
Department of Public Works
Industrial Waste
(626) 458-3517

Obtaining a Sewer Permit

City of West Covina
Department of Public Works
(626) 939-8425

Recycling & Hazardous Waste Disposal

City of West Covina
Department of Public Works
(626) 939-8425

Spill Response Agencies

City of West Covina
Department of Public Works
(626) 939-8425

To Report Illegal Dumping

City of West Covina
Department of Public Works
Los Angeles County
Department of Public Works
(888) CLEAN-LA

To Report a Clogged Catch Basin

City of West Covina
Department of Public Works
(626) 939-8425

This brochure is one of a series of pamphlets describing runoff pollution prevention measures. Other pamphlets include:

Automotive Maintenance & Car Care

Food Service Industry

Fresh Concrete & Mortar Application
General Construction & Site Supervision

Heavy Equipment & Earth-Moving Activities

Landscaping, Gardening & Pest Control

Home Repair & Remodeling

Painting

Swimming Pool, Jacuzzi & Fountain Maintenance

For more information about storm drain protection or additional brochures

PLEASE CALL:

City of West Covina
Runoff Control Program

(626) 939-8425

Best Management Practices

Gas Stations
Auto Repair
Body Shops

City of West Covina
Runoff Control Program

Your Gas Station As a Source of Runoff Pollution

Your gas station, auto repair, or auto body shop is a source of runoff pollution. Exposed pollutant materials are carried by storm water and non-storm water runoff to the municipal storm drain system (catch basins, streets, alleys, and other conveyances). From there, residual fuel, oil, grease, solvents, radiator fluid, metal fines, and other pollutants are sent to rivers and oceans. In **West Covina's case**, polluted runoff is discharged into the San Gabriel River, which flows into Seal Beach. Runoff-transported pollutants that make their way to the ocean threaten marine life and spoil recreational uses, such as a fishing, swimming, and surfing.

It's the Law

Federal and state law requires **West Covina** and other cities in Los Angeles County to control runoff pollution discharges from retail gas outlets and auto repair /body shops. The information contained in this pamphlet should enable your business to comply with runoff control regulations – not to mention protecting our oceans and rivers against pollution.

Best Management Practices

Gas stations, auto repair/body shops and their employees can help protect water quality by implementing Best Management Practices (BMPs).

- **Fueling** is a pollution problem when tanks are over-filled. Spilled gasoline or diesel fuel can be carried into the storm drain system by storm water and non-storm water runoff (e.g., hosing-down surface areas). To reduce or eliminate fuel-related pollutant discharges, perform the following BMPs:

  - ☑ Post signage advising against topping-off fuel tanks.
  - ☑ Clean fueling area using damp cloth, sponges or a kitty-litter type absorbent materials. Dispose properly (in accordance with haz-mat requirements and other applicable regulations).
  - ☑ If hose water must be used, do not allow runoff to enter the street, catch basin or any other component of the municipal storm drain system. Once again, this is an illicit discharge.

- **Proper material management** can significantly reduce pollutants discharged from your site. Pollutant materials (e.g., batteries, lubricants, solvents, and fluids containing chemicals) used, stored, or disposed, outdoors, can make contact with runoff. To avoid this problem:

  - ☑ Store materials indoors. If this is not possible, store in an appropriate enclosure or other covered outdoor structure. Or, place under roof, tarp, or plastic sheeting) -- and in a secondary containment device, such as a berm or a containment pallet.
  - ☑ When handling materials outdoors, take care to avoid spillage. When spills occur, clean the affected area immediately using rags, sponges, or absorbent materials.
  - ☑ Dispose pollutant materials in a manner that prevents runoff contact and accidental spillage. This includes placing waste fluids, crushed in spill-proof containers, placing oil filters and old batteries in covered containers, and keeping trash in covered containers (receptacles or bins).
  - ☑ Control inventory of pollutant materials to prevent inappropriate outdoor storage

- Outdoor parking/auto maintenance can also cause exposure of pollutants to runoff. To minimize exposure:

  - ☑ Check cars parked outdoors awaiting repair for leaks. If leakage is detected, place drip pan or absorbent pillow/blanket underneath the leak.
  - ☑ Clean leaks using damp cloth, sponges, or kitty-litter.

- Engine/parts cleaning can produce illicit discharges. To prevent such discharges:

  - ☑ Steam clean parts in an enclosed bay where condensed steam can be collected in a sump.
  - ☑ If necessary, install oil/water separator to remove oil, grease, and fines before discharging to the municipal sewerage system.

- Painting/body work can also cause runoff pollution. Use these BMPs:

  - ☑ Do all body repair/painting indoors or under cover.
  - ☑ Clean spray guns in a self-contained cleaning unit.
  - ☑ Minimize hosing-off degreasers to clean body parts before painting. Instead, brush-off loose debris and use rags to wipe down parts.
  - ☑ Do not wash outdoors any residual paint or dust from sanding metal or body filler (sweep or vacuum instead and dispose in a manner that prevents runoff contact).
  - ☑ Never discharge cleaning-waste into the storm drain, directly or indirectly.

INDUSTRIAL FACILITIES RUNOFF POLLUTION PREVENTION BEST MANAGEMENT PRACTICES

■ A Source of Runoff Pollution

Your industrial facility is a **potential source of runoff pollution** to our rivers and oceans. This is because the materials associated with it contain chemicals and/or particulates (e.g, fines and sediment), which can be transported by runoff to water bodies. When pollutant materials stored outdoors or lying on the surface make contact with runoff, they are carried into a component of the storm drain system (this includes streets, alleys, catch basins). In the case of West Covina, stormwater that enters the storm drain system flows into the **San Gabriel River**, just above the groundwater recharge basin – a source of drinking water for millions of Los Angeles County residents. Runoff also makes its way to the ocean (Seal Beach, in this case), where pollutants can threaten aquatic marine life and spoil recreational uses, including fishing, boating, swimming, and surfing.

Your facility may be a source of **illicit discharges** -- non-storm water discharges to the storm drain system that are not exempted under federal or state law (we'll talk about this in a moment). This includes dumping fluids -- wholly or partially containing pollutants -- to the municipal storm drain system. Even wash water resulting from outdoor cleaning or maintenance activities is an illicit discharge if it enters any component of the storm drain system. There are, however, a few exceptions, such as runoff from irrigation and landscaping activities. The general rule, however, is to avoid discharging any fluid or material to the storm drain.

Illicit discharges can also enter the storm drain system through **illicit connections**. These are devices such as floor drains connected to curb outlets, or directly to a catch basin or storm drain that discharge industrial waste or hazardous materials. Illicit connections must be eliminated.

■ Regulated By Law

General Industrial Activity Storm Water Permit

Federal and state law require your facility to be covered under a *General Industrial Activity Storm Water permit (GIASWP)*. The GIASWP permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP). A SWPPP is a document that identifies actual and potential pollution problems on a site-specific basis. It also identifies appropriate best management practices (BMPs) to mitigate or eliminate such problems. A Monitoring Program Plan (MPP) proposes to conduct (1) visual observations for pollutant discharges and (2) sampling and analysis of storm water runoff. In some cases, this requirement can be waived. The following is a partial listing of industrial facilities typed by Standard Industrial Classification (SIC) code that are subject to this regulation:

Manufacturing Facilities: 2400 - 2499 (except 2434); **2600** (except 2650-2699 and 2670-2679); **2800** (except 2830-2839 and 2850-2859); **2900-2999**; **3110 - 3119**; **3200-3299** (except 3230-3239); **3300-3399**; **3441**; and **3730-3739 Other Manufacturing Facilities** (where industrial materials, equipment or activities are exposed to storm water): **2000 - 2099**; **2100 - 2199**, **2200 - 2299**; **2300 - 2399**; **2434**; **2500-2599**; **2650- 2659**; **2670-2679**; **2700-2799**; **2830- 2839**; **2850-2859**; **3000-3099**; **3100-3199** (except 3110 - 3119); **3230-3239**; **3400-3499** (except 3441); **3500-3599**; **3600 - 3699**; **3700 - 3799** (except 3730 - 3739); **3800-3899**; **3900 - 3999**; and **4221-4225**. **Recycling Facilities: 5015 and 5093 Transportation Facilities: 4000 - 4099**; **4100 - 4199**; **4200 - 4299**; **4300 - 4399**, **4400 - 4499**; **4500 - 4599**; and **5171**.

Note: If your facility falls under the aforesaid "other manufacturing facilities," it can be exempted from GIASWP requirements, by either performing pollutant-generating activities indoors and/or by implementing BMPs that prevent storm water contact with exposed pollutants.

City Ordinance

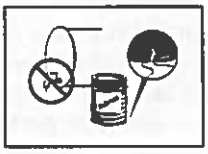
Your facility must also comply with the City's Runoff Pollution Control Ordinance. The ordinance requires industrial facilities to do three things essentially. First, eliminate *illicit discharges*. Second, eliminate *illicit connections*. Third, implement *best management practices* to reduce or eliminate pollutant discharges. Fourth, parking lots with 25-plus spaces must be free of debris. Failure to comply with these requirements, upon conviction, can result in fines and even imprisonment. .

■ BEST MANAGEMENT PRACTICES

BMPs are activities or devices that reduce pollutants in runoff associated with your facility's operation. BMPs prevent storm water and non-storm water runoff contact with pollutants. BMPs also reduce or eliminate pollutants in runoff by either (1) treating them before they enter storm drain system; or (2) diverting them away the storm drain system.

Material Storage. Store materials containing pollutants (chemicals or particulates, including sediment) in a manner that prevents contact with runoff. The easiest way to do this is to store materials indoors. If only outdoor storage is possible, materials should be placed under a roof, tarp, or plastic sheeting), and off-the ground, using a pallet or a secondary containment device.

Perform Periodic Inspections. Inspect areas promptly. Also look for illicit discharges any non-storm water discharges to the season, observe storm water runoff for the source of the material causing these



and equipment for leaks and corrosion -- repair through illicit connections and remove. Check for municipal storm drain system. During the wet discoloration, odor, or turbidity (cloudiness). Find indictors of pollutant contact and fix problem.

Prevent Container Leaks. Drums and other containers that dispense pollutant materials (lubricants, solvents, etc.) should be placed on containment pallets or equipped with a pan or other device that captures leakage.

Maintain Proper Inventory. Excess ordering of materials containing pollutants could pose a problem if they are stored outdoors without proper coverage or containment. To avoid this problem, only order what is actually needed as opposed to "stocking-up."

Properly Dispose Hazardous Waste Materials. Excess space, usually results in outdoor storage. These materials runoff contact and accidental spillage. They should also be licensed hazardous waste hauler, to prevent improper

waste, coupled with insufficient indoor should be stored properly to prevent disposed as often as necessary by a outdoor storage.

Set Aside Area for Washing/Cleaning Activities. Runoff from washing parts, equipment, or other items outdoors can enter the storm drain system, resulting in an "illicit discharge." Designate an area of the facility for this purpose, preferably indoors. Wash water from an industrial facility is usually considered industrial waste, which requires special treatment and discharge to the sewer system. Contact local industrial waste permitting agency for more information.

Use Alternatives to Water. To save water and prevent illicit discharges, rely on cleaning methods that do not produce runoff. These include sweeping, bucket and mop, wet/dry vacuuming, and the use of absorbent materials.

Train/Enforce Implementation of BMPs.

Facility personnel should be properly trained in the through periodic staff meetings or new employee be managed to assure that BMPs are properly

implementation of BMPs. This can be done orientation. Once trained, employees should implemented.

Trash Management. Facility should be kept litter-free. Trash cans should be deployed in areas where litter is generated. They should also be equipped with lids and emptied-out as often as necessary to prevent overflow. Trash bins should be closed to prevent refuse migration.

WHO TO CALL FOR MORE INFORMATION

General Industrial Storm Water Activity Permit	• Los Angeles Regional Water Quality Control Board: (213) 576-6600
Industrial Waste Discharge Permits	• Los Angeles County Department of Public Works Environmental Programs: (626) 458-3517
West Covina Runoff Control Ordinance Requirements	• City of West Covina/Department of Public Works (626) 939-8425

Where to Call

Obtaining an Industrial Waste Permit

Los Angeles County
Department of Public Works
Industrial Waste
(626) 458-3517

Obtaining a Sewer Permit

City of West Covina
Department of Public Works
(626) 939-8425

Recycling & Hazardous Waste Disposal

City of West Covina
Department of Public Works
(626) 939-8425

Spill Response Agencies

City of West Covina
Department of Public Works
(626) 939-8425

To Report Illegal Dumping

City of West Covina
Department of Public Works
Los Angeles County
Department of Public Works
(888) CLEAN-LA

To Report a Clogged Catch Basin

City of West Covina
Department of Public Works
(626) 939-8425

This brochure is one of a series of pamphlets describing runoff pollution prevention measures. Other pamphlets include:

Automotive Maintenance & Car Care

Food Service Industry

Fresh Concrete & Mortar Application
General Construction & Site Supervision

Heavy Equipment & Earth-Moving Activities

Landscaping, Gardening & Pest Control

Home Repair & Remodeling

Painting

Swimming Pool, Jacuzzi & Fountain Maintenance

For more information about storm drain protection or additional brochures

PLEASE CALL:

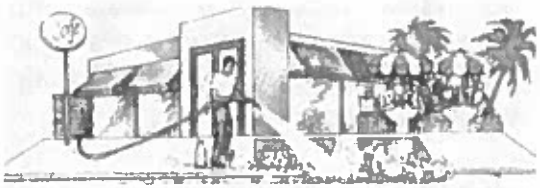
City of West Covina
Runoff Control Program

(626) 939-8425

Best Management Practices

for

Restaurants



City of West Covina Runoff Control Program

Source of Runoff Pollution

Your food establishment is a source of pollution. Activities associated with restaurants can result in the transport of pollutants to the storm drain. Exposed pollutant materials are carried by runoff to the municipal storm drain system (catch basins, streets, alleys, and other conveyances). From there, decaying food products, refuse, and chemical pollutants (e.g. degreasers, cleaning solutions/solvents, etc.) flushed or dumped into the storm drain system are sent to rivers and oceans.

In **West Covina's case**, polluted runoff is discharged into the San Gabriel River, which flows into Seal Beach. Runoff-transported pollutants that make their way to the ocean threaten marine life and spoil recreational uses, such as a fishing, swimming, and surfing.

Restaurants can contribute to runoff pollution by putting food wastes and other pollutants into leaky or uncovered dumpsters; and by not properly cleaning equipment and materials – or outdoor surfaces.

Other routine activities such as cleaning greasy vents and operating and maintaining delivery trucks are sources of pollution -- unless proper precautions are taken. When it rains, motor oil that has dripped onto parking lots from business and customer vehicles is washed into the river and ocean via the storm drain system.

It's the Law

Federal and state law requires **West Covina** and other cities in Los Angeles County to control runoff pollution discharges from restaurants and other commercial facilities. The information contained in this pamphlet should enable your business to comply with runoff control regulations – not to mention protecting our oceans and rivers against pollution

Best Management Practices

Best Management Practices (BMPs) such as those listed below can prevent pollutants from entering the storm drain system.

- Don't wash kitchen mats outside with a hose. Instead, wash mats indoors, near a kitchen floor drain – connected to the sewer system or into the sink.
- Don't wash your outdoor dining area, entrance, or sidewalk area with toxic bleaches or detergents into the street gutter or catch basin. Instead, sweep-up food particles, cigarette butts, and trash before rinsing or steam cleaning. Then, mop-up any excess water into a wringer-bucket and empty the waste water into the sink, a kitchen drain, or in the toilet.
- Don't scrub-down trash containers or enclosures with toxic bleaches or detergents -- and don't wash the waste and dirt particles into the alley or street gutter. Instead, sweep-out debris from the trash container first, scrub with a hard bristle brush and non-toxic soap, then rinse off the residue into the sewer.
- Don't pour grease into trash bins, street gutters, or sewers -- the grease may leak from the trash bins and clog pipelines. Instead, collect bulk grease in containers and get a hauler to dispose of it properly.
- Cover, repair or replace leaky dumpsters and compactors, and/or drain the pavement beneath them to the sewer. Rain can wash oil, grease, and substances into the storm drain system.
- Sweep trash (including cigarette butts, napkins, cups, bags, etc) from the parking lot – and clean-up oil leaks and automotive fluids on the parking lot surface using dry cleaning methods.

APPENDIX 'N'

Kitchen BMP's

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Some Best Management Practices (BMP) for Fats, Oils, and Grease

Residual fats, oils and grease (FOG) are by-products that food preparation and food service establishments and automotive service facilities and machine shops must constantly manage. Typically, FOG enters a facility's plumbing from wash sinks and floor drains during daily operations. Sanitary sewer systems are not designed or equipped to handle accumulating FOG on the interior of sewer collection system pipes due to unmanaged – unmaintained discharges. Keeping FOG materials out of the plumbing system, by reasonable methods, is an important factor. The following are suggestions for proper FOG management:

Bulk or Dry Clean-Up

- Practice bulk and dry materials clean-up before using wet methods that use water.
- Remove bulk or other solid food and grease laden substances into a suitable container before rinsing or washing the initial containers or surfaces that will drain into the plumbing system.
- Keep drain screens in place and fully serviceable to avoid clogging drains or accumulating FOG or grit on the interiors of pipes.
- Do not pour grease, fats, or oils down the drain nor place food scraps in the drain.
- Use food grade paper to soak up oils and grease and dispose of appropriately.
- Use paper towels to wipe down surfaces and work areas. Cloth towels require washing and thereby introducing FOG back into the drains.
- Success of bulk or dry clean-up is dependent upon the behavior of individuals and their access to tools and materials for use in removing bulk and dry materials before washing.

Spill Prevention

- Preventing spills reduces the amount of waste that will require clean-up.
- A dry surface work place is safer for everyone in avoiding slips, trips and falls.
- Capture bulk or dryer materials and place them into an appropriate container.
- Empty containers before they are full to avoid spills.
- Cover any FOG container before transporting to the rendering storage container.
- Provide employees with proper tools to transport materials without spilling.

Maintenance

- Whatever method(s) are being used to collect, filter and store FOG, ensure that equipment is regularly maintained.
- Employees should be aware of and trained to perform correct and scheduled cleaning procedures.
- A daily and weekly maintenance schedule is highly recommended.
- Contract with a responsible service company to regularly and thoroughly clean larger components and spaces requiring specialized equipment and skills (e.g. large hood filters, hot tanks, floor drain pipes, specialty tools).
- Smaller and less complex elements can be cleaned by hand by the user

(e.g. small hood filters, counter/bench tops, sinks, storage areas, daily tools).

- Skim/filter fryer grease daily and test the oil to determine when change is necessary. Build-up of carbon deposits on the bottom of the fryer acts as an insulator that forces the fryer to heat longer, thus causing the oil to break down sooner. This extends the life of both the fryer and the oil.
- Avoid discharging fryer oil into a drain or grease trap, but dispose into a rendering container for transport to a rendering company.
- Cleaning intervals depend upon the type of product being prepared and the typical deposition of materials experienced. The larger the volume produced and deposits incurred, the more frequent the cleaning. This may warrant setting up a system of high use, high deposition work to be done in certain equipment that is cleaned more frequently than others to confine maintenance efforts.

Grease Traps and Interceptors

- For grease traps and interceptors to be effective, the units must be properly sized, constructed and installed in a location to provide an adequate retention time for settling and accumulation of the FOG.
- For information on properly locating, constructing and sizing grease traps and interceptors, contact the local governmental agency and examine EPA guidance documents and UPC criteria.
- Ensure all grease-bearing drains discharge to the grease trap/interceptor.
- No toilet or shower waste should be plumbed to the trap/interceptor

Oil and Grease Collection/Recycling and Food Donations

- FOG consists of commodities that if handled properly can be treated as a valuable resource.
- Some rendering companies will offer services free-of-charge and other will give a rebate on the materials collected. Contact local rendering representative for specific information and details.
- Use only covered rendering barrels and make sure all drain screens are installed.
- Use a 3-compartment sink for ware washing. Begin with a hot pre-wash, then a scouring detergent wash, then a hot rinse. Each step should be trapped to capture non-emulsified FOG.
- Donations can reduce disposal costs. Ensure that edible food is not washed or flushed down the drain. Edible food waste may be donated to a local food bank. Inedible food waste can be collected by a garbage feeder that will use discards for feeding livestock.

APPENDIX 'O'

Sewer System Capacity Evaluation

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City of West Covina
SEWER SYSTEM CAPACITY EVALUATION
2008-2009, Edited October 2016

The City's previous system capacity analysis was completed in 2009. Since there have been no significant capital improvements since then, the hydraulic model was not updated in this SSMP report. The primary purpose of this Appendix is to capture the methodology that was used in developing the 2009 sewer capacity analysis. The primary update of this Appendix is the cost of the recommended Capital Improvement Projects. The updated (2016 dollars) estimate project costs are provided in Appendix 'P'. These estimates reflect the cost to replace select pipe segments at certain locations as determined by operating condition. Appendix 'P' includes a more detailed list of recommended CIP projects that considers both calculated pipe operating condition as well as feasibility of updating adjacent pipe segments of differing capacity thresholds as part of the same project rather than as separate projects. The exhibits of the recommended project locations provided in Appendix 'O-1' have not been updated in this report as the hydraulic model has not changed.

Introduction and Summary

The City owns and operates its local wastewater collection system consisting of approximately 227 miles of gravity flow sewer pipelines and two segments of force main (varying in size from 4-inch to 18-inch pipe) and 5,187 manholes. The existing sewer system discharges to trunk sewers that are owned and operated by the County Sanitation Districts of Los Angeles County and to the adjacent Cities of Baldwin Park and Covina, and some areas of unincorporated county.

The purpose of this evaluation is to identify deficiencies in the existing sewer mainline system, recommend alternatives to eliminate the deficiencies, prioritize the deficient reaches, and provide the City with a basis on which to build a future infrastructure management system.

The 227 miles of local sewer were modeled using HYDRA® 6.4 by PIZER. Of the total length, approximately 19,096 feet of the existing system were identified as being critically capacity deficient (Greater than 85% full). These are grouped as priority-one projects requiring timely resolution. The deficient reaches of sewer mainlines are located within SMZs 4, 62, 80, 82, 116, 117, 132 and 161. Please refer to exhibit maps A, B, & C in this Appendix 'O-1' for the deficient reach locations. The cost to repair the deficient reaches is estimated to be $8,820,000. Those pipe segments classed as seriously capacity deficient, approximately 30,048 feet of the existing system (between 64% and 85% full), are grouped as priority-two projects requiring resolution in the near future. The deficient reaches of sewer mainlines are located within SMZs 2, 4, 5, 62, 74, 75, 80, 81, 82, 83, 105, 116, 117, 132, 139, 140, 151, 153 and 161. Please refer to exhibit maps A, B, & C in this Appendix 'O-1' for the deficient reach locations. The cost to repair the deficient reaches is estimated to be $11,840,000.

The modeling function was performed utilizing generally accepted sewage generation coefficients in the Los Angeles county region, and land use zoning as shown on a CAD file map identified as: "annZoning CAD Map 04-06" received on December 29, 2008. The zoning map was utilized as representative of the City's current development condition. This map was overlaid on the sewer system map, developed as part of this project, thereby allowing the modeler to apply the sewage generation coefficients for the respective land zoning within each SMZ throughout the City. This method resulted in defining the cumulative sewage generated and carried through the piping within each SMZ and delivered to the receiving system. However, there was no flow monitoring performed to otherwise validate the modeling data result. In months and years ahead, as maintenance inspections are performed, the modeled areas nearing capacity should be closely monitored for signs of exceeding capacity in order to avoid SSOs, and to refine design parameters for replacement.

As future land use changes occur in the General Plan, the model should be updated to reflect consequences of such changes. The model should also be updated to reflect flow monitoring results as well as the construction of new relief facilities, upgrades, and/or the construction of new sewer lines in order to be fully representative of the community sewer system.

Study Approach

The following tasks were performed in the preparation of this Sewer System Capacity Evaluation Report.

1. The City provided copies of existing sewer system as-built construction plans for use in preparing the initial GIS sewer system mapping and attributes base and for the exhibit maps A, B & C of this Appendix 'O-1'.
2. The City provided an electronic CAD file of its land use zoning map for use in creating an overlay map of the parcels and sewer maintenance zones in the city system.
3. Willdan developed a computer model (Pizer Hydra) of the City wastewater collection system utilizing the above data.
4. Analysis of the existing wastewater collection system capacity and determination of any capacity deficiencies (refer to the deficiency criteria section of this report and see the exhibit maps in this Appendix 'O-1').
5. Development of recommendations for system improvements to correct deficiencies.
6. Preparation of cost estimates for the recommended improvements.
7. Preparation of evaluation findings and recommendations to correct identified deficiencies in a Sewer System Capacity Evaluation Report (this Appendix).

System Criteria and Alternatives

In designing or evaluating a wastewater collection system, the engineer must establish certain criteria upon which to base the design. These include such things as available pipe sizes,

materials, slope, bury or cover, connections, etc. Such criteria are established to ensure that the wastewater collection system can operate effectively under all flow conditions. Each pipe segment must be capable of carrying the peak flows without surcharging the system. Surcharging the system occurs when the pipe is flowing under pressure. However, many of the initial design assumptions are unnecessary in the analysis of a collection system when the pipe already exists and its diameter and slope are fixed.

In the analysis of an existing sewer system, the Hydra program compares the capacity of each pipe in the system with the peak wastewater flow projected for that particular link or reach of pipe. If the existing pipe size is surcharged, the Hydra program automatically increases the pipe diameter to the next largest standard pipe size that will carry the design flow without being surcharged. At a minimum, all pipes should be 8 inches or larger in diameter and the velocity of flow in the pipe should be greater than 2 feet per second (ft/s). This velocity will prevent deposition of solids in the sewer and help to re-suspend any materials that may have already settled in the pipe. The minimum corresponding slopes to maintain 2 ft/s for various pipe sizes are shown in Table 1.

Table 1
Minimum Pipe Slopes ft/ft

Sewer Size	Slope
8"	0.0028
10"	0.0021
12"	0.0016
15"	0.0012
18"	0.0010

It is important to note that the slopes listed above assume the depth of flow in the pipe is 0.64 percent full. If there is insufficient flow to create this condition, greater slopes than those shown may be required in order to maintain the minimum self cleaning velocity condition.

The design and analysis of gravity sewer pipes is typically based upon the depth to diameter ratio (d/D). Common design criteria for proposed new sewer design is 0.50 (50% full) for 8 to 15-inch diameter pipes and 0.75 (75% full) for 18-inch and larger pipes. The area above the water surface (residual capacity) helps to keep the sewage aerated, reducing the possibility of septic conditions and odors. Existing wastewater systems are typically allowed to flow with less residual capacity because development and redevelopment has occurred or is foreseeable in the near future.

This report establishes the hydraulic design criteria for existing sewer pipes by classifying "over capacity" pipes as any with a d/D greater than 0.64. This d/D ratio was arrived at by taking 75 percent of the depth to diameter ratio of a pipe having maximum stable flow capacity, which is at a d/D of 0.85 (75% of 85% is 64%). The area above a d/D of 0.85 is considered hydraulically unstable. This reduction results in approximately 35 percent of the pipe's full flow capacity being reserved for variations in discharges, periodic peaking of

flow, seasonal variations and minor or temporary obstructions. Again, this residual capacity helps to keep the sewage aerated, reducing the possibility of septic conditions and odors.

The residual capacity allows for the possibility that actual wastewater flows may be slightly higher than anticipated, especially during the hours when instantaneous or intermittent peaks may occur. These peaks are generally observed between the hours of 6:00 a.m. and 8:00 a.m. Monday thru Friday and between the hours of 9:00 a.m. and 11:00 a.m. Saturday and Sunday. Peak flows may also be observed during rainfall events due to inflow and infiltration conditions.

Exhibit maps A, B, & C in Appendix 'O-1' shows the pipes that are capacity deficient per the 0.64 criteria and also shows the pipes that are deficient per the 0.50 criteria. Only the pipes that exceed the 0.64 criteria are recommended for correction projects.

The design capacity of a gravity pipeline is the calculated capacity of the pipeline based on the Manning formula:

$Q=1.486\ R^{2/3}\ S^{1/2}/n$ where, Q = flow in cubic feet per second
R = hydraulic radius in feet = A/ P
A = cross-sectional area of the pipe in square feet
P = wetted perimeter in feet
S = slope of the pipe in feet of rise per foot of length
n = Manning's friction factor

Sewer system capacity is established using a Manning's fiction factor of 0.013 for vitrified clay pipe.

Alternatives

The following alternatives were considered in developing the recommended schedule of deficiency correction projects.

1. Construction of a parallel sewer facility to carry the excess sewage flow is an obvious solution to most of the deficiencies; however, this solution is not necessarily the most economical or practical approach. In some instances rerouting of tributary areas or the construction of a single relief sewer line can be planned in such a way that it will relieve several main sewer lines thereby avoiding the construction of parallel or replacement facilities and the related cost.

2. In other instances, replacement of the existing sewer with a larger size may be the preferred alternative. The replacement or upsizing of the line may include open trench installation or pipe bursting (if surrounding condition are conducive), and the use of temporary bypass pumping. The decision as to which correction alternative to construct is typically made just prior to the design phase after careful consideration of all design constraints such as existing utilities and the costs associated with potential

utility relocation to provide additional space for the construction of a replacement sewer line.

The engineer's opinion of budget figures (See Appendix 'P') was prepared based on the cost to remove and replace the existing sewer with a larger size, as this is the most conservative cost approach.

It is suggested the where the depth of flow exceeds the design criteria of 0.64 d/D, but does not exceed the maximum stable flow capacity of 0.85 d/D, that consideration be given to allowing these sewers to flow in a slightly overloaded condition in lieu of building a more costly relief facility. This overloading occurs only during peak flow conditions that are short in duration. However, the City should frequently monitor these sewers in order to under take a future corrective action as the overloading problem becomes worse.

Analysis of Existing Sewer System

The City's sewer system was modeled using Pizer Hydra Ver. 6.4. The Hydra program is designed to provide analysis of both the existing sewer system and the design of any new sewer lines.

After defining (laying out) the existing sewer system, the network was divided into 179 SMZ's or sewer drainage areas, based upon city sewer records, for input into the computer model. The input data consisted of a numerical designation for each manhole and length of sewer pipe between manholes, the slope of the line, and flow line elevation of each manhole.

Computation of Wastewater Inflows

Once the schematic of the sewer system network was established, data was compiled on each SMZ, General Plan land uses (zoning), and related factors that affect the volume of wastewater generated. Next, it was necessary to compute the area of each type of land use; e.g., low-density residential, medium-density residential, high-density residential, commercial, industrial, schools, etc., within each drainage boundary. The unit flow coefficients (see Table 2) were then applied to the computed areas of land use within each SMZ. The unit flow coefficients, when applied to the land use areas, provide peak flow rates for each particular land use category. The wastewater inflows calculated for the various land use categories within the SMZ were then accumulated to provide the calculated peak flow for the entire drainage area. The accumulation of estimated wastewater flow is accomplished totally within the computer program.

Table 2
Unit Flow Coefficients for Peak Flow Rates

Zone	Cu. Ft. per sec. per acre	Gallons per day per acre
R-1	0.004	2585
R2	0.008	5171
R3	0.012	7756

R-P, Commercial	0.015	9695
Manufacturing	0.021	13573
Institutional	0.015	9695

Flow Monitoring

There was no flow monitoring performed under the contract services for preparation of this SSMP. However, flow confirmation work can be undertaken at any time in the future. Typically, as maintenance inspection findings indicate changed pipeline capacity conditions for those pipe segments near capacity as indicated in the modeling evaluation results. Flow monitoring results can be used to verify and/or calibrate the sewer flow modeling work for a SMZ as affected by changes in development or observed manhole inspections of flow conditions. Also, additional future flow monitoring is recommended at near capacity locations, during periods of rain, to verify or deny potential inflow and infiltration problems, and to refine design parameters, especially for the higher density residential zones.

For each site monitored, the flow data should be reviewed and compared to the contributing SMZ area. The peak monitored flow rate must be compared to the design flow rate and the shape of the outflow curve compared to the SMZ modeled result. An expected difference between the monitored flow and the design flow is between 150 to 250 percent. This difference is expected because the design flow rate includes the maximum flow rate expected from each development type which contains both wet weather inflow/infiltration and design peaking safety factors.

Summary of Findings and Recommendations

Within the initial introduction and summary section, both the critically deficient (> 85% full) and seriously deficient (between 64% and 85% full) pipe segments were described and referenced. Before undertaking design and construction or identifying further project priorities, the performance of select flow monitoring is recommended at crucial locations, especially during periods of rain to verify or deny any potential inflow and infiltration problems. Also to confirm the actual in-system flow conditions which can and do vary do to water usage and customer practices in waste disposal. The findings identified in this evaluation and report are for planning guidance in addressing the sewer system capacity conditions. Further pre-design refinement and analysis will be necessary before initiation of a final design of improvements for the facilities is under taken.

In the event of any land use changes to the General Plan, upon which this study was based, the model should be updated to reflect the consequences of such changes. The model should also be updated to reflect the construction of new sewer lines.

Recommended Deficiency Correction Projects

Presented in the engineer's opinion of cost (Appendix 'P') is a remove and replace approach to correct the identified deficient pipe segments. This is usually a conservative approach to costing and should be refined by thorough engineering evaluation and assessment of the specific conditions and replacement options before proceeding with a specific correction project.

The following criteria for defining and prioritizing relief facility need was used:

Priority 1

Sewers with critical deficiencies of $d/D > 0.85$, are recommended for correction first. Sewers meeting these criteria are ranked highest.

Priority 2

Sewers with critical deficiencies of $0.64 < d/D < 0.85$ are recommended for correction second. Sewers meeting these criteria are ranked lower.

Priority 3

Sewers with a $d/D < 0.64$ are not capacity deficient; therefore, are not ranked here.

Sewer System Improvements Costs

The unit prices shown in the engineer's opinion of cost (see Appendix 'P') represent the anticipated construction cost only as applicable for mid 2016. Bid prices received on jobs of similar nature in Southern California area were one source of information used to derive the cost figure. In addition, manufacturers, suppliers of material and equipment, and local contractors were consulted on various cost items. An additional 35% of construction cost is added to cover the cost of contingencies, design engineering, contract administration and construction observation.

The engineer's opinion of cost does not include an adjustment for inflation. Construction costs can be expected to fluctuate as corresponding changes occur in the national or local economy. One available indicator of these changes is the Engineering News-Record Construction Cost Index for the Los Angeles metropolitan area. This index is compiled from actual construction cost data for materials and labor and is reported in Engineering News-Record magazine. It is suggested that this index be used to update the unit prices presented in Appendix 'P' and in adjusting the estimate from the date of the initial estimates.

Financing of Improvements

General

Funding considerations are often the deciding factor in scoping and implementation of a project. There are, of course, numerous methods or mix of methods, which could be used to finance the implementation of a sewer system capital improvement plan (CIP), and the ongoing operations and maintenance activities. Among these methods are:

1. Pay-as-You-Go Financing (rates, fees and charges based)
2. State Assistance Programs
3. Municipal Securities
4. Improvement Districts
5. Federal Assistance Programs

In the discussion that follows, the above funding options are briefly described and their adaptability to specific circumstances of a sewer system CIP are noted. In evaluating specific funding programs, services of financial and legal experts in such issues are recommended.

Methods of Financing

1. Pay-as-You-Go Financing:

   Development of cash reserves or capital improvement funds, from an agency's revenue base, is often referred to as "pay-as-you-go" funding. This method avoids interest payments on other types of debt financing. Under this form of financing, the initial capital cost of a project must be accumulated in advance of construction, which can cause a delay in project implementation. If delay is not a crucial factor, this is a cost effective method due to the absence of debt financing costs. This method has sometimes been used together with various forms of short-term financing to construct needed sewer infrastructure.

2. State Assistance Programs:

   Under the rules and regulations of the Federal Water Pollution Control Act (Clean Water Act or CWA) and the Federal Safe Drinking Water Act (SDWA), the State has enacted the Clean Water State Revolving Fund (CWSRF) and the Drinking Water Revolving Fund (DWSRF), respectively. These programs are funded by Federal grants, State funds and Revenue bonds. The CWSRF Loan Program provides low-interest loan funding for construction of publicly-owned wastewater treatment facilities, sewers, sewer interceptors, water recycling facilities, as well as implementation of non-point source (NPS) projects or programs. There are different types of funding assistance available under these programs.

www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/

The Department of Water Resources administers the State bond law programs for Water supply/Water quality, Water conservation, Flood management and Regional water management. www.grantsloans.water.ca.gov

The State Water Resources Control Board administers the State revolving fund loans, Water recycling grants & loans, Small community grants, Agricultural drainage loans, Agricultural drainage management loans, Clean beaches initiative grants, Agricultural water quality grants, Areas of special biological significance (ASBS) grants, Storm water grants, and Santa Monica bay restoration commission grants. www.waterboards.ca.gov

The State Department of Public Health administers the DWSRF, Proposition 84 funding for public water systems, and Proposition 50 for the water security, clean drinking water, coastal and beach protection act of 2002 loans. www.cdph.ca.gov

Various types of infrastructure improvement/construction loans can be arranged through the California Infrastructure and Economic Development Bank (IBank)
www.ibank.ca.gov

Limited amounts of public works grant funds have been available to agencies from the State Office of Economic Development. Use of such grant funds must result in the creation of new, permanent jobs in the private sector. In order to ensure that the funds are ultimately assisting those in most need, projects eligible for consideration must be those in areas designated eligible for HUD Urban Development Action Grants (UDAG), EDA Sudden or Long-term Economic Deterioration, or EDA Designated Special Impact Area.

3. Municipal Securities:

Historically, general obligation bonds (GOB's) had been a prevalent method of financing various public works improvements. They are secured by an agency's total assets and payable from ad valorem taxes levied on all taxable properties within the agency's boundary. However, the Jarvis-Gann Amendment (Proposition 13 of 1978) prohibits the levying of ad valorem property taxes beyond pre-existing authorizations and levels (pre-July 1, 1978). Therefore, authorization and issuance of GOB's is not considered feasible under current law.

An option to GOB's is the issuance of a specific type note or bond form, such as a revenue anticipation note (RAN) or a tax anticipation note (TAN) or a certificate of participation (COP) or various combinations of available authorities that can be used to fund public infrastructure needs. These types of municipal securities (Munis) are generally tax-exempt and commonly used to fund public works infrastructure and facilities. Many states also exempt their securities from their own taxes, which makes those securities particularly attractive investments for their own residents.

TAN's and RAN's are instruments backed by anticipated taxes or revenues respectively. When these types of notes are considered for funding of needed infrastructure, a specified source of tax or revenue stream is identified and pledged for repayment of the debt. For example, with sewer facilities, all or a portion of the sewer service revenue fees/charges could be used as backing for the debt instrument selected. Then other local revenue sources could be considered for ongoing operations and maintenance (O&M) or some acceptable mix and match of funds specified to secure the debt and accomplish the O&M.

COP's are another form of municipal funding instrument available. These generally require the facility improvement being funded to be named as security for the investment with a lease back of the facility by the municipality. In turn, the municipality pledges some revenue stream(s) that would be used to repay the investor held notes.

When Munis are being considered for funding of improvements, consultation with an experienced and qualified financing consultant and bond counsel are a must.

4. Improvement Districts:

In general, special assessment district procedures have been established by statute to provide for financing of construction and/or acquisition of public works improvements, such as sewer systems, and for assessing the cost of such improvements to the benefiting properties. Under all assessment proceedings, the cost of the work is assessed against properties within the benefited area. The assessments are levied in specific amounts against each individual property on the basis of the benefit each parcel receives. The property owner may pay the assessment in cash during the cash collection period of 30 days. But, if any assessments are not paid in cash during that period, bonds are usually issued to represent the unpaid assessments and the benefited properties are assessed on their annual property tax bill over a usual period of 10 to 20 years.

The City of West Covina utilizes Government Code Section 38902 to establish sewer service charges. While an assessment district proceeding may be a reasonable and equitable means for financing sewer system improvements, further evaluation and stakeholder involvement is a usual practice to determine the viability and practicality of utilizing such financing method.

5. Federal Assistance Programs:

There are, and have been, a series of federal grant and loan programs which may be applicable to public infrastructure projects. However, the qualification criteria for such programs vary from time to time and their funding or continuation is subject to congressional appropriations. Therefore, such programs should not be considered as a likely source of funds unless a funding commitment letter has been received.

Historically, federal programs administered by the Economic Development Administration (EDA) provide financial and technical assistance to aid the economic development of areas with high unemployment or low family income levels. Communities must make long-range plans for economic growth in order to be eligible for EDA financial assistance, in the form of grants and loans for public works and

development that generates jobs and economic opportunity. Typical public works projects include construction of roads, water and sewer lines, and public facilities. To determine the status requires timely monitoring.

Under the rules and regulations of the Housing and Community Development Act of 1974, the Community Development Block Grant (CDBG) program can fund housing and community development needs. This includes part or all of improvements necessary to upgrade existing sewer facilities. Those qualifying geographic areas within the City that have the greatest overall deficiency in physical infrastructure receive the highest priority according to CDBG criteria. When the sewer system has a defined deficiency, then it is appropriate to use CDBG funds to meet health and safety standards as well as to encourage up-grading of abutting housing and physical environment.

The primary statutory objective of the CDBG program is to develop viable communities by providing decent housing and a suitable living environment and by expanding economic opportunities, principally for persons of low- and moderate-income. Communities receiving CDBG funds through the State may use the funds for many kinds of community development activities including, but not limited to:

- acquisition of property for public purposes;
- construction or reconstruction of streets, water and sewer facilities, neighborhood centers, recreation facilities, and other public works;
- demolition;
- rehabilitation of public and private buildings;
- public services;
- planning activities;
- assistance to nonprofit entities for community development activities; and
- assistance to private, for profit entities to carry out economic development activities (including assistance to micro-enterprises).

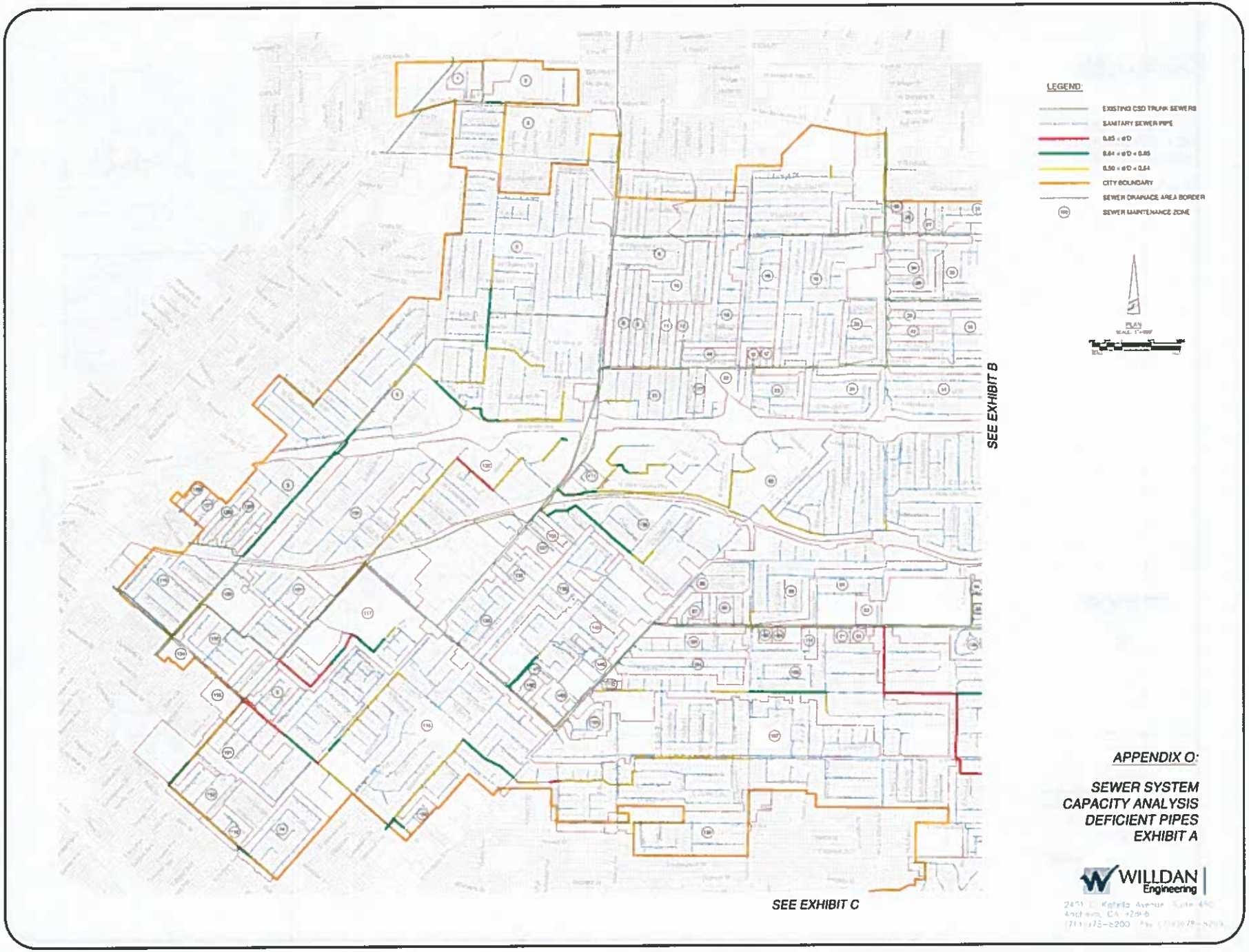
www.hcd.ca.gov/ca/cdbg/about/html

The United State Department of Agriculture Rural Development Program provides communities with population less than 50,000 a variety of direct-guaranteed-loans and /or grants. These include water and wastewater system improvement funding.

www.rurdev.usa.gov/ca

APPENDIX 'O-1'

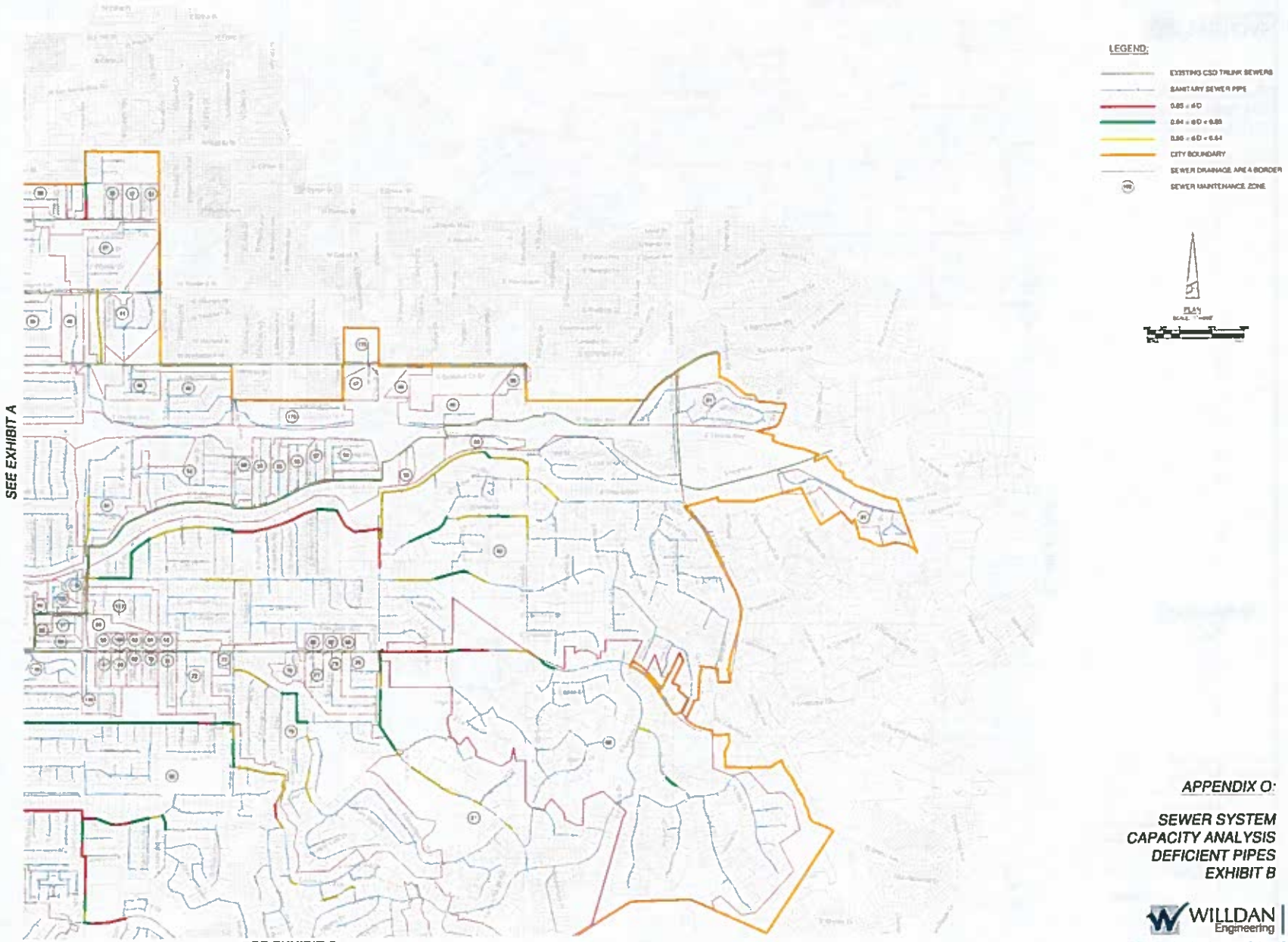
Sewer System Capacity Analysis
Deficient Pipes Exhibits



APPENDIX O:

SEWER SYSTEM CAPACITY ANALYSIS DEFICIENT PIPES EXHIBIT A

WILLDAN Engineering
2401 E. Katella Avenue, Suite 450
Anaheim, CA 92806
(714) 978-8200



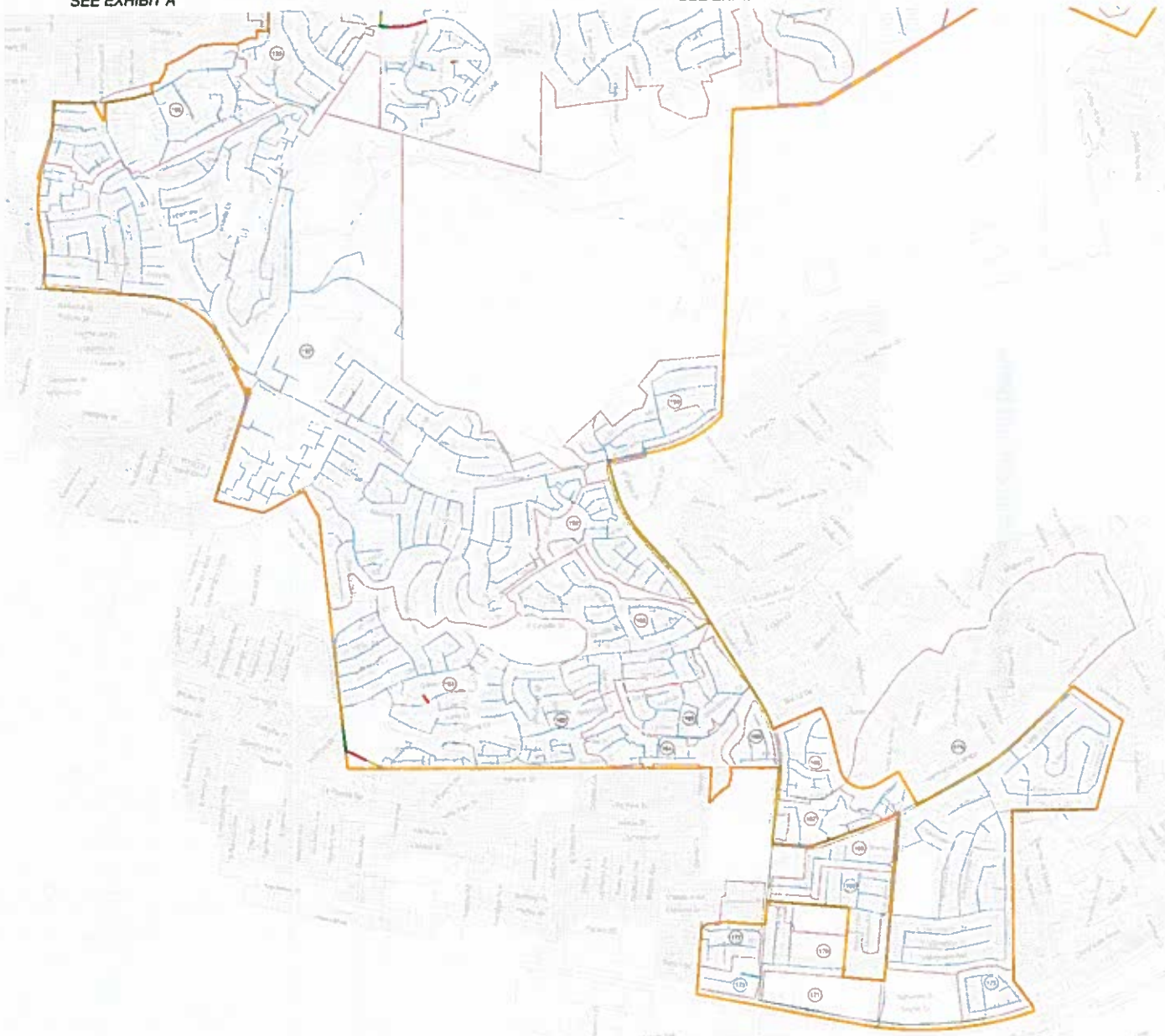
APPENDIX O:

SEWER SYSTEM CAPACITY ANALYSIS DEFICIENT PIPES EXHIBIT B

WILLDAN Engineering
2401 E. Katella Avenue, Suite 450
Anaheim, CA 92806
(714) 978-8200 fax (714) 978-8299

SEE EXHIBIT A

SEE EXHIBIT B



APPENDIX O:

SEWER SYSTEM CAPACITY ANALYSIS DEFICIENT PIPES EXHIBIT C

WILLDAN Engineering

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APPENDIX 'P'

Capital Improvements Program

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Capital Improvement Program Recommendation

Appendix 'O' outlines the hydraulic capacity analysis that was completed in 2009 for the City. Per the results of this study, a priority ranking of hydraulic deficiencies was created as presented in Appendices 'O-1' and 'O-2'. Though this is a useful planning tool, a practical capital improvements program considers additional factors such as proximity of similarly deficient sewer segments to one another and the annual budget available for Capital Improvements Projects. In several areas, sewer segments classified as Priority 1 (depth over diameter greater than 0.84) and Priority 2 (depth over diameter between 0.64 and 0.84) were adjacent to one another. In some cases, it is more practical to upsize such similarly located pipe segments as part of the same project rather than as separate work authorizations. The recommended sewer capacity enhancement projects reflect this recommendation where possible. The unit cost for the sewer capacity upgrades assumes that the contractor will employ open trench pipe replacement. If the City is willing to consider alternative construction methods used in adjacent Cities such as pipe bursting, the construction cost can be decreased.

In developing a schedule of recommended Capital Improvements Projects, it was assumed that the City's target budget is $1.5 million in projects per year. After calculating unit costs for each project, the projects were scheduled in a manner to meet this budget. Attachment 'P-1' lists the projects to be completed by year.

Appendix 'P-2' provides a more in depth analysis of the projects to be completed including cost and specific improvements to be made. For the items under Sewer Capacity Enhancements, the Area number corresponds to the tributary flow area in which the deficient segments are located (refer to Attachment 'O-2'). Some areas included large segments identified as deficient. As a result, some of these were subdivided into smaller projects noted for example as Area 82, Project #1.

It should be noted that the hydraulic model estimated flow in each pipe segment using typical flow factors for each land use. As it is typical for average households water use to vary from year to year, it is recommended that flow monitoring be performed at the locations described under "Sewer Capacity Enhancements" in Attachment 'P-2' to confirm that the flows match up to those anticipated in the model.

The recommended project also includes a list of system enhancements such as Supervisory Control and Data Acquisition (SCADA) systems at City lift stations. Additional enhancements include backup power at sewer lift stations in the event of a system power outage.

The System Maintenance project is intended to cover repair of structural deficiencies by Cured in Place Pipe lining. This line item is intended to include repair of pipe structural deficiencies identified by City sewer operations staff as part of their ongoing CCTV investigation.

Attachment 'P-1'

8 Year Recommended Capital Improvement Program													
Year	Project #1	Budget	Project #2	Budget	Project #3	Budget	Project #4	Budget	Project #5	Budget	Project #5	Budget	Total Annual Cost
2017-18	82-1	$ 1,345,200.00			POWER	$ 64,800.00	SCADA	$ 56,700.00	CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,719,300.00
2018-19	4-1	$ 286,400.00	116-3	$ 254,000.00			SCADA	$ 56,700.00	CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 849,700.00
2019-20	62-2	$ 191,800.00	116-2	$ 825,000.00	132-1	$ 390,700.00			CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,660,100.00
2020-21	117-1	$ 939,100.00					SCADA	$ 56,700.00	CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,248,400.00
2021-22	82-3	$ 804,200.00	82-4	$ 399,200.00			SCADA	$ 56,700.00	CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,512,700.00
2022-23	62-1	$ 1,359,800.00							CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,612,400.00
2023-24	82-2	$ 1,391,400.00			POWER	$ 64,800.00	SCADA	$ 56,700.00	CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,765,500.00
2024-25	116-1	$ 666,000.00	161-1	$ 143,900.00	POWER(x4)	$ 259,200.00	SCADA	$ 56,700.00	CIPP	$ 152,600.00	CCTV	$ 100,000.00	$ 1,378,400.00

CITY OF WEST COVINA

SANITARY SEWER IMPROVEMENTS	Date:	10/24/2016		
ENGINEER'S OPINION OF COST				
PRIORITY #1	Prepared by:	N.W.		
PROJECT: SEWER SYSTEM MGNT. PLAN	Checked by:	R.W.		

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
Sewer Capacity Enhancements					
AREA 4	**Project 1**				
Description	Replace segment on N Azusa between 630' S/O W Badillo St and E Puente Ave				
1	MOBILIZATION (5%)	1	LS	$ 7,858	$ 7,858
2	10" VCP SEWER MAIN	377	LF	$ 185	$ 69,745
3	12" VCP SEWER MAIN	326	LF	$ 196	$ 63,896
4	MANHOLE	3	EA	$ 7,840	$ 23,520
5	SEWER BY-PASS (20%)	1	LS	$ 31,432	$ 31,432
6	TRAFFIC CONTROL (10%)	1	LS	$ 15,716	$ 15,716
				SUBTOTAL CONSTRUCTION:	$ 212,167
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 74,259
				AREA TOTAL:	**$ 286,426**
				SAY	**$ 286,400**
AREA 62	**Project 1**				
Description	Replace Segments on E Rio Verde Dr between S Hollenbeck and S Citrus St				
1	MOBILIZATION (5%)	1	LS	$ 37,307	$ 37,307
2	15" VCP SEWER MAIN	346	LF	$ 209	$ 72,466
3	18" VCP SEWER MAIN	2,578	LF	$ 222	$ 571,753
4	MANHOLE	13	EA	$ 7,840	$ 101,920
5	SEWER BY-PASS (20%)	1	LS	$ 149,228	$ 149,228
6	TRAFFIC CONTROL (10%)	1	LS	$ 74,614	$ 74,614
				SUBTOTAL CONSTRUCTION:	$ 1,007,288
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 352,551
				AREA TOTAL:	**$ 1,359,838**
				SAY	**$ 1,359,800**
AREA 62	**Project 2**				
Description	Replace Segments on S Citrus Ave between Cortez Park and E Vanderhoof Dr				
1	MOBILIZATION (5%)	1	LS	$ 5,262	$ 5,262
2	10" VCP SEWER MAIN	227	LF	$ 185	$ 41,903
3	15" VCP SEWER MAIN	228	LF	$ 209	$ 47,648
4	MANHOLE	2	EA	$ 7,840	$ 15,680
5	SEWER BY-PASS (20%)	1	LS	$ 21,046	$ 21,046
6	TRAFFIC CONTROL (10%)	1	LS	$ 10,523	$ 10,523
				SUBTOTAL CONSTRUCTION:	$ 142,061
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 49,721
				AREA TOTAL:	**$ 191,782**
				SAY	**$ 191,800**

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
AREA 82	**Project 1**				
Description	Replace Segments on S Glenview Rd between Vine and Michelle; Replace Segments on S E Michelle between S glenview and S Azusa St; Replace Segments on S Azusa between N-E Michelle St and S-E Michelle St				
1	MOBILIZATION (5%)	1	LS	$ 36,904	$ 36,904
2	12" VCP SEWER MAIN	872	LF	$ 196	$ 170,932
3	15" VCP SEWER MAIN	822	LF	$ 209	$ 172,128
4	18" VCP SEWER MAIN	1,322	LF	$ 222	$ 293,100
5	MANHOLE	13	EA	$ 7,840	$ 101,920
6	SEWER BY-PASS (20%)	1	LS	$ 147,616	$ 147,616
7	TRAFFIC CONTROL (10%)	1	LS	$ 73,808	$ 73,808
				SUBTOTAL CONSTRUCTION:	$ 996,408
				(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:	$ 348,743
				AREA TOTAL:	**$ 1,345,151**
				SAY	**$ 1,345,200**
AREA 82	**Project 2**				
Description	Replace Segment on S Lark Ellen between E Cameron and Vine; Replace Segment on E Vine between S Lark Ellen and S Glenview Rd				
1	MOBILIZATION (5%)	1	LS	$ 38,173	$ 38,173
2	15" VCP SEWER MAIN	347	LF	$ 209	$ 72,676
3	18" VCP SEWER MAIN	1,137	LF	$ 222	$ 252,141
4	21" VCP SEWER MAIN	191	LF	$ 241	$ 45,892
5	24" VCP SEWER MAIN	604	LF	$ 261	$ 157,662
6	27" VCP SEWER MAIN	255	LF	$ 280	$ 71,341
7	30" VCP SEWER MAIN	206	LF	$ 300	$ 61,833
8	MANHOLE	13	EA	$ 7,840	$ 101,920
9	SEWER BY-PASS (20%)	1	LS	$ 152,693	$ 152,693
10	TRAFFIC CONTROL (10%)	1	LS	$ 76,346	$ 76,346
				SUBTOTAL CONSTRUCTION:	$ 1,030,677
				(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:	$ 360,737
				AREA TOTAL:	**$ 1,391,414**
				SAY	**$ 1,391,400**

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
AREA 82	**Project 3**				
Description	Replace Segment on A Azusa Rd between 300 SO E Michelle and E Aroma Dr; Aroma Dr between Azusa Ave and S Donna Beth				
1	MOBILIZATION (5%)	1	LS	$ 18,289	$ 18,289
2	10" VCP SEWER MAIN	922	LF	$ 170	$ 156,762
3	12" VCP SEWER MAIN	947	LF	$ 196	$ 185,632
4	15" VCP SEWER MAIN	112	LF	$ 209	$ 23,386
5	MANHOLE	10	EA	$ 7,840	$ 78,400
6	SEWER BY-PASS (20%)	1	LS	$ 88,836	$ 88,836
7	TRAFFIC CONTROL (10%)	1	LS	$ 44,418	$ 44,418
				SUBTOTAL CONSTRUCTION:	$ 595,723
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 208,503
				AREA TOTAL:	**$ 804,226**
				SAY	**$ 804,200**
AREA 82	**Project 4**				
Description	Replace Segment of Vine St between S Rodilee and S Hilborn; Replace Segment near Greenville Dr between 700' SO Greenville and S Hidden Valley Dr; Replace Segment on Chaparal between end and Sage St				
1	MOBILIZATION (5%)	1	LS	$ 7,965	$ 7,965
2	10" VCP SEWER MAIN	335	LF	$ 185	$ 62,058
3	12" VCP SEWER MAIN	573	LF	$ 196	$ 112,263
4	MANHOLE	6	EA	$ 7,840	$ 47,040
5	SEWER BY-PASS (20%)	1	LS	$ 44,272	$ 44,272
6	TRAFFIC CONTROL (10%)	1	LS	$ 22,136	$ 22,136
				SUBTOTAL CONSTRUCTION:	$ 295,735
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 103,507
				AREA TOTAL:	**$ 399,242**
				SAY	**$ 399,200**
AREA 116	**Project 1**				
Description	Replace Segment on Francisquito Ave between S Orange and S Tonopah Ave				
1	MOBILIZATION (5%)	1	LS	$ 18,279	$ 18,279
2	21" VCP SEWER MAIN	1,062	LF	$ 241	$ 255,811
3	MANHOLE	14	EA	$ 7,840	$ 109,760
4	SEWER BY-PASS (20%)	1	LS	$ 73,114	$ 73,114
5	TRAFFIC CONTROL (10%)	1	LS	$ 36,557	$ 36,557
				SUBTOTAL CONSTRUCTION:	$ 493,521
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 172,733
				AREA TOTAL:	**$ 666,254**
				SAY	**$ 666,000**

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
AREA 116	**Project 2**				
Description	Replace Segment on Francisquito Ave between S Tonopah Ave and S Sunset Ave				
1	MOBILIZATION (5%)	1	LS	$ 22,622	$ 22,622
2	18" VCP SEWER MAIN	1,518	LF	$ 222	$ 336,658
3	21" VCP SEWER MAIN	25	LF	$ 241	$ 6,020
4	MANHOLE	14	EA	$ 7,840	$ 109,760
5	SEWER BY-PASS (20%)	1	LS	$ 90,488	$ 90,488
6	TRAFFIC CONTROL (10%)	1	LS	$ 45,244	$ 45,244
				SUBTOTAL CONSTRUCTION:	$ 610,792
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 213,777
				AREA TOTAL:	**$ 824,569**
				SAY	**$ 825,000**
AREA 116	**Project 3**				
Description	Replace Segment on E Michelle St between 150' W/O S Mullender and S Mullender Ave				
1	MOBILIZATION (5%)	1	LS	$ 6,965	$ 6,965
2	10" VCP SEWER MAIN	160	LF	$ 185	$ 29,548
3	MANHOLE	14	EA	$ 7,840	$ 109,760
4	SEWER BY-PASS (20%)	1	LS	$ 27,862	$ 27,862
5	TRAFFIC CONTROL (10%)	1	LS	$ 13,931	$ 13,931
				SUBTOTAL CONSTRUCTION:	$ 188,066
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 65,823
				AREA TOTAL:	**$ 253,889**
				SAY	**$ 254,000**
AREA 117	**Project 1**				
Description	Replace Segment on W Durness St to 440 between 440' W of S Trojan Wy and S Conlon Ave; Replace Segment on S Conlon Ave between W Durness and W Glenmere St; Replace Segment on Glenmere St between S Orange and S Conlon Ave				
1	MOBILIZATION (5%)	1	LS	$ 25,763	$ 25,763
2	10" VCP SEWER MAIN	2,616	LF	$ 170	$ 444,695
3	MANHOLE	9	EA	$ 7,840	$ 70,560
4	SEWER BY-PASS (20%)	1	LS	$ 103,051	$ 103,051
5	TRAFFIC CONTROL (10%)	1	LS	$ 51,525	$ 51,525
				SUBTOTAL CONSTRUCTION:	$ 695,594
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 243,458
				AREA TOTAL:	**$ 939,051**
				SAY	**$ 939,100**
AREA 132	**Project 1**				
Description	Replace Segment on W Orange Ave between Cameron and Toluca				
1	MOBILIZATION (5%)	1	LS	$ 10,720	$ 10,720
2	10" VCP SEWER MAIN	947	LF	$ 185	$ 175,202
3	MANHOLE	5	EA	$ 7,840	$ 39,200
4	SEWER BY-PASS (20%)	1	LS	$ 42,880	$ 42,880
5	TRAFFIC CONTROL (10%)	1	LS	$ 21,440	$ 21,440
				SUBTOTAL CONSTRUCTION:	$ 289,443
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 101,305
				AREA TOTAL:	**$ 390,748**

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
				SAY	$ 390,700
AREA 161	**Project 1**				
Description	Replace Segment near Giano International School				
1	MOBILIZATION (5%)	1	LS	$ 3,948	$ 3,948
2	10" VCP SEWER MAIN	342	LF	$ 185	$ 63,270
3	MANHOLE	2	EA	$ 7,840	$ 15,680
4	SEWER BY-PASS (20%)	1	LS	$ 15,790	$ 15,790
5	TRAFFIC CONTROL (10%)	1	LS	$ 7,895	$ 7,895
				SUBTOTAL CONSTRUCTION:	$ 106,583
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 37,304
				AREA TOTAL:	$ 143,886
				SAY	$ 143,900
System Controls and Power					
SCADA System - (Cost Per Lift Station, 6 Stations Total)					
Description	Install SCADA controls at each City operated lift station to allow for remote monitoring and control				
1	MOBILIZATION (10%)	1	LS	$ 3,500	$ 3,500
2	PLC, WIRING, SENSOR AND ANTENNA	1	LS	$ 30,000	$ 30,000
3	EDDISON CONNECTION	1	LS	$ 5,000	$ 5,000
4	TRAFFIC CONTROL (10%)	1	LS	$ 3,500	$ 3,500
				SUBTOTAL CONSTRUCTION:	$ 42,000
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 14,700
				AREA TOTAL:	$ 56,700
				SAY	$ 56,700
Emergency Power at Lift Stations - (Cost Per Lift Station, 6 Stations Total)					
Description	Install backup generator with automatic transfer switch at each City operated lift station				
1	MOBILIZATION (10%)	1	LS	$ 4,000	$ 4,000
2	SOUND ATTENUATED BACKUP GENERATOR AUTOMATIC TRANSFER SWITCH AND SYSTEM	1	LS	$ 30,000	$ 30,000
3	INTEGRATION	1	LS	$ 10,000	$ 10,000
4	TRAFFIC CONTROL (10%)	1	LS	$ 4,000	$ 4,000
				SUBTOTAL CONSTRUCTION:	$ 48,000
	(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:				$ 16,800
				AREA TOTAL:	$ 64,800
				SAY	$ 64,800

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
System Maintenance					
Closed Circuit Television Inspection - (Performed Annually by Operations Staff)					
1	CCTV Inspection	1	LS	$ 100,000	$ 100,000
				SAY	**$ 100,000**
Structural Pipe Repairs - (Annual As Identified by Operations Staff					
Description	Repair or replace pipe as necessary per results of ongoing CCTV video monitoring. Cured In Place Pipe (CIPP) recommended				
1	MOBILIZATION (5%)	1	LS	$ 1,500	$ 1,500
2	8" CIPP Lining	250	LF	$ 120	$ 30,000
3	10" CIPP Lining	250	LF	$ 140	$ 35,000
4	12" CIPP Lining	250	LF	$ 150	$ 37,500
5	SEWER BY-PASS (20%)	1	LS	$ 6,000	$ 6,000
6	TRAFFIC CONTROL (10%)	1	LS	$ 3,000	$ 3,000
				SUBTOTAL CONSTRUCTION:	$ 113,000
				(35% of Construction Cost)ENGINEERING, CONTRACT ADMIN, INSPECTION, AND CONTINGENCY:	$ 39,550
				AREA TOTAL:	**$ 152,550**
				SAY	**$ 152,600**
				TOTAL	**$ 11,288,475.97**
				SAY	**$ 11,290,000**

The cost for items in the Sewer Capacity Enhancements section is assumed to be based on the cost for open trench sewer repair. If the City is willing to utlize other pipe repair methods such as pipe bursting, the cost can be minimized and the delivery schedule, accelerated.

Since the design professional has no control over the cost of labor, materials, equipment, or over the contractor's method of determining prices, or over competitive bidding or market conditions, his opinions of probable construction costs provided herein are to be made on the basis of his experience and qualifications. These cost opinions represent his best judgment as a design professional familiar with the construction industry. However, the design professional cannot and does not guarantee that proposals, bids, or the construction costs will not vary from opinions of probable cost prepared by him.

2015-2020 CIP PROJECTS
UTILITIES

Project No.	Description of Item	Cost of Item	Funding Sources		Five-Year Funding Schedule				
				2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
U-2	Storm Drain Catch Basin Inserts (Screens)	80,000	189 - NDPES			20,000	20,000	20,000	20,000
U-3	Freeway Underpass Pump Station Clean Out	120,000	189 - SF			30,000	30,000	30,000	30,000
U-4	Hillward/Norma Avenues - Storm Drain Construction	50,000	124 - GT			50,000			
U-5	NPDES Treatment of Storm Water at Azusa & Puente Avenues	100,000	124 - GT, 161 - CT			100,000			
U-6	Sewer Main Line Repairs	2,400,000	189 - SF			600,000	600,000	600,000	600,000
U-8	Storm Drain Lateral Repair/Replacement (Aroma Drive & Walnut Creek Pkwy)	200,000	161 - CT						200,000
U-9	Azusa Avenue From Aroma Drive to North City Limits - Underground Utilities	6,500,000	Rule 21A						6,500,000
U-10	Azusa Avenue Storm Drain (Rowland to Badillo) including Laterals in Workman, Rowland & Puente Avenues – LA Co., State	2,000,000							2,000,000
U-11	California Avenue Drain (Vine to Cameron) & Vine (California to Evanwood) LA Co. Storm Drain	1,000,000							1,000,000
U-12	Garvey, Workman, Rowland & Puente Avenues Storm Drain Laterals off Vincent Storm Drain	2,500,000							2,500,000
U-13	North of Garvey, West of Citrus, South of Workman - Underground Utilities Between Nissan & Mazda Dealerships	200,000	Rule 20B						200,000
U-14	Remaining Main Line Sewer Extensions	650,000	189 - SF						650,000
U-15	Vine Avenue Storm Drain From Pima Avenue to Glenview Road – LA Co.	1,500,000							1,500,000
U-16	Workman, Rowland & Puente Avenues Storm Drain Laterals off Sunset Avenue (LA County Storm Drains)	1,000,000							1,000,000
U-17	Sanitary Sewer Management Plan Update	50,000	189 - SF		85,000				
U-18	Sewer mainline upgrades - Cameron Avenue from Citrus Street to Inman Avenue	11,000,000	189 - SF		525,000				
	TOTALS	**$29,350,000**		**$0**	**$610,000**	**$800,000**	**$650,000**	**$650,000**	**$16,200,000**

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APPENDIX 'Q'

PWD Policies for Managing Available Sewer Capacity

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POLICIES FOR MANAGING AVAILABLE SEWER CAPACITY

INTRODUCTION

In 2008, the City serves the wastewater disposal needs of approximately 112,500 people. The community sewers receive and convey approximately 14.1 mgd (million gallons per day) of wastewater to regional CSD trunk sewers and wastewater treatment plants and some are also delivered through the adjacent Cities of Baldwin Park and Covina, and some unincorporated county areas.

The purpose of this document is to describe the policies and practices followed by the City in tracking and determining the remaining available capacity within its sanitary sewer system. Tracking (monitoring) is necessary because of the significant lead time required for accomplishing such improvements as sewer rehabilitation or facility expansion without overloading sewage facilities. The objective is to enable the City to:

- Become more aware of how the sewer facilities are performing in order to take steps necessary to avoid (prevent) a SSO or nuisance problem due to operations.
- Provide all local decision makers with information needed to make informed decisions about the capacity of the wastewater system and its ability to accommodate new or increased connections.
- Make commitments for new or upsized connections with confidence that there is adequate capacity to serve additional demand as well as existing customers.
- Determine when the issuance of additional building/connection permits must be curtailed until sewer facility improvements are completed so that facilities are maintained in compliance with discharge permit criteria.
- Have more lead time to plan and arrange financing for needed sewer system upgrades.

LEGAL MANDATE TO MANAGE WASTEWATER ALLOCATIONS

Local sewering entities have a crucial role in providing safe and adequate wastewater systems and high quality operational performance. These local entities face many challenges to maintain and operate their systems in compliance with Federal and State laws and regulations. Cost continues to increase to keep these increasingly complex facilities operating properly, and the ability to raise rates to keep pace with costs is also regulated and challenging.

Perhaps most challenging is the need to manage the allocation of flow for new or expanding customer discharges in conformance with local land use, water and sewage plans, and the

National Pollutant Discharge Elimination Service (NPDES) and local permit limits. The agency responsible for issuing building/development approvals and permits must ensure adequate capacity is or will be reasonably available without impairing water quality or threatening public health and safety.

ACTIONS TO BE TAKEN TO MANAGE AVAILABLE SEWER CAPACITY

Sewering entities are expected to manage their wastewater collection system capacities responsibly and to ensure the system functions within design capacity. In order to accomplish these expectations, it is necessary to implement a planning and engineering tool used to monitor the relationship between sewer facility capacity and population/economic growth while complying with statutes and regulations relative to discharges. Such tool could be a Municipal Sewage Capacity Plan/Report (MSCP/R).

A MSCP/R would contain information on sewage system capacity including demand created by both existing and proposed development. To ensure accuracy of such report will require the City to: monitor flows, track existing capacity utilization, evaluate the need for additional capacity, identify deficiencies, take proactive corrective steps to maintain system capacity, and to undertake orderly and timely funding and planning of projects to maintain or improve the system capacity. These actions for a successful monitoring and reporting tool will be accomplished through the application of the following policies:

1. Develop a perpetual 10-year capital improvement program that:
    a. Includes pro-active sanitary sewer system improvements to correct and prevent system failures and overflows,
    b. Provides sewer capacity in a timely manner to accommodate system expansion, redevelopment and rehabilitation,
    c. Incorporates monitoring, inspecting and demand findings compiled during routine operation and management of the system,
    d. Maintains level of service standards that are desired and acceptable to the community and regulators,
    e. Addresses current and reasonably anticipated regulatory requirements.
2. Actively manage the sanitary sewer conveyance system through a data collection and analysis process that determines wastewater usage by development type, projects future demand, and identifies inflow/infiltration deficiencies.
3. Issue development approvals based upon available capacity of the sanitary sewer system.

4. Implement work process and data management systems improvements for sewer service management, operation, and maintenance that comply with WDR regulations and result in more effective and efficient sewer service.

5. Abate storm water inflow and groundwater infiltration to maintain capacity for sewer service and minimize service costs.

6. Expand the production and annual average use of recycled water to reduce the cost and environmental risk of effluent disposal and reduce reliance upon potable water sources.

7. Implement a complete asset management program for sustaining the sewer infrastructure through optimized service levels, managed risks, and minimized life-cycle costs of asset ownership.

8. Develop and distribute program information (documents) that defines and communicates policies, procedures, responsibilities and performance measures for work process improvements and encourages all system users to respect and comply with the community wastewater collection system program.

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APPENDIX 'R'

Monthly Sewer Activities Reports

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City of West Covina

SEWER MAINTENANCE ACTIVITY REPORT
Work Completed: January 1, 20xx to December 31, 20xx

Number of parcels added/annexed to system during 20xx - XX

Total length of pipe in system as of December 31, 20xx - XXX,XXX L.F.

Total number of manholes in system as of December 31, 20xx - XXX

Total number of pump stations in system as of December 31, 20xx - XX

Total number of siphons in system as of December 31, 20xx - XX

PREVENTATIVE MAINTENANCE ACTIVITIES

Sewer Pipe

- Hydro cleaned xx,xxx l.f. of pipe
- Mechanically rodded x,xxx l.f. of pipe
- CCTV inspected and recorded xx,xxx l.f. of pipe
- Chemically treated (root control) x,xxx l.f. of pipe
- Repaved xxx l.f of pipe trench due to subsidence

Manholes

- Inspected xxx manholes
- Adjusted xx manhole frames and lids

Pump Stations

- Performed xxx inspections of pump stations
- Performed xx equipment repairs/overhauls
- Responded to xx alarma/service requests

Siphons

- Performed xxx inspections of siphons
- Mechanically or hydro cleaned xx siphons, of which xx were two or more times

SERVICE REQUEST RESPONSES

- xx Blockages / Stoppages
- xx Overflows
- xx Floodouts
- xx Rodent/Insect complaints
- xx Odor complaints
- xx Others (record types)
- False alarms

CONSTRUCTION ACTIVITY

- Installed x,xxx l.f. of pipe lining material
- Removed and replaced xxx l.f. of pipe
- Service saddles / connections installed = xx

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APPENDIX 'S'

City Performance Measures Indicators

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City of West Covina
Sanitary Sewer Management Program
Performance Measure Indicators

Overflow Prevention / Collection System Maintenance					
Performance Indicator	2014 - 2015 Actual	2015 - 2016 Actual	2016 - 2017 Estimated	2017 - 2018 Projected	2018 - 2019 Projected
INPUT					
Total SSO response time (receipt of notification to site arrival)					
Total person-hours spent in responding to and alleviating SSO's					
Total miles of SS in the system					
Total number of gravity sewer system maintenance personnel					
Total number of pumping plant maintenance personnel					
Total number of scheduled manhole inspections					
WORKLOAD / OUTPUT					
Total number of SSO's responded to in 12-month period					
Number of SSO's > 1,000 gallons responded to					
Number of SSO's responded to within 30-minutes of less					
Total miles of sewer line maintained					
Total number of pump stations maintained					
Total number of manhole imspections completed					
Total FOG related SSO's cleared					
Total root related SSO's cleared					
Total SSO's due to other causes (debris, vandalism,etc.)					
Total number of capacity related SSO's					
Total number of SSO's due to pump station malfunction					
Total number of stoppages					
Miles of sewer on monthly check-n-clean					
Miles of sewer on quarterly check-n-clean					
EFFICIENCY					
Number of SSO's per 100 miles of sewer line					
Number of stoppages per 100 miles of sewer line					
Number of SSO's that reached "Waters of the United States"					
Number of pump stations with one or more malfunctions					
Number of pump stations per electro-mechanic crew					
Average response time per SSO					

City of West Covina
Sanitary Sewer Management Program
Performance Measure Indicators

Performance Indicator	2014 - 2015 Actual	2015 - 2016 Actual	2016 - 2017 Estimated	2017 - 2018 Projected	2018 - 2019 Projected
Percent decrease in length of sewer line on quarterly of less schedule					
EFFECTIVENESS / OUTCOME					
Percentage of SSO's > 1,000 gallons					
Percentage of SSO's due to FOG					
Percentage of SSO's due to roots					
Percentage of SSO's due to other causes					
Percentage of SSO's that reached "Waters of the United States"					
Percentage of sewer on quarterly of less frequent schedules					
Percentage of pump stations with one or more malfunctions resulting in an SSO					
Percentage of SSO's with response time less than 30-minutes					
Percentage of stoppages not resulting in SSO					
OBJECTIVE: To establish baseline performance measures for effective operations and maintenance of the community sewer system					
EXPLANATORY NOTES:					

APPENDIX 'T'

SSMP Audit Development Guide

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SAMPLE
SEWER SYSTEM MANAGEMENT PLAN AUDIT
FOR
THE CITY OF WEST COVINA
2016-2018

DATE

SEWER SYSTEM MANAGEMENT PLAN AUDIT FOR
THE CITY OF WEST COVINA
YEARS 2016-2018

- May 2, 2006 – State Water Resources Control Board adopted Statewide General Waste Discharge Requirements (WDRs).
- January 1, 2007 – Electronic reporting of Sanitary Sewer Overflows (SSO).
- July 28, 2009 – Sewer System Management Plan (SSMP) adopted by the City Council.
- July 28, 2014 – Due date for the Recertification of the SSMP
- September 2011 – First SSMP audit due and every two years thereafter, per subsection D.13.x of the WDRs, and Section 10.1 of the City's SSMP.

Elements of the SSMP

1. **Goals –** description of the City's SSMP goals.

2. **Organization** – description of the City's organizational structure.

3. **Legal Authority** – description of the City's legal rights, including codes and ordinances, to enforce the requirements of the WDRs.

4. **Operation and Maintenance Program** – outlines the City's maintenance schedule and methodology to ensure proper management and maintenance of sewer facilities are properly designed and installed.

5. **Design and Performance Provisions –** description of methods by which the City ensures that new and rehabilitated sewer facilities are properly designed and installed.

6. **Overflow Emergency Response Plan** – describes how the City responds to, reports, and documents SSO events within the Consolidated Sewer Maintenance District.

7. **Fat, Oil, and Grease (FOG) Control Program** – describes how the City prevents or minimizes the discharge of fats, oils, and grease into the sewer lines, which is known to contribute to SSOs.

8. **System Evaluation and Capacity Assurance –** how we ensure adequate capacity is available for new and existing developments.

9. **Monitoring, Measurement, and Program Modifications** – details the City's plan to continually monitor and assess the performance of each element of the SSMP in achieving the goals and objectives of the SSMP and updating them as necessary.

10. **SSMP Program Audit and Certification** – describes the City's plan to periodically assess the effectiveness of the SSMP based mainly on the plan's ability in reducing SSOs.

11. **Communication Program –** summarizes the City's plan to ensure that stakeholders are aware of the City's SSMP.

PERFORMANCE MEASURES

Overflow Prevention/Collection System Maintenance

PERFORMANCE MEASURES
Overflow Prevention/Collection System Maintenance

Performance Indicator		Year 1	Year 2
Input			
1	Total number of pump stations condition assessment scheduled		
2	Total miles of scheduled CCTV		
3	Total miles of scheduled periodic cleaning		
4	Total miles of scheduled cleaning (period & contract CCTV)		
5	Total number of pump stations scheduled inspection		
6	Total number of scheduled manhole inspection		
Workload/Output			
7	Total number of SSO responded to in 12-month period *		
8	Total volume of SSO		
9	Total SSO response time		
10	Total miles of sewer line maintained		
11	Total miles of scheduled periodic completed		
12	Total number of pump stations maintained		
13	Total number of pump stations inspection completed		
14	Total number of manhole inspections completed		
15	Total SSO> 1,000 gallons responded to		
16	Total FOG related SSOs responded to		
17	Total root related SSOs responded to		
18	Total SSOs due to other causes (debris, vandalism, etc)		
19	Total number of capacity related SSOs		
20	Total number of SSOs due to pump station malfunction		
21	Number of SSOs responded to within 2-hours or less		
22	Total miles of scheduled CCTV completed		
23	Total miles of scheduled cleaning completed		
24	Total miles of CCTV completed (including contract CCTV)		
25	Number of pump stations condition assessment completed		
26	Total miles of sewer line cleaned (all including contract CCTV)		
27	Total numbers of service request responded to		
Efficiency			
28	Number of SSOs per 100 miles of sewer lines		
29	Volume of SSO captured		
30	Number of SSOs that reached waters of the United States		
31	Average response time per SSO		
32	Average number of SSOs per pump station		
Effectiveness/Outcome			
33	Percentage of SSOs> 1,000 gallons		
34	Percentage of SSO captured		
35	Percentage of SSOs due to FOG		
36	Percentage of SSOs due to roots		
37	Percentage of SSOs due to other causes		
38	Percentage of SSOs that reached waters of the United States		
39	Percentage of SSOs with response time 2-hours or less		
40	Percentage of manhole inspection completed		
41	Percentage of scheduled CCTV completed		
42	Percentage of pump stations condition assessment completed		
43	Percentage of pump stations inspection completed		
44	Percentage of schedule cleaning completed **		
45	SSOs from house laterals not related to mainline sewer problems		

* Not including SSOs from house laterals

**All scheduled periodics were completed. the higher than 100% completion rate recorded could be attributed to the different sewer segment length determination methods used by field staff and the office Engineers (GIS).

YEARLY SSO WORKSHEET

(Enclosure J)

Year 1		#2	#6	#3, #2minus#6	#22minus#21	#24 & #25
SSO #		Spill Volume	Spill Recovered	Spill to Reach Surface Water	Response Time (hours)	Cause of SSO
TOTAL		0	0	0	0	

Year 2		#2	#6	#3, #2minus#6	#22minus#21	#24 & #25
SSO #		Spill Volume	Spill Recovered	Spill to Reach Surface Water	Response Time (hours)	Cause of SSO
TOTAL		0	0	0	0	

SEWER MAINTENANCE PRODUCTIVITY REPORT
COLLECTION SYSTEM - DIVISION LEVEL
FIELD WORK COMPLETED: January 1, Year to December 31, Year
City of West Covina

Total Pipe Length (feet) as of December 31, Year: Length
Total Manholes as of December 31, Year:

PREVENTIVE MAINTENANCE ACTIVITIES

Sewer Pipe

- Hydro Cleaned (feet): Length
    - Periodic Cleaning (feet): Length
- Mechanically Rodded (feet): Length
    - Period Cleaning (feet): Length

Manholes

- Inspected: Number
- Adjusted: Number

SERVICE REQUESTS

Responded to:

- Service Requests Responded to: Number
- False Alarms: Number
- Stoppages: Number
- Overflows: Number
- Floodouts: Number
- Roach Complaints: Number
- Misc.: Number
- Others: Number

TELEVISING

Feet Televised: Length

ROOT CONTROL

Sewer Pipe Treated for Roots (feet): Length

CONSTRUCTION

Saddle Installation(s): Number

PUMP STATIONS

Total Number of Pump Stations: Number
Total Routine Maintenance/Repair: Number
Total Major Repairs: Number
Total Emergency Response: Number

ANNEXATIONS

Parcel(s) Annexed to the District: Number

ACCUMULATIVE CAPITAL OUTLAY PROJECTS

Sewer Projects Reconstructed/Rehabilitated: Number

SEWER SYSTEM MANAGEMENT PLAN AUDIT

A. Goals and Objectives

To what extent, on a scale of 1 to 5, has the SSMP been effective in reducing SSOs in the City?

1	2	3	4	5

Not effective — Exceptionally effective

B. Organization

How would you describe the changes in the City's organizational structure for a scale from 1 to 5? Please specify.

1	2	3	4	5

No change — Very major change

C. Legal Authority

Give the year of adoption of the latest version of the following County Codes/Ordinances.

1) County Industrial Waste Ordinance
   Date _____
2) City Municipal Code/County Plumbing Code
   Date _____
3) City Municipal Code/County Building Code
   Date _____

D. Operation and Maintenance Program

1) What was the actual expenditure on each of these elements of the City's (Districts) O&M programs for the last four fiscal years?
   (i) New Equipment Purchase
   (ii) Capital Improvement – (ACO)
   (iii) Travel and Training

	*2015-16	*2016-17	*2017-18
(i)			
(ii)			
(iii)			

2) Expenditures/Revenues Data
   (i) Total Budget Amount
   (ii) Actual Expenditures on Closed Circuit Television (CCTV)
   (iii) Total O&M expenditure
   (iv) Sewer Service Charge Rates – Consolidated

(i)			
(ii)			
(iii)			
(iv)			

*Consolidated Sewer Maintenance Districts' wide data (Districts)

E. Design and Performance Provision

1) What dollar amount of the City's (Districts) expenditure went into
   (i) Sewer Plan Check
   (ii) Construction Management and Inspection
   (iii) Project Design
   *Consolidated Sewer Maintenance Districts' wide data

	*2015-16	*2016-17	*2017-18
(i)			
(ii)			
(iii)			

2) Has there been any major change in the City's design standard? If so, specify and indicate fiscal year in which it occurred?

Yes		No	

_____

_____

F. Overflow Emergency Response Plan

(i) Total number of SSOs (private lateral SSO not included).
(ii) Percentage responded to within 2 hours.

2016	2017

G. Fat, Oils, and Grease (FOG) Control Program

1) Was an annual report with information on FOG published and/or mailed out to the City's property owners?

Yes		No	

2) What was the percentage of SSOs due to
   (i) FOG
   (ii) Roots
   (iii) Other causes

3) What was the total volume (gal) of SSOs that reached waters of the United States?

2016	2017

H. System Evaluation and Capacity Assurance

1) What is the total length (ft) of sewer lines rehabilitated by lining or reconstructed?

2) What percentage of sewer lines televised was rated as being in severely deteriorated structural condition?

3) What percentage of SSOs was due to a sewer capacity issue?

2016	2017

I. Monitoring, Measurement, and Program Modifications

1) When was the last audit conducted per the WDRs certified?

2) Were any changes recommended?

Yes		No	

3) Percentage of recommended changes in the last audit adopted.

N/A

J. SSMP Program Audit and Certification

1) What was the overall effectiveness rating of the last audit?

2) What is the overall effectiveness rating of this audit?

1	2	3	4	5
poor	fair	good	very good	excellent

K. Communication Program

1) List all communication methods utilized in disseminating information on FOG to stakeholders with implementation dates. (Done by the County)

✓	Method	Date Last Implemented
	Newsletter	
	Door Hangers	
	Internet	
	Other	

2) To what extent is the County's emergency phone number readily available to the City and the City's residents on a scale of 1 to 5?

1	2	3	4	5

Not easily available — Readily available

3) How responsive is the County (local sewer service provider) in responding to the City's and/or residents sewer issues on a scale of 1 to 5?

1	2	3	4	5

Extremely slow response — Excellent response time

L. List of identified deficiencies and planned corrective actions if any.

M. COMMENTS

1. SSO events summary.

1. Effectiveness of the SSMP.
2. On site observations (if any)
3. Comments from LACDPW on the effectiveness of the SSMP. Sample questions provided below

Question	LACDPW Responses	Central Yard

N. CERTIFICATION

We, the undersigned, do hereby certify that information contained in this audit report is to the best of our knowledge true.

Name (s)	Position	Signature	Date

Appendix

Insert CIWQS Reports for all reported SSO events occurring since the previous SSMP Update.