SEWER SYSTEM MANAGEMENT PLAN

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Introduction

On May 2, 2006, the State Water Resources Control Board ordered (Order No. 2006-0003) Statewide General Waste Discharge Requirements (WDR) For Sanitary Sewer Systems and found 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 the WDR.

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 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.

5. To facilitate proper funding and management of sanitary sewer systems, each system operator 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. 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.

The City's Sanitary Sewer Collection System is consists of approximately 39.37 miles of gravity piping ranging in size from 8 to 18 inches in diameter. The gravity sewer system consists of over 850 pipe reaches and manholes. Board Order No. 2006-0003 applies directly to the City's sanitary sewer collection system.

The City's sanitary sewer and stormwater conveyance systems are separate. SSOs have occurred in the sanitary sewer collection system at various locations around the City. Trouble areas where there is increased potential for SSOs have been identified and they are inspected and cleaned on a regular schedule.

The City lies entirely within County Sanitation District No. 4 of Los Angeles County (LSDLAC). The Sanitation Districts construct, operate, and maintain facilities to collect, treat, recycle, and dispose of wastewater and industrial wastes. District No. 4 provides for the conveyance, processing, and disposal of West Hollywood's wastewater at the City of Los Angeles' Hyperion Treatment Plant.

1.0 Goals

Per WDR Section D. PROVISIONS, Item 13 (i), 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 goal will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur. The City has developed the following goals for the operation and maintenance of its sanitary sewer system.

- Minimize SSOs;
- Prevent public health hazards;
- Minimize inconveniences by responsibly handling interruptions in services;
- Protect the large investment in collection system assets by maintaining adequate capacities and extending useful life;
- Prevent unnecessary damage to public and private property;
- Use available funds in the most efficient manner;
- Convey wastewater with a minimum of infiltration and inflow;
- Ensure adequate capacity to convey peak flows; and
- Perform all operations in a safe manner to avoid personal injury and property damage.

The City recognizes the importance of protecting the public health and the environment by preventing SSOs and has established a plan and schedule to implement a proactive approach that requires a system-wide operation, maintenance, and management plan that

will reduce the number and frequency of SSOs within the City. This approach will supplement the City's existing sewer system management programs with the specific requirements of the WDR and consequently decrease the risk to public health and the environment caused by SSOs.

2.0 Organization

Per WDR Section D. PROVISIONS, Item 13 (ii), the SSMP must identify:

- The name of the responsible or authorized representative designated by the City as having signatory and certification authority for all applications, reports, or information required by the Order;
- 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
- 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 (County Health Officer, County Environmental Health agency, Regional Water board, and/or state Office of Emergency Services (OES).

2.1 Authorized Representative

Mr. Paul Arevalo, City Manager, serves as the Chief Executive Officer of the City. Mr. Arevalo appoints the City's department heads and is responsible for ensuring that City services are performed to the highest standard in accordance with City Council policies. Mr. Arevalo is responsible for the submission of the City's budget and implementation in support of the City Council's goals. Mr. Arevalo has delegated to Sharon Perlstein, City Engineer to serve as signatory and certification authority for all applications, reports, or information required by the Order.

2.2 City Council

West Hollywood has a City Council/City Manager form of government. The West Hollywood City Council is comprised of five members, including the Mayor, who are elected citywide. Currently serving on the City Council are Mayor John Duran, Mayor Pro tem Jeffrey Prang, and council members John Heilman, Abbe Land, and John D'Amico. The City Council hires the City Manager who is responsible for all the management functions of the City. The City Council also directly hires the City Attorney who serves as the City's primary legal adviser. The offices of City Council members are located in City Hall, located at 8300 Santa Monica Blvd, West Hollywood, CA 90069. The main telephone number is (323) 323-848-6400.

2.3 Public Works & Engineering

The Director of the Department of Public Works, Mr. Oscar Delgado, is responsible for the Divisions of Engineering, Parking, and Commercial Code Compliance. The Engineering

Division Manager is the City Engineer, Sharon Perlstein, P.E. The Engineering Division is responsible for management of roads, sidewalks, traffic signals, street lighting, sewers, storm drains, environmental programs such as NPDES (storm water pollution prevention), solid waste collection, recycling, and issuance of encroachment permits for activities impacting the public right of way. The office of Ms. Perlstein is also located in City Hall. The main telephone number is
(323) 848-6375.

2.4 Building & Safety

The Manager of the Building & Safety Division, Mr. Steve Bailey, is responsible for Building and Safety (Inspection, Plan Review, Permit Center, Building Permit Records,) and ADA Compliance. The office of Mr. Bailey is also located in City Hall. The main telephone number is (323) 848-6475.

2.5 Field Services

The Manager of the Facilities and Field Services Division, Mr. Steve Campbell, is responsible for building maintenance, landscape & parks maintenance, and street maintenance. The office of Mr. Campbell is also located in City Hall. The main telephone number is (323) 848-6850

2.6 Los Angeles County Department of Public Works (LACDPW)

The City contracts with the LACDPW for Sewer Collection System Operation & Maintenance Services, as well as Industrial Waste services. The LACDPW City Services Liaison, Ms. Pamela Manning, is responsible for coordination of contract services between the City and LACDPW.

The Assistant Deputy Director of Sewer Maintenance, Mr. Keith Lehto is responsible for all Sewer Collection System Operations, Maintenance, and SSMP activities. Mr. Nicholas Agabobu is the Sewer Program Manager, and Mr. Robert Swartz is responsible for Sewer Field Operations. LACDPW field crews, supervised by Mr. Robert Swartz, conduct preventive maintenance (e.g. inspections, cleaning, repairs and replacement) activities and responds to notifications of system stoppages and SSOs.

The Assistant Deputy Director of Environmental Programs, Mr. Pat Porano, is responsible for Industrial Waste services. Mr. Randall Davis is the manager of the Industrial Waste contract services which include permit issuance and inspections of food service establishments (FSE) and other businesses that could cause adverse impacts to the sewer system.

The LACDPW offices are located at 900 S. Fremont Avenue, Alhambra, CA 91803. The main telephone number is (626) 468-4000.

2.7 Chain of Communication for Reporting SSOs

The LACDPW Sewer Program Manager is responsible for overseeing the SSO

reporting process. The Sewer Program Manager receives an incident report from the collection/response crew and drafts the required report. The draft is reviewed with the Field Operations Manager with consideration given to SSO Category, volume calculations, vacuum and wash down operations, SSO causes, timeliness of response, etc. After discussions are complete, the report is finalized and transmitted to the appropriate authorities, including, but not limited to the City, state and regional Water Boards, Los Angeles County Environmental Health Services, Los Angeles County Flood Control District and the Office of Emergency Services (OES).

2.7.1 SSO Database Overview

This section describes the general workflow for the SSO database, which is utilized by the City (enrollee) that has applied for coverage under the Board's Order to comply with the SSO reporting requirements. An enrollee must report two types of information into the SSO database: sanitary sewer system/agency characteristics – collection system questionnaire and spill details – SSO report. The City's collection system questionnaire was completed before any SSO reports were submitted. Additionally, the collection system questionnaire will be updated annually. All SSOs from an enrollee's sanitary sewer system must be reported to the SSO database. The reporting deadline for submittal of a SSO report depends on the classification of the spill. Draft reports for Category 1 & Category 2 SSOs (greater threat) shall be submitted to the CIWQS Online SSO Database within 3 business days of the City becoming aware of the SSO by citizen complaint or discovery. 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. All SSOs that meet the above criteria for Category 3 SSOs (lesser threat) 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 30th).

The process of entering information into the SSO database begins with the enrollee specifying the pertinent sanitary sewer system. The collection system questionnaire is an online form which contains questions regarding the relevant characteristics of an enrollee's sanitary sewer system and agency. After initial login, the first major task an enrollee needs to perform is completing the collection system questionnaire. A new collection system questionnaire is accessed through the "Collection System Questionnaire" link on the SSO menu. The collection system questionnaire must be updated at least every 12 months, and this is done through the "Collection System Questionnaire" link on the SSO menu.

3.0 Legal Authority

Per WDR Section D. PROVISIONS, Item 13 (iii), the City must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- Prevent illicit discharges into its sanitary sewer system;
- Require that sewers and connections be properly designed and constructed;

- Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City;
- Limit the discharge of fats, oils, and grease (FOG) and other debris that may cause blockages; and
- Enforce any violation of its sewer ordinances

Most recently, on December 20th, 2010 the West Hollywood City Council adopted Ordinance No. 10-862U, ordinance adopting the latest version of the Building, Plumbing, Mechanical, and Fire Codes of the County of Los Angeles. Additionally, the City of West Hollywood has adopted Title 20, Utilities, Division 2, Sanitary Sewers and Industrial Waste, of the Los Angeles County Code.

Several ordinances have been established by the County Board of Supervisors to govern all aspects of the County Sewer Maintenance District operations. The legal authorities for the specific areas stipulated in the WDRs are covered in various sections of the Los Angeles County Plumbing Code (LACO Plumbing Code), and Chapters 20.20, 20.24, 20.26, 20.32, 20.34, 20.36, and 20.40 of the Los Angeles County Code Title 20 – Utilities (LACO Code) some of which are discussed below.

3.1.1 Legal Authority to Prevent Illicit Discharges into the Sanitary System

The LACO Plumbing Code Title 28 (Sections 306.2, 714.2, and 1101.2) prohibits the unauthorized discharge of rain, surface, or subsurface water into the collection system. The illegal dumping of offensive or damaging substances such as chemicals, debris, etc., which are considered inflows, are prohibited by LACO Code, Section 20.36.010. The SMD have an I/I control program under the SMD's ongoing sewer line cleaning and maintenance program, which includes closed-circuit television (CCTV) and other mechanisms to detect I/I. By ordinance, the Board of Supervisors has established a financial plan to ensure capital replacement or rehabilitation of sewer lines prone to I/I within the CSMD (LACO Code, Section 20.40.045). The Marina SMD provides adequate funding to eliminate I/I sources in the mainline sewers and manholes. The LACO Code, Section 20.24.080 requires that property owners be responsible for maintenance of their house lateral, including the elimination of cracks, tree roots, and other debris. A similar law is also found in Section 101.3.2 of the LACO Plumbing Code Title 28.

3.1.2 Legal Authority to Require that Sewers and Connections be Properly Designed and Constructed

The LACO Code Sections 20.32.330 and 20.32.340 require that the design of new mainline sewers and pumping plants, respectively, be in conformity with requirements of Part 3 of Chapter 20.32 of the Code. Similarly, Section 20.32.350 of the LACO Code requires that the design of new house laterals conform to the requirements of Part 3, Chapter 20.32 of the Code unless otherwise covered by the LACO Plumbing Code, Title 28. The construction of a collection sewer system, by law (LACO Code 20.32.580), is required to conform to all the requirements prescribed by Division 2 of the

LACO Code, by the Standard Specifications for Public Works Construction (Green Book) and by the Special Provisions and Standard Plans, all on file in the office of the Director of Public Works (County Engineer). The inspection and construction of mainline sewers and pumping plants to ensure proper construction is covered under Section 20.32.590 of the LACO Code. The construction of house laterals is covered under the LACO Plumbing Code.

3.1.3 Legal Authority to Ensure Access for Maintenance, Inspection, or Repairs

Title 20, Division 2 of the Los Angeles County Code gives DPW the legal right to set requirements that allow unrestricted maintenance access to the public sewer infrastructure. This access is secured through the DPW's unwavering enforcement of the requirement for sewer easements around all public sewer appurtenances located in private properties. These easements are detailed by the designer on the sewer construction plans and are reviewed through the iterative plan check process. Plan checkers take special care to ensure that maintenance crews will have room for access and equipment usage for both routine maintenance and replacement or repair construction as necessary. The Title 20 requirements to leave these easements free of obstruction are also reiterated on all sewer plans that contain easements and the potential for conflict or restriction of access is reviewed exhaustively during plan check.

3.1.4 Legal Authority Limiting the Discharge of Fats, Oil, and Grease and other Debris that may Cause Blockage

The Director of Public Works under the LACO Plumbing Code, Title 28, has the legal authority to require the installation of grease interceptors at restaurants and other food establishments that generate grease. Section 20.36.560 of LACO Code also gives the Director of Public Works the authority to require the installation of treatment facilities, including grease interceptors, at any facility that generates FOG in the amount that will damage or increase the maintenance costs of the sewer collection system.
The LACO Code Section 20.24.090 gives the Director of Public Works the legal authority to inspect mainline sewers, sewage pumping plants, interceptors, etc., as often as he deems necessary, to ascertain whether such facilities are maintained and operated in accordance with the provisions of Division 2 of the LACO Code. Section 20.36.400 of the LACO Code prohibits the discharge of Fats, Oils, and Grease (FOG) and other substances that may, among other things, clog, obstruct, fill, or necessitate frequent repairs, cleaning out, or flushing of sewer facilities in the sewer system.

3.1.5 Legal Authority to Enforce any Violation of Sewer Ordinances

Under Section 20.24.100 of the LACO Code, the Director of Public Works is empowered to enforce all of the requirements prescribed in Division 2 – Sanitary Sewers and Industrial Waste of the Code and in accordance with Section 20.24.110 may delegate this authority. LACO Code Section 20.24.160 allows criminal penalties for any violations of the Sewer and Industrial Waste Ordinances.

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

4.0 OPERATION AND MAINTENANCE PROGRAM

Per WDR Section D. PROVISIONS, Item 13 (iv), the SSMP must include the elements listed below:

- 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;
- Description of routine preventive operation and maintenance activities, 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 Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders; and
- A rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency.

Appendix A includes detailed maps of the City's sewer system and a detailed tabulation of sewer facilities data.

The City contracts with the Los Angeles County Department of Public Works (LACDPW), Sewer Maintenance Division for operation and maintenance of the sewer system. The following information regarding the operation and maintenance program is from the Los Angeles County Sewer Maintenance District (SMD)'s SSMP (Appendix B).

4.1 Preventive Maintenance Program

The SMD's maintenance services are provided from five maintenance yards strategically located within the County of Los Angeles for efficient management of maintenance activities including SSOs and other emergencies. The SMD's South Yard primarily serves the City, however if the need arises resources from the other maintenance yards may provide services. The maintenance crews are equipped with standard industry technologies including radio equipped trucks for easy communication, cellular phones, heavy and light construction equipment, vacuum trucks, pumps, generators, trucks equipped with closed-circuit television units for interior inspection of sewer lines, and various types of safety equipment. A complete inventory of the SMD equipment is presented in Appendix B of the SMD's SSMP.

The cornerstone of the SMD's maintenance operation is the preventive maintenance program as described in the LACDPW's training guide maintained in each of the field maintenance yards. This program consists of regular inspection of the sewer system including manholes, pipes, siphons, pump stations, treatment plants, regular cleaning, repair, and related activities. This program is designed and carried out to detect and correct potential problems before they develop into major problems. The following is a

summary of the key preventive maintenance activities (Details are contained in the SMD Maintenance and Operations manual), and where applicable, frequencies for these services have been included:

4.1.1 Sewer Line and Manhole Inspection – The interior and exterior of manholes are inspected semi-annually for any structural defects, sewage flow condition, presence of vermin or rodents, deleterious industrial waste, odors, and any signs of unusual settlement around or evidence of debris within the manholes and along sewer alignments.

4.1.2 Gas Trap Manholes and Siphons – On a monthly basis, these facilities are inspected and cleared of any stoppages or flow restrictions.

4.1.3 Drop Manholes – These facilities are inspected and cleared of stoppages and flow restrictions on variable frequencies based on prior inspection records.

4.1.4 Sewer Line Cleaning – Sewer lines are cleaned by hydro jet or rodding. Frequency of cleaning is based on inspection records. Sewer lines known to accumulate grease, garbage grinds, or sand are put on monthly, quarterly, or semi-annual cleaning schedule, and those prone to root growth are periodically rodded or chemically treated.

4.1.5 Vermin and Rodent Control – Sewers infested by insects are chemically treated. Those infested by rodents are baited.

4.1.6 Sewage Pump Stations – The City has no Pump Stations.

4.1.7 Work Scheduling – Most work orders are generated and tracked by using the DPW's Maintenance Management System (MMS). Field crew activities are recorded in various forms such as service requests, cleaning reports, sewer maintenance daily reports, manhole adjustments, overflow report forms, etc., and are stored in the MMS.

4.1.8 SMD Mapping System – As-built plans of the SMD facilities are maintained by the LACDPW and the City. Data on the plans, such as system locations and alignment, pipe material, size, etc., are stored in the SMD's Computer-Aided Design and Drafting (CADD) System. Information generated by the CADD is printed on 369 map sheets stored in the Mapping and Annexation Unit of the Sewer Maintenance Division located at 1000 South Fremont Avenue, Alhambra, California. These maps are also distributed to the SMD's field crew, for work scheduling and responding to emergencies, and to cities and other agencies. The maps are updated to reflect any changes in the system.

LACDPW is currently working on plans to convert the CADD mapping system to Geographical Information System (GIS). This will create a mapping system that includes a sewer map and sewer features such as pipe location, diameter, material, condition, last date cleaned or repaired, flow direction, etc. The system includes base information such as streets and parcels. This database linked with mapping also includes various layers of information such as the storm drain systems, trunk sewer lines, etc., used by the LACDPW and other governmental agencies.

Appendix A includes the City's detailed maps showing the locations of all sewers and manholes citywide. This Appendix also includes detailed information regarding each pipe segment. In tabular form, the location, slope, pipe size, pipe material, manhole elevations, and other pertinent information is provided.

4.1.9 Equipment Maintenance and Replacement Policy - The SMD have 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 LACDPW's established fixed assets replacement criteria based on age of the equipment, mileage, hours of use, repair history, etc.

Equipment categorized as Class 9 (less than 1⁄4 ton) or lower, is automatically replaced by the Fleet Management Group of the Administrative Services Division of the LACDPW when it meets the replacement criteria. The request to replace equipment higher than Class 9 is made as part of the SMD's annual budget. In addition to the above replacement criteria, an analysis and recommendation by trained staff of the LACDPW and approval by LACDPW administration is required to replace equipment higher than Class 9.

These criteria notwithstanding, a piece of equipment can also be replaced if its reliability or safety of operation becomes questionable. New and additional equipment are also acquired when fully justified based on increased workload, new activity, additional personnel, technological improvements, time and cost savings, employee or public safety requirements, etc.

4.1.10 Training for Field Operations Personnel and Contractors - The SMD staff responsible for the operation and maintenance of the sewer collection system and the LACDPW inspectors attend formalized collection training classes or seminars given by other agencies including California Occupational, Safety and Health Administration (CALOSHA), California Water Environment Association, International Brotherhood of Electrical Workers, etc. This training will keep them abreast with the latest technology in the industry on how to safely and efficiently carry out their tasks. The District also utilizes informal training approaches, such as tailgate meetings, monthly safety meetings, and apprenticeship training programs from higher-level staff. Additionally, only companies with well-trained and experienced staff are considered for either emergency SSO mitigation or sewer construction and rehabilitation work.

4.2.11 Chemical Root Control – Separate from the maintenance services provided by LACDPW, the City contracts annually with Dukes Root Control, Inc. to treat the sewer lines with a foaming herbicide to retard root growth. Historically, LACDPW has not provided this service. Therefore beginning in 1995, the City annually hires a private contractor. Each calendar year, approximately 1/3 of the sewer mainlines, located within root intrusion areas, are scheduled for chemical root control. The City's chemical root control program addresses roots in the mainline system; however roots from private laterals have been the source of some SSOs in the past. The City uses CCTV data to identify root issues in private laterals and follow up with notification to property owners regarding private laterals

in possible need of replacement.

4.2 Rehabilitation and Replacement Plan

Sewer facilities assessment and rehabilitation are an integral part of the City's preventative maintenance program. In 1992, the City commissioned Boyle Engineering Corporation for preparation of a comprehensive Master Plan of Sewers. The Master Plan is an Integrated Correction Program, which includes the following elements in a comprehensive capital improvement, preventative maintenance program:

The **Capacity Correction** analysis provides a computer model to study development impacts and ensure the City plans for adequate capacity of the sewer system as growth occurs in compliance with the City's General Plan.

The **Infiltration and Inflow Correction** analysis recommends methods of reducing the inflow and infiltration (I/I) of surface water and local groundwater into the sewage system.

The **Structural Rehabilitation** analysis identifies structural issues with the system and recommends improvements.

The **Cyclic Repair/Operation and Maintenance** element provides a program for timely inspection and repair of system components.

The **Finance Program** for managing the City Sewer Service Charge, which funds capital improvements and operations.

The historical background of the City's capital improvement programs of sewer rehabilitation and replacement is discussed below.

In 1996, the City hired the private engineering firm of RBF Consulting to conduct CCTV inspection and design rehabilitation of sewer lines located in the southwest area of the City. These sewer lines had been noted during preparation of the Master Plan of Sewers as being within the zone of high groundwater and having a high incidence of inflow to the sewer. Additionally 1,500 LF of sewer in this area was aging concrete pipe, which the Mater Plan recommended for replacement with clay pipe. The sewer construction project, CIP 9701 Southwest Area Sewer Rehabilitation, was built in 1997. The work included CIPP lining of 11,706 LF of pipe, point repairs at 2 locations, replacement of 1,530 LF of deteriorated pipe, and manhole rehabilitation at 3 locations. Total cost of the construction project was $1,213,400.

In 1998, the City hired the private engineering firm of ASL Consulting to conduct CCTV inspection and design rehabilitation of sewer lines located on Santa Monica Blvd. The City took over 3 miles of this roadway from the State of California, and as part of the relinquishment the City was commencing a major infrastructure rehabilitation project. The sewer construction project, Santa Monica Blvd Sewer Rehabilitation, was built in 2000. The work included CIPP lining of 15,268 LF of pipe, point repairs at 7 locations,

replacement of 424 LF of deteriorated pipe, and manhole rehabilitation at 5 locations. Total cost of the construction project was $1,067,324

In 2000, the City hired the private engineering firm of Boyle Engineering to conduct CCTV inspection and design rehabilitation of sewer lines located on Sunset Blvd, along the northern side of the City. These sewer lines had been noted during preparation of the Master Plan of Sewers as potentially having capacity limitations due to pending redevelopment of properties on Sunset Blvd. In addition to the condition assessment, an updated computer model of the sewer capacity for this area was conducted by the consultant. The sewer construction project, CIP 0405 Sunset Blvd Sewer Rehabilitation was built in 2005. The work included CIPP lining of 8,086 LF of pipe, point repairs at 5 locations, replacement of 70 LF of deteriorated pipe, and manhole rehabilitation at 3 locations. Total cost of the construction project was $904,251.

In 2007, the City hired the private engineering firm of PSOMAS to conduct CCTV inspection and design rehabilitation of sewer lines located in the northwest area of the City. These sewer lines had been noted in the Master Plan of Sewers inventory as being some of the oldest pipes in the City. The sewer construction project, CIP 0902 Northwest Area Sewer Rehabilitation, was built in 2008. The work included CIPP lining of 7,253 LF of pipe, point repairs at 7 locations, and replacement of 102 LF of deteriorated pipe. Total cost of the construction project was $513,893.

In 2009, the City hired the private engineering firm of Brown & Caldwell to conduct CCTV inspection and design rehabilitation of sewer lines located on the eastern side of the City . The study area included all sewer lines located between Fairfax Avenue and the City Boundary at La Brea Avenue. The City was eligible to receive Federal Community Development Block Grant funds for construction of sewers in this area. The sewer construction project, CIP 1104 East Side Sewer Rehabilitation, was built in 2011. The work included CIPP lining of 24,664 LF of pipe, point repairs at 4 locations, replacement of 48 LF of deteriorated pipe, and manhole rehabilitation at 165 locations. Total cost of the construction project was $1,806,513.

In 2010, the designed and constructed CIP 1006 Spaulding Avenue & Fairfax Avenue Sewer Construction Project. The work included installation of 180 LF of 8” sewer pipe to serve 4 homes previously on septic tanks or jerry-rigged to discharge into house connections on neighboring parcels. Also the project included a point repair to install 33 LF of sewer pipe that was damaged by Edison utility construction. The total cost of the construction project was $111,414.

In 2011, the City hired the private engineering firm of Brown & Caldwell to conduct CCTV inspection and design rehabilitation of sewer lines located in the mid-city area of the City. The study area includes 45,000 linear feet of sewer mainlines located between La Cienega Blvd and Fairfax Avenue. This project is in progress, with construction of the first phase scheduled for Summer 2012.

In addition, some deteriorated lines are discovered during LACDPW’s preventive

maintenance of the City sewer lines. Depending on the severity of the condition, these lines are either immediately repaired by force account, use of emergency contractors, or are added to the list of future repair projects. In compliance with the WDRs, all sewer pipe segments within the City found to have structural deficiencies will continue to be rehabilitated or reconstructed.

4.3 Condition Assessment Program

Most pipelines within the City are made of vitrified clay and range in diameter from 8 to 18 inches. As the sewer collection system ages, the risk of failure increases. Issues of concern include deterioration, collapse, blockage, excessive inflow and infiltration, overflow, and other potential service interruptions.

In an effort to overcome these challenges and to improve the quality of the City's sewer infrastructure, the City has developed and implemented a new Condition Assessment Program to televise and structurally rate approximately 3.5 miles of sewer infrastructure each year. The complete cycle is scheduled to last approximately 10 years. The televising will be 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 of the factors used to prioritize the televising schedule. The assessment program consists of two parts: 1) Closed-circuit television inspection crews gather video and data for each pipe segment, including manholes. While the video is being captured, a crew member views and logs events such as defects and observations using Pipeline Assessment and Certification Program observation codes; and 2) Professional Engineers review and prioritize the deficiencies to establish sewer rehabilitation construction projects.

The first project, which was launched in 2007, televised and inspected 3.6 miles of sanitary sewer lines and 92 manholes, located in the northwest portion of the City. The CCTV inspection reports revealed that 39% of pipe segments had maintenance problems and/or structural defects, whereas 61% of the system televised was shown to be in good condition. A priority list was established to address the identified deficiencies based on the severity of the deficiency and the need for action. In 2008 a construction project, involving CIPP lining and point repairs, rehabilitated 1.4 miles of sewer.

From 2007 through 2012, nearly 19 miles of the citywide sewer system has undergone CCTV inspection to identify repair locations. From this investigative work, 50% of the sewer lines have been noted as good condition and no repairs are needed. For the other 50%, the City has used the Sewer Assessment District to finance repair work. Subsequent CCTV projects continue to gather data to assess the condition of the sewer system and the City will continue use the results to implement rehabilitation and replacement projects to preserve the aging infrastructure.

5.0 Design and Performance Provisions

Per WDR Section D. PROVISIONS, Item 13 (v), the SSMP must include the elements listed below:

- Design and construction standards and specifications for the installation of new sanitary sewer systems and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

- Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.1 Design and Construction Standards and Specifications

The City has adopted the "GREENBOOK" Standard Specifications for Public Works Construction, latest edition.

Improvement plans shall be on 24" x 36" standard plan sheets. Approved drawings shall become the property of the City and shall have the standard City title block located in the bottom right-hand corner. Layout sheets shall be on plan and 3-line profiles. As-built drawings shall be provided. Approval signature shall be the City Engineer.

SANITARY SEWERS

1. Design criteria (vitrified clay pipe)

a. Coefficient of friction "n" = 0.013
b. Minimum velocity = 2 feet per second
c. Maximum velocity = 10 feet per second
d. Flow factors

Land Use	Average Wastewater Flow (AWF)
Residential	260 GPD / EDU
High-Rise Residential	130 gallons/dwelling/day
Commercial	200 gallons/1000 SF/day
Schools	10 gallons/student/day
Medical Buildings	300 gallons/1000 SF/day

The Peak Wastewater Flow (PWF) shall be used to model new sewer systems. Design shall include the full peak flow for the contributory area. Capacity of a pipe is evaluated by comparing the depth at Peak Wastewater Flow (D) to its diameter (d) and limiting this ratio as follows:

D/d<0.50, d<15"
D/d<0.75, d>18"

2. Slopes of collector lines

Size	Slope (min)
8"	0.44%

10"	0.33%
12"	0.26%
15"	0.19%
18"	0.12%
21"	0.10%

3. Laterals

a. Laterals serving single family residence – 4”
b. Laterals serving multi family residents – 6"
c. Minimum cover at property line – 5'
d. Cleanout required at property line

4. Minimum size main

a. Residential areas – 8"
b. Commercial and industrial areas - 8"

5. Easements – minimum 10 feet wide

6. Normal location in street – 5 feet from street centerline

7. Manhole spacing – 300 feet maximum

8. Minimum cover over main – 7 feet

9. Manholes to be eccentric

10. Minimum clearance of 1' shall be maintained between the sewer and crossing pipes

11. Allow 0.2 foot drop around a 90° bend in manhole

12. Provide stubs for future extensions

13. Change direction or size only at a manhole

13a. Minimum radius 150' with approval by City Engineer

14. Drop manholes shall be required where sewer lines do not channelize through the bottom of manhole.

5.2 Standards for Inspection & Testing of New, Rehabilitated, and Repaired Facilities

The City has adopted the “GREENBOOK” Standard Specifications for Public Works

Construction, latest edition. As such, all new, rehabilitated and repaired sewer assets requires inspection involving pressure testing, mandrelling, water exfiltration and/or post construction closed circuit television inspection overseen by a City construction inspector prior to accept work.

The City has no own lift stations and does not anticipate any additional pump stations to be built because the City is essentially built out. Therefore, pump station plans and specifications are not included in the standards. Design standards and construction specifications for pump stations will be developed as needed on a project-specific basis should any new pump stations be implemented.

All public sewer mains within the City are designed and constructed by the City or under contract to the City.

6.0 Overflow Emergency Response Plan

Per WDR Section D. PROVISIONS, Item 13 (vi), the SSMP must include the elements listed below:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;

- A program to ensure an appropriate response to all overflows;

- 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;

- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

- 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.

6.1 Overflow Response Procedure

Because the City contracts with the Los Angeles County Department of Public Works (LACDPW), Sewer Maintenance Division for 24-hour emergency services to investigate and/or correct complaints regarding the sewer system, the City's Sewer Overflow Response Plan (Exhibit C) interfaces with the Emergency Response Plan contained in the Los Angeles County Sewer Maintenance District (SMD)'s SSMP. The City and SMD's Plans include the following:

- Proper notification procedures;
- A program to ensure an appropriate response to all SSOs;
- Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Plan and are appropriately trained;
- Procedures to address emergency operations; and
- 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.

The SMD provide 24-hour emergency services to investigate and/or correct complaints from citizens or messages from telemetry systems installed at sewage pump stations and wastewater treatment plants. The LACDPW's 24-hour emergency telephone number is 1-800-675-HELP (4357). Personnel are available 24 hours each day of the year to receive and act on any calls or automated alarms related to problems with the sewer system. During business hours, emergency calls are received by the Public Works Dispatch Operator. The Operator will call and dispatch the nearest Sewer Maintenance crew to the problem site. For after-hour emergencies, the Operator will call the Regional Sewer Maintenance Superintendent or Supervisor in the order listed on the LACDPW's Emergency Contact Telephone List. The Superintendent or Supervisor who receives the emergency call will investigate the complaint and take appropriate action including immediate dispatch of a standby crew with necessary equipment to take care of the problem, or refer the call to other agencies if the problem is found not to be in our jurisdiction. These overflow reporting procedures are presented in a flow chart in SMD SSMP Chapter 2, Section 2.3.5.

As prescribed by the LACDPW's Best Management Practices and contained in the SMD overflow response instruction manual (SMD's SSMP Appendix G), the crew responding to an overflow emergency is required to stop the overflow, contain it if possible, and ensure that the facility or area is cleaned up and returned to normal operation. Residents in the immediate vicinity of the overflow are informed of the cause of the problem and the remedial action taken. The County of Los Angeles Health Department, the Regional Water Quality Control Board, and the State Office of Emergency Service are notified of all sanitary sewer overflows. The LACDPW Flood Maintenance Division (FMD) is notified of all overflows that discharge into the storm drain system. The role of FMD is to assist in tracing and capturing the spill as much as possible before it reaches the waters of the

United States. The agencies to be notified, method, and time frame for notification are presented in Figure 6.1.1. The phone/fax numbers of the agencies are presented in Figure 6.1.2. The relevant data about the overflow such as location, volume, and agencies notified, etc., is recorded in field report forms (SMD's SSMP Appendix G) and later stored in the computer. All field personnel are trained to be conversant with these procedures and to accurately report SSO incidents.

6.1.3 Procedure to Ensure that Staff and Contractors are Aware of and are Appropriately Trained to Follow the Emergency Response Plan

The SMD's Emergency Response Plan is available to key personnel who are responsible for managing or responding to SSOs. Copies of the SMD's instruction manuals are available to field crews and engineers at the office who manage or have the role of preparing SSO reports to regulatory agencies. All contractors doing emergency sewer repair or other sewer-related construction work for the SMD are required to comply with the Employee and Public Safety, SSO Notification and Reporting Provisions of their agreement with LACDPW. They are also required to have employees that are adequately trained and well equipped. The contractors' construction activities are regularly monitored by LACDPW engineers and inspectors to assure compliance with these requirements.

6.1.4 Procedures to Address Emergency Operations such as Traffic, Crowd Control, and other Necessary Response Activities

The SMD's field personnel and the staff of the emergency contractors who are retained for SSO responses are well trained in traffic and crowd control. The SMD's vehicles are well equipped with traffic and crowd control tools, including orange traffic control cones, yellow tape, flashing lights, high visibility yellow uniforms, etc.

6.1.5 Program to Eliminate or Minimize the Discharge of SSOs into Waters of the United States

The SMD's and emergency contractors' crews are properly trained on methods and procedures to prevent or limit the amount of SSO into waters of the United States and how to mitigate their impacts. Some of the methods include the use of sand bags to contain SSOs, absorbent socks to prevent SSO discharge into storm drain catch basins, and the use of vacuum trucks to suck up contained spills and dump the effluent back into the collection system at other safe locations.

6.1.1 REGULATORY AGENCIES NOTIFICATION AND TIME FRAME

SSO Category	Type or Description	Agencies to be Notified	Type of Notification and Timeframe	
			Telephone/Fax	Written Report/*Online Database
1	A. SSO ≥ 1,000 gallons	Health Department	As soon as possible, but no later than 15 minutes after becoming aware of the spill.	NA
	B. Results in discharge to drainage channel and/or surface water	Flood Maintenance Division	As soon as possible, but no later than 2 hours after becoming aware of the spill.	NA
	C. Discharge to a storm drainpipe and not fully captured and returned to the sanitary sewer system	RWQCB (Region 4 or 6)	As soon as possible, but no later than 2 hours after becoming aware of the spill.	Certify that the notification has been made ASAP, but no later than 24 hours after becoming aware of the spill.
		Cal EMA	Immediately or as soon as possible	NA
		SWRCB	As soon as we become aware of the SSO, reporting is possible and can be provided without substantially impeding cleanup or other measures.	**Online Initial Report** - ASAP but no later than initial 3 business days after we are made aware of it. **Final Online Certified Report** – Within 15 calendar days on conclusion of the SSO response and remediation. **Additional Information** – Anytime in form of an attachment.
2	All other SSOs resulting from SMD sanitary sewer system	Health Department RWQCB (Region 4) Cal EMA RWQCB (Region 6) SWRCB	Same as above Same as above Same as above Same as above N/A	NA Same as above NA Same as above **Online** – Within 30 days after the end of the calendar month in which the SSO occurred.
3	Private lateral sewage discharge caused by blockages or other problems within a privately-owned lateral	Health Department SWRCB (optional) Cal EMA RWQCB (Regions 4 and 6)	Same as above NA Same as above Same as above	NA NA NA Same as above
NA	No SSO in a calendar month	SWRCB	NA	**Online Database Certified** – Within 30 days after the end of the calendar month, certified statement that no SSO occurred.

* If the SSO database is not available, fax the required information to the appropriate RWQCB, but enter the information into the online database as soon as possible.

6.1.2 AGENCIES TELEPHONE/FAX NUMBERS

Agency	Contacts	Hours of Operation
County Health Department	(213) 974-1234	Answered on a 24-hour, 7-day a week basis
California Emergency Management Agency	1-800-852-7550	Answered on a 24-hour, 7-day a week basis
Los Angeles Regional Water Quality Control Board (Region 4)	(213) 576-6600 (213) 576-6650	Answered only during normal working hours
Lahontan Regional Water Quality Control Board (Lancaster/Palmdale area) (Region 6)	(760) 241-6583	Answered only during normal working hours
Flood Maintenance Division East Area	(626) 445-7630 (626) 798-6761	Answered only during normal working hours
South Area	(562) 861-0316	Answered only during normal working hours
West Area	(818) 896-0594 (818) 248-3842	Answered only during normal working hours
State Water Resource Control Board	Online database website address	

7.0 Fats, Oil and Grease (FOG) Control Program

Per WDR Section D. PROVISIONS, Item 13 (vii), the SSMP must include the elements listed below:

- An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

- 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;

- The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

- 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;

- Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

- An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and

- Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

The City contracts with the Los Angeles County Department of Public Works (LACDPW) , Environmental Programs Division, for operation of the Industrial Waste Program. These services include enforcing the City's Fats, Oils, and Grease (FOG) program including point source control, inspection of industrial waste and grease generating facilities, and investigation of illicit discharge of chemicals, debris, etc., into the public sewer. Therefore, the following information regarding the City's FOG program interfaces with the FOG program in the Los Angeles County Sewer Maintenance District (SMD)'s SSMP.

7.1 Public Education Outreach Program

The LACDPW proactively reaches out to customers throughout the City about the FOG program. Information on proper disposal of FOG and other SSO prevention measures, including installation of backflow valves, house lateral maintenance, etc., is disseminated through publication of the SMD Annual Report brochure (mailed to all property owners),

articles on the City website, and individual notices to property owners. The LACDPW also utilizes personal contacts with home and business owners by field crews and the LACDPW's Industrial Waste Inspectors. LACDPW has also initiated the distribution of FOG door hangers in neighborhoods with sewer lines prone to heavy grease problems. These methods have proven to be very effective in relaying information on proper disposal of FOG and other SSO prevention methods to stakeholders. LACDPW and the City are continuously seeking additional ways to communicate with the public. Expanded use of the LACDPW's home webpage, use of radio and television announcements, and other means would be pursued in the future.

7.2 Disposal Methods for FOG Generated within the City

Solidified fats found in the collection system during cleaning operations are trapped, collected, and taken to the maintenance yard dump bins. These and other debris collected from the system are taken to the County Sanitation Districts of Los Angeles County (CSD) facilities.

7.3 The Legal Authority to Prohibit Discharges to the System and Identify Measures to Prevent SSOs and Blockages Caused by FOG

The City and LACDPW's legal authority to prevent illicit discharges into the sanitary sewer system is discussed in Chapter 3, Section 3.1.1 of this document. The legal authority to limit the discharge of FOG and other debris that may cause blockages in the sewer lines is discussed in Section 3.1.4.

The SMD utilize semiannual manhole inspection of all manholes and the scheduled and unscheduled sewer line cleaning and television inspection of the interior of sewer pipes to identify pipe segments experiencing heavy grease accumulation and in mitigating the problem.

These legal mandates and maintenance practices are complemented by the City and SMD's Public Education and Outreach Program discussed in Section 7.1 above to minimize SSOs and blockages caused by FOG.

7.4 Requirements to Install Grease Removal Devices, Design Standards for Grease Removal Devices, Maintenance Requirements, BMP Requirements, Recordkeeping, and Reporting Requirements

The City and LACDPW's legal authorities to enforce the requirements stipulated in this Section are contained in various chapters of the LACO Code including Chapters 20.24, 20.34, and 20.36, etc.

The Director of Public Works is authorized to enforce Title 20, Division 2, Section 20.24.100, and Environmental Programs Division of the LACDPW has been charged with permitting (Section 20.36.040) and inspecting nearly 6,800 industrial waste facilities that discharge into the sanitary sewer system in the unincorporated areas and 30 contract

cities within the CSMD. Pretreatment devices are required for industrial waste generating facilities, including restaurants and other food establishments. They are required to be designed per the LACO Plumbing Code approved, installed, and operated in a manner to control discharges of FOG into the sanitary sewer system and 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, the LACDPW will take enforcement action against the permittee, or where applicable, refer the problem to the contract city for enforcement action.

The LACDPW does not issue permits or inspect domestic sewage disposal to the sanitary sewer system. However, the LACO Code prohibits the discharge of "any material, which may create a public nuisance, or menace to the public health or safety, or which may pollute underground or surface waters, or which may cause damage to any storm- drain channel or public or private property" (Section 20.36.010). If during inspection of the sanitary sewer system Sewer Maintenance Division determines that a FOG-related problem exists and is traceable to a domestic sewage source of such character that is not satisfactory (Section 20.20.100), under the LACO Code, pretreatment could be required or the discharge required to be eliminated. Domestic waste containing FOG can lead to SSOs, which are public nuisances and California Health and Safety Code Division 5, Part 3, Chapter 6, Article 2 can also be used to impose appropriate domestic sewage discharge requirements.

7.5 Authority to Inspect Grease Producing Facilities, Enforcement Authorities, and Evidence of Adequate Staffing to Inspect and Enforce the FOG Ordinance

As discussed in Chapter 3 of this document, the City and LACDPW have the legal authority to inspect and enforce the County of Los Angeles FOG Ordinances. The LACDPW has adequate staff to conduct inspections of pretreatment facilities at all permitted food establishments within the SMD. The funding mechanism now in place allows for increases in permit and other services charges if necessary to hire additional staff.

7.6 Cleaning Schedule for Identified FOG Prone Sewer Segments

Experience has shown that FOG contributes to about 36 percent of the total SSOs that occur in the SMD's sewer collection system. The remaining 64 percent is attributable to tree root intrusion into the system and other causes. As indicated in Chapter 4 of this document, FOG prone sections of the SMD's collection system, otherwise called "hot spots," are identified during routine maintenance operations and investigation of stoppages and SSOs. These are typically cleaned by hydro jetting and rodding if tree roots are encountered. Those portions of the system found to have persistent FOG problems are put on monthly, quarterly, or semi-annual periodic cleaning schedule, depending on the magnitude of the problem. Furthermore, segments of the collection system with persistent FOG problems are referred to the Environmental Programs Division of the DPW for additional investigation and enforcement actions.

8.0 System Evaluation and Capacity Assurance Plan

Per WDR Section D. PROVISIONS, Item 13 (viii), the SSMP must include the elements listed below:

- **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;

- **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and

- **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.

- **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.

8.1 System Evaluation and Capacity Assurance

For purposes of system evaluation and capacity assurance planning, the City has prepared and implemented a comprehensive Master Plan of Sewers that includes a computer model to study development impacts to hydraulic capacity of the sewer system as growth occurs in compliance with the City's General Plan. Copies of the Master Plan of Sewers are on file in the Department of Public works.

The Master Plan of Sewers was completed in 1992 and updated in 2000. The following benefits are realized by preparing this comprehensive, long term Master Plan:

- Defines both current and long term needs of the City Sanitary Sewer System;
- Provides detailed description of the collection system as well as documents flow routing

for use in the operation and planning of new pipelines, thus reducing the time needed to train new employees;
- Provides information for making sound decisions on collection system operations, financing, staffing, and building permitting;
- Provides the basis for financial planning so that resources are available when needed.
- Reduces the cost of planning, design, and construction; and
- Allows proactive management of the wastewater collection facilities rather than reactive management.

8.2 Adequate Capacity and Correct Design

The findings of the Master Plan of Sewers are based on the hydraulic and observed conditions of the City's existing collection system. As development increases within the City, some pipelines may need to be replaced, relieved, rehabilitated, or modified to provide sufficient capacity in the system for the increased flows. Title 20, Division 2 of the LACP Code forms the foundation upon which the City is given the legal responsibility for ensuring sound, logical, and functional design of the public sewer infrastructure.

The submittal of a sewer area or capacity study is the official process for adequately sizing the sanitary sewer. The City Engineer requires the satisfactory completion of a capacity study by a private registered civil engineer prior to giving approval for projects that can affect the capacity of the public sewer system. The completed study will analyze the capacity in the existing system and will set forth mitigation requirements for developers to ensure adequate capacity. The study will also justify the sizing of proposed lines to accommodate the base, peak, and wet weather flows from all area tributary to the mainline sewer under consideration, now and in the future. The approved capacity study is referenced directly by the plan checker when design plans for the new infrastructure are submitted to assure adequate capacity. All proposals for a new connection to an existing sewer must also comply with the City's policies for managing available sewer capacity.

Sewer plans for construction are prepared by registered civil engineers and submitted to the City Engineer for plan check. American Public Works Association Greenbook standards and the LACDPW Standard Plans are referenced where more detailed-design data is to be specified. Permits for construction of any public sewer infrastructure are not issued until the iterative plan check process has been satisfactorily completed, thus, ensuring the functional design and adequate capacity of the public sewer collection system.

8.3 Capacity Enhancement Plan

The City's Master Plan of Sewer's strategy to monitor the capacity of the sewer lines includes:

1. Semiannual inspection of all manholes and scheduled and unscheduled CCTV of the interior of sewer lines to identify pipe segments with impeded sewage flow due to accumulation of grease, tree roots intrusion, and structural damage, or pipe experiencing

surcharge or I/I problems.

2. Sewer line flow measurements to evaluate the capacity of sewer lines suspected of being surcharged.

3. Mitigating the problems identified by sewer line cleaning, repair, or rehabilitation by lining or replacement of the sewer pipes.

The various elements of the City's capacity enhancement plan are discussed under the Preventive Maintenance and Condition Assessment Programs in Chapter 4 of this document and in Sections 8.1 and 8.2 of this chapter.

9.0 Monitoring, Measurement, and Program Modifications

Per WDR Section D. PROVISIONS, Item 13 (ix), the SSMP must include the elements listed below:

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

The City contracts with the Los Angeles County Department of Public Works for operation and maintenance of the sewer system, as well as for the FOG control program. Therefore, the following information regarding the monitoring, measurement, and program modifications interfaces with the program in the Los Angeles County Sewer Maintenance District (SMD)'s SSMP.

9.1 Monitoring

A SMD's SSMP Committee consisting of not less than two Section Heads from the Sewer Maintenance Division and all field Superintendents shall annually review all SSO records, SMD productivity reports, and other relevant documents to evaluate the effectiveness of the key SSMP program elements.

9.2 SSMP Program Effectiveness Evaluation

The effectiveness of the program shall be monitored and tracked through the SMD

Performance Measure Indicators of the key activities aimed towards minimizing sewer overflows. These include the total number of overflows, total number equal or greater than 1,000 gallons or reaching the waters of the United States, overflow response time, reduction in repeated incidents of overflow at same location, and reduction in number of overflows caused by flows exceeding the capacity of the collection system.

9.3 Program Modifications

Based on the above monitoring or performance evaluations, the SSMP program elements will be updated or modified as necessary.

9.4 SSO Location Mapping and Trends

The various applications of SSO locations and frequency of occurrence are presented in this section.

9.4.1 Location Map

The locations of SSO occurrences are plotted annually on a district-wide map and on city maps. The causes of the SSOs are also recorded. These maps are used for establishing SSO patterns, identifying hot spots as indicated by clusters on the maps, and for scheduling work assignments and providing information on SSO activities to cities within the CSMD.

9.4.2 Mapping of SSO Frequencies

The monthly numbers of SSOs are also depicted in charts and graphs. The charts are used to identify SSO trends and as an indicator of I/I 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 different years and with results from other sewering agencies.

10.0 Program Audits

Per WDR Section D. PROVISIONS, Item 13 (x), the SSMP must include the elements listed below:

- 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 City's compliance with the SSMP requirements.

The City will ensure an internal audit evaluating its SSMP and its compliance with the WDR every two years and will report the results of the audits along with recommendations and suggested improvements to the City Council.

11.0 Communication Program

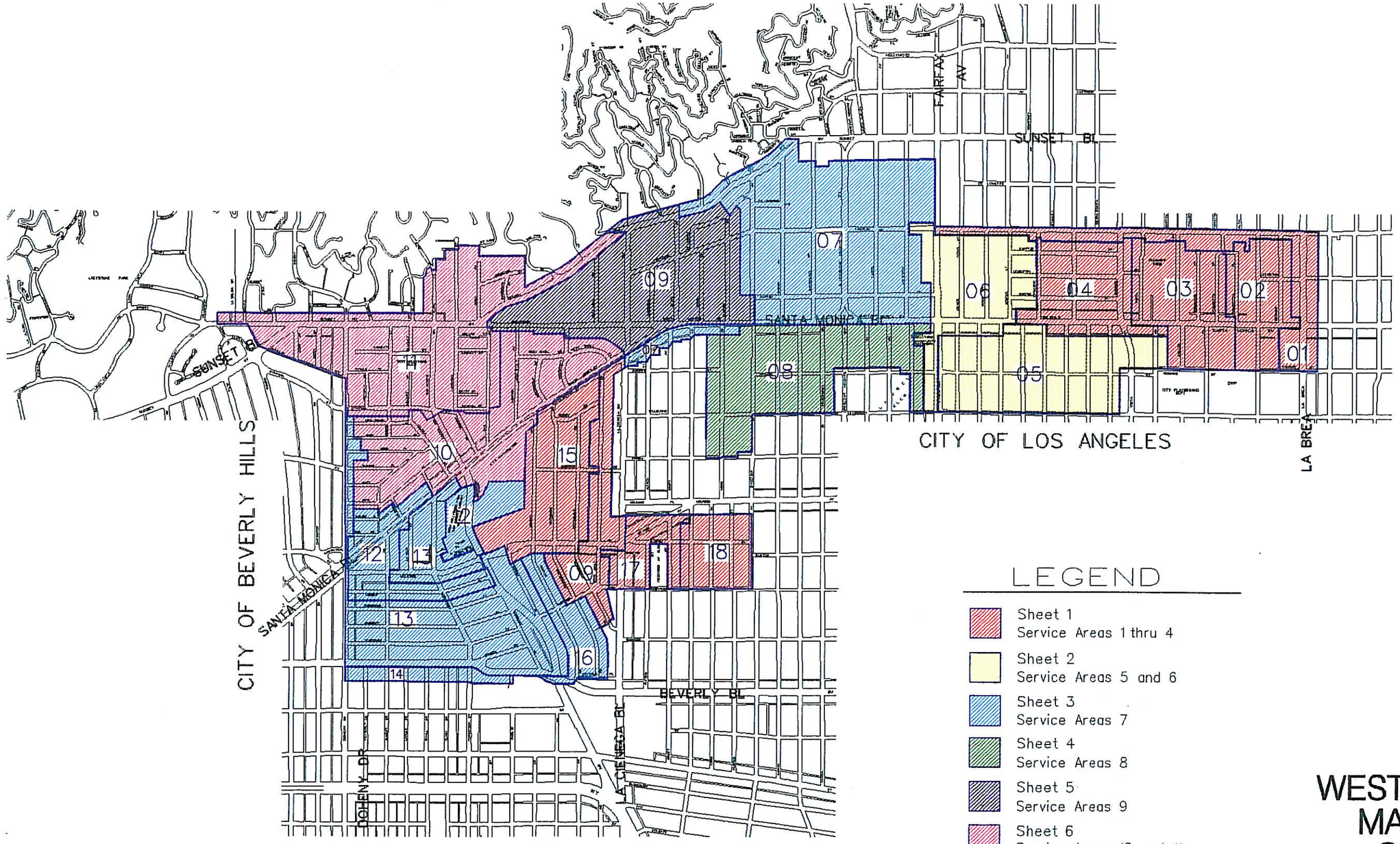
Per WDR Section D. PROVISIONS, Item 13 (xi), the SSMP must include the elements listed below:

- 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.

The City Manager will provide interested parties with status updates on the implementation of the components of the SSMP and will also consider comments made by interested parties.

APPENDIX A

Maps of City Owned Sewer System
and
Detailed Tabulation of Sewer Facilities Data



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0' 750' 1500'

Scale: 1"=1500'

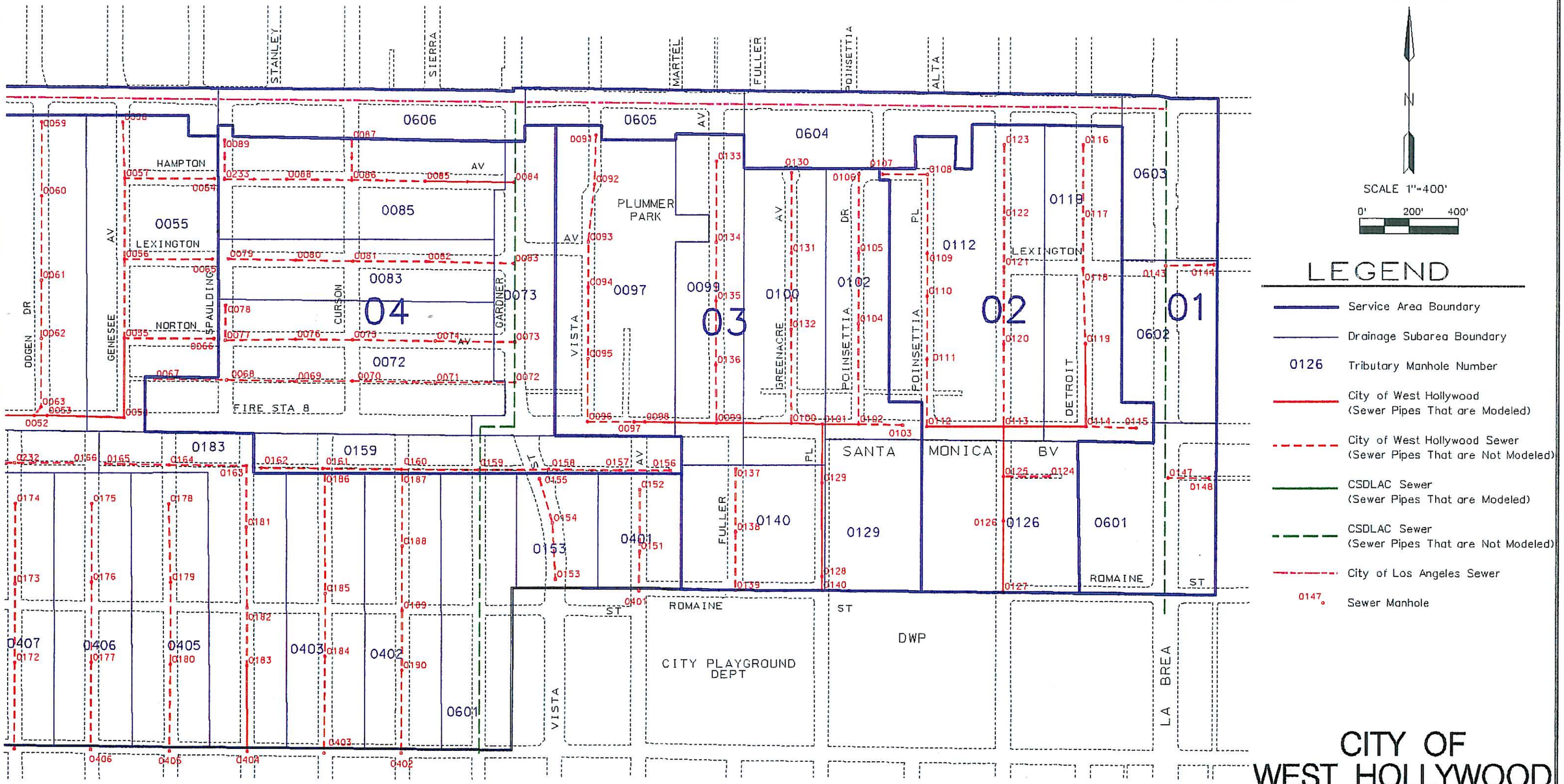
LEGEND

- Sheet 1 — Service Areas 1 thru 4
- Sheet 2 — Service Areas 5 and 6
- Sheet 3 — Service Areas 7
- Sheet 4 — Service Areas 8
- Sheet 5 — Service Areas 9
- Sheet 6 — Service Areas 10 and 11
- Sheet 7 — Service Areas 12,13,14 and 16
- Sheet 8 — Service Areas 9,15,17 and 18

CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

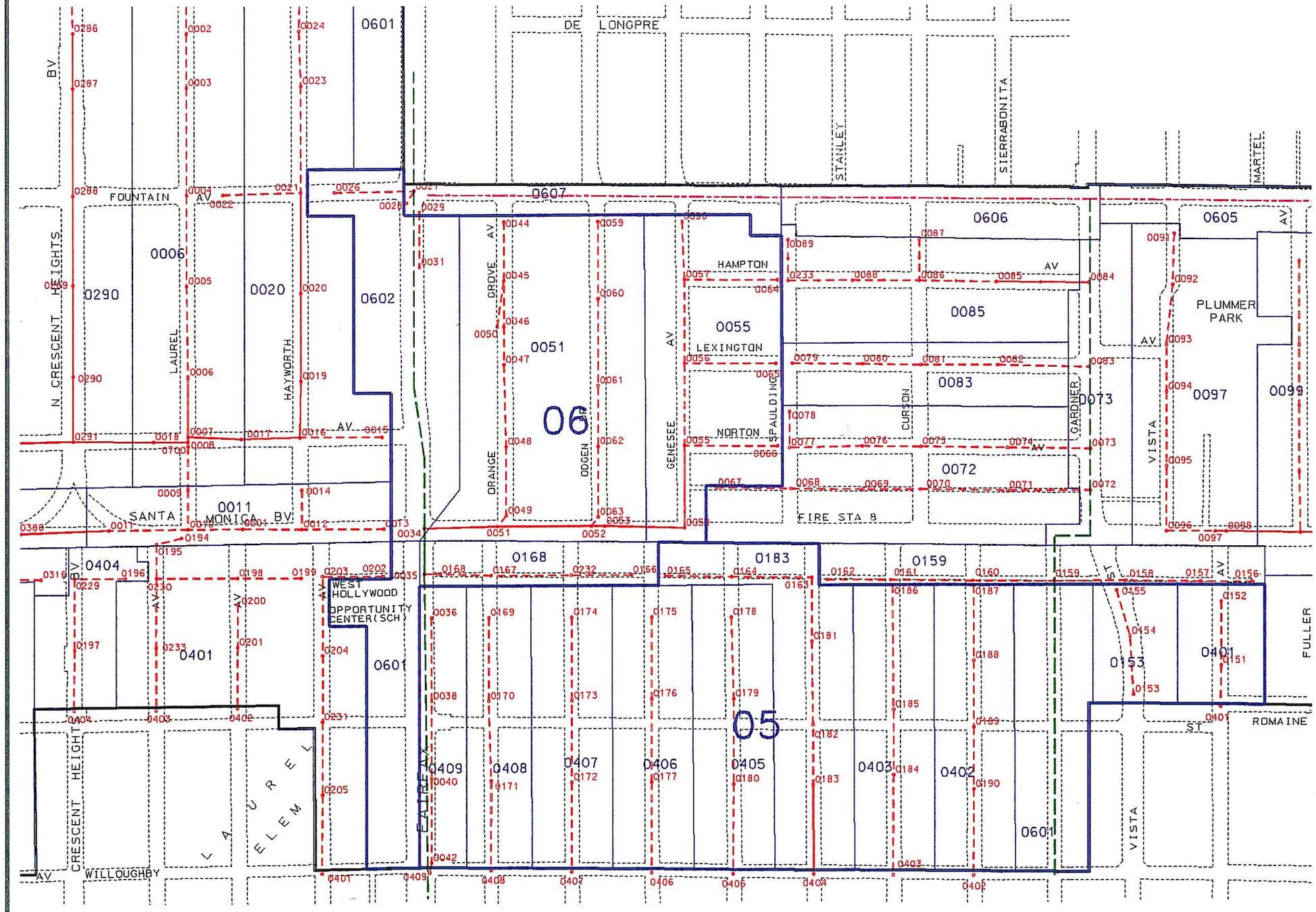
SHEET INDEX

Boyle Engineering Corporation



CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

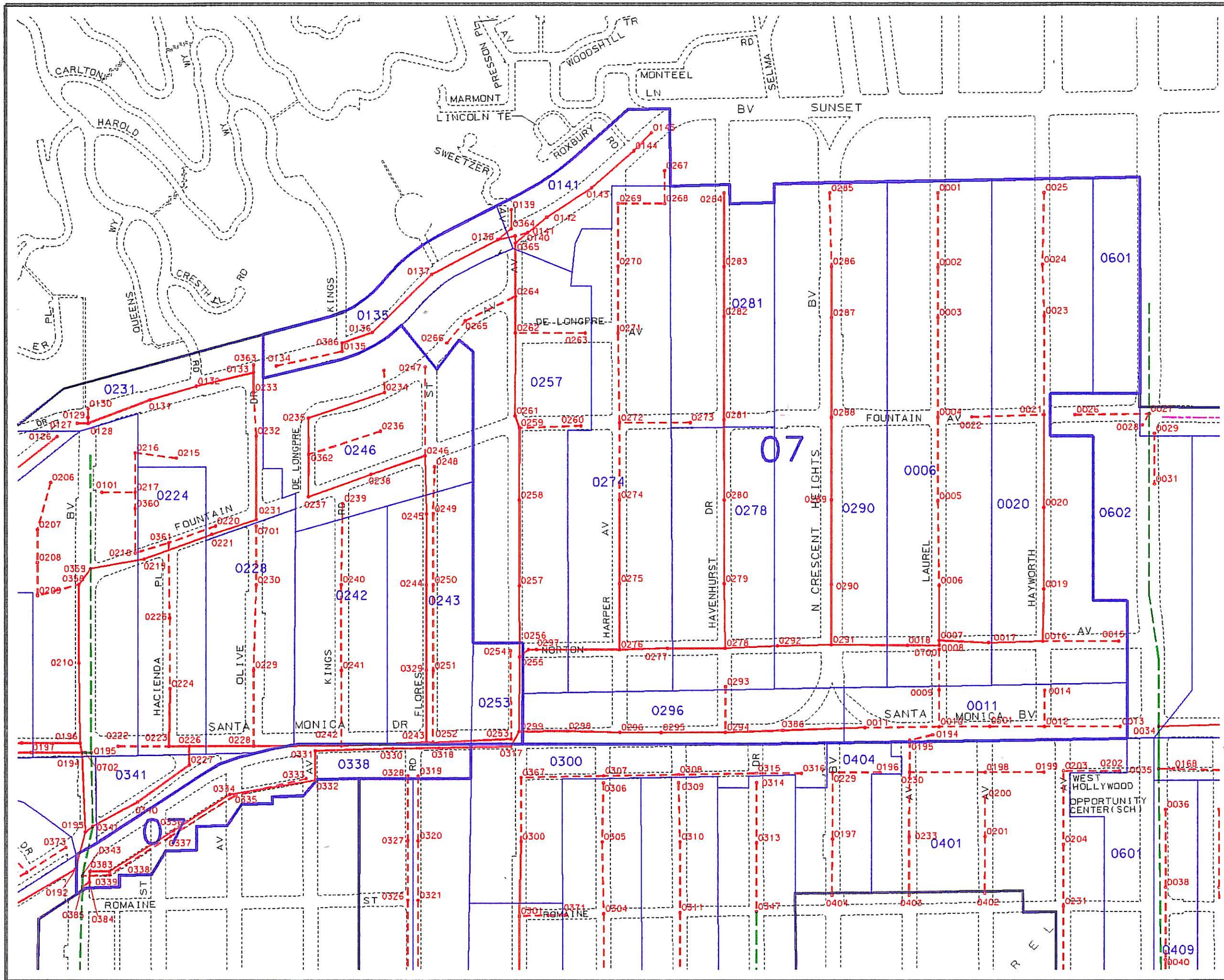
TRUNK SEWER MAP SERVICE AREAS 1 thru 4



CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

TRUNK SEWER MAP SERVICE AREAS 5 and 6

Boyle Engineering Corporation



N

SCALE 1"=400'

0' 200' 400'

LEGEND

- Service Area Boundary
- Drainage Subarea Boundary
- 0126 Tributary Manhole Number
- City of West Hollywood (Sewer Pipes That are Modeled)
- City of West Hollywood Sewer (Sewer Pipes That are Not Modeled)
- CSDLAC Sewer (Sewer Pipes That are Modeled)
- CSDLAC Sewer (Sewer Pipes That are Not Modeled)
- City of Los Angeles Sewer
- 0147 Sewer Manhole

CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

TRUNK SEWER MAP SERVICE AREA 7

Boyle Engineering Corporation

SCALE 1"=400'

0' 200' 400'

LEGEND

- Service Area Boundary
- Drainage Subarea Boundary
- 0126 Tributary Manhole Number
- City of West Hollywood (Sewer Pipes That are Modeled)
- City of West Hollywood Sewer (Sewer Pipes That are Not Modeled)
- CSDLAC Sewer (Sewer Pipes That are Modeled)
- CSDLAC Sewer (Sewer Pipes That are Not Modeled)
- City of Los Angeles Sewer
- 0147 Sewer Manhole

CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

TRUNK SEWER MAP SERVICE AREA 8

Boyle Engineering Corporation

SCALE 1"=400'

0' 200' 400'

LEGEND

- Service Area Boundary
- Drainage Subarea Boundary
- 0126 Tributary Manhole Number
- City of West Hollywood (Sewer Pipes That are Modeled)
- City of West Hollywood Sewer (Sewer Pipes That are Not Modeled)
- CSDLAC Sewer (Sewer Pipes That are Modeled)
- CSDLAC Sewer (Sewer Pipes That are Not Modeled)
- City of Los Angeles Sewer
- 0147 Sewer Manhole

CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

TRUNK SEWER MAP SERVICE AREA 9

Boyle Engineering Corporation

CITY OF LOS ANGELES

SCALE 1"=500'

0' 250' 500'

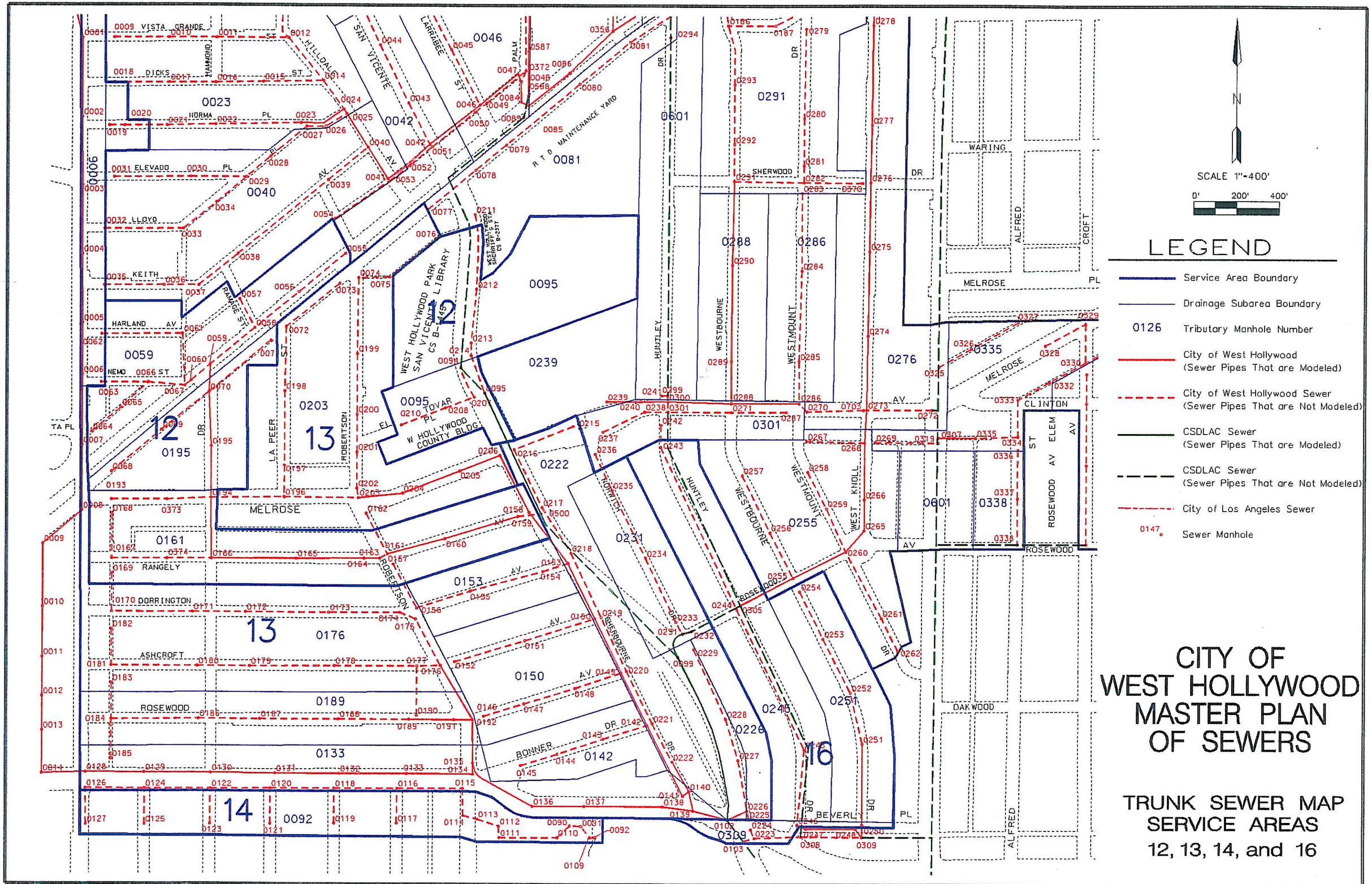
LEGEND

- Service Area Boundary
- Drainage Subarea Boundary
- 0126 Tributary Manhole Number
- City of West Hollywood (Sewer Pipes That are Modeled)
- City of West Hollywood Sewer (Sewer Pipes That are Not Modeled)
- CSDLAC Sewer (Sewer Pipes That are Modeled)
- CSDLAC Sewer (Sewer Pipes That are Not Modeled)
- City of Los Angeles Sewer
- 0147 Sewer Manhole

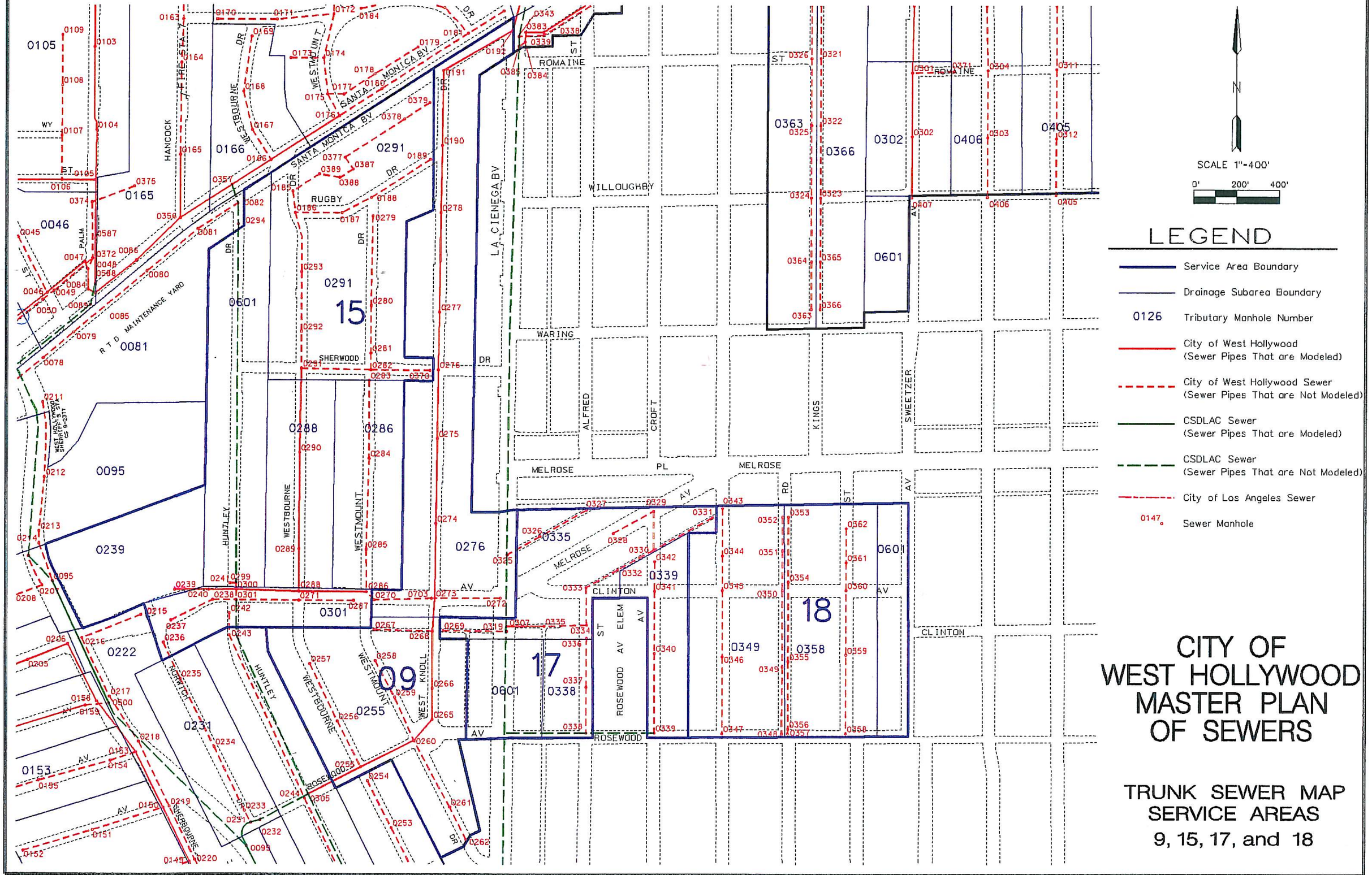
CITY OF WEST HOLLYWOOD MASTER PLAN OF SEWERS

TRUNK SEWER MAP SERVICE AREAS 10 and 11

Boyle Engineering Corporation



Boyle Engineering Corporation



Boyle Engineering Corporation

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
010144-010143	LEXINGTON DR	CI-359-8AB	1925	8.00	VCP	0.013	186	298.00	284.67	283.48	0.00640
010148-010147	ALLEY, SO OF STA MON	CI-359-8AB	1925	8.00	VCP	0.013	182	284.00	276.68	270.94	0.03160

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
020107-020108	HAMPTON AVE	CI-359-4A	1925	8.00	VCP	0.013	123	300.00	292.74	292.29	0.00400
020108-020109	HAMPTON/POINSETTIA	CI-359-4A	1925	8.00	VCP	0.013	237	299.70	290.30	285.19	0.02160
020109-020110	POINSETTIA	CI-359-4A	1925	8.00	VCP	0.013	245	293.40	285.09	280.19	0.02000
020110-020111	POINSETTIA	CI-359-4A	1925	8.00	VCP	0.013	246	288.00	280.09	275.17	0.02000
020111-020112	POINSETTIA	CI-359-4A	1925	8.00	VCP	0.013	271	283.60	275.07	271.28	0.01400
020112-020113	STA MONICA	CI-359-2	1925	8.00	VCP	0.013	204	281.00	271.28	269.99	0.00360
020113-020125	STA MONICA/FORMOSA	CI-359-1	1925	8.00	VCP	0.013	205	281.00	269.79	267.17	0.01280
020114-020113	STA MONICA	CI-359-2AB	1925	8.00	VCP	0.013	325	284.00	273.42	270.17	0.01000
020115-020114	STA MONICA	CI-359-2AB	1925	8.00	VCP	0.013	245	286.00	275.97	273.52	0.01000
020116-020117	DETROIT/FOUNTAIN	CI-359-3A	1925	8.00	VCP	0.013	235	306.00	298.27	291.95	0.02680
020117-020118	DETROIT	CI-359-3A	1925	8.00	VCP	0.013	296	299.50	291.85	285.93	0.02000
020118-020119	DETROIT	CI-359-3A	1925	8.00	VCP	0.013	314	293.50	285.83	280.31	0.01760
020119-020114	DETROIT	CI-359-3A	1925	8.00	VCP	0.013	314	288.00	280.21	274.33	0.01880
020120-020113	FORMOSA	CI-359-1	1925	8.00	VCP	0.013	311	285.00	277.44	269.99	0.02400
020121-020120	FORMOSA	CI-359-1	1925	8.00	VCP	0.013	316	290.50	282.85	277.54	0.01680
020122-020121	FORMOSA	CI-359-1	1925	8.00	VCP	0.013	297	298.50	291.03	282.95	0.02720
020123-020122	FORMOSA	CI-359-1	1925	8.00	VCP	0.013	234	305.50	298.05	291.13	0.02960
020124-020125	ALLEY, SO OF STA MON	CI-359-1B	1925	8.00	VCP	0.013	216	279.50	271.59	267.27	0.02000
020125-020126	FORMOSA	CI-359-1	1925	8.00	VCP	0.013	231	277.50	267.07	264.11	0.01280
020126-020127	FORMOSA	CI-359-1	1925	8.00	VCP	0.013	231	272.00	264.01	261.05	0.01280

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
030091-030092	VISTA	CI-359-7A	1925	8.00	VCP	0.013	181	312.00	304.44	299.66	0.02640
030092-030093	VISTA	CI-359-7A	1925	8.00	VCP	0.013	109	308.00	299.56	297.02	0.02320
030093-030094	VISTA	CI-359-7A	1925	8.00	VCP	0.013	288	304.50	296.92	290.24	0.02320
030094-030095	VISTA	CI-359-7A	1925	8.00	VCP	0.013	286	297.00	290.14	283.50	0.02320
030095-030096	VISTA	CI-359-7A	1925	8.00	VCP	0.013	288	291.00	283.40	275.91	0.02600
030096-030097	STA MONICA	CI-359-2	1925	8.00	VCP	0.013	172	285.50	275.38	274.11	0.00520
030097-030098	PLUMMER PARK		1925	8.00	VCP	0.013	72	284.58	274.44	274.11	0.00460
030098-030099	STA MONICA	CI-359-2	1925	8.00	VCP	0.013	271	284.00	274.01	272.60	0.00520
030099-030100	STA MONICA	CI-359-2	1967	12.00	VCP	0.013	301	282.40	272.40	270.58	0.00480
030100-030101	STA MONICA	CI-359-2	1967	10.00	VCP	0.013	123	281.20	270.48	266.72	0.03160
030101-030129	POINSETTIA	PC-7711-P2	1967	12.00	VCP	0.013	342	281.00	266.52	263.00	0.01040
030102-030101	STA MONICA	PC-7711,P3	1967	8.00	VCP	0.013	151	280.50	270.60	266.79	0.02600
030103-030102	STA MONICA	CI-359-2	1925	8.00	VCP	0.013	212	280.50	271.70	270.85	0.00400
030104-030102	POINSETTIA	CI-359-5	1925	8.00	VCP	0.013	321	284.50	276.49	271.35	0.01600
030105-030104	POINSETTIA	CI-359-5	1925	8.00	VCP	0.013	321	291.00	283.01	276.59	0.02000
030106-030105	POINSETTIA	CI-359-5	1925	8.00	VCP	0.013	319	299.00	289.75	283.11	0.02080
030128-030140	POINSETTIA	PC-7711-P2	1967	12.00	VCP	0.013	11	268.50	259.27	259.15	0.01600
030129-030128	POINSETTIA	PC-7711-P2	1967	12.00	VCP	0.013	334	275.00	262.90	259.47	0.01040
030130-030131	GREEN ACRE	JN-6632	1952	8.00	VCP	0.013	346	300.00	290.19	282.58	0.00200
030131-030132	GREEN ACRE	JN-6632	1952	8.00	VCP	0.013	336	291.00	282.48	275.09	0.02200
030132-030100	GREEN ACRE	JN-6632	1952	8.00	VCP	0.013	297	283.00	274.97	271.91	0.01160
030133-030134	FULLER	CI-359-6	1925	8.00	VCP	0.013	289	305.00	297.39	291.04	0.00200
030134-030135	FULLER	CI-359-6	1925	8.00	VCP	0.013	288	299.00	290.94	285.18	0.02000
030135-030136	FULLER	CI-359-6A	1925	8.00	VCP	0.013	288	293.00	285.08	279.90	0.01800
030136-030099	FULLER	CI-359-6A	1925	8.00	VCP	0.013	288	288.00	279.80	272.99	0.02320
030137-030138	FULLER	CI-359-P9C	1925	8.00	VCP	0.013	218	277.00	270.58	267.44	0.01440
030138-030139	FULLER	CI-359-P9C	1925	8.00	VCP	0.013	256	275.00	267.34	263.65	0.01440
030139-030140	ROMAINE	CI-359-P9A	1925	8.00	VCP	0.013	349	270.50	263.45	262.05	0.00400
030197-030097	PLUMMER PARK		1925	8.00	VCP	0.013	522	296.90	288.70	276.58	0.02320

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
040067-040068	ALLEY SO OF NORTON	CI-359-12A	1925	8.00	VCP	0.013	316	295.50	281.28	280.27	0.00320
040068-040069	ALLEY SO OF NORTON	CI-359-12A	1925	8.00	VCP	0.013	251	293.50	280.17	279.37	0.00320
040069-040070	ALLEY SO OF NORTON	CI-359-12A	1925	8.00	VCP	0.013	251	293.50	279.27	278.47	0.00320
040070-040071	ALLEY SO OF NORTON	CI-359-12A	1925	8.00	VCP	0.013	326	291.00	278.37	277.33	0.00320
040071-040072	ALLEY SO OF NORTON	CI-359-12A	1925	8.00	VCP	0.013	326	292.00	277.23	276.19	0.00320
040074-040073	NORTON	CI-359-14A	1925	8.00	VCP	0.013	326	294.50	285.20	283.11	0.00640
040075-040074	NORTON	CI-359-14A	1925	8.00	VCP	0.013	326	295.00	287.39	285.30	0.00640
040076-040075	NORTON	CI-359-14A	1925	8.00	VCP	0.013	251	298.00	289.10	287.49	0.00640
040077-040076	NORTON	CI-359-14A	1925	8.00	VCP	0.013	242	299.00	290.75	289.20	0.00640
040078-040077	SPAULDING	CI359-31BC	1925	8.00	VCP	0.013	126	302.00	293.96	290.95	0.02400
040079-040080	LEXINGTON	CI-359-15A	1925	8.00	VCP	0.013	277	310.50	302.31	299.54	0.01000
040080-040081	LEXINGTON	CI-359-15A	1925	8.00	VCP	0.013	216	307.50	299.44	297.54	0.00880
040081-040082	LEXINGTON	CI-359-15A	1925	8.00	VCP	0.013	326	305.00	297.44	294.57	0.00880
040082-040083	LEXINGTON	CI-359-15A	1925	8.00	VCP	0.013	326	303.50	294.47	291.60	0.00880
040085-040084	HAMPTON	CI-359-16A	1925	8.00	VCP	0.013	326	312.00	303.00	299.22	0.01160
040086-040085	HAMPTON	CI-359-16A	1925	8.00	VCP	0.013	326	314.50	306.88	303.10	0.01160
040087-040086	CURSON	CI-359-31A	1925	8.00	VCP	0.013	146	319.50	311.74	307.08	0.03200
040088-040086	HAMPTON	CI-359-16A	1925	8.00	VCP	0.013	251	318.50	309.99	306.98	0.01200
040089-040233	SPAULDING	CI359-31BC	1925	8.00	VCP	0.013	169	325.00	317.96	312.25	0.03400
040156-040157	ALLEY SO OF STA MONI	CI-359-11A	1925	8.00	VCP	0.013	224	281.00	272.83	272.11	0.00320
040157-040158	ALLEY SO OF STA MONI	CI-359-11A	1925	8.00	VCP	0.013	224	282.00	272.01	271.29	0.00320
040158-040159	ALLEY SO OF STA MONI	CI-359-11A	1925	8.00	VCP	0.013	303	282.50	271.19	270.22	0.00320
040160-040159	ALLEY SO OF STA MONI	CI-359-11B	1925	8.00	VCP	0.013	311	284.50	274.84	273.84	0.00320
040161-040160	ALLEY SO OF STA MONI	CI-359-11B	1925	8.00	VCP	0.013	311	293.00	275.94	274.94	0.00320
040162-040161	ALLEY SO OF STA MONI	CI-359-11B	1925	8.00	VCP	0.013	263	283.50	276.88	276.04	0.00320
040233-040088	HAMPTON	CI-359-16A	1925	8.00	VCP	0.013	242	320.50	312.03	310.09	0.00800

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
050036-050038	FAIRFAX	C-41296C46	1968	8.00	VCP	0.013	336	279.00	270.40	260.60	0.02920
050038-050040	FAIRFAX	C-41296C45	1968	8.00	VCP	0.013	346	269.00	260.50	251.90	0.02480
050040-050042	FAIRFAX	C-41296C45	1968	8.00	VCP	0.013	346	260.50	251.80	243.50	0.02400
050042-050409	WILLOUGHBY	C-41296C45	1968	8.00	VCP	0.013	57	255.00	243.40	242.51	0.01560
050151-050401	MARTEL	CI-359-21A	1925	8.00	VCP	0.013	145	275.00	267.36	264.80	0.01760
050152-050151	MARTEL	CI-359-21A	1925	8.00	VCP	0.013	238	279.00	271.65	267.46	0.01760
050154-050153	VISTA	JN-077975A	1965	8.00	VCP	0.013	191	274.00	266.12	265.36	0.00400
050155-050154	VISTA	JN-077975A	1965	8.00	VCP	0.013	187	279.00	270.39	266.22	0.02200
050163-050181	STANLEY	CI-359-25A	1925	8.00	VCP	0.013	285	282.00	270.60	263.87	0.02360
050164-050163	ALLEY,SO OF STA MONI	CI-359-11	1925	8.00	VCP	0.013	311	285.00	278.14	277.14	0.00320
050165-050164	ALLEY,SO OF STA MONI	CI-359-11	1925	8.00	VCP	0.013	263	286.50	279.08	278.24	0.00320
050169-050170	ORANGE GROVE	CI-359-29A	1925	8.00	VCP	0.013	342	280.50	272.95	263.12	0.02880
050170-050171	ORANGE GROVE	CI-359-29A	1925	8.00	VCP	0.013	346	271.00	263.02	256.38	0.01920
050171-050408	ORANGE GROVE	CI-359-29A	1925	8.00	VCP	0.013	348	264.00	256.28	249.60	0.01920
050172-050407	ODGEN	CI-359-28A	1925	8.00	VCP	0.013	348	265.50	257.44	250.20	0.02080
050173-050172	OGDEN	CI-359-28A	1925	8.00	VCP	0.013	346	273.00	264.74	257.54	0.02080
050174-050173	OGDEN	CI-359-28A	1925	8.00	VCP	0.013	344	281.00	273.91	264.84	0.02640
050175-050176	GENESEE	CI-359-27A	1925	8.00	VCP	0.013	344	283.00	274.82	266.30	0.02480
050176-050177	GENESEE	CI-359-27A	1925	8.00	VCP	0.013	346	274.00	266.20	257.90	0.02400
050177-050406	GENESEE	CI-359-27A	1925	8.00	VCP	0.013	348	266.00	257.80	250.70	0.02040
050178-050179	SPAULDING	CI-359-26A	1925	8.00	VCP	0.013	344	282.00	273.84	265.60	0.02400
050179-050180	SPAULDING	CI-359-26A	1925	8.00	VCP	0.013	346	273.00	265.50	258.72	0.01960
050180-050405	SPAULDING	CI-359-26A	1925	8.00	VCP	0.013	348	265.00	258.62	251.80	0.01960
050181-050182	STANLEY	CI-359-25A	1925	8.00	VCP	0.013	284	275.50	263.77	257.41	0.02240
050182-050183	STANLEY	CI-359-25A	1925	8.00	VCP	0.013	280	269.50	257.31	252.49	0.01720
050183-050404	STANLEY	CI-359-25A	1925	8.00	VCP	0.013	282	265.00	252.39	247.76	0.01640
050184-050403	CURSON	CI-359-24A	1925	8.00	VCP	0.013	348	266.50	258.39	252.40	0.01720
050185-050184	CURSON	CI-359-24A	1925	8.00	VCP	0.013	346	273.00	264.86	258.49	0.01840
050186-050185	CURSON	CI-359-24A	1925	8.00	VCP	0.013	344	279.50	271.96	264.96	0.02040
050187-050188	SIERRA BONITA	CI-359-23A	1925	8.00	VCP	0.013	236	282.00	273.94	268.29	0.02400
050188-050189	SIERRA BONITA	CI-359-23A	1925	8.00	VCP	0.013	236	276.00	268.19	263.00	0.02200
050189-050190	SIERRA BONITA	CI-359-23A	1925	8.00	VCP	0.013	281	271.50	260.01	254.05	0.02120
050190-050402	SIERRA BONITA	CI-359-23A	1925	8.00	VCP	0.013	282	265.00	253.95	250.00	0.01400

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
060026-060027	FOUNTAIN	CI-359-17A	1925	8.00	VCP	0.013	281	341.00	331.55	329.75	0.00640
060027-060028	FAIRFAX-CSDLAC	CI-359-30A	1925	8.00	VCP	0.013	6	338.00	329.21	327.65	0.26000
060034-060035	FAIRFAX-CSDLAC	CI-359-30A	1925	10.00	VCP	0.013	194	290.00	276.67	271.38	0.03080
060044-060045	ORANGE GROVE	CI-359-20A	1925	8.00	VCP	0.013	218	330.00	322.65	313.95	0.04000
060045-060046	ORANGE GROVE	CI-359-20A	1925	8.00	VCP	0.013	50	324.00	313.79	311.95	0.04000
060046-060047	ORANGE GROVE	CI-359-20A	1925	8.00	VCP	0.013	296	320.00	311.80	301.97	0.03320
060047-060048	ORANGE GROVE	CI-359-20A	1925	8.00	VCP	0.013	296	310.00	301.84	292.01	0.03320
060048-060049	ORANGE GROVE	CI-359-20A	1925	8.00	VCP	0.013	249	300.00	291.88	283.61	0.03320
060049-060051	ORANGE GROVE	PC-7711-P4	1967	8.00	VCP	0.013	37	289.50	283.12	278.64	0.12100
060050-060045	ORANGE GROVE	CI-359-20A	1925	8.00	VCP	0.013	60	320.00	316.19	313.79	0.04000
060051-060034	STA MONICA	PC-7711-P4	1967	12.00	VCP	0.013	352	289.50	278.14	277.03	0.00320
060052-060051	STA MONICA	PC-7711-P4	1967	12.00	VCP	0.013	367	290.50	279.43	278.24	0.00320
060053-060052	STA MONICA	PC-7711-P4	1967	8.00	VCP	0.013	7	290.50	279.70	279.63	0.00960
060054-060053	STA MONICA	MAP 36A	1925	8.00	VCP	0.013	328	290.50	281.25	280.20	0.00320
060055-060054	GENESEE	CI-359-18A	1925	8.00	VCP	0.013	310	299.00	289.99	281.45	0.02760
060056-060055	GENESEE	CI-359-18A	1925	8.00	VCP	0.013	316	308.50	300.22	290.11	0.03200
060057-060056	GENESEE	CI-359-18A	1925	8.00	VCP	0.013	321	322.00	312.05	300.37	0.03640
060058-060057	GENESEE	CI-359-18A	1925	8.00	VCP	0.013	231	330.00	321.89	312.21	0.04200
060059-060060	OGDEN DR	CI-359-19A	1925	8.00	VCP	0.013	319	328.50	319.59	310.03	0.03000
060060-060061	OGDEN DR	CI-359-19A	1925	8.00	VCP	0.013	322	318.50	309.90	298.95	0.03400
060061-060062	OGDEN DR	CI-359-19A	1925	8.00	VCP	0.013	216	307.00	298.82	292.08	0.03120
060062-060063	OGDEN DR	PC-7711-P4	1967	8.00	VCP	0.013	260	300.00	291.96	284.89	0.02720
060063-060052	OGDEN DR	PC-7711-P4	1967	8.00	VCP	0.013	36	291.00	284.07	279.91	0.11560
060064-060057	HAMPTON	CI-359-16B	1925	8.00	VCP	0.013	351	321.50	313.80	312.40	0.00400
060065-060056	LEXINGTON	CI-359-15B	1925	8.00	VCP	0.013	351	311.00	302.94	300.42	0.00720
060066-060055	NORTON	CI-359-14B	1925	8.00	VCP	0.013	351	299.50	291.59	290.19	0.00400
060166-060232	ALLEY SO OF STA MONI	CI-359-11D	1925	8.00	VCP	0.013	263	286.00	279.68	278.63	0.00400
060167-060168	ALLEY SO OF STA MONI	CI-359-11D	1925	8.00	VCP	0.013	280	284.00	277.19	276.07	0.00400
060168-060035	ALLEY SO OF STA MONI	CI-359-11D	1925	8.00	VCP	0.013	16	283.00	276.06	276.00	0.00400
060232-060167	ALLEY SO OF STA MONI	CI-359-11D	1925	8.00	VCP	0.013	311	285.00	278.53	277.29	0.00400

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
070001-070002	LAUREL	CI-142-18A	1925	8.00	VCP	0.013	324	397.00	389.62	371.47	0.05600
070002-070003	LAUREL	CI-142-18A	1925	8.00	VCP	0.013	326	378.00	371.25	352.99	0.05600
070003-070004	LAUREL	CI-142-18A	1925	8.00	VCP	0.013	326	361.00	352.77	335.17	0.05400
070004-070005	LAUREL	CI-142-18A	1925	8.00	VCP	0.013	315	344.00	334.97	319.90	0.04800
070005-070006	LAUREL	CI-142-18A	1925	8.00	VCP	0.013	312	328.00	319.70	304.10	0.05000
070006-070007	LAUREL	CI-142-18A	1925	8.00	VCP	0.013	312	312.00	303.90	288.30	0.05000
070007-070008	LAUREL	CI-142-20A	1960	8.00	VCP	0.013	7	297.00	287.04	286.80	0.03480
070008-070018	NORTON	PC-6051-P7	1962	15.00	VCP	0.013	122	297.00	285.96	285.48	0.00400
070009-070010	LAUREL	CI-142-14B	1925	8.00	VCP	0.013	180	291.50	281.35	274.10	0.04040
070010-070011	STA MONICA	CI-142-8A	1925	8.00	VCP	0.013	283	284.00	273.83	272.02	0.00640
070011-070386	STA MONICA	CI-142-8A	1925	8.00	VCP	0.013	315	282.00	271.92	269.90	0.00640
070012-070500	STA MONICA	CI-142-8A	1925	8.00	VCP	0.013	216	286.00	276.74	275.44	0.00600
070013-070012	STA MONICA	CI-142-8A	1925	8.00	VCP	0.013	301	288.00	278.65	276.84	0.00600
070014-070012	HAYWORTH	CI-142-14A	1925	8.00	VCP	0.013	180	293.00	283.98	276.94	0.03920
070015-070016	NORTON	CI-142-20A	1925	8.00	VCP	0.013	302	299.00	290.31	288.88	0.00360
070016-070017	NORTON	CC-9134-P2	1976	10.00	VCP	0.013	220	299.00	288.86	288.07	0.00360
070017-070007	NORTON	CC-9134-P2	1976	10.00	VCP	0.013	217	299.00	287.89	287.11	0.00360
070018-070291	NORTON	PC-6051-P7	1962	15.00	VCP	0.013	324	296.50	285.48	284.19	0.00400
070019-070016	HAYWORTH	CI-142-19A	1925	8.00	VCP	0.013	312	312.00	303.93	289.26	0.04600
070020-070019	HAYWORTH	CI-142-19A	1925	8.00	VCP	0.013	312	326.00	317.84	304.11	0.04400
070021-070020	HAYWORTH	CI-142-19A	1925	8.00	VCP	0.013	315	341.00	331.84	318.02	0.04400
070022-070021	FOUNTAIN	CI-142-21D	1925	8.00	VCP	0.013	226	342.00	333.39	332.04	0.00600
070023-070021	HAYWORTH	CI-142-19A	1925	8.00	VCP	0.013	326	359.00	350.30	332.04	0.05600
070024-070023	HAYWORTH	CI-142-19A	1925	8.00	VCP	0.013	326	375.00	366.15	350.50	0.04800
070025-070024	HAYWORTH	CI-142-19A	1925	8.00	VCP	0.013	324	390.00	381.91	366.38	0.04800
070134-070135	SUNSET	CI-142-23B	1925	8.00	VCP	0.013	279	395.00	387.12	380.87	0.02240
070135-070366	SUNSET	PC-6051-P4	1962	10.00	VCP	0.013	32	391.00	380.89	380.53	0.08800
070136-070137	SUNSET	PC-6051-P4	1962	12.00	VCP	0.013	248	384.00	373.49	370.26	0.01320
070137-070138	SUNSET	PC-6051-P4	1962	15.00	VCP	0.013	262	383.50	370.01	367.74	0.00880
070138-070140	SUNSET	PC-6051-P3	1962	15.00	VCP	0.013	111	387.00	367.64	366.57	0.01000
070139-070364	SUNSET/SWEETZER	P152	1955	8.00	VCP	0.013	82	402.00	394.40	379.23	0.18440
070140-070365	SWEETZER	PC-6051-P3	1962	12.00	VCP	0.013	81	380.00	366.37	347.09	0.25120
070141-070365	SUNSET		1925	12.00	VCP	0.013	197	394.43	368.14	347.20	0.10620
070142-070141	SUNSET	CI-142-13C	1925	8.00	VCP	0.013	92	396.88	377.83	368.21	0.10390
070143-070142	SUNSET	CI-142-13C	1925	8.00	VCP	0.013	188	396.00	384.01	378.03	0.03200
070144-070143	SUNSET	CI-142-13C	1925	8.00	VCP	0.013	226	400.00	389.06	386.80	0.01000
070145-070144	SUNSET	CI-142-13C	1925	8.00	VCP	0.013	76	400.00	390.36	389.60	0.01000
070255-070299	SWEETZER	PC-5480-P2	1961	15.00	VCP	0.013	315	273.00	260.09	250.14	0.03160
070256-070255	NORTON/SWEETZER	PC-5480-P2	1961	14.00	VCP	0.013	37	275.50	264.36	260.38	0.10680
070257-070255	SWEETZER	PC-6051-P2	1962	12.00	VCP	0.013	330	285.00	275.73	260.67	0.04560
070258-070257	SWEETZER	PC-6051-P2	1962	12.00	VCP	0.013	336	300.00	290.45	275.93	0.04320
070259-070258	SWEETZER	PC-6051-P2	1962	12.00	VCP	0.013	296	315.00	304.84	290.70	0.04760
070260-070259	FOUNTAIN	CI-142-13B	1925	8.00	VCP	0.013	290	321.00	312.74	306.48	0.02160
070261-070259	SWEETZER	PC-6051-P3	1962	12.00	VCP	0.013	36	315.50	306.34	305.04	0.04000
070262-070261	SWEETZER	PC-6051-P3	1962	12.00	VCP	0.013	350	331.50	320.06	306.50	0.03920
070263-070262	DE LONGPRE	CI-142-13C	1925	8.00	VCP	0.013	309	338.00	328.00	320.50	0.02400
070264-070262	SWEETZER	PC-6051-P3	1962	12.00	VCP	0.013	115	341.00	331.06	320.50	0.09560
070265-070264	DE LONGPRE	CI-142-22A	1925	8.00	VCP	0.013	136	345.00	336.58	332.09	0.03320
070266-070265	DE LONGPRE	CI-142-22A	1925	8.00	VCP	0.013	132	346.00	339.48	336.70	0.02100
070267-070268	HARPER	CI-142-15A	1925	8.00	VCP	0.013	75	384.00	380.09	375.91	0.05600
070268-070269	HARPER	CI-142-15A	1925	8.00	VCP	0.013	214	379.00	375.71	374.86	0.00400
070269-070270	HARPER	CI-142-15A	1925	8.00	VCP	0.013	268	392.00	374.61	353.39	0.07920

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
070270-070271	HARPER	CI-142-15A	1925	8.00	VCP	0.013	333	362.00	353.19	331.21	0.06600
070271-070272	HARPER	CI-142-15A	1925	8.00	VCP	0.013	381	341.00	331.01	313.94	0.04480
070272-070274	HARPER	CI-142-15A	1925	8.00	VCP	0.013	314	324.00	313.76	299.32	0.04600
070273-070272	FOUNTAIN	CI-142-23E	1925	8.00	VCP	0.013	271	333.00	323.76	314.56	0.03400
070274-070275	HARPER	CI-142-15A	1925	8.00	VCP	0.013	312	310.00	299.14	286.91	0.03920
070275-070276	HARPER	CI-142-15A	1925	8.00	VCP	0.013	312	298.00	286.73	273.00	0.04400
070276-070297	NORTON	PC-6051-P6	1962	15.00	VCP	0.013	346	283.00	271.74	265.56	0.01800
070277-070276	NORTON	PC-6051-P6	1962	15.00	VCP	0.013	230	287.00	275.87	271.74	0.01800
070278-070277	NORTON	PC-6051-P6	1962	15.00	VCP	0.013	211	290.50	279.62	275.87	0.01800
070279-070278	HAVENHURST	CI-142-16A	1925	8.00	VCP	0.013	312	306.00	297.08	281.10	0.05120
070280-070279	HAVENHURST	CI-142-16A	1925	8.00	VCP	0.013	312	322.00	312.38	297.28	0.04840
070281-070280	HAVENHURST	CI-142-16A	1925	8.00	VCP	0.013	315	338.00	327.78	312.58	0.04840
070282-070281	HAVENHURST	CI-142-16A	1925	8.00	VCP	0.013	326	352.00	343.63	327.98	0.04800
070283-070282	HAVENHURST	CI-142-16A	1925	8.00	VCP	0.013	326	366.00	358.16	343.82	0.04400
070284-070283	HAVENHURST	CI-142-16A	1925	8.00	VCP	0.013	324	384.00	374.53	358.34	0.05000
070285-070286	CRESCENT HEIGHTS	CI-142-17A	1925	8.00	VCP	0.013	324	394.00	385.73	370.46	0.04720
070286-070287	CRESCENT HEIGHTS	CI-142-17A	1925	8.00	VCP	0.013	326	379.00	370.27	353.97	0.50000
070287-070288	CRESCENT HEIGHTS	CI-142-17A	1925	8.00	VCP	0.013	326	363.00	353.75	334.71	0.05840
070288-070289	CRESCENT HEIGHTS	CI-142-17A	1925	8.00	VCP	0.013	315	344.00	334.49	318.92	0.04960
070289-070290	CRESCENT HEIGHTS	CI-142-17A	1925	8.00	VCP	0.013	312	328.00	318.71	301.49	0.05520
070290-070291	CRESCENT HEIGHTS	CI-142-17A	1925	8.00	VCP	0.013	312	311.00	301.28	286.30	0.04800
070291-070292	NORTON	PC-6051-P7	1962	15.00	VCP	0.013	239	296.50	284.15	281.78	0.01000
070292-070278	NORTON	PC-6051-P7	1962	15.00	VCP	0.013	213	293.00	281.78	279.67	0.01000
070293-070294	HAVENHURST	CI-142-14C	1925	8.00	VCP	0.013	180	284.00	274.39	265.85	0.04760
070294-070295	STA MONICA	CI-142-14C	1925	8.00	VCP	0.013	220	276.00	265.55	262.28	0.01440
070295-070296	STA MONICA	CI-142-14C	1925	8.00	VCP	0.013	212	272.00	262.28	259.23	0.01440
070296-070298	STA MONICA	CI-142-14C	1925	8.00	VCP	0.013	214	269.00	259.13	255.36	0.01760
070297-070256	NORTON	PC-6051-P6	1962	15.00	VCP	0.013	52	276.00	265.56	264.62	0.01800
070298-070299	STA MONICA	CI-142-14C	1925	8.00	VCP	0.013	210	265.00	255.26	251.29	0.01760
070299-070317	STA MONICA/SWEETZER	PC-5480-P2	1961	15.00	VCP	0.013	53	261.00	249.94	246.51	0.06520
070317-070318	STA MONICA	PC-5728-P4	1961	15.00	VCP	0.013	249	260.00	246.24	242.27	0.01600
070318-070330	STA MONICA	PC-5728-P4	1961	15.00	VCP	0.013	252	256.00	242.27	238.27	0.01600
070330-070331	STA MONICA	PC-5728-P4	1961	15.00	VCP	0.013	344	248.00	238.27	232.80	0.01600
070331-070332	ORLANDO	PC-5728-P3	1961	15.00	VCP	0.013	128	242.00	232.70	228.92	0.03040
070332-070334	ALLEY	PC-5728-P3	1961	15.00	VCP	0.013	352	238.00	228.81	223.92	0.01400
070333-070335	ALLEY, SO OF STA MON	CI-142-6F	1925	8.00	VCP	0.013	322	242.00	232.29	226.52	0.01800
070334-070336	ALLEY	PC-5728-P2	1961	15.00	VCP	0.013	243	233.00	223.92	220.52	0.01400
070335-070337	ALLEY, SO OF STA MON	CI-142-6F	1925	8.00	VCP	0.013	294	236.00	226.38	220.86	0.01880
070336-070338	ALLEY	PC-5728-P2	1961	15.00	VCP	0.013	350	230.00	220.52	215.62	0.01400
070337-070339	ALLEY, SO OF STA MON	CI-142-6F	1925	8.00	VCP	0.013	320	230.00	220.76	219.48	0.00400
070338-070383	ALLEY	PC-5728-P2	1961	15.00	VCP	0.013	115	225.00	215.62	214.04	0.01400
070339-070343	ALLEY, SO OF STA MON	CI-142-6F	1925	8.00	VCP	0.013	124	229.00	219.38	218.88	0.00400
070364-070138	SUNSET	PC-6051-P5	1962	10.00	VCP	0.013	90	388.00	375.96	368.32	0.08880
070365-070264	SWEETZER	PC-6051-P3	1962	12.00	VCP	0.013	149	364.00	346.32	331.55	0.10160
070366-070136	SUNSET	PC-6051-P4	1962	12.00	VCP	0.013	267	392.00	380.10	373.59	0.02480
070383-070384	LA CIENEGA	PC-5728-P2	1961	15.00	VCP	0.013	66	223.00	213.94	213.08	0.01400
070384-070385	LA CIENEGA	PC-5728-P2	1961	15.00	VCP	0.013	21	223.00	212.97	212.73	0.01400
070386-070294	STA MONICA	CI-142-8A	1925	8.00	VCP	0.013	288	280.00	269.80	265.65	0.01440
070500-070010	STA MONICA	CI-142-8A	1925	8.00	VCP	0.013	221	286.00	275.34	273.93	0.00640
070700-070009	LAUREL	PC-5576-P2	1960	8.00	VCP	0.013	150	297.00	287.04	281.61	0.03480

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
080194-080195	STA MONICA	CI-142-2B	1925	8.00	VCP	0.013	100	283.00	273.31	272.31	0.01000
080195-080230	LAUREL	CI-142-2B	1925	8.00	VCP	0.013	138	282.00	272.18	268.59	0.02600
080196-080229	ALLEY	CI-142-6D	1925	8.00	VCP	0.013	210	276.00	270.90	268.80	0.01000
080197-080404	CRESCENT HEIGHT	CI-142-2C	1962	8.00	VCP	0.013	192	263.00	255.02	249.87	0.02680
080198-080230	ALLEY	CI-142-6C	1925	8.00	VCP	0.013	318	279.00	274.06	271.52	0.00800
080199-080198	ALLEY	CI-142-6C	1925	8.00	VCP	0.013	231	281.50	276.01	274.16	0.00800
080200-080201	EDINBURGH	CI-142-2A	1925	8.00	VCP	0.013	260	278.00	268.86	260.87	0.03080
080201-080402	EDINBURGH	CI-142-2A	1925	8.00	VCP	0.013	192	269.00	260.75	255.30	0.02840
080202-080203	ALLEY,SO OF STA MONI	CI-142-6B	1925	8.00	VCP	0.013	226	282.00	276.98	274.00	0.01320
080203-080204	HAYWORTH	CI-142-1A	1925	8.00	VCP	0.013	298	282.00	273.54	263.40	0.03400
080204-080231	HAYWORTH	CI-142-1A	1925	8.00	VCP	0.013	260	272.00	263.28	256.00	0.02800
080205-080401	HAYWORTH	CI-142-1A	1925	8.00	VCP	0.013	278	256.00	244.80	243.13	0.00600
080229-080197	CRESCENT HEIGHTS	CI-142-2C	1925	8.00	VCP	0.013	303	274.00	266.17	255.14	0.03640
080230-080233	LAUREL	CI-142-2B	1925	8.00	VCP	0.013	303	278.00	268.46	257.59	0.03600
080231-080205	HAYWORTH	CI-142-1A	1925	8.00	VCP	0.013	295	264.00	252.54	244.90	0.02600
080233-080403	LAUREL	CI-142-2B	1925	8.00	VCP	0.013	192	266.00	257.46	251.70	0.03000
080300-080301	SWEETZER	CI-142-4B	1925	8.00	VCP	0.013	286	248.00	238.39	229.35	0.03160
080301-080302	SWEETZER	CI-142-4B	1925	8.00	VCP	0.013	285	237.50	229.24	222.86	0.02240
080302-080407	SWEETZER	CI-142-4B	1962	8.00	VCP	0.013	289	231.00	222.76	216.40	0.02200
080303-080406	HARPER	CI-142-119	1962	8.00	VCP	0.013	288	236.00	227.80	221.00	0.02360
080304-080303	HARPER	CI-142-4A	1925	8.00	VCP	0.013	286	243.00	234.76	227.90	0.02400
080305-080304	HARPER	CI-142-4A	1925	8.00	VCP	0.013	261	252.00	243.35	234.88	0.03240
080306-080305	HARPER	CI-142-4A	1925	8.00	VCP	0.013	263	260.00	252.00	243.48	0.03240
080307-080367	ALLEY,SO OF STA MONI	CI-142-6E	1925	8.00	VCP	0.013	337	262.00	255.12	250.80	0.01280
080308-080307	ALLEY,SO OF STA MONI	CI-142-6E	1925	8.00	VCP	0.013	318	266.00	259.29	255.22	0.01280
080309-080310	LA JOLLA	CI-142-3B	1925	8.00	VCP	0.013	260	265.00	256.78	248.16	0.03320
080310-080311	LA JOLLA	CI-142-3B	1925	8.00	VCP	0.013	260	257.00	248.03	239.92	0.03120
080311-080312	LA JOLLA	CI-142-3B	1925	8.00	VCP	0.013	292	248.00	239.82	233.41	0.02200
080312-080405	LA JOLLA	CI-142-117	1962	8.00	VCP	0.013	282	242.00	233.31	226.20	0.02520
080313-080347	HAVENHURST	CI-142-3A	1925	8.00	VCP	0.013	260	260.00	251.20	242.98	0.03160
080314-080313	HAVENHURST	CI-142-3A	1925	8.00	VCP	0.013	260	268.00	259.64	251.33	0.03200
080315-080308	ALLEY,SO OF STA MONI	CI-142-6E	1925	8.00	VCP	0.013	318	270.00	263.46	259.39	0.01280
080316-080315	ALLEY,SO OF STA MONI	CI-142-6E	1925	8.00	VCP	0.013	250	274.00	266.76	263.56	0.01280
080319-080320	KINGS	JN6347-16B	1953	8.00	VCP	0.013	281	250.00	238.49	231.07	0.02640
080320-080321	KINGS	JN6347-16B	1953	8.00	VCP	0.013	254	241.00	230.96	224.26	0.02640
080321-080322	KINGS	JN6347-16B	1953	8.00	VCP	0.013	328	234.00	224.16	216.54	0.02320
080322-080323	KINGS	JN-6347	1953	8.00	VCP	0.013	315	226.00	216.44	209.12	0.02320
080323-080365	KINGS	JN-6347	1953	8.00	VCP	0.013	287	219.00	209.02	203.97	0.01760
080324-080364	KINGS	CI-142-5A	1925	8.00	VCP	0.013	302	219.00	210.64	205.56	0.01680
080325-080324	KINGS	CI-142-5A	1925	8.00	VCP	0.013	321	227.00	218.44	210.74	0.02400
080326-080325	KINGS	CI-142-5A	1925	8.00	VCP	0.013	323	234.00	225.64	218.54	0.02200
080327-080326	KINGS	CI-142-5A	1925	8.00	VCP	0.013	260	242.00	233.33	225.74	0.02920
080328-080327	KINGS	CI-142-5A	1925	8.00	VCP	0.013	268	250.00	241.15	233.43	0.02880
080364-080363	KINGS	CI-142-5A	1925	8.00	VCP	0.013	228	212.00	205.46	201.17	0.01880
080365-080366	KINGS	JN-6347	1953	8.00	VCP	0.013	248	213.00	203.87	199.51	0.01760
080367-080300	SWEETZER	CI-142-4B	1925	8.00	VCP	0.013	284	256.00	247.47	238.52	0.03160
080371-080301	ROMAINE	CI-142-6A	1925	8.00	VCP	0.013	179	240.00	233.16	229.60	0.02000

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
090100-090234	DE LONGPRE	PC87-01-P2	1987	8.00	VCP	0.013	73	352.50	346.28	346.00	0.00400
090101-090217		CI-142-28C	1925	8.00	VCP	0.013	106	345.00	341.20	335.31	0.05560
090127-090128	SUNSET/LA CIENEGA	CI-142-24B	1925	8.00	VCP	0.013	64	410.00	398.93	398.29	0.01000
090128-090131	SUNSET	CI142-24BC	1925	8.00	VCP	0.013	203	408.00	398.19	396.81	0.00680
090129-090128	SUNSET/LA CIENEGA	CI142-24BC	1925	8.00	VCP	0.013	33	411.00	403.34	398.51	0.14600
090130-090129	SUNSET/LA CIENEGA	CI142-24BC	1925	8.00	VCP	0.013	49	431.00	424.43	404.34	0.41000
090131-090132	SUNSET	CI142-24BC	1925	8.00	VCP	0.013	296	407.00	396.65	392.39	0.01440
090132-090133	SUNSET	CI142-24BC	1925	8.00	VCP	0.013	249	403.00	392.29	388.80	0.01400
090133-090233	SUNSET/OLIVE	CI-142-24B	1925	8.00	VCP	0.013	60	398.00	388.51	380.59	0.13200
090146-090147		CI-142-27D	1925	8.00	VCP	0.013	326	347.00	341.91	334.00	0.02440
090147-090148		CI-142-27D	1925	8.00	VCP	0.013	108	339.00	333.59	317.31	0.15040
090148-090149	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	265	330.00	316.98	310.32	0.02520
090149-090354	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	214	323.00	310.21	307.20	0.01400
090150-090354	HOLLOWAY	CI-142-27C	1925	8.00	VCP	0.013	197	339.00	326.88	312.00	0.07520
090151-090150	HOLLOWAY	CI-142-27C	1925	8.00	VCP	0.013	94	350.00	337.60	327.26	0.11000
090152-090151	HOLLOWAY	CI-142-27C	1925	8.00	VCP	0.013	214	361.00	349.13	337.92	0.05240
090153-090152	HOLLOWAY	CI-142-27C	1925	8.00	VCP	0.013	215	365.00	352.71	349.27	0.01600
090154-090156	HOLLOWAY	CI142-27AB	1925	8.00	VCP	0.013	286	341.00	329.04	315.54	0.04720
090155-090156	WESTMOUNT	CI142-27AB	1925	8.00	VCP	0.013	86	332.00	320.01	315.54	0.05200
090156-090355	WESTMOUNT	CI142-27AB	1925	8.00	VCP	0.013	176	328.00	315.26	302.80	0.07080
090157-090355	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	200	316.00	302.77	296.37	0.03200
090190-090278	WEST KNOLL	PC-6510-P5	1964	18.00	VCP	0.013	350	213.00	202.94	187.50	0.06000
090191-090190	WEST KNOLL	PC-6510-P5	1964	18.00	VCP	0.013	334	232.00	218.33	202.94	0.06000
090192-090191	STA MONICA		1964	18.00	VCP	0.013	326	233.65	221.55	218.39	0.00970
090193-090192	LA CIENEGA/STA MONIC		1964	15.00	VCP	0.013	200	235.00	225.80	222.05	0.01880
090194-090193	LA CIENEGA	PC-6510-P6	1964	15.00	VCP	0.013	349	262.00	248.35	226.05	0.06440
090195-090341	LA CIENEGA-CSDLAC	CI-142-29A	1925	8.00	VCP	0.013	356	260.00	248.11	227.60	0.05760
090196-090194	LA CIENEGA	PC-6510-P6	1964	15.00	VCP	0.013	25	262.00	250.55	248.76	0.08000
090197-090194	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	191	274.00	261.15	249.87	0.05920
090198-090197	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	220	286.00	273.52	261.38	0.05520
090199-090198	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	215	292.00	283.95	273.73	0.04760
090200-090196	HOLLOWAY	PC-6510-P6	1964	12.00	VCP	0.013	214	275.00	260.84	250.84	0.04760
090201-090200	HOLLOWAY	PC-6510-P6	1964	12.00	VCP	0.013	180	285.00	272.18	261.06	0.06320
090202-090201	ALTA LOMA/HOLLOWAY	PC-6510-P6	1964	8.00	VCP	0.013	28	287.00	279.26	273.16	0.26280
090203-090202	ALTA LOMA	CI-142-26A	1925	8.00	VCP	0.013	296	314.00	305.83	276.00	0.10080
090204-090203	ALTA LOMA	CI-142-26A	1925	8.00	VCP	0.013	296	343.00	336.06	306.23	0.10080
090205-090204	ALTA LOMA	CI-142-26A	1925	8.00	VCP	0.013	240	373.50	365.24	336.50	0.12000
090206-090207	FOUNTAIN	CI-142-28A	1925	8.00	VCP	0.013	122	371.00	365.83	350.50	0.12800
090207-090208	FOUNTAIN	CI-142-28A	1925	8.00	VCP	0.013	142	355.00	349.97	333.40	0.11680
090208-090209	FOUNTAIN	CI-142-28A	1925	8.00	VCP	0.013	107	337.00	333.04	327.05	0.05600
090209-090358	FOUNTAIN	PC-7434-P2	1925	8.00	VCP	0.013	170	331.00	326.55	304.42	0.00000
090210-090196	LA CIENEGA	PC-6510	1964	12.00	VCP	0.013	336	288.00	274.94	250.87	0.07200
090211-090195	LA CIENEGA-CSDLAC	CI-142	1925	8.00	VCP	0.013	121	267.00	253.68	248.34	0.04400
090212-090211	LA CIENEGA-CSDLAC	CI-142	1925	8.00	VCP	0.013	312	293.00	279.13	253.92	0.08080
090213-090359	LA CIENEGA-CSDLAC	CI-142	1925	8.00	VCP	0.013	259	350.00	343.12	305.46	0.14520
090214-090213	LA CIENEGA-CSDLAC	CI-142	1925	8.00	VCP	0.013	224	385.00	376.62	343.70	0.14680
090215-090216		CI-142-28C	1925	8.00	VCP	0.013	235	361.00	357.24	356.30	0.00400
090216-090217		CI-142-28B	1961	8.00	VCP	0.013	157	361.00	356.07	337.25	0.13200
090217-090360		PC-5755-P2	1961	8.00	VCP	0.013	15	340.00	336.50	332.51	0.26600
090218-090361	FOUNTAIN	CI142-21AB	1925	8.00	VCP	0.013	139	314.00	307.18	306.00	0.00840
090219-090359	FOUNTAIN	PC-5504-P2	1961	12.00	VCP	0.013	238	314.00	305.92	305.16	0.00320
090220-090361	FOUNTAIN	CI142-21AB	1925	8.00	VCP	0.013	216	319.00	312.03	306.00	0.02800

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
090221-090219	FOUNTAIN	PC-5504--2	1961	12.00	VCP	0.013	343	318.00	307.02	305.92	0.00320
090222-090223	HOLLOWAY	CI-142-9AB	1925	8.00	VCP	0.013	244	255.00	244.02	232.00	0.04920
090223-090226	HOLLOWAY	CI-142-9AB	1925	8.00	VCP	0.013	67	243.00	231.86	231.03	0.01240
090224-090223	HACIENDA	CI-142-9C	1925	8.00	VCP	0.013	266	260.00	247.50	232.07	0.05800
090225-090224	HACIENDA	CI-142-9C	1925	8.00	VCP	0.013	266	284.00	274.00	247.93	0.09800
090226-090227	HOLLOWAY/STA MONICA	CI-142-7A	1925	15.00	VCP	0.013	121	243.00	230.23	229.65	0.00480
090227-090340	SANTA MONICA	CI-142-7A	1925	15.00	VCP	0.013	244	239.00	229.44	228.27	0.00480
090228-090226	STA MONICA	CI-142-9AB	1925	15.00	VCP	0.013	285	242.00	231.80	230.43	0.00480
090229-090228	OLIVE	CI-142-14	1925	8.00	VCP	0.013	306	253.00	243.54	232.40	0.03640
090230-090229	OLIVE	CI-142-14	1925	8.00	VCP	0.013	306	281.00	271.87	243.84	0.09160
090231-090221	FOUNTAIN	PC-5504--2	1961	12.00	VCP	0.013	173	319.00	307.57	307.02	0.00320
090232-090231	OLIVE	CI-142	1925	8.00	VCP	0.013	299	256.00	347.91	307.96	0.13400
090233-090232	OLIVE	CI-142	1925	8.00	VCP	0.013	239	390.00	379.46	347.91	0.13200
090233-090232	OLIVE	CI-142	1925	8.00	VCP	0.013	242	398.00	380.50	348.52	0.13200
090234-090235	DE LONGPRE	CI-142-22	1925	8.00	VCP	0.013	322	353.00	345.79	341.93	0.01200
090235-090362	DE LONGPRE	CI-142-22	1925	8.00	VCP	0.013	171	350.00	341.68	323.56	0.10600
090236-090362		CI-142-21C	1925	8.00	VCP	0.013	290	332.50	328.88	326.00	0.01000
090237-090238	FOUNTAIN	CI-142-12B	1925	8.00	VCP	0.013	318	315.00	304.80	301.23	0.01120
090238-090246	FOUNTAIN	CI-142-12B	1925	8.00	VCP	0.013	218	312.00	301.13	298.71	0.01120
090239-090240	KINGS	CI-142-11A	1925	8.00	VCP	0.013	327	304.00	293.35	263.18	0.09240
090240-090241	KINGS	CI-142-11A	1925	8.00	VCP	0.013	316	272.00	262.89	248.35	0.04600
090241-090242	KINGS	CI-142-11A	1925	8.00	VCP	0.013	316	256.00	248.20	238.59	0.03040
090242-090228	STA MONICA	CI-142-8A	1925	10.00	VCP	0.013	358	249.00	238.34	232.33	0.01680
090243-090242	STA MONICA	CI-142-8A	1925	10.00	VCP	0.013	368	256.00	244.92	238.44	0.01760
090244-090329	FLORES	CI-142-12	1925	8.00	VCP	0.013	291	275.00	266.40	256.04	0.03560
090245-090244	FLORES	CI-142-12	1925	8.00	VCP	0.013	290	288.00	279.32	266.56	0.04400
090246-090245	FLORES	CI-142-12	1925	8.00	VCP	0.013	290	310.00	298.50	279.62	0.06520
090247-090246	FLORES	CI-142-12	1925	8.00	VCP	0.013	388	350.00	335.50	299.19	0.09360
090248-090249	FLORES	JN-6347	1955	8.00	VCP	0.013	240	305.00	295.48	279.74	0.06560
090249-090250	FLORES	JN-6347	1955	8.00	VCP	0.013	271	287.50	279.52	267.27	0.04520
090250-090251	FLORES	JN-6347	1955	8.00	VCP	0.013	313	276.00	267.11	256.22	0.03480
090251-090252	FLORES	JN-6347	1955	8.00	VCP	0.013	289	264.00	256.08	245.33	0.03720
090252-090243	STA MONICA	CI-142-8A	1925	10.00	VCP	0.013	13	255.00	245.04	245.02	0.01760
090253-090252	STA MONICA	CI-142-8A	1962	10.00	VCP	0.013	350	260.00	251.29	245.11	0.17600
090254-090253	SWEETZER	CI-142-13F	1962	8.00	VCP	0.013	340	274.00	264.12	251.43	0.03720
090255-090305	ROSEWOOD	PC-6510-P2	1964	18.00	VCP	0.013	290	170.00	159.83	157.53	0.00800
090256-090255	WESTBOURNE	CC-7736-P4	1967	8.00	VCP	0.013	339	171.50	162.77	160.74	0.00600
090257-090256	WESTBOURNE	CC-7736-P4	1967	8.00	VCP	0.013	329	173.00	164.84	162.87	0.00600
090258-090259	WESTMOUNT	CC-7736-P6	1967	8.00	VCP	0.013	264	175.00	167.28	165.17	0.00800
090259-090260	WESTMOUNT	CC-7736-P6	1967	8.00	VCP	0.013	261	173.00	165.07	162.98	0.00800
090260-090255	ROSEWOOD	PC-6510-P2	1964	18.00	VCP	0.013	280	171.00	162.07	159.83	0.00800
090261-090260	WESTMOUNT	CC-7736-P5	1967	8.00	VCP	0.013	348	170.00	164.00	162.89	0.00320
090262-090261	WESTMOUNT	CC-7736-P5	1967	8.00	VCP	0.013	168	170.00	164.61	164.00	0.00360
090265-090260	WEST KNOLL/ROSEWOOD	PC-6510-P2	1964	18.00	VCP	0.013	132	173.00	163.11	162.07	0.00800
090266-090265	WEST KNOLL	PC-6510-P3	1964	18.00	VCP	0.013	175	174.00	164.54	163.16	0.00800
090267-090268	ALLEY	CI-140-34A	1926	8.00	VCP	0.013	270	177.00	170.17	169.20	0.00360
090268-090266	WEST KNOLL	PC-6510-P3	1964	18.00	VCP	0.013	227	176.00	166.36	164.54	0.00800
090272-090273	CLINTON		1964	8.00	VCP	0.013	306	179.58	175.06	168.46	0.02160
090273-090268	WEST KNOLL	PC-6510-P3	1964	18.00	VCP	0.013	178	177.00	167.77	166.36	0.00800
090274-090273	WEST KNOLL	PC-6510-P3	1964	18.00	VCP	0.013	346	180.00	171.05	167.87	0.00920
090275-090274	WEST KNOLL	PC-6510-P4	1964	18.00	VCP	0.013	353	184.00	174.67	171.15	0.01000
090276-090275	WEST KNOLL	PC-6510-P4	1964	18.00	VCP	0.013	350	187.00	178.17	174.67	0.01000
090277-090276	WEST KNOLL	PC-6510-P4	1964	18.00	VCP	0.013	344	191.00	181.61	178.17	0.01000

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
090278-090277	WEST KNOLL	PC-6510-P5	1964	18.00	VCP	0.013	352	207.00	187.50	181.71	0.01680
090329-090243	FLORES	CI-142-12	1925	8.00	VCP	0.013	291	264.00	255.90	245.54	0.03560
090340-090341	SANTA MONICA	CI-142-7A	1925	15.00	VCP	0.013	243	238.00	228.17	227.00	0.00480
090341-090193	STA MONICA/LA CIENEG		1964	15.00	VCP	0.013	35	240.00	227.00	225.99	0.02890
090354-090157	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	201	320.00	307.05	302.87	0.02080
090355-090199	HOLLOWAY	CI-142-25A	1925	8.00	VCP	0.013	282	310.00	296.22	284.14	0.04280
090358-090210	LA CIENEGA	PC-6510	1964	12.00	VCP	0.013	351	319.00	304.04	274.94	0.08640
090359-090358	FOUNTAIN	PC-6510-P7	1964	12.00	VCP	0.013	27	319.00	304.85	304.28	0.02520
090360-090218		PC-5755-P2	1961	8.00	VCP	0.013	199	339.00	321.54	307.61	0.07000
090361-090225	HACIENDA	CI-142-9C	1925	8.00	VCP	0.013	266	313.00	302.00	274.42	0.10350
090362-090237	DE LONGPRE	CI-142-22	1925	8.00	VCP	0.013	166	330.00	323.13	305.20	0.10800
090363-090133		CI142-24BC	1925	8.00	VCP	0.013	19	398.00	388.90	388.70	0.01050
090701-090230	OLIVE	CI-142-14	1925	8.00	VCP	0.013	308	318.00	307.42	272.31	0.11440
090702-090212	LA CIENEGA-CSDLAC	CI-142	1925	8.00	VCP	0.013	274	319.00	304.98	279.46	0.09300
090703-090195	HOLLOWAY	PC-6510-P6	1964	8.00	VCP	0.013	27	262.00	249.63	248.30	0.05920
090703-090270	CLINTON		1964	8.00	VCP	0.013	310	177.02	173.57	170.58	0.00960

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
100009-100010	VISTA GRANDE	CI-140-22B	1926	8.00	VCP	0.013	236	293.00	281.60	276.88	0.02000
100010-100011	VISTA GRANDE	CI-140-22B	1926	8.00	VCP	0.013	236	287.00	276.78	272.06	0.02000
100011-100012	VISTA GRANDE	CI-140-22B	1926	8.00	VCP	0.013	334	282.00	271.96	263.82	0.02440
100012-100014	HILLDALE	CI-140-22A	1926	8.00	VCP	0.013	262	273.00	263.45	246.35	0.06520
100014-100024	HILLDALE	CI-140-22A	1960	8.00	VCP	0.013	155	256.00	246.11	237.24	0.05600
100015-100014	DICKS	CI-140-23A	1926	8.00	VCP	0.013	251	263.00	253.96	246.44	0.03000
100016-100015	DICKS	CI-140-23A	1926	8.00	VCP	0.013	251	270.00	259.98	254.07	0.02360
100017-100016	DICKS	CI-140-23A	1926	8.00	VCP	0.013	241	275.00	265.86	260.08	0.02400
100018-100017	DICKS	CI-140-23A	1926	8.00	VCP	0.013	241	280.00	271.74	265.96	0.02400
100019-100020	NORMA	PC-5506-P4	1960	8.00	VCP	0.013	43	275.00	264.08	262.96	0.02600
100020-100021	NORMA	CI-140-23B	1926	8.00	VCP	0.013	301	271.00	262.97	255.15	0.02600
100021-100022	NORMA	CI-140-23B	1926	8.00	VCP	0.013	301	263.00	255.05	247.83	0.02400
100022-100023	NORMA	CI-140-23B	1926	8.00	VCP	0.013	267	256.00	247.73	240.46	0.02600
100023-100024	NORMA	PC-5506-P2	1960	10.00	VCP	0.013	223	249.00	240.20	237.18	0.01400
100024-100025	NORMA	CI-140-23B	1926	8.00	VCP	0.013	5	245.50	236.98	236.95	0.05600
100025-100040	HILLDALE	CI-140-22A	1926	8.00	VCP	0.013	197	245.00	232.93	223.75	0.04660
100026-100025	NORMA	CI-140-23B	1926	8.00	VCP	0.013	123	246.00	233.62	233.13	0.00400
100027-100026	NORMA	CI-140-23B	1926	8.00	VCP	0.013	76	249.00	234.02	233.72	0.00400
100028-100027	LLOYD	CI-140-24A	1926	8.00	VCP	0.013	186	248.00	234.86	234.12	0.00400
100029-100028	LLOYD	CI-140-24A	1926	8.00	VCP	0.013	187	247.00	235.71	234.96	0.00400
100030-100029	STEELE	CI-140-24B	1926	8.00	VCP	0.013	304	254.00	245.31	236.20	0.03000
100031-100030	STEELE	CI-140-24B	1926	8.00	VCP	0.013	304	260.00	252.69	245.41	0.02400
100032-100033	LLOYD	CI-140-24A	1926	8.00	VCP	0.013	322	252.00	241.80	237.55	0.01320
100033-100034	LLOYD	CI-140-24A	1926	8.00	VCP	0.013	185	245.00	237.40	236.66	0.00400
100034-100029	LLOYD	CI-140-24A	1926	8.00	VCP	0.013	188	246.00	236.56	235.81	0.00400
100035-100036	KEITH	CI-140-25A	1926	8.00	VCP	0.013	200	242.00	234.10	230.50	0.01800
100036-100037	KEITH	CI-140-25A	1926	8.00	VCP	0.013	199	239.00	230.40	228.17	0.01120
100037-100038	KEITH	CI-140-25A	1926	8.00	VCP	0.013	340	236.00	228.02	226.66	0.00400
100038-100039	KEITH	CI-140-25A	1926	8.00	VCP	0.013	340	236.00	226.56	225.20	0.00400
100039-100040	KEITH	CI-140-25A	1926	8.00	VCP	0.013	340	236.00	225.10	223.74	0.00400
100040-100041	HILLDALE	CI-140-22A	1926	8.00	VCP	0.013	170	235.00	223.53	216.35	0.03820
100041-100042	ALLEY	PC-5506-P3	1960	12.00	VCP	0.013	235	226.00	215.92	213.57	0.01000
100042-100046	ALLEY	PC-5506-P3	1960	12.00	VCP	0.013	297	224.00	213.47	209.20	0.14400
100043-100042	SAN VICENTE	CI-140-10A	1926	8.00	VCP	0.013	257	237.00	228.40	213.87	0.05400
100044-100043	SAN VICENTE	CI-140-10A	1926	8.00	VCP	0.013	264	252.00	243.93	228.62	0.05800
100045-100046	LARRABEE	BK-3-P45	1953	8.00	CEME	0.013	290	229.00	219.95	209.50	0.05320
100046-100047	ALLEY	PC-5506-P3	1960	15.00	VCP	0.013	224	219.50	208.82	205.58	0.01440
100047-100048	ALLEY	PC-5506-P3	1960	15.00	VCP	0.013	31	214.50	205.30	201.50	0.12520
100048-100084	PALM	CI-140-7A	1926	15.00	VCP	0.013	102	214.00	201.30	201.20	0.00400
100049-100372	ALLEY	CI-140-7C	1926	8.00	VCP	0.013	229	219.00	204.49	202.20	0.01000
100050-100049	ALLEY	CI-140-7C	1926	8.00	VCP	0.013	30	220.00	209.64	205.00	0.15600
100051-100050	ALLEY	150	1955	8.00	CEME	0.013	296	218.00	208.15	204.00	0.14000
100052-100051	ALLEY	150	1955	8.00	CEME	0.013	147	221.00	209.72	208.25	0.01000
100053-100052	ALLEY	150	1955	8.00	CEME	0.013	85	219.00	210.67	209.82	0.01000
100054-100053	ALLEY	150	1955	8.00	CEME	0.013	302	224.00	213.79	210.77	0.01000
100059-100044	SAN VICENTE	CI-140-10A	1926	8.00	VCP	0.013	261	270.00	255.92	244.13	0.04520
100069-100045	LARRABEE	BK-3-P45	1953	8.00	VCP	0.013	233	243.00	233.68	220.18	0.05800
100070-100069	LARRABEE		1953	8.00	VCP	0.013	30	250.00	240.28	233.68	0.22000
100077-100078	STA MONICA	CI-616-1A	1955	8.00	VCP	0.013	286	219.00	206.99	203.93	0.01080
100078-100079	STA MONICA	CI-616-1A	1955	8.00	VCP	0.013	343	214.50	203.83	200.40	0.01000
100079-100080	STA MONICA	CI-616-1A	1955	8.00	VCP	0.013	343	211.50	200.22	198.44	0.00520
100080-100081	STA MONICA	CI-616-1A	1955	8.00	VCP	0.013	343	210.00	198.34	196.56	0.00520

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
100081-100082	STA MONICA	CI-616-1A	1955	8.00	VCP	0.013	139	210.00	196.46	195.74	0.00520
100084-100085	STA MONICA/PALM	CI-140-7A	1926	15.00	VCP	0.013	29	213.00	201.05	200.93	0.00400
100085-100086	STA MONICA	CI-140-7B	1926	15.00	VCP	0.013	251	212.00	200.73	199.75	0.00400
100086-100356	STA MONICA	CI-140-7B	1926	15.00	VCP	0.013	246	210.00	199.65	198.67	0.00400
100158-100159	WESTMOUNT	CI-140-3A	1926	8.00	VCP	0.013	26	287.00	279.31	276.69	0.10000
100159-100172	WESTMOUNT	CI-140-3A	1926	8.00	VCP	0.013	208	285.00	276.26	257.48	0.09040
100160-100159	W/O WESTMOUNT	CI-140-5BC	1926	8.00	VCP	0.013	268	292.00	286.75	276.79	0.03720
100161-100160	W/O WESTMOUNT	CI-140-5BC	1926	8.00	VCP	0.013	149	294.00	288.82	268.98	0.01240
100162-100163	HANCOCK	CI-140-6A	1926	8.00	VCP	0.013	332	313.00	303.03	269.93	0.10000
100163-100164	HANCOCK	CI-140-6A	1926	8.00	VCP	0.013	292	278.00	269.52	241.41	0.09600
100164-100165	HANCOCK	CI-140-6A	1926	8.00	VCP	0.013	338	250.00	241.03	209.26	0.09400
100165-100356	HANCOCK	CI-140-6A	1926	8.00	VCP	0.013	306	219.00	209.02	201.80	0.02360
100166-100357	STA MONICA	CI-140-1	1926	8.00	VCP	0.013	216	216.00	205.95	202.33	0.01680
100167-100166	WESTBOURNE	CI-140-4A	1926	8.00	VCP	0.013	173	224.00	215.57	206.30	0.05360
100168-100167	WESTBOURNE	CI-140-4A	1926	8.00	VCP	0.013	170	239.00	230.90	215.87	0.08840
100169-100168	WESTBOURNE	CI-140-4A	1926	8.00	VCP	0.013	248	262.00	252.88	231.23	0.08880
100170-100171	WEST KNOLL	CI-140-2B	1926	8.00	VCP	0.013	289	276.00	268.71	259.33	0.03240
100171-100172	WEST KNOLL	CI-140-2B	1926	8.00	VCP	0.013	286	265.00	259.23	257.40	0.00640
100172-100174	WESTMOUNT	CI-140-3A	1926	8.00	VCP	0.013	192	265.00	257.15	240.75	0.09120
100173-100174	W/O WESTMOUNT	CI-140-5BC	1926	8.00	VCP	0.013	198	252.00	247.14	240.95	0.03120
100174-100175	WESTMOUNT	CI-140-3A	1926	8.00	VCP	0.013	97	250.00	240.40	231.86	0.08800
100175-100176	WESTMOUNT	CI-140-3A	1926	8.00	VCP	0.013	189	241.00	231.51	214.68	0.08880
100176-100166	STA MONICA	CI-140-1	1926	8.00	VCP	0.013	375	224.50	214.30	206.05	0.02200
100177-100175	E/O WESTMOUNT	CI-140-5A	1926	8.00	VCP	0.013	61	241.00	233.89	232.00	0.03120
100178-100177	E/O WESTMOUNT	CI-140-5A	1926	8.00	VCP	0.013	233	246.00	241.48	234.02	0.03200
100179-100178	E/O WESTMOUNT	CI-140-5A	1926	8.00	VCP	0.013	221	253.00	248.50	241.61	0.03120
100180-100176	STA MONICA	CI-140-1	1926	8.00	VCP	0.013	352	231.50	221.88	214.42	0.02120
100181-100180	STA MONICA	CI-140-2	1926	8.00	VCP	0.013	362	236.00	226.78	222.00	0.01320
100182-100181	WEST KNOLL	CI-140-4	1926	8.00	VCP	0.013	164	250.00	241.80	227.00	0.09080
100183-100182	WEST KNOLL	CI-140-4	1926	8.00	VCP	0.013	167	260.50	253.69	242.10	0.06920
100184-100183	WEST KNOLL	CI-140-4	1926	8.00	VCP	0.013	205	264.00	258.01	253.91	0.02000
100356-100357	STA MONICA/HANCOCK	CI-140-1B	1926	15.00	VCP	0.013	296	210.00	198.57	197.39	0.00400
100357-100082	STA MONICA/HUNTLEY	105	1958	12.00	VCP	0.013	76	213.00	197.07	195.00	0.02600
100372-100048	PALM	CI-140-7A	1926	15.00	VCP	0.013	19	214.00	201.70	201.30	0.00400
100373-100181	STA MONICA	CI-140-1	1926	8.00	VCP	0.013	156	237.00	227.69	226.88	0.00520
100374-100372	PALM	CI-140-1B	1926	10.00	VCP	0.013	239	222.00	208.80	202.00	0.02840
100375-100374		CI-140-8B	1926	8.00	VCP	0.013	232	214.00	210.02	209.09	0.00400
100382-100012	HILLDALE	CI-140-22A	1926	8.00	VCP	0.013	52	276.00	267.09	263.71	0.06520

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
110001-110002	N/O DOHENY	PC 8273,P2	1926	8.00	VCP	0.013	98	460.00	453.66	443.54	0.10360
110002-110003	DOHENY	CI-140-15B	1926	8.00	VCP	0.013	338	454.00	443.24	427.29	0.04720
110003-110004	DOHENY	CI140-15AB	1926	8.00	VCP	0.013	247	437.00	427.09	418.22	0.03600
110004-110005	DOHENY	CI140-15AB	1926	8.00	VCP	0.013	170	427.00	418.08	411.28	0.04000
110005-110006	DOHENY	CI140-15AB	1926	8.00	VCP	0.013	77	421.00	411.28	408.20	0.04000
110006-110007	DOHENY	CI140-15AB	1926	10.00	VCP	0.013	228	427.00	407.98	405.62	0.01080
110007-110013	CORY	CI-140-15C	1926	8.00	VCP	0.013	254	416.00	405.20	385.58	0.07680
110008-110007	DOHENY	CI140-15AB	1926	8.00	VCP	0.013	71	416.00	405.96	405.53	0.00600
110009-110010	SUNSET	JOB 473 1D	1955	8.00	VCP	0.013	119	404.00	394.17	393.69	0.00400
110010-110011	SUNSET	CI-140-16C	1926	8.00	VCP	0.013	244	400.00	393.16	391.39	0.00720
110011-110012	SUNSET/PHYLLIS	CI-140-16A	1926	8.00	VCP	0.013	168	399.00	384.06	379.36	0.02800
110012-110014	PHYLLIS	CI-140-16A	1926	8.00	VCP	0.013	338	390.00	379.16	364.69	0.04280
110013-110014	CORY	CI-140-15C	1926	8.00	VCP	0.013	264	396.00	385.28	365.00	0.07680
110014-110015	PHYLLIS	PC-6074-P8	1966	10.00	VCP	0.013	14	374.50	364.60	363.76	0.06000
110015-110020	PHYLLIS	PC-6074-P8	1966	12.00	VCP	0.013	327	374.00	363.56	356.06	0.02600
110016-110017	ALLEY	CI140-16DE	1926	8.00	VCP	0.013	181	406.00	399.43	395.81	0.02000
110017-110019	CAROL	CI-140-16C	1926	8.00	VCP	0.013	227	404.00	395.39	376.36	0.08400
110018-110017	ALLEY	CI140-16DE	1926	8.00	VCP	0.013	144	403.00	397.20	395.77	0.01000
110019-110020	CAROL	CI-140-16C	1926	8.00	VCP	0.013	221	385.00	376.01	356.21	0.09860
110020-110021	PHYLLIS	PC-6074-P8	1966	12.00	VCP	0.013	211	366.00	354.91	344.34	0.05000
110021-110023	PHYLLIS	PC-6074-P8	1966	12.00	VCP	0.013	215	354.00	344.00	326.56	0.09440
110022-110025	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	223	341.00	331.64	313.36	0.08200
110023-110024	DOHENY	PC-6074-P7	1966	12.00	VCP	0.013	211	341.00	326.36	313.52	0.06200
110024-110028	DOHENY	PC-6074-P7	1966	12.00	VCP	0.013	224	323.00	313.27	299.36	0.06200
110025-110026	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	211	323.00	313.08	299.99	0.06200
110026-110028	CYNTHIA	PC-6074-P7	1960	15.00	VCP	0.013	17	308.00	299.24	298.84	0.02240
110028-110029	CYNTHIA	PC-5420-P2	1960	15.00	VCP	0.013	105	305.50	298.76	296.42	0.02240
110029-110030	CYNTHIA	PC-6074-P6	1966	15.00	VCP	0.013	182	306.00	296.36	290.41	0.00000
110030-110031	CYNTHIA	PC-6074-P6	1966	15.00	VCP	0.013	319	301.00	290.31	282.79	0.02360
110031-110032	CYNTHIA	PC-6074-P6	1966	15.00	VCP	0.013	298	293.00	282.69	274.70	0.02680
110032-110060	CYNTHIA	PC-6074-P5	1966	15.00	VCP	0.013	289	285.00	274.54	258.24	0.05600
110033-110068	HILLDALE	CI-140-20C	1926	8.00	VCP	0.013	266	317.00	306.31	290.35	0.06000
110034-110031	HAMMOND	PC-6074-P6	1926	8.00	VCP	0.013	266	316.00	304.62	284.29	0.07680
110035-110350	PHYLLIS	CI-140-19C	1926	8.00	VCP	0.013	326	346.00	336.85	322.52	0.04400
110036-110035	PHYLLIS	CI-140-19C	1926	8.00	VCP	0.013	144	349.00	338.40	336.96	0.01000
110037-110030	WETHERLY	CI-140-20D	1926	8.00	VCP	0.013	384	331.00	320.99	291.49	0.07680
110038-110348	HARRATT	CI-140-19A	1926	8.00	VCP	0.013	259	370.00	354.68	345.45	0.03560
110039-110381		CI-140-19D	1926	8.00	VCP	0.013	270	379.00	373.18	368.32	0.01800
110040-110022	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	339	372.00	363.29	332.03	0.09200
110041-110040	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	340	396.00	386.28	363.55	0.06680
110042-110380	SUNSET	CI-140-14B	1926	8.00	VCP	0.013	295	417.00	406.82	400.91	0.02000
110043-110044	SUNSET	CI-140-14B	1926	8.00	VCP	0.013	196	405.00	392.44	385.49	0.03560
110044-110045	SUNSET	CI-140-14B	1926	8.00	VCP	0.013	172	396.00	385.39	382.57	0.01640
110045-110046	SUNSET	CI-140-14C	1926	8.00	VCP	0.013	265	394.00	382.47	378.02	0.01680
110046-110048	SUNSET	CI-140-14C	1926	8.00	VCP	0.013	317	389.00	377.92	359.82	0.05720
110047-110349	HAMMOND	CI-140-19B	1926	8.00	VCP	0.013	324	383.00	372.72	341.34	0.09680
110048-110054	SUNSET	CI-140-14C	1926	8.00	VCP	0.013	312	374.00	359.62	345.29	0.04600
110049-110050	HILLDALE	CI-140-20B	1926	8.00	VCP	0.013	343	370.00	357.28	326.44	0.09000
110050-110351	HARRATT	CI-140-20A	1926	8.00	VCP	0.013	316	338.00	325.93	313.29	0.04000
110052-110053	CLARK	CI-140-11C	1926	8.00	VCP	0.013	254	418.00	406.02	376.76	0.11520
110053-110054	CLARK	CI-140-11C	1926	8.00	VCP	0.013	254	383.00	376.28	345.80	0.12000
110054-110077	SUNSET	CI-140-14C	1926	8.00	VCP	0.013	318	359.00	345.19	338.47	0.02120

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
110055-110390	CLARK	CI-140-10A	1926	8.00	VCP	0.013	227	352.00	343.11	320.93	0.09760
110056-110057	CLARK	CI-140-10A	1926	8.00	VCP	0.013	251	301.00	288.05	271.48	0.06600
110057-110058	CLARK	CI-140-10A	1926	8.00	VCP	0.013	247	285.00	271.23	258.18	0.05280
110058-110059	CLARK/CYNTHIA	CI-140-10A	1926	8.00	VCP	0.013	37	272.00	257.96	256.15	0.04400
110059-110061	CYNTHIA	PC-5420-P2	1960	15.00	VCP	0.013	108	269.50	255.72	254.34	0.01280
110060-110059	CYNTHIA	PC-6074-P5	1966	15.00	VCP	0.013	46	272.00	258.24	255.64	0.05600
110061-110067	CYNTHIA	PC-5568-P2	1960	15.00	VCP	0.013	127	262.00	253.78	246.02	0.06200
110062-110061	LARRABEE	JN-6707	1949	8.00	VCP	0.013	86	264.00	258.18	254.50	0.04280
110063-110062	LARRABEE	JN-6707	1949	8.00	VCP	0.013	55	269.00	263.13	258.83	0.07800
110064-110063	LARRABEE	JN-6707	1949	8.00	VCP	0.013	57	271.00	264.14	263.33	0.01600
110065-110066	LARRABEE	JN-6707	1949	8.00	VCP	0.013	54	260.00	254.27	252.27	0.03720
110066-110067	LARRABEE	JN-6707	1949	8.00	VCP	0.013	102	257.00	251.97	246.60	0.05280
110067-110070	CYNTHIA	PC-5420-P2	1960	15.00	VCP	0.013	91	254.00	245.73	240.50	0.05760
110068-110032	HILLDALE	PC-6074-P5	1926	8.00	VCP	0.013	244	300.00	290.11	275.56	0.06000
110070-110072	CYNTHIA	PC-5420-P2	1960	15.00	VCP	0.013	108	251.00	240.28	236.04	0.03920
110071-110070	LARRABEE	CI-140-9A	1926	8.00	VCP	0.013	27	253.00	241.05	240.98	0.01800
110072-110106	CYNTHIA	PC-6074-P5	1966	15.00	VCP	0.013	231	246.00	236.20	222.22	0.06000
110073-110071	LARRABEE	CI-140-9A	1926	8.00	VCP	0.013	272	265.00	252.93	241.20	0.04320
110074-110073	LARRABEE	CI-140-9CD	1926	8.00	VCP	0.013	271	286.00	277.04	253.19	0.08800
110075-110074	LARRABEE	CI-140-9A	1926	8.00	VCP	0.013	270	314.00	303.37	277.42	0.09600
110076-110075	LARRABEE	CI-140-9A	1926	8.00	VCP	0.013	280	345.00	336.97	303.76	0.11880
110077-110092	SUNSET	CI-140-14D	1926	8.00	VCP	0.013	239	351.00	338.37	333.30	0.02120
110078-110077	LARRABEE	CI-140-9B	1926	8.00	VCP	0.013	314	384.00	374.82	338.64	0.11520
110079-110078	LARRABEE	CI-140-9B	1926	8.00	VCP	0.013	312	420.00	410.85	375.28	0.11400
110080-110079	LARRABEE	CI-140-9B	1926	8.00	VCP	0.013	312	456.00	446.88	411.31	0.11400
110083-110084	HORN		1926	8.00	VCP	0.013	20	453.00	447.93	443.85	0.20400
110084-110085	HORN	CI-140-12A	1926	8.00	VCP	0.013	161	451.00	443.85	411.08	0.20400
110085-110086	HORN	CI-140-12A	1926	8.00	VCP	0.013	142	420.00	410.42	392.85	0.12400
110086-110087	HORN	CI-140-12A	1926	8.00	VCP	0.013	233	400.00	392.00	368.17	0.10200
110087-110088	HORN	CI-140-12A	1966	18.00	VCP	0.013	77	375.00	367.75	359.60	0.10600
110088-110089	HORN	PC-6074-P9	1966	18.00	VCP	0.013	12	366.00	359.20	357.50	0.14160
110089-110090	HORN	PC-6074-P9	1966	8.00	VCP	0.013	163	364.00	357.06	327.69	0.18010
110090-110094	HORN	PC-6074-P4	1966	12.00	VCP	0.013	86	343.00	326.79	322.26	0.05310
110091-110090	HORN/SUNSET	PC-6074-P4	1966	12.00	VCP	0.013	56	343.00	335.10	327.36	0.13900
110092-110093	SUNSET	CI-140-14D	1926	8.00	VCP	0.013	76	344.00	333.20	331.59	0.02120
110093-110094	SUNSET/HORN	PC-6074-P4	1966	8.00	VCP	0.013	22	342.00	331.59	322.67	0.36000
110094-110095	SUNSET	PC-6074-P4	1966	12.00	VCP	0.013	138	340.00	322.09	317.69	0.03200
110095-110096	PALM	PC-6074-P3	1966	12.00	VCP	0.013	156	336.00	317.44	301.65	0.00400
110096-110102	PALM	PC-6074-P3	1966	12.00	VCP	0.013	201	316.00	300.90	281.20	0.09800
110097-110096	PALM	PC-6074-P3	1966	8.00	VCP	0.013	24	316.00	310.41	301.66	0.36440
110098-110097	ALLEY, SO OF SUNSET	CI-140-8A	1926	8.00	VCP	0.013	180	325.00	317.17	310.62	0.03640
110099-110098	ALLEY, SO OF SUNSET	CI-140-8A	1926	8.00	VCP	0.013	193	333.00	324.33	317.32	0.03640
110100-110101	HARPATT	PC-6074-P3	1926	8.00	VCP	0.013	340	308.00	299.25	286.06	0.03880
110101-110102	HARPATT	PC-6074-P3	1966	8.00	VCP	0.013	19	293.00	286.04	281.21	0.25440
110102-110103	PALM	PC-6074-P3	1966	12.00	VCP	0.013	251	293.00	280.80	254.30	0.10560
110103-110104	PALM	PC-6074-P3	1966	12.00	VCP	0.013	271	267.00	253.82	227.80	0.09600
110104-110105	PALM	PC-6074-P2	1966	12.00	VCP	0.013	294	241.00	227.50	212.11	0.05240
110105-110587	PALM	PC-6074-P2	1966	18.00	VCP	0.013	213	225.00	211.97	209.02	0.01400
110106-110105	CYNTHIA	PC-6074-P5	1966	15.00	VCP	0.013	159	234.00	222.10	212.57	0.06000
110107-110106	PALM	CI-140-9C	1926	8.00	VCP	0.013	240	243.00	238.21	263.81	0.06000
110108-110107	PALM	CI-140-9C	1926	8.00	VCP	0.013	240	265.00	258.17	238.49	0.08200
110109-110108	PALM	CI-140-9C	1926	8.00	VCP	0.013	246	288.00	280.32	258.51	0.09000
110110-110091	SHERBOURNE	CI-140-12D	1926	8.00	VCP	0.013	100	350.00	338.58	335.40	0.03180

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
110111-110110	SHERBOURNE	CI-140-12D	1926	8.00	VCP	0.013	150	355.00	343.35	338.58	0.03180
110112-110111	SHERBOURNE	CI-140-12D	1926	8.00	VCP	0.013	150	360.00	348.12	343.35	0.03180
110113-110352	SUNSET	CI140-12EF	1926	8.00	VCP	0.013	276	374.00	370.40	369.30	0.00400
110114-110086	SHOREHAM	CI140-12BC	1926	8.00	VCP	0.013	189	398.00	393.02	392.26	0.00400
110115-110114	SHOREHAM	CI140-12BC	1926	8.00	VCP	0.013	185	400.00	393.87	392.12	0.00400
110116-110115	SHOREHAM	CI140-12BC	1926	8.00	VCP	0.013	216	412.00	403.80	394.04	0.04520
110117-110112	SUNSET	CI-140-13B	1926	8.00	VCP	0.013	331	375.00	364.01	348.12	0.04800
110118-110117	SUNSET	CI-140-13B	1926	8.00	VCP	0.013	231	379.00	368.77	364.15	0.02000
110119-110118	SUNSET	CI-140-13B	1926	8.00	VCP	0.013	231	380.00	370.90	368.87	0.00880
110120-110119	SUNSET	CI-140-13B	1926	8.00	VCP	0.013	266	386.00	375.80	371.00	0.01800
110121-110120	SUNSET	CI-893	1953	8.00	VCP	0.013	58	385.00	376.37	376.10	0.00320
110122-110121	SUNSET	JN-6674	1953	8.00	VCP	0.013	116	387.00	377.03	376.57	0.00400
110123-110120	SUNSET	CI-140-13C	1926	8.00	VCP	0.013	346	394.00	383.98	376.10	0.02280
110124-110123	SUNSET	CI-140-13C	1926	8.00	VCP	0.013	226	400.00	389.32	384.08	0.02320
110125-110124	SUNSET	CI-140-13C	1926	8.00	VCP	0.013	219	405.00	394.51	389.42	0.02320
110126-110125	SUNSET		1926	8.00	VCP	0.013	200	409.00	399.14	394.51	0.02320
110348-110349	HARRATT	CI-140-19A	1926	8.00	VCP	0.013	204	359.00	345.25	337.10	0.04000
110349-110350	HAMMOND	CI-140-19B	1926	8.00	VCP	0.013	282	351.50	336.46	324.60	0.04200
110350-110034	HAMMOND	CI-140-19B	1926	8.00	VCP	0.013	255	332.00	319.48	304.88	0.05720
110351-110056	CLARK	CI-140-10A	1926	8.00	VCP	0.013	254	320.00	309.72	288.35	0.08440
110352-110112	SHERBOURNE	CI-140-12D	1926	8.00	VCP	0.013	200	379.00	369.00	348.60	0.10200
110376-110352	SUNSET	CI140-12EF	1926	8.00	VCP	0.013	202	394.00	388.61	374.50	0.07000
110380-110043	SUNSET	CI-140-14B	1926	8.00	VCP	0.013	212	412.00	400.71	392.66	0.03800
110381-110348		CI-140-19D	1926	8.00	VCP	0.013	177	375.00	368.02	352.80	0.08600
110390-110351	CLARK	CI-140-10A	1926	8.00	VCP	0.013	111	330.00	320.93	310.07	0.09760
110500-110052	CLARK	CI-149-11C	1926	8.00	VCP	0.013	251	453.00	439.05	406.51	0.12800
110587-110588	PALM	PC-6074-P2	1966	18.00	VCP	0.013	264	219.00	208.92	204.20	0.01760
110703-110055	CLARK/SUNSET	PC-6510-P8	1964	10.00	VCP	0.013	73	358.00	345.11	343.61	0.02320
110704-110041	DOHENY	PC-6510-D9	1964	8.00	VCP	0.013	80	404.00	392.39	386.72	0.07440

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
120055-120056	STA MONICA	CI140-147B	1926	8.00	VCP	0.013	261	224.00	213.70	212.66	0.00400
120056-120058	STA MONICA	CI140-147B	1926	8.00	VCP	0.013	260	225.00	212.56	211.52	0.00400
120057-120058	RAMAGE ST	CI-140-27A	1926	8.00	VCP	0.013	238	232.00	224.00	217.97	0.02560
120058-120059	STA MONICA	CI-140-27B	1926	8.00	VCP	0.013	256	225.00	211.42	210.40	0.00400
120059-120070	ALMONT	CI-140-28B	1926	8.00	VCP	0.013	101	225.00	209.94	208.83	0.01080
120060-120059	NEMO	CI-140-26A	1926	8.00	VCP	0.013	138	224.00	213.39	210.63	0.02000
120061-120067	WILLEY	CI-140-26B	1926	8.00	VCP	0.013	221	229.00	219.78	214.13	0.02560
120062-120061	HARLAND	CI-140-26C	1926	8.00	VCP	0.013	336	236.00	227.37	219.98	0.02200
120063-120066	NEMO	CI-140-26A	1926	8.00	VCP	0.013	193	230.00	220.77	214.86	0.03080
120064-120065	ALLEY	CI-140-26D	1926	8.00	VCP	0.013	157	229.00	216.36	215.74	0.00400
120065-120066	ALLEY	CI-140-26D	1926	8.00	VCP	0.013	196	228.00	215.64	214.86	0.00400
120066-120067	NEMO	CI-140-26A	1926	8.00	VCP	0.013	140	226.00	214.76	214.03	0.00520
120067-120060	NEMO	CI-140-26A	1926	8.00	VCP	0.013	21	224.00	213.93	213.52	0.02000
120068-120069	STA MONICA	CI-616-1D	1955	8.00	VCP	0.013	285	225.00	212.90	211.32	0.00560
120069-120070	STA MONICA	CI-616-1D	1955	8.00	VCP	0.013	306	224.00	211.22	209.50	0.00560
120070-120195	ALMONT ST	CI-140-28B	1926	8.00	VCP	0.013	259	222.00	208.73	206.14	0.01000
120071-120070	STA MONICA	CI-616-1C	1955	8.00	VCP	0.013	283	224.00	212.00	209.50	0.00880
120094-120095	SAN VICENTE-COUNTY		1955	15.00	VCP	0.013	130	185.00	174.52	167.00	0.00000
120095-120500	SAN VICENTE-COUNTY		1955	15.00	VCP	0.013	650	177.00	166.72	159.73	0.00000
120159-120500	RANGELY	4-P-1	1965	12.00	VCP	0.013	35	171.00	163.28	162.22	0.01080
120160-120159	RANGELY	PC-5998-P2	1961	12.00	VCP	0.013	346	176.00	167.12	163.38	0.01080
120161-120160	RANGELY	PC-5998-P2	1961	12.00	VCP	0.013	335	183.00	170.06	167.22	0.01080
120162-120161	ROBERTSON	CC-7956-P6	1968	8.00	VCP	0.013	148	186.00	178.54	171.30	0.00000
120163-120161	RANGELYON	CC-7956-P6	1968	12.00	VCP	0.013	32	183.00	170.86	170.10	0.01080
120164-120163	RANGELY	PC-5998-P3	1961	10.00	VCP	0.013	104	186.00	177.85	171.04	0.00000
120165-120164	RANGELY	PC-5998-P3	1961	10.00	VCP	0.013	346	195.00	186.29	178.12	0.02360
120166-120165	RANGELY	PC-5998-P3	1961	10.00	VCP	0.013	246	203.00	194.55	186.39	0.02360
120167-120374	RANGELY	CC7956-P11	1968	8.00	VCP	0.013	219	212.00	204.03	199.74	0.02000
120168-120167	ALLEY	CC7956-P11	1968	8.00	VCP	0.013	192	218.00	209.99	204.23	0.03000
120193-120373	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	239	221.00	210.02	202.38	0.03200
120194-120166	ALMONT	PC-5998-P4	1961	8.00	VCP	0.013	277	208.50	197.59	194.75	0.01040
120195-120194	ALMONT ST	CI-140-28B	1926	8.00	VCP	0.013	267	214.00	206.04	198.77	0.02720
120207-120094	EL TOVAR PL	PC-7500-P4	1955	8.00	VCP	0.013	59	185.00	176.71	175.36	0.02280
120208-120207	EL TOVAR PL	PC-7500-P4	1955	8.00	VCP	0.013	198	189.50	181.16	176.81	0.02200
120210-120208	EL TOVAR PL	PC-7500-P4	1955	8.00	VCP	0.013	192	194.00	185.49	181.26	0.02200
120211-120212	SAN VICENTE	PC-3609-P2	1955	8.00	VCP	0.013	345	212.00	201.46	188.00	0.03880
120212-120213	SAN VICENTE	PC-3609-P2	1955	8.00	VCP	0.013	280	200.00	187.92	181.42	0.02320
120213-120214	SAN VICENTE	PC-3609-P2	1955	8.00	VCP	0.013	60	190.00	181.42	179.89	0.02320
120214-120095	SAN VICENTE	CC-41023	1966	8.00	VCP	0.013	205	189.00	178.87	167.65	0.05400
120373-120194	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	241	214.50	202.28	198.42	0.01600
120374-120166	RANGELY	CC7956-P11	1968	8.00	VCP	0.013	246	202.00	199.54	194.62	0.02000

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
130001-130002	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	328	296.00	286.09	269.32	0.05120
130002-130003	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	328	278.00	269.13	254.72	0.04400
130003-130004	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	300	263.00	254.56	244.14	0.03480
130004-130005	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	294	252.00	244.01	234.60	0.03200
130005-130006	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	294	244.00	234.48	226.01	0.02880
130006-130007	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	292	235.00	225.91	218.32	0.02600
130007-130008	DOHENY	CI-140-17A	1926	10.00	VCP	0.013	294	229.00	218.15	215.21	0.01000
130008-130009	STA MONICA	CI-140-18	1926	10.00	VCP	0.013	227	225.00	214.97	213.14	0.00800
130009-130010	ALLEY, W OF DOHENY	CI-140-18	1926	10.00	VCP	0.013	230	225.00	212.92	208.33	0.02000
130010-130011	ALLEY, W OF DOHENY	CI-140-18	1926	10.00	VCP	0.013	224	218.00	208.23	203.75	0.02000
130011-130012	ALLEY, W OF DOHENY	CI-140-18	1926	12.00	VCP	0.013	222	213.00	203.58	202.68	0.00400
130012-130013	ALLEY, W OF DOHENY	CI-140-18	1926	12.00	VCP	0.013	224	212.00	202.58	201.68	0.00400
130013-130014	ALLEY, W OF DOHENY	CI-140-18	1926	12.00	VCP	0.013	224	213.00	201.58	200.68	0.00400
130014-130128	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	181	211.00	199.68	197.51	0.01200
130026-130027	CYNTHIA	PC-5420-P2	1960	15.00	VCP	0.013	12	308.00	299.99	299.23	0.06200
130027-130001	DOHENY	CI-140-17A	1926	8.00	VCP	0.013	204	308.00	298.98	286.32	0.06200
130072-130198	LA PEER	CI-140-28A	1926	8.00	VCP	0.013	261	222.00	209.50	205.36	0.01600
130073-130072	STA MONICA	CI-616-1B	1955	8.00	VCP	0.013	283	223.00	210.84	209.71	0.00400
130074-130199	ROBERTSON	CI-247-1A	1926	8.00	VCP	0.013	269	213.50	201.60	197.94	0.01360
130075-130074	ALLEY	CI-140-28C	1926	8.00	VCP	0.013	149	215.00	208.05	207.57	0.00320
130076-130075	ALLEY	CI-140-28C	1926	8.00	VCP	0.013	264	212.50	208.99	208.15	0.00320
130099-130102	COUNTY		1955	18.00	VCP	0.013	900	167.00	156.97	154.29	0.00300
130128-130129	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	300	209.00	191.36	187.76	0.01200
130129-130130	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	302	200.00	187.66	182.83	0.01600
130130-130131	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	314	194.00	182.73	178.33	0.01400
130131-130132	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	314	188.00	178.23	173.21	0.01600
130132-130133	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	314	184.00	173.11	168.09	0.01600
130133-130134	BEVERLY	CI-140-31A	1926	10.00	VCP	0.013	313	179.00	167.99	163.74	0.01360
130134-130135	BEVERLY/ROBERTSON	CC-7956-P3	1968	10.00	VCP	0.013	13	174.00	163.04	159.85	0.24920
130135-130136	BEVERLY/ROBERTSON	CC-7956-P3	1968	15.00	VCP	0.013	308	174.00	159.24	158.01	0.00400
130136-130137	BEVERLY	CC-7956-P2	1968	15.00	VCP	0.013	240	172.00	158.01	157.05	0.00400
130137-130138	BEVERLY	CC-7956-P2	1968	15.00	VCP	0.013	250	170.00	157.05	156.05	0.00400
130138-130139	BEVERLY	CC-7956-P2	1968	15.00	VCP	0.013	240	168.50	156.05	155.09	0.00400
130139-130102	BEVERLY	CC-7956-P2	1968	15.00	VCP	0.013	191	167.00	155.09	153.48	0.00840
130140-130139	SAN VICENTE	CI-140-30A	1955	10.00	VCP	0.013	119	168.00	157.63	155.69	0.01360
130141-130140	SHERBOURNE	DDI-29	1955	10.00	VCP	0.013	9	168.00	157.87	157.83	0.00400
130142-130141	SHERBOURNE	DDI-29	1955	10.00	VCP	0.013	346	169.00	159.45	158.07	0.00400
130143-130142	BONNER	CI-140-29A	1926	8.00	VCP	0.013	235	172.00	162.80	160.92	0.00800
130144-130143	BONNER	CI-140-29A	1926	8.00	VCP	0.013	248	173.00	164.88	162.90	0.00800
130145-130144	BONNER	CI-140-29A	1926	8.00	VCP	0.013	248	174.00	166.47	164.98	0.00600
130146-130147	ROSEWOOD	CI-140-29B	1926	8.00	VCP	0.013	250	176.00	167.90	165.89	0.00800
130147-130148	ROSEWOOD	CI-140-29B	1926	8.00	VCP	0.013	251	174.00	165.79	163.78	0.00800
130148-130149	ROSEWOOD	DDI-29	1955	8.00	VCP	0.013	238	172.00	163.68	162.05	0.00680
130149-130142	SHERBOURNE	DDI-29	1955	10.00	VCP	0.013	265	170.00	160.61	159.55	0.00400
130150-130149	SHERBOURNE	DDI-29	1955	10.00	VCP	0.013	281	171.00	161.83	160.71	0.00400
130151-130150	ASHCROFT	DDI-29	1955	8.00	VCP	0.013	333	174.00	165.55	163.27	0.00680
130152-130151	ASHCROFT	CI-140-29C	1926	8.00	VCP	0.013	346	176.00	168.43	165.65	0.00800
130153-130150	SHERBOURNE	DD-297-1A	1955	10.00	VCP	0.013	280	171.50	163.05	161.93	0.00400
130154-130153	DORRINGTON	PC-7718	1968	8.00	VCP	0.013	55	172.00	162.11	169.48	0.13400
130155-130154	DORRINGTON	CC7956-P12	1968	8.00	VCP	0.013	326	173.00	165.37	162.11	0.01000
130156-130155	DORRINGTON	CC7956-P12	1968	8.00	VCP	0.013	298	177.00	169.05	165.47	0.01200
130157-130156	ROBERTSON	CC7956-P12	1968	8.00	VCP	0.013	221	181.50	173.58	169.25	0.01960

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
130158-130153	SAN VICENTE	DDT-29	1955	10.00	VCP	0.013	280	173.00	164.27	163.15	0.00400
130169-130170	ALLEY/DORRINGTON	CC7956-P10	1968	8.00	VCP	0.013	191	212.00	204.85	199.12	0.00300
130170-130171	DORRINGTON	CC7956-P10	1968	8.00	VCP	0.013	317	207.00	198.92	13.21	0.01800
130171-130172	DORRINGTON	CC7956-P10	1968	8.00	VCP	0.013	346	201.00	193.11	186.88	0.01800
130172-130173	DORRINGTON	CC-7956-P9	1968	8.00	VCP	0.013	316	194.50	186.78	178.94	0.02480
130173-130174	DORRINGTON	CC-7956-P9	1968	8.00	VCP	0.013	316	187.00	178.84	171.00	0.02480
130174-130175	DORRINGTON	CC-7956-P9	1968	8.00	VCP	0.013	122	179.00	170.65	163.00	0.00000
130175-130176	ROBERTSON	CC-7956-P4	1968	8.00	VCP	0.013	271	177.00	162.76	161.67	0.00400
130176-130192	ROBERTSON	CC-7956-P4	1968	10.00	VCP	0.013	281	176.00	161.50	160.49	0.00360
130177-130176	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	144	177.50	169.33	161.81	0.00000
130178-130177	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	350	184.00	176.35	169.63	0.01920
130179-130178	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	350	191.00	183.17	176.45	0.01920
130180-130179	ASHCROFT	CC-7956-P8	1968	8.00	VCP	0.013	350	198.00	189.99	183.27	0.01920
130181-130180	ASHCROFT	CC-7956-P8	1968	8.00	VCP	0.013	350	205.00	196.81	190.09	0.01920
130182-130181	ALLEY/ASHCROFT	CC-7956-P8	1968	8.00	VCP	0.013	194	207.00	199.68	197.01	0.01400
130183-130184	ALLEY/ROSEWOOD	CC-7956-P3	1968	8.00	VCP	0.013	184	204.00	196.58	194.00	0.01400
130184-130186	ROSEWOOD	CC-7956-P6	1968	8.00	VCP	0.013	346	202.50	193.80	188.26	0.01600
130185-130184	ALLEY/ROSEWOOD	CC-7956-P3	1968	8.00	VCP	0.013	112	203.00	195.93	194.00	0.01720
130186-130187	ROSEWOOD	CC-7956-P6	1968	8.00	VCP	0.013	346	196.00	188.16	182.62	0.01600
130187-130188	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	336	186.00	182.52	177.14	0.01600
130188-130189	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	346	185.00	177.04	171.50	0.01600
130189-130191	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	204	180.00	171.40	168.13	0.01600
130190-130177	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	250	184.00	172.47	169.97	0.01000
130191-130192	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	91	176.00	168.03	161.39	0.00000
130192-130135	ROBERTSON	CC-7956-P4	1968	12.00	VCP	0.013	249	175.00	160.39	159.59	0.00320
130194-130196	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	337	209.00	198.32	189.58	0.02600
130196-130203	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	29	200.00	189.47	180.51	0.02720
130197-130196	LA PEER	CI-140-28A	1926	8.00	VCP	0.013	260	206.00	197.67	190.39	0.02800
130198-130197	LA PEER	CI-140-28A	1926	8.00	VCP	0.013	276	224.00	205.26	197.77	0.02720
130199-130200	ROBERTSON	CI-247-1A	1926	8.00	VCP	0.013	276	207.00	197.84	190.66	0.02600
130200-130201	ROBERTSON	CI-247-1A	1926	8.00	VCP	0.013	276	198.00	190.56	185.37	0.01880
130201-130202	ROBERTSON		1926	8.00	VCP	0.013	260	194.00	190.66	186.08	0.01800
130202-130203	ROBERTSON	CI-140-33C	1926	8.00	VCP	0.013	4	192.00	186.08	186.08	0.01000
130203-130204	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	124	192.00	180.37	176.98	0.02720
130204-130205	MELROSE	CI140-33BC	1926	8.00	VCP	0.013	330	189.00	176.88	169.88	0.21200
130205-130206	MELROSE	CI140-33BC	1926	8.00	VCP	0.013	327	181.00	169.78	166.25	0.01080
130206-130158	SAN VICENTE	DDT-29	1955	10.00	VCP	0.013	287	176.00	165.53	164.37	0.00400
130215-130216	MELROSE	CI140-33BC	1926	8.00	VCP	0.013	313	173.00	167.51	166.25	0.00400
130216-130217	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	295	176.00	166.05	164.87	0.00400
130217-130218	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	281	173.00	164.77	163.65	0.00400
130218-130219	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	272	172.00	163.55	162.46	0.00400
130219-130220	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	280	171.00	162.36	161.24	0.00400
130220-130221	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	265	170.00	161.14	160.08	0.00400
130221-130222	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	238	170.00	159.98	159.03	0.00400
130222-130140	SAN VICENTE	CI-140-30A	1955	10.00	VCP	0.013	115	168.00	158.93	157.63	0.01360
130225-130226	NORWICH/BEVERLY	PC-7500-P3	1966	8.00	VCP	0.013	43	166.00	157.31	155.66	0.03840
130226-130102	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	67	166.00	155.46	154.29	0.01840
130227-130226	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	197	165.00	156.44	155.66	0.00400
130228-130227	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	239	168.00	157.50	156.54	0.00400
130229-130228	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	350	167.50	159.50	157.60	0.00400
130231-130099	ROSEWOOD		1966	8.00	VCP	0.013	91	167.37	157.65	156.97	0.00750
130233-130231	NORWICH	CC-7500-P3	1966	8.00	VCP	0.013	68	167.00	158.26	157.65	0.00920
130234-130233	NORWICH	CC-7736-P7	1966	8.00	VCP	0.013	346	169.00	160.16	158.36	0.00520

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
130235-130234	NORWICH	CC-7736-P7	1966	8.00	VCP	0.013	346	170.00	162.06	160.26	0.00520
130236-130235	NORWICH	CC-7736-P7	1966	8.00	VCP	0.013	196	171.00	163.26	162.16	0.00560

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
140090-140091	BEVERLY	PC-9896-P2	1980	10.00	VCP	0.013	48	171.00	159.16	165.07	0.00200
140091-140109	HAMEL	PC-9896-P2	1980	10.00	VCP	0.013	12	171.00	158.97	158.75	0.00200
140109-140092		PC-9896-P2	1980	8.00	VCP	0.013	68	170.00	158.62	159.42	0.00480
140110-140090		PC-9896-P2	1980	8.00	VCP	0.013	149	172.00	159.55	159.26	0.00200
140111-140110	SO OF BEVERLY	CI-140-32A	1926	8.00	VCP	0.013	239	174.00	161.81	160.67	0.00480
140112-140111	SO OF BEVERLY	CI-140-32A	1926	8.00	VCP	0.013	76	174.00	162.28	161.91	0.00480
140113-140112	SO OF BEVERLY	CI-140-32A	1926	8.00	VCP	0.013	90	174.00	162.91	162.48	0.00480
140114-140113	ROBERTSON	CI-689-2B	1955	8.00	VCP	0.013	73	175.00	163.30	163.01	0.00400
140115-140114	ROBERTSON	CI-689-2B	1955	8.00	VCP	0.013	135	176.00	164.04	163.50	0.00400
140116-140115	BEVERLY	CI-689-2C	1955	8.00	VCP	0.013	314	181.00	168.76	164.24	0.01440
140117-140116	CLARK	CI-689-3AB	1955	8.00	VCP	0.013	220	179.00	169.84	168.96	0.00400
140118-140116	BEVERLY	CI-689-2C	1955	8.00	VCP	0.013	291	185.00	173.17	168.86	0.01480
140119-140118	SWALL	CI-689-3AB	1955	8.00	VCP	0.013	184	184.00	174.11	173.37	0.00400
140120-140118	BEVERLY	CI-689-2C	1955	8.00	VCP	0.013	291	190.00	177.58	173.27	0.01480
140121-140120	LA PERE	CI-689-3AB	1955	8.00	VCP	0.013	183	188.00	178.51	177.78	0.00400
140122-140120	BEVERLY	CI-689-2C	1955	8.00	VCP	0.013	278	194.00	181.79	177.68	0.01480
140123-140122	ALMONT	CI-689-3AB	1955	8.00	VCP	0.013	217	193.00	182.86	181.99	0.00400
140124-140122	BEVERLY	CI-689-2C	1955	8.00	VCP	0.013	303	201.00	188.80	181.89	0.02280
140125-140124	WETHERLY	CI-689-74	1955	8.00	VCP	0.013	181	200.00	189.73	189.00	0.00400
140126-140124	BEVERLY	CI-689-2C	1955	8.00	VCP	0.013	289	210.00	198.36	188.90	0.03280
140127-140126	DOHENY	CI-689-74	1955	8.00	VCP	0.013	180	209.00	199.28	198.56	0.00400

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
150185-150186	WESTBOURNE	PC-7265-P2	1965	8.00	VCP	0.013	66	203.00	192.46	187.69	0.07160
150186-150293	WESTBOURNE	PC-7265-P2	1965	8.00	VCP	0.013	196	198.00	187.59	181.71	0.03160
150187-150186	RUGBY	PC-7265-P3	1965	8.00	VCP	0.013	127	198.50	188.70	187.79	0.00400
150188-150187	RUGBY	PC-7265-P3	1965	8.00	VCP	0.013	162	200.00	190.06	188.80	0.00840
150189-150188	RUGBY	PC-7265-P3	1965	8.00	VCP	0.013	253	207.00	197.05	190.16	0.02720
150237-150238	MELROSE		1961	8.00	VCP	0.013	219	173.50	167.64	166.77	0.00400
150238-150301	MELROSE		1961	8.00	VCP	0.013	111	175.00	166.67	166.23	0.00400
150239-150240		CI140-34BC	1926	8.00	VCP	0.013	105	176.00	167.52	167.10	0.00400
150240-150300		CI140-34BC	1926	8.00	VCP	0.013	187	176.00	166.35	166.00	0.00400
150241-150300	HUNTLEY		1925	8.00	VCP	0.013	11	175.00	171.99	171.55	0.04000
150270-150286	MELROSE	CC-9134-P2	1976	8.00	VCP	0.013	10	175.00	170.30	167.70	0.33120
150271-150301	MELROSE		1961	8.00	VCP	0.013	292	176.00	167.40	166.22	0.00400
150279-150280	WESTBOURNE	PC-7265-P4	1965	8.00	VCP	0.013	349	198.00	187.67	179.03	0.02480
150280-150281	WESTBOURNE	PC-7265-P4	1965	8.00	VCP	0.013	346	188.00	178.93	176.30	0.00760
150281-150282	WESTBOURNE	PC-7265-P4	1965	8.00	VCP	0.013	51	184.00	176.20	175.81	0.00760
150282-150291	SHERWOOD	PC-5998-P7	1961	8.00	VCP	0.013	311	184.00	175.97	173.48	0.00800
150283-150284	WESTMOUNT	PC-6279-P3	1962	8.00	VCP	0.013	306	183.50	175.43	172.05	0.01120
150284-150285	WESTMOUNT	PC-6279-P3	1962	8.00	VCP	0.013	325	180.50	171.95	169.00	0.00920
150285-150286	WESTMOUNT	PC-6279-P3	1962	8.00	VCP	0.013	341	176.50	168.90	167.28	0.00480
150286-150288	MELROSE	PC-6279-P2	1962	10.00	VCP	0.013	320	175.00	167.01	165.62	0.00440
150287-150271	MELROSE	CI140-34BC	1961	8.00	VCP	0.013	251	177.00	168.50	167.50	0.00400
150288-150300	MELROSE	PC-5998-P5	1961	12.00	VCP	0.013	297	173.50	165.52	164.45	0.00360
150289-150288	WESTBOURNE	PC-5998-P6	1961	8.00	VCP	0.013	326	176.00	167.27	165.72	0.00480
150290-150289	WESTBOURNE	PC-5998-P6	1961	8.00	VCP	0.013	360	178.00	170.32	167.41	0.00840
150291-150290	WESTBOURNE	PC-5998-P6	1961	8.00	VCP	0.013	345	182.00	173.28	170.42	0.00840
150292-150291	WESTBOURNE	PC-5998-P7	1961	8.00	VCP	0.013	219	185.00	176.30	173.38	0.01320
150293-150292	WESTBOURNE	PC-7265-P2	1965	8.00	VCP	0.013	325	191.00	181.61	176.15	0.01680
150300-150301	HUNTLEY-COUNTY		1961	15.00	VCP	0.013	50	179.00	168.99	166.00	0.05980
150370-150282	SHERWOOD	PC-5998-P7	1961	8.00	VCP	0.013	315	187.00	178.60	176.07	0.00800
150703-150270	CLINTON		1964	8.00	VCP	0.013	310	177.02	173.57	170.58	0.00960

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
160223-160308	BEVERLY PL		1967	8.00	VCP	0.013	207	163.50	153.48	152.55	0.00450
160246-160247	BEVERLY PL		1967	8.00	VCP	0.013	34	163.54	154.36	154.13	0.00660
160247-160248	BEVERLY PL		1967	8.00	VCP	0.013	220	164.00	154.13	152.67	0.00660
160248-160309	BEVERLY PL		1967	8.00	VCP	0.013	32	162.00	152.67	152.47	0.00660
160250-160309	WESTBOURNE	CC-7736-P2	1967	8.00	VCP	0.013	19	164.00	154.03	152.27	0.09360
160251-160250	WESTBOURNE	CC-7736-P2	1967	8.00	VCP	0.013	294	166.00	156.58	154.23	0.00800
160252-160251	WESTBOURNE	CC-7736-P2	1967	8.00	VCP	0.013	296	168.00	158.22	156.68	0.00520
160253-160252	WESTBOURNE	CC-7736-P3	1967	8.00	VCP	0.013	271	170.00	159.73	158.32	0.00520
160254-160253	WESTBOURNE	CC-7736-P3	1967	8.00	VCP	0.013	281	171.00	161.52	159.83	0.00600
160308-160309	COUNTY		1967	8.00	VCP	0.013	286	164.04	152.19	151.54	0.00230

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
170269-170319	ALLEY NO OF MELROSE	CI-140-34A	1926	8.00	VCP	0.013	333	178.00	169.10	167.90	0.00360
170326-170325	ALLEY NO OF MELROSE	CI-140-35D	1926	8.00	VCP	0.013	207	186.00	174.31	171.00	0.01600
170327-170326	ALLEY NO OF MELROSE	CI-140-35D	1926	8.00	VCP	0.013	225	189.00	177.39	174.43	0.01320
170328-170329	MELROSE	CI-140-35E	1926	8.00	VCP	0.013	193	189.00	178.27	177.50	0.00400
170329-170330	CROFT	CI-140-35E	1926	8.00	VCP	0.013	176	191.00	177.40	176.70	0.00400
170330-170332	RANGELY	CI-140-35C	1926	8.00	VCP	0.013	176	190.00	176.48	175.78	0.00400
170331-170330	RANGELY	CI-140-35C	1926	8.00	VCP	0.013	301	196.00	185.34	179.94	0.01800
170332-170333	RANGELY	CI-140-35C	1926	8.00	VCP	0.013	176	188.00	175.68	174.98	0.00400
170333-170334	ALFRED	CI-140-35C	1926	8.00	VCP	0.013	174	184.00	174.78	174.09	0.00400
170334-170335	ALLEY	CI-140-35C	1926	8.00	VCP	0.013	195	182.00	173.48	171.54	0.01000
170335-170307	ALLEY	CI-140-35C	1926	8.00	VCP	0.013	167	181.00	171.43	168.10	0.02000
170336-170337	ALFRED	CI-140-35B	1926	8.00	VCP	0.013	234	182.00	172.02	170.62	0.00600
170337-170338	ALFRED	CI-140-35B	1926	8.00	VCP	0.013	214	181.00	170.52	169.67	0.00400
170340-170339	CROFT	CI-140-35A	1926	8.00	VCP	0.013	334	184.00	176.27	173.60	0.00800
170341-170340	CROFT	CI-140-35A	1926	8.00	VCP	0.013	334	186.00	179.04	176.37	0.00800
170342-170341	CROFT	CI-140-35A	1926	8.00	VCP	0.013	136	188.00	180.23	179.14	0.00800

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Material	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
180343-180344	ORLANDO		1955	8.00	VCP	0.013	197	195.00	186.07	182.99	0.01560
180344-180345	ORLANDO		1955	8.00	VCP	0.013	202	192.50	182.89	179.75	0.01560
180345-180346	ORLANDO	CI-717-1A	1955	8.00	VCP	0.013	346	189.50	179.65	177.30	0.00680
180346-180347	ORLANDO	CI-717-1A	1955	8.00	VCP	0.013	299	186.00	177.20	174.81	0.00800
180349-180348	KINGS	CI-717-1B	1955	8.00	VCP	0.013	329	187.50	178.17	175.80	0.00720
180350-180349	KINGS	CI-717-1B	1955	8.00	VCP	0.013	329	191.00	181.59	178.30	0.01000
180351-180350	KINGS	CI-717-1B	1955	8.00	VCP	0.013	195	194.00	185.20	181.69	0.01800
180352-180351	KINGS	CI-717-1B	1955	8.00	VCP	0.013	195	197.00	188.81	185.30	0.01800
180353-180354	KINGS		1955	8.00	VCP	0.013	260	197.00	188.81	185.56	0.01250
180354-180355	KINGS		1955	8.00	VCP	0.013	260	196.00	185.56	182.31	0.01250
180355-180356	KINGS		1955	8.00	VCP	0.013	260	192.00	182.31	179.06	0.01250
180356-180357	KINGS		1955	8.00	VCP	0.013	260	187.50	179.06	175.80	0.01250
180359-180358	FLORES	CI-717-1C	1955	8.00	VCP	0.013	329	188.50	179.54	177.17	0.00720
180360-180359	FLORES	CI-717-1C	1955	8.00	VCP	0.013	329	192.00	183.59	179.64	0.01200
180361-180360	FLORES	CI-717-1C	1955	8.00	VCP	0.013	197	195.00	186.06	183.69	0.01200
180362-180361	FLORES	CI-717-1C	1955	8.00	VCP	0.013	197	198.50	189.32	186.16	0.01600

APPENDIX B

Sewer System Management Plan
of the
Sewer Maintenance Districts of Los Angeles County

Go to the following website link:
http://dpw.lacounty.gov/smd/smd/ssmp.pdf

APPENDIX C

SANITARY SEWER OVERFLOW RESPONSE INSTRUCTION MANUAL

CITY OF WEST HOLLYWOOD
SANITARY SEWER OVERFLOW RESPONSE INSTRUCTION MANUAL

Introduction

In accordance with State Water Resources Control Board (Board) Order No. 2006-0003, 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 prepare an Overflow Emergency Response Plan (Plan).

The City of West Hollywood (City) owns a sanitary sewer system composed of approximately 39.37 miles of gravity flow sewer collection lines and it is subject to the Board's Plan requirements. The overall purpose of this Plan is to identify measures to protect public health and the environment from sanitary sewer overflows (SSOs). A SSO is any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a 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). Sanitary sewer systems include only those systems owned by public agencies.

At a minimum, this Plan must include the following:

- Proper notification procedures;
- A program to ensure an appropriate response to all SSOs;
- Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Plan and are appropriately trained;
- Procedures to address emergency operations; and
- 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.

1.0 Sanitary Sewer Overflow Prevention

SSO prevention is a comprehensive approach to prevent SSOs from entering the waters of the state. SSO prevention is the City's main goal in collection system operations. All other activities are secondary to this primary goal of zero SSOs. It is this level of importance which drives the City to provide a better and more comprehensive program of collection system maintenance.

SSOs, however, do happen, even in the most well managed systems. When they do, mitigation is the first step that has to be made in response to the spill, be it small and easily contained or cleaned, to very large with many gallons involved.

The LACDPW Sewer Maintenance services include various programs that have been initiated to help get ahead of SSO events, keep SSO events low over time, and mitigate impacts if a SSO occurs.

1.1 Collection System Description

The City's sanitary sewer collection system is composed of approximately 39.37 miles of clay, gravity flow, 8" - 18" diameter collection lines and approximately 885 pre-cast concrete and brick manholes. The City's sanitary sewer and stormwater conveyance systems are separate. Some SSOs have occurred in the collection system at various locations around the City. Trouble areas where there is increased potential for SSOs have been identified and they are inspected and cleaned on a regular basis in accordance with the Los Angeles County Department of Public Works' "Periodic Planning and Scheduling" system.

1.2 Potential Sanitary Sewer Overflow Sites

Potential SSO locations in the City are typically a blocked/clogged or broken sewer pipe segment.

1.2.1 At a sewer collection pipe, a SSO may be caused by a restriction or blockage to flow in the sewer line, resulting in the flow backing up the sewer line and up a lateral, or until it reaches a level in a manhole that allows the water pressure to raise the manhole cover and results in the SSO. Flow restriction and blockage may be caused by foreign objects, roots, grit and sand buildup, and buildup of fats, oils or grease (FOG). At a sewer collection pipe segment, a SSO may also be caused by a broken sewer line segment due to a catastrophic seismic event, a flood, or deterioration of the line due to the age of the line. Contractors may also break sewer lines during excavation work.

1.2 Prevention Methods

SSO prevention is focused on potential blocked or broken sewer lines. The keys to prevention of SSOs include source control, hydraulic overload prevention, inspection, cleaning and repair, equipment preventive maintenance, equipment corrective maintenance, and employee training.

1.3.1 Source Control

As part of the Industrial Waste Program, the City has implemented a FOG Control Program to reduce FOG discharges from approximately 250 food service establishments (FSE) located in the City. In 1990, City adopted Title 20, Utilities, Division 2, Sanitary Sewers and Industrial Waste, of the Los Angeles County Code, which includes the authority to control FOG discharges. The Ordinance authorizes the City & County to require and regularly inspect grease control devices (grease traps and grease interceptors). The maintenance of these devices is the responsibility of the property or FSE owner. The City contracts with the Los Angeles County Department of Public Works (LADCPW) to operate the Industrial Waste Program, which includes

permit issuance and inspections of FSEs to ensure they adhere to required best management practices.

The City and LACDPW have surveyed the limited industrial and commercial users that discharge to the City sewer system to determine if they are discharging in a manner that may cause a SSO. LACDPW Industrial Waste staff routinely review of the building permit applications at the City's Department of Building and Safety for new FSE or other businesses that could cause adverse impacts to the sewer system. Prior to issuance of the Certificate of Occupancy, these applicants must procure all necessary Industrial Waste Permits.

1.3.2 Inspection, Cleaning and Repair

To reduce the possibility of SSOs, several primary activities have been implemented. The LACDPW conducts routine maintenance of sewer lines and manholes. Routine maintenance consists of hydro-jet or rodder cleaning of the collection lines to remove grit, debris, FOG and roots. Locations known as "hot spots" (which have a history of blockages) are set on the LACDPW's "Periodic Planning and Scheduling" system. These Periodics have cleaning done on frequencies of every 120 days, 60 days, or 30 days. Additionally, City also uses a private contractor to perform annual herbicide root control of sewer lines. Approximately 45,000 linear feet of sewer lines are treated with herbicide root control each year. In accordance with the warranty, the sewer lines are on a 3 year recurring cycle for the herbicide treatment.

1.3.3 Hydraulic Overload Prevention

For purposes of system evaluation and capacity assurance planning, the City has prepared and implemented a Sanitary Sewer Master Plan (MP) that provides hydraulic capacity of key sewer system segments for peak flow conditions.
The MP was completed in 1991 and updated in 2000. The following benefits are realized by preparing this comprehensive, long term MP:

- Defines both current and long term needs of the City Sanitary Sewer System;
- Provides a detailed inventory of the collection system as well as documents flow routing for use in the planning of new developments;
- Allows proactive management of the aging wastewater collection facilities rather than reactive management.
- Provides the basis for financial planning so that resources are available when needed; and
- Reduces the cost of planning, design, and construction;

The findings of this MP are based on the hydraulic and observed conditions, as well as computer modeling of the City's existing collection system. As development increases within the City, some pipelines may need to be replaced, relieved, rehabilitated, or modified to provide sufficient capacity in the system for the increased flows.

1.3.6 Operator Training

LACDPW provides the staffing and equipment for operation and maintenance of the City sewer system. LACDPW has developed a Sewer System Management Plan for the sewer lines under their responsibility. All LACDPW operators are aware of and properly trained to implement the provisions and procedures of the Plan. Operators must fully understand the response protocol for SSO events and are notified of any changes to the Plan. If major response protocols are revised, operators are retrained to assure full understanding of SSO emergency response protocol. Lack of training can lead to a slower and less effective response during an emergency event. The State Water Board has signed a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) to develop a training course in response to the requirements of the WDR. The course is intended to educate participants about the terms of the WDR and use of the online SSO database, as well as development of an SSMP. Training is conducted using a team format where participants will work through case studies and enter data into a database simulation via laptops. Current response staff has completed the training; however follow-up training or training for new employees may be required in the future.

SSO training has been held for all LACDPW collection system operators and supervisors. In addition training has been held for City Public Works Staff, City Street Maintenance Staff and City Code Compliance Officers. In order for collection system operators to identify and respond to SSOs, they have been made aware of what constitutes an SSO, the problems that create a SSO, the appropriate response to a SSO, and the SSO reporting requirements. Routine training is the only means of keeping SSO issues fresh in the minds of those individuals that are most likely to encounter a SSO.

2.0 Sanitary Sewer Overflow Response

Labor, materials, equipment and other resources will be mobilized by the City and LACDPW to respond to a SSO and control or limit the volume of untreated or partially treated wastewater discharged, terminating the discharge, and recovering and properly disposing of as much of the SSO volume as is possible, including any wash down water that is used. In the event of a failure in a segment, upstream dischargers may be required to stop flow while the segment is being repaired. Repairs will be initiated as soon as possible and the duration kept as short as possible.

Should a SSO occur in which untreated or partially treated wastewater enters the storm drain system, all feasible steps must be taken to prevent wastewater from discharging to flood control channels and waters of the United States, by blocking the storm drainage system and removing the wastewater from the storm drains. Mitigation and containment activities may include:

- Interception and rerouting of untreated or partially treated wastewater flows around the failure that produced the SSO;

- Vacuum truck recovery of SSO and wash down water;
- Cleanup of debris at the overflow site;
- System modifications to prevent future SSOs in the same location;
- Sufficient sampling to determine the nature and impact of the discharge; and
- Public notification to minimize public exposure to the SSO.

2.1 Notification

A member of the public, a City employee, another agency employee (county, state, etc.) may detect a SSO, or report suspicious circumstances (odor, flooding, etc.) which indicate the possibility of a SSO. Whether a SSO is located along a gravity pipeline it is possible that an employee making the discovery or receiving the report of a SSO will be alone at the time the report is received. Therefore, it is extremely important that the person making the discovery or receiving an initial report is capable of identifying the incident as a SSO and that this person notify the LACDPW Dispatcher of the SSO and its location.

Notification is the first action that should be taken, regardless of the size, volume, cause, or corrective actions that could be taken. By communicating that a SSO exists, additional support and aid can be sent to the scene. If a SSO event is not reported immediately and the employee decides to attempt to halt the overflow, the employee may become injured or incapacitated and then the SSO is not only continuing, but no one else knows the SSO is occurring and aid will not be dispatched. In any emergency event, including a SSO, the initial response should always be NOTIFCATION. The following information is provided to assist a notifier with communication and notification.

2.1.1 Collection System Owner

City of West Hollywood
8300 Santa Monica Blvd
West Hollywood, CA 90069
24 Hour Dispatcher for Public Works 310-854-5266

2.1.2 Contract Collection System Operator

Los Angeles County Department of Public Works, Sewer Maintenance
900 S. Fremont Avenue
Alhambra, CA 91803
24 Hour Dispatcher (626) 458-4357
Office: (626) 300-3382 Nicholas Agabobu – Sewer Program Management
Office: (626) 300-3367 Robert Swartz – Sewer Field Operations
FAX: (626) 300-3365

Contractors for Response/Cleanup Assistance

The contractors listed below may be called upon for additional resources including vacuum and jetting trucks, pumper trucks, pumps, portable tanks, and earth moving and transportation equipment.

United Storm Water (877) 71-STORM

CleanStreets (310) 538-5888
Coblentz Plumbing & Sewer contractors (818) 845-9300

2.2 Damage Assessment
Upon arrival at a possible SSO, the person first at the scene will assess the overall scope of the SSO and the impacts or potential impacts to public health, private property, the stormwater conveyance system (including nearby drainage channels) and the environment and try to determine the cause of the SSO, e.g. line blockage or break, etc. If necessary, this person will identify and request assistance from the indicated contacts or additional resources to correct the SSO or to assist in the determination of the cause.

2.3 Stopping Overflow
If the SSO can be halted closing a valve, shutting off water supply, or similar action, and in so doing no one is exposed to a hazardous situation, then the first person at the scene should take the appropriate action to halt the SSO. Often the SSO can only be halted temporarily. This may be sufficient to allow other work to be accomplished that eliminates the SSO, allowing a return to normal conditions, or the establishment of alternative movement of the wastewater to prevent the SSO.

2.4 Containment
If the person with first knowledge of the SSO has made the initial notification, and believes it is safe to take further actions, an attempt should be made to contain the SSO with materials and tools in the response vehicle, and to establish a means of preventing other people from entering the area of the SSO. Containment can be accomplished by blocking the flow in open ditches, gutters, and stormwater catch basins. If necessary, containment can accomplished by requesting the necessary resources from the indicated contacts. For instance, a request may be made for dump trucks hauling sand, vacuum and pumping equipment, sandbags, straw bails, and plastic bags filled with water, etc.

2.5 Control
Once LACDPW assistance has arrived on the scene, the senior person or a designee will take charge and direct all further responses. After notification, the response actions to take are: containment, stopping overflow, maintaining control of access to the scene, estimating volume of overflow and/or flow rate, collecting samples when appropriate, obtaining any other assistance and/or support as needed. Access restriction and hazard warnings will be posted to inform the general public of the hazard, as necessary.

2.6 Cleanup
Once the overflow has been stopped, the LACDPW and City will develop an appropriate clean up strategy to include the personnel assignments, equipment needed to complete the clean up, and appropriate disposal of collected material (wastewater, trash, debris, sand, etc.)

2.7 Reporting
The LACDPW Program Manager is responsible for the reporting of the SSO, unless LACDPW senior management or a City representative assumes the reporting responsibilities.

2.8 Review
Following a SSO event, the LACDPW Program Manager, LACDPW field operations staff and the City will review the event to identify what worked, what was good, what didn't work, and what needs to be changed to improve the response to a future SSO, and what can be done to prevent a future SSO.

2.9 Equipment

2.9.1 LACDPW – Owned Equipment – LACDPW Sewer Maintenance field staff will provide necessary equipment and vehicles immediate response to a SSO. Operators are familiar with available equipment and equipment operators to allow effective use of the available equipment. A partial list of equipment and resources from LACDPW is as follows:
• Response pick-up vehicles with spill control kits;
• Vacuum trucks with Jet Cleaner;
• Front-end Loaders;
• Forklifts;
•Portable Pump (diesel engine) with 30' Suction; 75' Discharge;
• Traffic control equipment; and
• Miscellaneous hand and power tools.

2.9.2 City-Owned Equipment – City owned equipment is also available for response. These include:
• Miscellaneous hand and power tools
• Pick-Up Truck Vehicles

2.9.3 Commercial rental businesses – Rental businesses are an excellent source of equipment that is often only needed for a short period of time. The Street Maintenance Supervisor is familiar with those businesses within the area and the types of equipment available and the means for procuring the rental quickly in an emergency situation, including but not limited to the following:
• Portable Pumps;
• Portable Electrical Generators; and
• Other Misc. Equipment.

2.10 Emergency Services

Emergency services are Fire and Sheriff. Fire and Sheriff may be instrumental in securing access to SSO that are captured and waiting for clean up to start. It is

important that the general public be kept from coming into contact with raw sewer from the sewer system.

3.0 Sanitary Sewer Overflow Cleanup

Cleanup may consist of the use portable pumps and vacuum trucks, brooms, shovels and other tools and equipment, and collecting the captured wastewater and returning it directly to the wastewater treatment plant or the sanitary sewer. Once the wastewater is removed from the capture site, the ground should be washed down and washdown water collected and returned to the sanitary sewer or wastewater treatment plant. Following washdown, the area should be disinfected, typically using bleach or lime. Disinfection may be required in instances where a ponded area of sewage cannot be pumped dry or sewage has mixed with additional standing water. Disinfectants may include bleach or high-test hypochlorite (HTH). A dosing of 10 to 12 ounces of HTH per 100 square feet of pond surface is generally appropriate for relatively shallow ponds. Deeper ponds may require higher dosages, which must be determined by the on-site manager or the local health department. Chlorine products are not acceptable for use in a body of water containing fish or other aquatic life. In cases where complete recovery of sewage is not practical and severe oxygen depletion is expected in existing surface waters, the use of portable aerators may be required.

Identifiable residue remains, such as sewage solids, rags, and other debris must be collected for proper disposal. In order to properly clean up a SSO and mitigate potential effects, several actions may be taken, including but not limited to:

- Application of absorbent material;
- Excavation and disposal of affected soil and used absorbent;
- Flushing of the overflow site with clean (generally potable) water;
- Application, containment and recovery of any chlorinated wash-down water; and
- Return of all wash-down water to the sanitary sewer system.

3.1 Bypass Pumping and Pump/Haul Response Activities

Manhole-to-manhole bypass pumping should be an anticipated method of emergency response for routing flows around failed segments. If the manholes within the subject areas are accessible in the event of a failure, these bypass pumping systems would be capable of routing effluent through an alternate conduit from manhole(s) upstream of the failure to manhole(s) downstream of the failure, thereby isolating the problematic segment. Based on availability at the time of the SSO occurrence, as well as the general magnitude of the required bypass pumping system, emergency contractors may be able to utilize small-diameter (6-inch) flexible PVC piping on the suction and discharge sides of the bypass pumping operation to save the set-up time associated with laying rigid steel pipe. This flexible piping is typically rated up to 50 psi, and when assembled, is nearly watertight. Using a manifold, for example, up to twelve 6 – inch lines may be connected in parallel to a single 16-inch pump to achieve greater flow rates. A full bypass pumping system utilizing this type of piping may be assembled within one or two days. Should flow rates or specific configurations require greater pipe diameters or piping distances, conventional steel piping may be supplied to the site and

assembled. Depending on the complexity of the bypass pumping scenario, this process may take up to one or two weeks.

Under wet weather conditions and/or conditions removed from a source of electricity (e.g. generators), diesel pumps may be supplied over electric pumps. Certain diesel pumps, while providing an additional measure of safety over electric pumps in wet weather conditions, can also function quietly when sound-attenuation devices are used. Under lower head conditions, one 16-inch, 500-hp diesel pump may provide up to 10,000 gpm of pumping capacity. Under greater required suction heads and/or pumping distances, multiple pumps maybe used in series (i.e., booster pumps) to maintain the same flow rate. Standby/redundant pumps should be furnished to prevent system downtime. Diesel pumps and diesel generators (to power electric pumps) will require refueling if operated for extended periods. Depending on the capabilities of the specific emergency response contractor(s), supplementary skid-mounted fuel tanks may be able to be delivered to the bypass pumping site (according to bypass pumping contractors, up to 750 gallons/tank) to allow continuous operation of the pumps for extended periods without refueling. Depending on applicable regulations, secondary containment structures (for example, polyurethane-coated fabric containment berms) may be required for these tanks. As an alternate source, tanker trucks may be able to be contracted to provide scheduled deliveries of fuel to the job site. Several items must be considered when planning for bypass pumping operations including:

- Peak and average flow rates that will require pumping after flow minimization efforts have occurred;
- Pump site access at both the suction and discharge points;
- Pipeline alignment, including traffic control and crossings of either roadways or driveways;
- Availability of equipment;
- Time required to install equipment; and
- Coordination with local jurisdictions.

Typical pump and haul initial response activities by LACDPW for a SSO would include:

- Response crews and vacuum truck equipment arrive at the SSO site;
- Implement first response mitigation and containment activities;
- Vacuum truck recovery of SSO and wash down water;
- Haul recovered SSO liquid, debris and wash down water to wastewater treatment plant; and
- Address traffic control and access to discharge point.

3.2 Additional Flow Reduction Measures

Under scenarios of multiple, complex, or difficult-to-access SSO causing failures, significant time may pass before permanent repairs may be fully executed. During this time, additional temporary bypass pumping systems would need to be implemented by LACDPW the City to minimize pipeline flows and further damage and SSOs. These additional plans may include a limitation on increased discharge flows for existing users, and/or a temporary halt to the construction of new connection laterals to the collection system.

3.3 Traffic and Crowd Control

Traffic and crowd control measures vary based on the size and potential impact of the overflow event. When appropriate, local sheriff, fire department, and City contacts should be notified to aide in addressing traffic and crowd control issues.

3.3.1 Small Spill (Less than 1,000 gallons)
- Setup traffic cones to direct traffic from spill area
- Use staff personnel to control traffic and pedestrians

3.3.2 Medium Spill (1,000 gallons to 10,000 gallons)
- Contact Member Agencies as needed;
- Perform lane closures as needed;
- Close any affected entrances or exits from all public and private facilities;
- Place proper signage for any lane closures including contaminated area signs;
- Inform local law enforcement and/or fire department of lane/road closures and traffic control; and
- Use caution tape and barricades to protect pedestrians from contaminated areas.

3.3.2 Large Spill (Greater than or equal to 10,000 gallons)
- Contact Member Agencies as needed;
- Inform local sheriff's department of any law enforcement needed for road closures and traffic control;
- Inform local fire department of lane and road closures;
- Delegate the responsibilities to Member Agency team members to inform the public of hazards;
- Use signage to inform public of potential hazards to public health and safety; and
- Block public access to hazards using barricades, cones and caution tape.

3.4 Public Health Notification

In the event of a SSO, the LACDPW and City must determine the need to post notices of polluted surface water bodies or ground surfaces in order to protect public health. Notices may only warn of potential public health risks due to sewage contamination, but do not necessarily prohibit the use of the affected land or water for recreation, unless otherwise stated. The postings must be displayed for five days. Public notification may include signs, hangers on the front doors of potentially affected residences and businesses, or pre-scripted news releases to the printed or electronic news media for immediate publication or airing on local radio and/or television stations as appropriate.

3.5 SSO Sampling and Data Collection

Small SSO that are contained, cleaned up and disinfected will most likely not require

sampling. However, SSOs that enter a flowing receiving stream should be sampled. The LACDPW will have the sample containers that are used for sampling the following pollutants:

- Biochemical Oxygen Demand;
- Chemical Oxygen Demand;
- Total Suspended Solids;
- Total Solids;
- Total Dissolved Solids;
- Heavy Metals;
- Fat, Oil & Grease;
- Petroleum-Based Oil & Grease;
- Volatile organic compounds;
- Semi-volatile and non-volatile organic compounds; and bacterial testing, such as, total Coliform and Fecal Coliform bacteria.

The decision to collect and analyze samples is to be made by the LACDPW senior operator or manager, in-charge at the SSO scene. If sampling and analysis is needed, only those pollutants that are suspected in the discharge should be collected. If there is any question about what needs to be sampled and analyzed, it is best to collect samples and preserve them so that a decision can be made later when the immediate crisis has been resolved. Very few samples have to be analyzed immediately, such as, pH (within 15 minutes of collection) and bacteria (within 6 hours of sampling). Other pollutants such as BOD can be held for 48 hours if properly preserved, and pollutants such as Heavy metals can be held for 6 months if properly preserved. Sample preservation should follow the approved preservation and holding times found in the Federal Code of Regulations, Volume 40, Part 136. (40 CFR 136). This source also provides a list of the approved analytical methods for the analysis of the pollutants listed above.

If the SSO is large in volume and it is absorbed into the soil before the wastewater can be collected and returned to the sanitary sewer, a soil sample may be appropriate, or if ground monitoring wells are nearby, samples of the ground water may be appropriate. If the SSO is small in volume, absorption into the soil may only result in the soil being cleaned up by the bacteria in the soil with no harm to the environment. Access to an area where the soil has absorbed the SSO should be restricted until it can be determined that the area is no longer contaminated by fecal bacteria. Fecal bacteria do not survive well out of a water environment or exposure to the sun. Follow up Fecal Coliform testing may be needed to determine when the SSO site is safe. If the area is, disinfected, testing will probably not be required to determine that the soil and general environment of the SSO site is pathogen free.

3.6 Overflow Route

Once the immediate response has been completed, the LACDPW in-charge manager, or operator, should document the most likely route for the movement of the SSO wastewater from the overflow site to the waters of the state. A brief sketch of the site and flow direction, will help when reconstructing the SSO events.

3.7 Determine Volume of Overflow

This is important, in that SSOs of greater than 1,000 gallons must be reported to more agencies and more immediately than smaller SSOs. In addition, the estimated volume of the SSO must be reported to determine the severity of the SSO. The volume can be calculated based on the surface area and depth of the SSO. The length of time the SSO continued and the volume or source rate can be used to estimate the total volume of the SSO.

4.0 Overflow Reporting Plan

4.1 Categorize SSO

4.1.1 Category 1 - Discharges of untreated or partially treated wastewater of any volume resulting from a failure or flow condition in the City's sanitary sewer system that:

a. Reach surface water and/or reach a drainage channel tributary to surface water; or
b. Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin.

4.1.2 Category 2 – Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from a failure or flow condition in the City's sanitary sewer system that do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully captured and disposed of properly.

4.1.3 Category 3 – All other discharges of untreated or partially treated wastewater resulting from a failure or flow condition in the City's sanitary sewer system

4.1.4 Private Lateral Sewage Discharge (PLSD) – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the City Sewer system or from other private sewer assets. PLSDs that the City becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

The LACDPW in-charge manager, or operator should attempt to record the time the SSO started. This should not be a guess. To determine the start time, assume that the SSO started when a person can confirm the SSO was observed. This can be the time the SSO was reported, or a statement from the general public with the time they observed the SSO flowing. The LACDPW in-charge manager/operator should record the time the SSO was halted. The time the SSO cleanup was completed and the cleanup actions should also be recorded. If the SSO was due to system failure, loss of electrical power, blockage of sewer line, or broken line; the SSO event is not fully complete until the system has been returned to normal operations. The LACDPW in-charge operator/manager should maintain a written log of the actions taken from the start of the SSO response until the SSO is fully complete and returned to normal.

5.0 Regional Board Reporting Timeframes

5.1 SSO that Reaches Water of the State (CAT-1) or is over 1000 gallons (CAT-2)

If the SSO reaches the water of the State or is over 1000 gallons, the following actions must be taken**:**

- Call LA County Health (within 2 hours)
- Call RWQCB (within 2 hours)
- Call Cal OES (within 2 hours)
- Report on CIWQS as soon as possible but not later than three businesses days
- Send e-mail to RWQCB within 24 hours with verification of Cal OES and DHS contact
- Send draft report to CIWQS within 3 business days of the enrollee becoming aware of the SSO by citizen complaint or discovery.
- Send final certified report to CIWQS within 15 days of spill.
- Submit final technical report on CIWQS within 45 days (CAT-1) of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters.

5.2 SSO Under 1000 gallons and Does Not Reach Waters of the State (CAT-3)

Although not legally required, call Department of Public Health to report sewer spill. If the SSO is less than 1000 gallons and does not reach the water of the State, a final certified report must be submitted on CIWQS within 30 days after the end of the calendar month when the SSO occurred.

5.3 Private Lateral Sewage Discharges – All sewage discharges that meet the above criteria for private lateral sewage discharges may be reported to the Online SSO Database based upon the City's discretion. If a private lateral sewage discharge is recorded in the SSO Database, the City must identify the sewage discharge as occurring and caused by a private lateral, and a responsible party (other than the City) should be identified, if known.

5.4 No SSOs During a Calendar Month - the City will provide, within 30 days after the end of each calendar month, a statement through the Online SSO Database certifying that there were no SSOs for the designated month.

In the event that the SSO Online Database is not available, the City must fax all required information to the appropriate Regional Water Board office in accordance with the time schedules identified above. In such event, the City must also enter all required information into the Online SSO Database as soon as practical.

6.0 Online Database

The SSO database is used to collect and store an enrollee's (defined as an agency which is covered under the Sanitary Sewer Order) facility and organizational information

(collection system questionnaire) and details of all SSOs which occur from an enrollee's sanitary sewer system (SSO reports). All of the information collected in the SSO database is entered by enrollees. State and Regional Water board staff cannot enter or modify any information in the SSO database. The SSO database is accessed through the California Integrated Water Quality System (CIWQS) website, which is the State Water Board's regulatory and water quality information management system. Enrollees will automatically be assigned a CIWQS account to access the SSO database. The implementation of the SSO database has been phased in throughout the state on a regional basis as discussed below.

Access to the SSO database allows enrollees to complete the collection system questionnaire and submit SSO reports as required by the Sanitary Sewer Order. The Sanitary Sewer Order requires enrollees to complete the collection system questionnaire within 30 calendar days of receiving their CIWQS user ID and password.

6.1 Online Reporting

Once the Legally Responsible Official has received their CIWQS user ID and password, the enrollee can register additional staff for individual access to CIWQS for submitting agency information to the SSO database. Instructions regarding this registration process are available on the CIWQS Help Center webpage.

These accounts will allow controlled and secure entry into the SSO Database. Additionally, within thirty (30) days of receiving an account and prior to recording SSOs into the SSO Database, the City must complete the "Collection System Questionnaire", which collects pertinent information regarding an City's collection system. The "Collection System Questionnaire" must be updated at least every 12 months.

6.2 Draft Reporting – Minimum Data

Draft reports for Category 1 & Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within 3 business days of the City becoming aware of the SSO by citizen complaint or discovery. At a minimum, the following mandatory information must be included for each category of SSO:

6.2.1 Draft Category 1 SSOs:

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.

6.2.2 Draft Category 2 SSOs:

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.

6.2.3 Private Lateral

(1) All information listed above (if applicable and known), as well as;
(2) Identification of sewage discharge as a private lateral sewage discharge; and
(3) Responsible party contact information (if known).

6.3 Certified SSO Reporting

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. 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 30th). At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

6.3.1 Certified Category 1 SSOs: At a minimum, the following information shall be reported for a Certified Category 1 SSO report, in addition to all fields in Section 6.2.1:

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 must 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.

6.3.2 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 6.2.1 above for Draft Category 1 SSO and Items 1-9, and 17 in section 6.3.1 above for Certified Category 1 SSO.

6.3.3 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 6.2.1 above for Draft Category 1 SSO and Items 1-6, and 17 in section 6.3.1 above for Certified Category 1 SSO.

7.0 Reporting to Other Regulatory Agencies

These reporting requirements do not preclude the City from reporting SSOs to other regulatory agencies pursuant to California state law. These reporting requirements do not replace other Regional Water Board telephone reporting requirements for SSOs

Agency Notification – Contact within 2 hours of Supervisor/Crew Notification

Public Health Department	(213) 974-1234
State Office of Emergency Services	(800) 852-7550
Los Angeles Regional Water Quality Control Board	(213) 576-6600 (213) 620-6140 fax
LACDPW Flood Control Maintenance	(626) 458-4357

8.0 Certification of Final Reports

All final reports must be certified by an authorized person as required by Provision J of the Order. Registration of authorized individuals, who may certify reports, will be in accordance with the CIWQS' protocols for reporting.

The general workflow for the SSO database, which is utilized by the City and LACDPW to comply with the SSO reporting requirements, is as follows:

The City must report two types of information into the SSO database: sanitary sewer system/agency characteristics – collection system questionnaire and spill details – SSO report. The City's collection system questionnaire was completed before any SSO reports were submitted. Additionally, the collection system questionnaire was and will be updated annually. All SSOs from the City's sanitary sewer system must be reported to the SSO database. The reporting deadline for submittal of a SSO report depends on the classification of the spill.

The collection system questionnaire is an online form which contains questions regarding the relevant characteristics of the City's sanitary sewer system and agency. After initial login, the first major task an enrollee needs to perform is completing the collection system questionnaire. A new collection system questionnaire is accessed through the "Collection System Questionnaire" link on the SSO menu. The collection system questionnaire must be updated at least every 12 months, and this is done through the "Collection System Questionnaire" link on the SSO menu.

Along with completing the collection system questionnaire, an enrollee must also report all SSOs to the database. To begin a new spill report, the enrollee selects the "Reporting New SSO" link from the SSO menu. Then, the enrollee enters the information requested on the form. A spill report can exist at several different levels of completion: "work in progress", "draft", "ready to certify", and "certified". A "work in progress" SSO report is a preparatory draft of the report with limited required information and is intended only for the enrollee's use. To save a spill report as a "work in progress", the enrollee selects the "Save Work in Progress" button on the "SSO – General Information" screen. A SSO report in "draft" status is a working draft of the report with more required information than "work in progress" status. By submitting a report in "draft" status, the enrollee fulfills the initial, uncertified reporting requirement for a Category 1, 2, or 3 spill. The enrollee selects the "Submit Draft" button on the "SSO – General Information" screen to submit a report as a "draft". Once the spill report contains all the required information, it can be submitted for certification by selecting the "Ready to Certify" button on the "SSO – General Information" screen. A "ready to certify" SSO report that is complete and accurate is certified by the enrollee through first selecting the "Modify Existing SSO" link on the SSO menu. Then, the spill report to be certified must be located by using the "SSO – Search" screen. Next, the "Certify" button on the "SSO – General Information" screen for the specified report is selected. Finally, the report is certified by selecting the "Certify" button on the "SSO – Certifying a SSO Report" screen. The database will then display a confirmation of the report certification. An enrollee has fulfilled the final, certified reporting requirement for a Category 1,2, or 3 spill by submitting a certified report in the SSO database.

A spill report can be submitted directly as "ready to certify" without being submitted as a "work in progress" or "draft", assuming the enrollee has entered all the necessary information. When submitting a spill report, the enrollee can add supporting documentation such as pictures and reports by using the "Attachments" tab on the "SSO – General Information" screen. Additionally, the enrollee can include details about related parties (e.g., fire or police department responders) by selecting the "Spill Related Parties" tab on the "SSO – General Information" screen.

A "certified" SSO report can be modified by an enrollee to correct or add information, if necessary. To do this, an enrollee begins by locating the "certified" spill report through the "SSO – Search" screen after selecting the "Modify Existing SSO" link on the SSO menu. The "Amend" button on the "SSO – General Information" screen for the designated "certified" SSO report is then selected. The spill report is returned to "Submit Draft" status and can be modified. Finally, the spill report needs to be recertified after the necessary modifications have been completed.

If a sanitary sewer system doesn't have any SSOs for an entire calendar month, a "no spill certification" must be submitted ("Generate No Spill Certification" link from the SSO menu) by the enrollee. A "no spill certification" must be submitted within 30 calendar days after the end of each calendar month in which no spills occur. The database will display a confirmation of the "no spill certification" when completed.

The SSO database automatically sends email notifications to interested parties when spill reports are generated. When a SSO report is submitted in "draft" form ("Submit Draft" button selected) for the first time, an email notification is sent to the enrollee, responsible Regional Water Quality Control Board, and County Health Official (if known – this is a courtesy and not required by the Sanitary Sewer Order). Every time a report is submitted as ready for certification ("Ready to Certify" button) or certified ("Certify" button) results in email notifications being sent to the enrollee, responsible Regional Water Quality Control Board, and County Health Official (if known – this is a courtesy and not required by the Sanitary Sewer Order). However if a SSO report is saved as a "work in progress" ("Save Work in Progress" button), no email notifications are generated because the report is preliminary and only intended to be viewed by the enrollee.

As for database use by an enrollee, there are two levels of access available to staff entering the information: legally responsible officials (LROs) and data submitters. LROs have full access to enter information and certify spill reports. Data submitters, on the other hand, only have authority to enter information - they can't certify SSO reports, including a "No Spill Certification". An enrollee can have multiple LROs and data submitters to enter the necessary information into the SSO database for their sanitary sewer system.

9.0 Recordkeeping

Individual SSO records shall be maintained by the LACDPW for the City for a minimum of five (5) years from the date of the SSO. The LACDPW shall retain records of all SSOs, such as, but not limited to and when applicable:

a. Record of Certified report, as submitted to the online SSO database;
b. All original recordings for continuous monitoring instrumentation;
c. Service call records and complaint logs of calls received by the City;
d. SSO calls;
e. SSO records;
f. Steps that have been and will be taken to prevent the SSO from recurring and a schedule to implement those steps;
g. Work orders, work completed, and any other maintenance records from the previous 5 years which are associated with responses and investigations of system problems related to SSOs;
h. A list and description of complaints from customers or others from the previous 5 years; and
i. Documentation of performance and implementation measures for the previous 5 years.

If water quality samples are required by an environmental or health regulatory agency or State law, or if voluntary monitoring is conducted as a result of any SSO, records of monitoring information shall include:

a. The date, exact place, and time of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;

e. The analytical technique or method used; and,
f. The results of such analyses.

ATTACHMENT A

RAPID RESPONSE SERVICE PROGRAM AUTHORIZATION FORM

A property owner who has been impacted by a sewage back-up can sign this form to give authorization to the City's Claims Administrator, Carl Warren & Company, to deploy a Rapid Response Service for emergency clean up on the private property.

City of West Hollywood
California 1984

CITY OF WEST HOLLYWOOD

CITY HALL
8300 SANTA MONICA BLVD.
WEST HOLLYWOOD, CA
90069-6216
TEL: (323) 848-6375
FAX: (323) 848-6564

DEPARTMENT OF PUBLIC WORKS

City Claims Administrator
CARL WARREN & COMPANY
PHONE (800) 572-6900 FAX (866) 254-4423

RAPID RESPONSE SERVICE PROGRAM AUTHORIZATION

Owner/Occupant Name: _____

Address: _____

Date: _____ Phone: _____

Dear Sir/Madam:

The City of West Hollywood (City) is sorry for the inconvenience you are going through. We recognize that sewer back flow incidents can be very overwhelming and require immediate action. To minimize your inconvenience as a result of this incident, the City utilizes a Rapid Response Service Program. Please read this document so you understand your options.

The City's claims administrator, Carl Warren & Company, is your point of contact and will assist you in the recovery process. Their phone number is (800) 572-6900. A representative from Carl Warren & Company will be contacting you within 24 hours.

Carl Warren & Company has a direct payment relationship with companies that specialize in emergency sewage/water removal remediation and can be on site a soon as possible. Although the City and Carl Warren & Company cannot warranty or guarantee the work performed by these companies, Carl Warren & Company, will pay these companies directly for the reasonable cost of all emergency services (clean up, dry out, and testing) for the damages proximately caused by the City of West Hollywood, should you choose them. **You will have no out of pocket expenses for this work.** By signing the authorization below, we will arrange for a company to be on site as soon as possible.

You are entitled to use any company you wish. Should you choose another company, you are responsible for all costs of the emergency clean-up services provided. The City will then reimburse you for reasonable costs to clean and restore your property with respect to the damages proximately caused by the City. Costs for additional damages caused by a delay in providing emergency services will be your responsibility.

Attached is a Claim for Damages, which must be filed with the City of West Hollywood. The Carl Warren & Company representative will be available to assist you in completing the claim form when they meet with you.

Please Note: It is imperative that water damage be mitigated as soon as possible to prevent additional damage. The City cannot be responsible for additional damage due to lack of timely action on your part.

I authorize Carl Warren & Company to assign this remediation to a direct payment company.

Signature _____ Date: _____

I acknowledge receipt of this letter.

Signature _____ Date: _____

A copy was provided to the constituent by:

Signature _____ Date: _____