

SEWER SYSTEM MANAGEMENT PLAN

PREPARED BY

CITY OF SAN JUAN CAPISTRANO



PREPARED
FOR

STATE WATER RESOURCES CONTROL BOARD
ORDER NO.2006-003-DWQ
GENERAL WASTE DISCHARGES
REQUIREMENTS

MAY 2, 2009

Updated August 2014

Table of Contents

	Page
Executive Summary	
List of Acronyms	
Introduction	1
I. Goal	6
II. Organization	7
III. Legal Authority	9
IV. Operation and Maintenance Program	12
V. Design and Performance Provisions	16
VI. Overflow Emergency Response Plan	18
VII. FOG Control Program	22
VIII. System Evaluation and Capacity Assurance Plan	25
IX Monitoring, Measuring and Program Modifications	27
X. SSMP Audit	29
XI. Communication Program	30

APPENDICES

Appendix A – City of San Juan Capistrano Utilities Organization Chart

- 2014 Organization chart
- SSO response contacts
- Utilities Division Call down list
- Sanitary Sewage Reporting guidelines (abbreviated form)
- Sanitary Sewage Reporting guidelines (expanded form)

Appendix B – Design/Construction/guidance documents

- 2012 Greenbook section 306: Underground Conduit Construction
- 2012 Greenbook section 500: Pipeline rehabilitation
- City of San Juan Capistrano Standard Plans
- Municipal Code Section 9-4.523: Sanitary Sewer design guideline

Appendix C – Municipal Code Ordinances

- Ordinance no. 982: wastewater discharge regulations
- Ordinance no. 956: FOG ordinance – use of sanitary sewer facilities by food service establishments and other private systems discharging to the public sewer
 - o Grease interceptor installation requirements
 - o Grease control management certification form

Appendix D – Sewer Spill estimation guide

Appendix E – Sanitary Sewer Overflow Prevention Plan and Sanitary Sewer Overflow Response Plan

Appendix F – State orders:

- State Water Resources Control Board Order No. 2006-003-DWQ
- Amendment of Statewide Monitoring and Reporting Program, MRP Order 2013-058-EEC

Appendix G – Sanitary Sewer System Master Plan and Rehabilitation Program

Maps

1. Sanitary Sewer System
2. Sewer Problem Areas
3. Sanitary Sewer System Master Plan and Rehabilitation Program recommended projects
4. Sanitary Sewer Master Plan project status

City of San Juan Capistrano
Public Works and Utilities Department
Sewer System Management Plan

Executive Summary

The City of San Juan Capistrano operates under the direction of the Council form of municipal government. The Council implements policy and ordinances and establishes administrative policy for the City. The City Manager is responsible for implementing City policy and the overall administration of day-to-day operations for the City of San Juan Capistrano.

The City's Public Works and Utilities Department is responsible for operation and maintenance of all facilities owned by the City, including the wastewater collection system and the water utility.

The Wastewater Collection Division is a division of the Public Works and Utilities Department and is responsible for the management, operation, maintenance and capacity assurance of the City's sanitary sewer collection system, which includes inspecting, cleaning, repairing and monitoring the gravity sewer lines, force mains, and lift stations.

As part of the update of the SSMP, staff has updated all contacts, reporting procedures and guidelines, organization chart, sewer spill estimation guide, update of the sewer masterplan recommended projects.

Collection System Overview

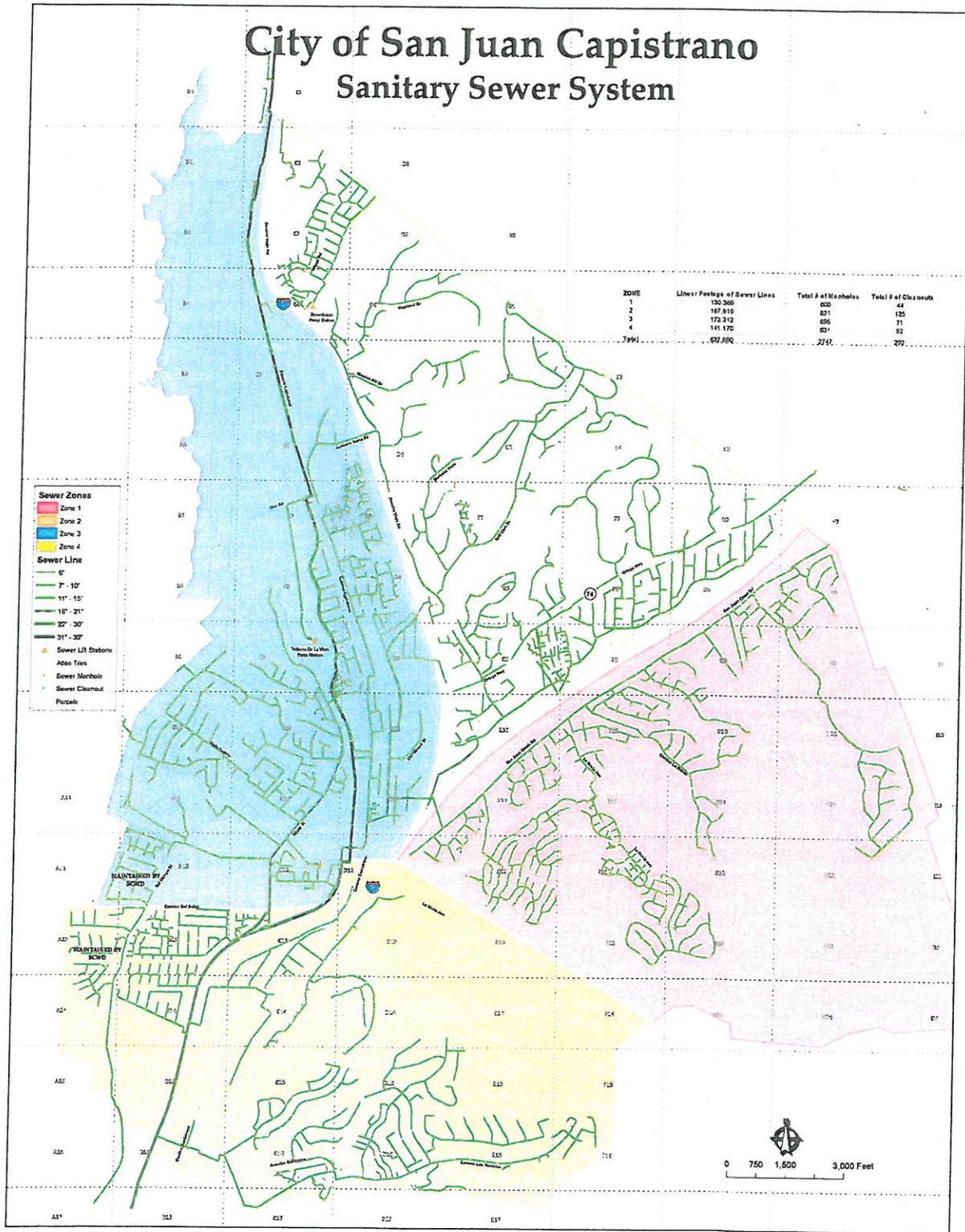


Fig 1: City of San Juan Capistrano sewer system

The City has about 120 miles of sewer lines and 2 lift stations, and the system discharges into the SOCWA Jay B. Latham Regional Treatment Plant. Figure 1 shows the boundary of the City of San Juan Capistrano geographical service area. over time.

The City of San Juan Capistrano is permitted as a satellite wastewater collection agency to collect and convey wastewater for treatment to the South Orange County Wastewater Authority (SOCWA) under a National Pollution Discharge Elimination Permit issued by the State of California through the San Diego Regional Water Quality Control Board (RWQCB). The RWQCB is authorized to enforce the Federal Clean Water Act (CWA) in south Orange County and the western portions of San Diego and Riverside counties.

Statistical records indicate that prior to the creation of the SSMP, the City of San Juan Capistrano had a moderate Sanitary Sewer Overflow (SSO) rate in comparison to other communities in California of similar size. The majority of SSO's that have occurred in the City's service area have occurred from blockages in private sewer laterals or from debris or material disposed. The average volume spilled per SSO has been less than 100 gallons per event. Additionally, all SSOs have been mitigated in a timely manner and have not negatively impacted public health or the environment.

The purpose of the SSMP is to describe the activities San Juan Capistrano uses to manage the wastewater collection system to further eliminate preventable SSOs, minimize those SSOs that do occur, and protect both public health and the environment.

LIST OF ACRONYMS

AB	Assembly Bill
BAT	Best Available Technology
BMP	Best Management Practice
Cal EMA	California Emergency Management Agency
CASA	California Association of Sanitation Agencies
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan or Capital Improvement Program and Capital Improvement Project
CIWQS	California Integrated Water Quality System
CM	Corrective Maintenance
CMMS	Computerized Maintenance Management System
CDFG	California Department of Fish and Game
CWEA	California Water Environment Association District
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
EUD	Environmental Utilities Department
FOG	Fats, Oils, and Grease
FROG	Fats, Roots, Oils, and Grease
FSE	Food Service Establishments
GIS	Geographical Information System
GPS	Global Positioning System
GWI	Groundwater Induced Infiltration

GWDR	General Waste Discharge Requirements and/or Waste Discharge Requirements (WDR)
II	Inflow/Infiltration
ICS	Incident Command System
IERP	Integrated Emergency Response Plan
IWD	Industrial Waste Division
LRO	Legally Responsible Official
Mgd	Million gallons per day
MRP	Monitoring and Reporting Program
MSDS	Material Safety Data Sheets
NPDES	National Pollution Discharge Elimination System
NRC	National Research Council
O & M	Operation and Maintenance
OCHCA	Orange County Health Care Agency
OES	California Governor's Office of Emergency Services
Order	SWRCB Order No. 2006-0003-DWQ adopted May 2, 2006
PdM	Predictive Maintenance
PM	Preventative Maintenance
PMP	Preventative Maintenance Program
R&R	Rehabilitation and Replacement
RD/II	Rainfall Dependent Infiltration and Inflow
RWQCB	Regional Water Quality Control Board
SCAP	Southern California Alliance of Publicly Owned Treatment Works
SOP	Standard Operating Procedure of Standard Maintenance Procedure
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow

SSOPP	Sanitary Sewer Overflow Prevention Plan
SSORP	Sanitary Sewer Overflow Response Plan
SWRCB	State Water Resources Control Board
TOC	Table of Contents
USA	Underground Service Alert
WOP	Waste Discharge Permit
WDR	Waste Discharge Requirements and/or General Waste Discharge Requirements (GWDR)
WW	Wastewater
WWTP	Wastewater Treatment Plant

SEWER SYSTEM MANAGEMENT PLAN

Introduction

The “Statewide General Waste Discharge Requirements for Sanitary Sewer Systems” (WDR), adopted by the State Water Resources Control Board (SWRCB) in 2006, requires that every public agency in California with more than one mile of sanitary sewers prepare a Sewer System Management Plan (SSMP) that defines the management, operation, and maintenance practices needed to prevent and mitigate the impact of sanitary sewer overflows (SSOs). This introductory chapter describes the sewage discharge prohibitions and provisions as stated in the WDR and provides an overview and historical perspective on the City of Berkeley’s sanitary sewer system. A copy of the WDR is included in **Appendix F** of this SSMP. Pursuant to California Water Code Section 13267(b), the City must also comply with the SSO “Monitoring and Reporting Program” (MRP), as amended in 2013, and all future revisions, included by reference in the WDR. A copy of the MRP is included in **Appendix F** of this SSMP.

The City has complied with all the mandatory elements of the WDR. The City’s first SSMP was completed in April 2009 and certified by the City Council in May 2009. This document constitutes the five-year update to the SSMP and reflects the most current information on the City’s sewer system management, operation, and maintenance programs. A copy of the WDR, MRP, and the certified SSMP is available to all personnel involved in management, operation, and maintenance of the City’s sanitary sewer system and to the public upon request.

WDR Prohibitions

To meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the City of San Juan Capistrano is required to comply with the following prohibitions:

- Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited, and
- Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

WDR Provisions

As stated in the WDR, the City agrees to meet the following provisions:

1. City must comply with all conditions in the WDR. Any noncompliance with the WDR constitutes a violation of the California Water Code and is grounds for enforcement action.
2. Nothing in the WDR shall be:
 - (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
 - (ii) Interpreted or applied to authorize a SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
 - (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual National Pollutant Discharge Elimination System permit or waste discharge requirements, superseding this WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
 - (iv) Interpreted or applied to supersede any more specific or more stringent waste discharge requirements or enforcement order issued by a Regional Water Board.
3. The City shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the City shall take all feasible steps to contain and mitigate the impacts of an SSO.
4. In the event of an SSO, the City shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. The City shall report SSOs in accordance with Section G of the WDR.
6. The City understands that in any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy, and, consistent with this policy, must consider the City's efforts to contain, control, and mitigate SSOs when considering the California Water Code 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider additional factors listed in Provision 6 of the WDR.
7. When an SSO occurs, the City shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

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

- (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure.
 - (ii) Vacuum truck recovery of sanitary sewer overflows and washdown water.
 - (iii) Cleanup of SSO-related debris at the overflow site.
 - (iv) System modifications to prevent another SSO at the same location.
 - (v) Adequate sampling to determine the nature and impact of the release.
 - (vi) Adequate public notification to protect the public from exposure to the SSO.
8. The City shall properly manage, operate, and maintain all parts of the sanitary sewer it owns and operates, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.

9. The City shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally accepted accounting practices.
10. The City shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the City's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the City.
11. The City shall develop and implement a written SSMP and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publically available at the City's office and/or available on the internet. This SSMP must be approved by the City's governing board at a public meeting.
12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.
13. The elements of the SSMP include:
 - (i) Goal
 - (ii) Organization
 - (iii) Legal Authority
 - (iv) Operations and Maintenance Program
 - (v) Design and Performance Provisions
 - (vi) Overflow Emergency Response Plan

- (vii) FOG Control Program
- (viii) System Evaluation and Capacity Assurance Plan
- (ix) Monitoring, Measurement, and Program Modifications
- (x) SSMP Program Audits
- (xi) Communication Program

14. The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the City of San Juan Capistrano City Council is required when significant updates to the SSMP are made. To complete the re-certification process, the City shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described in Section D.14 of the WDR.

I. GOAL

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

The City of San Juan Capistrano recognizes the importance of protecting ocean water quality by preventing sewer spills and is supplementing its existing sewer system management program with the requirements of the State regulations. The City has prepared and implemented this SSMP to support this purpose. The City will monitor the effectiveness of this SSMP to determine if deficiencies exist and will take appropriate steps to correct them.

A. Regulatory Requirements for the Goal Element

The WDR includes the following goal for the SSMP:

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 to prevent SSOs and mitigate any SSOs that do occur. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.

B. SSMP Goals

The City's specific SSMP goals are:

1. To properly manage, operate, and maintain all portions of the City's wastewater collection system.
2. To provide adequate capacity to convey the peak wastewater flows. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the design storm event.
3. To minimize the frequency of SSOs.
4. To mitigate the impacts that are associated with any SSO that may occur.
5. To meet all applicable regulatory notification and reporting requirements.

II. ORGANIZATION

THE SSMP MUST IDENTIFY:

- A. **The name of the responsible or authorized representative as described in Section J of the Order.**

All signed reports required by the WDR are signed by representative of the City of San Juan Capistrano identified as Legally Responsible Official. The name and his responsibility is shown in the table below.

Name	Title	Responsibility
Tom Johnson	Utilities Superintendent	Field crew supervisor, oversees crews during SSOs, Certifies Final SSO reports

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

The City of San Juan Capistrano Public Works & Utilities Department is responsible for implementing the Sanitary Sewer Management Plan (SSMP). A set of organization charts that includes names and telephone numbers of sewer maintenance personnel is contained in Appendix A along with their individual responsibilities for implementing this SSMP. The charts also outline the lines of authority for administrative and field staff.

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

The Senior Civil Engineer/ Environmental division is responsible for oversight of the reporting process. Depending on the time of day in which SSOs occur, calls for the reporting of SSOs occur in two ways as reported in Section VI and the Sewer System Overflow Emergency Response Plan included in Attachment B. During normal working office hours, calls of SSOs are reported to the Public Works & Utilities Administrative Division at 949-234-4400.

After normal working hours including weekends and holidays, calls are forwarded to the Duty person, who would respond, investigate and request assistance as needed. The Duty person would contact the City's consultant who provides a vacuum truck and assists in containing and mitigating the spill. The Duty person will document all actions taken and observation. The duty person will be responsible to verify that the resources agencies are contacted and provides reports to the state and affected regulatory agencies including the Orange County Health Care Agency, and procedures outlined in the Sanitary Sewer Overflow Emergency Response Plan are followed. Responding staff will enter the spill information on the CIWQS and the Legally Responsible Person, LRP will review the spill report and certify it.

III. LEGAL AUTHORITY

Each Enrollee must demonstrate their sanitary sewer system uses ordinances, service agreements or other legally binding procedures, that it possesses the necessary legal authority to:

- A. Prevent illicit discharges into its sanitary sewer system (examples may include I/I, storm water, chemical dumping, unauthorized debris and cut roots, etc.);
- B. Require that sewers and connections be properly designed and constructed;
- C. Ensure access for maintenance, inspection, or repairs for portions of the laterals owned or maintained by the public agency;
- D. Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
- E. Enforce any violation of its sewer ordinances.

The City of San Juan Capistrano's legal authority for items A-E is established by the following: (responses listed in corresponding order to the items above)

1. CSJC Ord 982 (Appendix C)

This is a general ordinance for the South Orange County Wastewater Authority, SOCWA, which treats all of the wastewater from the City of San Juan Capistrano. The ordinance contains requirements on what can be disposed of in the sewers, prohibited discharges, authority to carry out ordinance and enforcement.

2. City of San Juan Capistrano Specifications and Standard Plans, Standard Specifications for Public Works Construction (See Appendix B for specific sections) and Design and Construction Requirements of Sanitary Sewers.

Design of sewers in the City's collection system is based on the requirements contained in Design and Construction Requirements of Sanitary Sewers by the City of San Juan Capistrano Municipal Code Sec 9-4.523. It contains design requirements such as maximum peak flow allowed, minimum velocity, depth of

cover, land use density, manhole spacing, materials and other criteria used in designing sewers within the City. While not formally incorporated into the City's municipal code, it is used by the various divisions involved in the design of sewers. The City of San Juan Capistrano Standard Plans Series 800 provides information on constructing sewer manholes and other elements related to sanitary sewers.

Through its municipal code, the City has adopted the Standard Specifications for Public Works Construction more commonly known as the Green Book. This document, particularly sections 306 and 500 are used in the construction of City sewers. Section 306 Underground Conduit Construction covers sewer pipe construction and includes information on excavation, trenching, bedding, joints, backfill, air pressure tests, water pressure tests and other items related to the installation and acceptance of underground pipes. Section 500, Pipeline Rehabilitation, includes information on various lining methods that can be used to rehabilitate underground pipes.

3. CSJC Section 9-4.523

Most laterals in the City of San Juan Capistrano are privately owned. It is the responsibility of the owner to maintain the private lateral in good working condition free of obstructions. In cases where a sewer lateral is required to be maintained by the City, an easement is recorded that contains provisions for access, maintenance and inspection by the City.

4. CSJC Ord 956/SJC MC Sec 6-13 Sanitary Sewer Regulations Applicable to Food Service Establishment

The fats, oils and grease (FOG) requirements are contained within Section 6-13 of the San Juan Capistrano Municipal Code. The FOG requirements allow the City to require grease capturing devices for food service establishments if there is a possibility that the facilities may discharge excessive grease into the sewer system. The Municipal Code contains requirements for design, construction and

enforcement. Separately, a document titled Fog Program has been prepared that provides information on the implementation of the FOG Program to reduce discharges of fats, oils and grease into the City's sewer system. The Municipal Code section is included in Appendix C and the FOG Program can be viewed on the City's SSMP website.

IV. OPERATION AND MAINTENANCE PROGRAM.

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

- A. Maintain up-to- date maps of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities:**

The City of San Juan Capistrano collection system has been mapped including all gravity lines and manholes, pump facilities and storm water conveyance systems. These maps are stored within the City's geographic information system (GIS) and are maintained and updated as needed. Attributes available for viewing within the GIS system include pipe size, material, year built, pipe identifier, manhole number and other attributes. Storm water conveyance facilities are also stored in a GIS database and include information such as pip size, material, catch basin and their identifier and other information. A copy of these maps are available in electronic format on the City's server, on the City's GIS system and hard copies are available with staff in an Atlas format to be used as needed in the field. They are not a physical part of the SSMP but can be made available as needed. A sample of the various maps are included as part of the SSMP for illustration purposes.

- B. Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system and frequent cleaning and maintenance targeted at known problem areas. The preventive maintenance program should have a system to document scheduled and conducted activities, such as work orders.**

The City of San Juan Capistrano has historically had a Preventive Maintenance Plan, which included cleaning of the City's collection system. The City has contracted out a vast majority of the cleaning, video and inspection. This includes routine cleaning and inspection as well as the more frequent "hot spots" cleaning.

The City has identified problem areas in the City, that are cleaned on a bi-monthly basis. See Map 2 of Problem areas. In addition, the City has 11 hot spot manholes that are inspected by a consultant three times a week and if needed, the City's cleaning consultant provides cleaning. List of the locations is included in Appendix E – Sanitary Sewer Prevention Plan.

The city has been divided into 4 zones for maintenance and CCTV purposes. See Map 1 titled Sanitary Sewer System. Each zone of the City is cleaned annually and video once every four years. As a result, every four years all zones are videotaped and cleaned.

In addition, the City of San Juan Capistrano has two sewer pump stations, which are inspected three times a week by contract and are serviced every two week by City staff. Pump stations are shown on Map 1 – Sanitary Sewer System.

Manholes are inspected as part of the sewer collection system maintenance operation and damage identified is included in the field report.

The City of San Juan Capistrano will continue to monitor and adjust schedules to facilitate optimal operation of the collection system and proper allocation of limited resources.

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

The City of San Juan Capistrano utilizes the CCTV inspection program as outlined in (B) above. This program identifies structural deficiencies in the City's collection system. Prioritization along with short and long-term strategies for rehabilitation of any structural deficiencies found through the inspection program are addressed and prioritized in the City's capital improvement program. This is a comprehensive budgeting program, which looks forward seven years and is updated annually. Items related to deficiencies identified in the City's Sanitary Sewer System Master Plan and Rehabilitation Program are also addressed in the City's Capital improvement program.

D. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be a properly trained.

Administrative and Field Staff attend training as available. California Water Environment Association (CWEA) certification training for Field staff is conducted on a regular basis. Attainment of the following certification grades will be the goal of the City of San Juan Capistrano.

<u>Position</u>	<u>Level</u>	<u>Cert. Type</u>
Utilities Distribution Superintendent	Grade 3	Collections
Utilities Operator III	Grade 2	Collections
Utilities Operator II	Grade 2	Collections
All Field support staff	Grade 1	Collections

Contract personnel are trained on an as-needed basis.

Field staff receive on a regular basis sewer spill estimation guidance and have attended in 2014 the training developed by the Orange County Area Waste Discharge Requirement Steering Committee training on the sewer spill estimation guide. Staff is represented regularly at the Orange County Waste Discharge Requirement group bi-monthly meeting. This meeting is set up to discuss, share regulations and programs improvements, training regarding SSOs and WDR

compliance.

The City has two staff who are certified under the National Association of Sewer Service Company, NASSCO PACP (Pipeline Assessment and Certification Program). The certificates are for manhole inspection and sewer line inspection. These certifications help staff evaluate the CCTV reports provided by the City's consultant of the City's sewer lines and manholes. The certified staff are the Utilities Operator II responsible for monitoring and overseeing the CCTV operation and the Associate Civil Engineer in charge of the sewer capital improvement program.

E. Provide equipment and replace part inventories, including identification of critical replacement parts.

The City of San Juan Capistrano has or has on order general maintenance equipment necessary to perform minor sewer construction, maintenance, and inspection work. The City maintains a limited supply of sewer pipe, clamps, manhole covers and emergency pumps and hoses stored at the City's Corporation Yard. In addition, as part an emergency response cooperative, the City is able to contact other local wastewater agencies to obtain emergency repair parts.

V. DESIGN AND PERFORMANCE PROVISIONS

- A. Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.**

As noted in Section III 2, design of the City's sewer collection system is based on the San Juan Capistrano Municipal Code and Standard Plans. The document contains design requirements such as maximum peak flow allowed, minimum velocity, depth of cover, land use density, manhole spacing, materials and other criteria used in designing sewers within the City.

Construction specifications for construction and performance of its new sewer lines and the rehabilitation of existing sewer lines are through the Standard Specifications for Public Works Construction (Green book) as modified internally to meet City requirements. The Green Book sections most commonly used in the construction of City sewers are sections 306 and 500.

Section 306 Underground Conduit Construction covers sewer pipe construction and includes information on excavation, trenching, bedding, joints, backfill, air pressure tests, water pressure tests and other items related to the installation and acceptance of underground pipes. Section 500, Pipeline Rehabilitation, includes information on various lining methods that can be used to rehabilitate underground pipes. These sections are contained in Appendix B.

In addition, the City of San Juan Capistrano Standard Plans Series 800 provides information on constructing sewer manholes and other elements related to sanitary sewers. Copies of these plans are contained in Appendix B.

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

Inspection and testing standards of new sewers and rehabilitation of existing sewers are in accordance with Section 306 of the Green Book as noted in Section V.A above. Applicable sections are contained in Appendix B.

VI. OVERFLOW EMERGENCY RESPONSE PLAN

Each Enrollee shall develop and implement an overflow emergency response plan that describes measures to protect public health and the environment. At a minimum, this plan must include the following:

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

The City of San Juan Capistrano maintains a 24-hour, 7-day per week emergency callout program. Call-in numbers are published for SSOs occurring during normal business hours and after close of business. Notification procedures are in accordance with the State WDR Order as identified in the City's Sanitary Sewer Overflow Emergency Response Plan included in Appendix A.

- B. A program to assure on appropriate response to all overflows.**

The City of San Juan Capistrano has developed a Sanitary Sewer Overflow Emergency Response Plan (SSOERP) that identifies how the City responds to SSOs during normal and after business hours. The plan identifies specific activities conducted at the SSO site, reporting of SSOs to regulatory agencies and staff roles in responding to SSOs. This plan can be found in Appendix E.

- C. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other state law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who receive immediate notification.**

As noted above, the City's SSOERP identifies reporting responsibilities and to

whom notifications are made and the time frames for reporting SSOs. The San Diego Regional Water Quality Control Board receives notification of all SSOs regardless of their category designation within 24 hours. The California Emergency Management Agency (CAL-EMA) (formerly, the State Office of Emergency Services (OES)) and the Orange County Health Care Agency receive notification of an SSO within the first 2 hours of an SSO. See SSO reporting guidelines (abbreviated and expanded forms in Appendix A and in the SSOERP in Appendix E).

- D. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the emergency response plan and are properly trained.**

City of San Juan Capistrano staff has regular meetings and training. Following each public response to a sewer overflow, staff meetings are held where response procedures are evaluated and future actions discussed to maximize efficiency in the response. Appropriate information is then related to the entire sewer response team through subsequent staff meetings and training, typically accomplished at the next monthly all-hands safety meeting. Contract staff receive printed materials for review and guidance from City staff to ensure optimum performance. City staff attended training on the Sewer Spill Estimation Guide developed by the Orange County Area Waste Discharge Requirements Steering Committee in April 2014.

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

City of San Juan Capistrano staff is trained in emergency operations response. Meetings are held frequently to ensure staff is properly trained to respond to all situations including the use of traffic control. If deemed necessary, staff is also trained on when to seek support from other City departments such as Police or Fire Department.

- F. A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerator or additional monitoring as may be necessary to determine the nature and impact of the discharge.**

The City of San Juan Capistrano's goal is to contain all SSOs and prevent discharge to surface waters to the maximum extent practicable. As noted above, meetings are held following public spills and response procedures evaluated. Any

changes recommended are utilized in future spill responses. These efforts are undertaken to ensure timely and maximum efficiency in minimizing spills to Waters of the United States.

The City of San Juan Capistrano has a variety of creeks, none of which are swimmable or has considerable human interaction. In case of a major spill, staff would assign a monitor to remove anyone who is present in the creek, until the SSO is contained and cleaned up. The bottoms of all the creeks in the City are earthen bottom with sandy soils that allow rapid infiltration of all nuisance water flowing in storm drain pipes further reducing the impact to the public.

VII. FOG CONTROL PROGRAM

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

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

The City of San Juan Capistrano has provided a poster and two informational DVDs to all City restaurants on the proper disposal of FOG and kitchen best management practices. When a new restaurant opens in the City it receives a poster and DVD containing appropriate best management procedures for kitchen practices to ensure it adheres to proper FOG disposal. In addition, the City currently uses its website to reach residents and inform them of the need for proper FOG disposal. FOG brochures are also available at the City's Public Works and Utilities counter. A Waste Discharge Permit is issued to each new food facility that generates FOG, and all educational material are provided as part of the permit issuance.

- B. **A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area.**

Each City of San Juan Capistrano restaurant is responsible for the proper disposal of FOG generated within its facility. If necessary and requested by the facility, the City provides a list of acceptable FOG disposal operators.

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

CSJC Ordinance 956 Sanitary Sewer Regulations Applicable to Food Service Establishment was adopted on April 7, 2009 to control the discharge of FOG into the City's sanitary sewer system. The ordinance was codified into its municipal code in Section 6-13. The ordinance contains information on how to reduce the impact of FOG on the sewer system through the use of kitchen best management practices. A copy of the ordinance can be found in Appendix C

- D. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, and maintenance requirements, BMP requirements, recordkeeping and reporting requirements.**

Ordinance 956 requires all new food service facilities (FSEs) to install grease interceptors or grease traps as necessary to control the discharge of FOG into the sanitary sewer system. FSEs that are upgraded or have operational changes may also be required to install grease interceptors or grease traps if they trigger certain requirements in the ordinance. In addition, existing FSE may be required to install new grease control devices if it is determined that they are discharging an excessive amount of grease and it is contributing to sanitary sewer overflows. The City developed a program to subsidize the installation of grease interceptor at existing facilities, in order to minimize the financial impact on local businesses.

The ordinance also contains BMP, recordkeeping and reporting requirements. A copy of the ordinance can be found in Appendix C.

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

Ordinance 956 provides authority to inspect grease producing facilities and contains enforcement provisions that include Civil and Criminal penalties to ensure

those discharging FOG into the sanitary sewer system can be prosecuted. The City of San Juan Capistrano partners with the Orange County Health Care Agency to inspect all of the City's restaurants to ensure proper best management practices are being implemented and FOG is not being discharged. City staff inspect grease interceptors and grease traps every 3 months to verify that all best management practices are being implemented and that the grease interceptors are being maintained properly.

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

The City of San Juan Capistrano has produced a list of hot spots associated with FOG discharges. Hot spots are cleaned every other month to minimize wastewater overflows. These hot spots can be found in Map 2.

G. Development and implementation of source control measures for all the sources of FOG discharged to the sanitary sewer system for each section identified in F. above.

As noted in A above, all grease producing facilities are provided with education and training material on the proper disposal of FOG. Where specific sources have been identified, attempts are made to remove the FOG source through education, additional BMP training or installation of grease capturing devices. Where the source cannot be identified, the area is targeted for outreach through flier distribution of educational letters. The City distributed rubber can caps with the message : "Keep grease in the can" in English and Spanish to residential areas with high grease generation. The area may also be added for frequent cleaning. All of this is considered instrumental in reducing wastewater overflows from hot spot areas. Based on the frequency of sewer spills the previous years, the program seems to be successful. The City has not encountered any sewer spill overflow for over 3 years.

VIII. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

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

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

The City of San Juan Capistrano completed an update to its Sanitary Sewer Master Plan and Rehabilitation Program in January 2004. Included in that plan is a complete capacity analysis of the collection system. The plan identifies deficient segments within the system along with the recommended upgrades. These recommendations were evaluated and included in the City's CIP program as needed. Hydraulic Capacity Projects 1, 3 & 4 were completed. In addition, sewer lines with defects are repaired on an going basis as identified in the Master Plan and the CCTV recommendations and recommendation from staff. A copy of the Master Plan recommendations are contained in Appendix G.

- B. **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in A above to establish appropriate design criteria.

The City of San Juan Capistrano utilizes the design criteria identified in Section 9-

4.323 of its municipal code to design and assess the capacity of its collection system. This criterion is the basis for analysis of its existing sewer collection system contained in the City's Sanitary Sewer Master Plan, Appendix G.

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

A capital improvement program is a part of the Sanitary Sewer Master Plan and is contained in Appendix G. Separately, the City uses CCTV reports and recommended improvements, or identified hot spots or deficiencies such as sags, structural defects or problem areas to incorporate recommended projects. City staff compiles on an ongoing basis a list of sewer lines that require to be included in the sewer system CIP.

- D. Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in A-C above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements described in section D.14.**

The City's proposed sewer sections for improvement will be included in the City's 7 year CIP on an ongoing basis.

IX. MONITORING, MEASURING, AND PROGRAM MODIFICATIONS The Enrollee shall:

A. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities.

The City of San Juan Capistrano will evaluate its activities annually to ensure that its resources are used effectively and targeted to minimize sewer spills. This includes the review of sewer spill locations, causes of spills, cleaning and videoing frequency of its sewer system, capital improvement program and hot spot and sewer deficiency locations. This information will be contained in its GIS system for rapid visual assessment or contained in spread sheets where information can be tracked accurately. Once compiled, the information will be reviewed annually with the goal of reducing sewer spills and future work will be prioritized accordingly.

B. Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP.

The SSMP will be reviewed annually and each program element assessed. Where changes are needed, the SSMP will be revised. In addition, where resources or changes are deemed more crucial to a particular part of the program, those changes will be implemented following the annual review noted in paragraph A above.

C. Assess the success of the preventive maintenance program.

The maintenance program will be evaluated on an annual basis to ensure resources are applied where deemed necessary. This includes the review of all relevant factors noted in paragraph A above.

D. Update program elements, as appropriate, based on monitoring or performance evaluations.

The City of San Juan Capistrano will review and update the program elements of the SSMP annually in accordance with (A), (B), and (C) and this paragraph to assess and measure their effectiveness and update as necessary.

- E. Identify and illustrate SSO trends, including: frequency, location, and volume.**

As part of the annual review of the SSMP program elements, the City of San Juan Capistrano will look for trends, frequency, locations and volumes to assess changes to its maintenance program.

X. SSMP PROGRAM AUDITS

As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D. 13), including identification of any deficiencies in the SSMP and steps to correct them.

The City of San Juan Capistrano will undertake the audit of the SSMP as specified at a minimum every two years..

XI. COMMUNICATION PROGRAM

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

The City of San Juan Capistrano has established a website that describes the SSMP and posted companion documents. Input from interested parties is solicited via the website. In addition, the City will present the audit to the Utilities Commission during a Public meeting in order to encourage comments by the Public.