



## Sewer System Management Plan APPENDICES

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### Appendix A Supporting Documents for Element 2 – Organization





**SSMP RESPONSE STAFF**

**CONTACT NUMBERS**

City Council. The City Council members can be reached through the City Clerk's office.

Debbie Pagliaro, City Clerk  
415.289.4165  
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City Manager

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Public Works Maintenance  
Division Manager

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Sewer Systems Coordinator

Pat Guasco  
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Public Works Supervisor

Kent Basso  
415.289.4193  
[kbasso@ci.sausalito.ca.us](mailto:kbasso@ci.sausalito.ca.us)

City of Sausalito Police

415.289.4170



**SSMP OUTSIDE RESOURCES**

**CONTACT NUMBERS**

Construction / Pipeline Contractors

- Maggiora & Ghilotti 415.459.8640
  - After hours 415.897.6349
- WR Forde Associates (Don Russell) 510.215.9338
  - After hours 415.716.4060
- Linscott Engineering 415.479.6657 or 415.492.1755
  - After hours 415.457.5669
- Ghilotti Construction Company 415.256.9145
- North Bay Construction 707.763.2891
- Roto Rooter 415.388.2740

Welders

- Zappetini (Russ) 415.454.2511
- Irish Welding 415.488.0230
- Victor's Ironworks 415.454.6284
- Sun Iron 415.453.7562

Plating, Shoring and Traffic Control Devices:

- Jim-n-i Rentals 707.569.1600
- United Rentals Trench Safety 510.786.9506 office
- United Rentals Ernie Ibarra 510.760.9743 Mobile

2,000 Gallon Tank Trucks

- Mountain Sewer Service 415.383.6000
- Roto Rooter 415.388.2740
- Roy's Sewer Service 415.456.2320
-



4,000 Gallon Tank Trucks

- Miksis Services, Inc. 707.433.8053
- Redwood Sanitary Service 707.762.1610
- PSC 707.730.0089
- RES 800.937.2266
- United Site Services 800.864.5387
- Roy's Sewer Service 707.763.0226
- Universal Environmental 707.747.6699

5000 Gallon Tank Trucks

- United Site Services 707.543.2731

4700 to 6000 Gallon Tank Trucks

- Synagro Technologies 650.333.0729 John Pugliaresi
  - After hours Suisun City 707.438.3730

Above-Ground Tank Storage Systems

- Baker Tanks (4000 -21,000 Gallons) 800.422.8265

Diesel Fuel

- Royal Petroleum Inc. - 24 Hour Fuel Service 415.454.4066 or 707.763.1521
- Bay Cities Oil 800.937.2266

Pump Rentals

- DW pumps 510.774.7642 or 510.633.2040
- Rain for Rent 925.679.2803
- Baker Tanks 800.422.8265





## Sewer System Management Plan APPENDICES

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### Appendix B Supporting Documents for Element 3 – Legal Authority



## Chapter 18.12 SEWERS

### Sections:

- [18.12.010](#) Definitions.
- [18.12.020](#) Service charges – Determination – Collection.
- [18.12.030](#) Charges collected with general taxes.
- [18.12.040](#) *Deleted.*
- [18.12.050](#) Use of revenue.
- [18.12.060](#) Connection permit.
- [18.12.070](#) Termination of service.
- [18.12.080](#) Interceptors required.
- [18.12.090](#) Use of garbage grinders.
- [18.12.100](#) Service laterals – Inspection, testing and remedial work.
- [18.12.110](#) Service lateral maintenance.
- [18.12.120](#) Installation of sampling manholes.
- [18.12.130](#) No discharge into surface drains.
- [18.12.140](#) Storm water connections prohibited.
- [18.12.150](#) Discharge prohibitions.
- [18.12.160](#) Damage to City sewer system.
- [18.12.170](#) Summary abatement of certain nuisances.
- [18.12.180](#) Judicial remedies.
- [18.12.190](#) Infractions.

### **18.12.010 Definitions.**

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For the purposes of this chapter, the following terms are defined as follows:

- A. "Article 4" means the provisions of Article 4 (Sanitation and Sewerage System) of Chapter 6 of Part Two of Division 5 of the Health and Safety Code (Section 85470 et seq.) of the State of California.
- B. "City" means the City of Sausalito.
- C. "City Engineer" means the Public Works Director of the City of Sausalito.
- D. "Commercial building" means any building, or portion thereof, designed, intended or used to accommodate a business, commercial or industrial enterprise, or a public or private school.
- E. "Domestic sewage" means the waterborne wastes resulting from ordinary living processes and which are of such composition as to permit satisfactory biological treatment without special pre-treatment.
- F. "Dwelling unit" means any building, buildings, houseboat, or any portion thereof, designed, intended, or used as a separate dwelling accommodation and having either its own kitchen or its own bathroom facilities. A building or buildings designed and intended to be used as a single-family residence is one dwelling unit. Each separate room, apartment, or unit of a hotel, motel, apartment

house, rooming house, duplex or boarding house having either its own bathroom or its own kitchen facilities is a separate dwelling unit.

G. "Fixture" means a unit of measure applied to various plumbing fixtures in order to determine certain fees and charges payable to the City under the provisions of this chapter. The fixture unit equivalent of plumbing fixtures shall be as set forth in the latest edition of the Uniform Plumbing Code.

H. "Interceptor" means a device constructed in the private sewer system to trap oil, grease, sand, flammable substances or any other harmful materials that may be discharged into the City sewer main.

I. "Marina" means an area within the City covered by the waters of Richardson Bay which contains one or more berthing spaces for houseboats or vessels, either permanently or on a temporary basis.

J. "Sanitary sewer system" means the sanitary sewer system operated and maintained by the City of Sausalito.

K. "Sewer main" means a City-owned pipeline designed and operated to accept sewage from a sewer service lateral for disposal.

L. "Sewer service lateral" means a property owner's pipeline designed and operated to carry sewage from a building or other source to a sewer main, including the wye connection at the sewer main.

M. "Sewer service charges" means fees, tolls, rates, rentals or other charges for services and facilities furnished by the City in connection with its sanitary sewage system.

N. "Vessel" means any watercraft of any type or size, including, but not limited to, barges, ferryboats, tour boats, excursion boats, arks, yachts, houseboats or rafts, whether used and occupied primarily as living quarters or for transport of passengers. [Ord. 1072 § 1, 1991; Ord. 874 § 12, 1975; Ord. 779 § 2, 1971.]

#### **18.12.020 Service charges – Determination – Collection.**

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Pursuant to the provisions of Article 4 of Chapter 6 of Part Two of Division 5 of the Health and Safety Code of the State of California (Section 5470 et seq.), a charge is hereby imposed for all services and facilities provided by the City of Sausalito in connection with its sanitary sewer system. All such fees, charges and delinquencies shall be determined and collected in conformity with the procedures established by Article 4. [Ord. 1072 § 1, 1991; Ord. 874 § 1, 1975; Ord. 798 § 1, 1972; Ord. 779 § 1, 1971.]

#### **18.12.030 Charges collected with general taxes.**

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Pursuant to the provisions of Section 5473 of Article 4, the City elects to have the charges imposed by this chapter to be collected on the Marin County tax roll in the same manner, by the same persons, and at the same time as, together with and not separately from, its general taxes. [Ord. 1072 § 1, 1991; Ord. 779 § 3, 1971].

#### **18.12.040 Determination of charges.**

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*Deleted.* [Ord. 1072 § 1, 1991.]

#### **18.12.050 Use of revenue.**

Revenues collected pursuant to this chapter consistent with the provisions of Section 5471 of Article 4 shall be used solely for the purposes allowed by that section. Revenues collected pursuant to this chapter consistent with the provisions of Section 5474 of Article 4 shall be used solely for the purposes allowed by Section 5474.9 of Article 4. [Ord. 1072 § 1, 1991; Ord. 779 § 5, 1971.]

#### **18.12.060 Connection permit.**

A permit shall be obtained from the City Engineer for the connection of any sewer service lateral to any sewer main. The fee for such permit shall be established by resolution adapted by the City Council from time to time. Every premises improved with a building where persons reside, congregate or are employed shall be connected to the sewer main by the owner of the premises. No such premises shall utilize a septic tank, cesspool or other individual sewage disposal system. The City may require such connection to be made by the property owner through the extension of a sewer main within a public utility easement or City street right-of-way to the point of the service lateral connection as determined by the City Engineer. [Ord. 1072 § 1, 1991.]

#### **18.12.070 Termination of service.**

When any premises become unusable or have the service lateral disconnected for any reason, the annual service charge shall, upon notice from the property owner and verification by the City Engineer, be terminated. Any premises which are vacant but which continue to be usable and are connected to a sewer main with a service lateral shall continue to be subject to the applicable service charges. [Ord. 1072 § 1, 1991.]

#### **18.12.080 Interceptors required.**

Any business, institution or industry that may discharge oil, grease, flammable substances, sand or other materials that may be harmful to the sewage system shall have a properly functioning interceptor. Interceptors shall be designed, constructed and maintained in accordance with the provisions of the most recent editions of the Uniform Plumbing Code. Interceptors shall be maintained by the property owner. Interceptors found by the City Engineer to be inadequately maintained shall be reported to the County Health Officer for the purposes of enforcement of this regulation. The Health Officer's orders for correcting deficient or malfunctioning interceptors shall be final and there shall be no City Council appeal of such orders.

Maintenance shall include periodic removal of grease, sand or other materials. Materials removed from interceptors shall not be disposed of in the sewer system. A record of interceptor maintenance shall be kept and made available upon request of the Health Officer. The use of chemicals to dissolve coagulated materials is specifically prohibited.

All drains from work or processing areas shall be connected to the interceptor; provided, however, that toilets, urinals and wash basins shall not flow through the interceptor. [Ord. 1072 § 1, 1991.]

#### **18.12.090 Use of garbage grinders.**

A. Individual Dwelling Units. Vegetable, fruit, animal or other solid wastes from individual dwelling units may be discharged into the sanitary sewer system if first passed through a mechanically operated grinder which does not discharge any particles greater than one-half inch in any dimension, and which is installed in compliance with the plumbing and electrical codes of the City.

B. Restaurants and Commercial Food Processors. Garbage grinders in restaurants and commercial food processing businesses shall not be connected to the sanitary sewer. Vegetable, fruit, animal or other solid waste from restaurants and commercial food processors shall not be allowed to enter the sanitary sewer. [Ord. 1072 § 1, 1991.]

#### **18.12.100 Service laterals – Inspection, testing and remedial work.**

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All new residential, apartment, industrial and commercial buildings shall have installed a new sewer service lateral. A minimum four-inch lateral shall serve single or duplex residential dwelling units. A minimum six-inch lateral shall be installed to serve buildings with three or more residential units, and industrial and commercial buildings. Construction shall conform with City standards.

Where remodelling or sale of any building is proposed, existing sewer service laterals shall be inspected for surface water connections or inlets, and shall be either pressure-tested for leakage or inspected by video camera. Service laterals found to be in a deteriorated condition shall be replaced, repaired or rehabilitated as necessary to eliminate infiltration and inflow of ground and surface waters. Service laterals shall be re-tested for leakage or re-inspected by video camera upon completion of any remedial work, and shall be approved by the City Engineer prior to transfer of title or approval of the building permit. [Ord. 1072 § 1, 1991.]

#### **18.12.110 Service lateral maintenance.**

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Service laterals shall be installed and maintained by the owner of the property which the lateral serves. The entire service lateral from the building connection to and including the wye connection to the sewer main shall fall within the owner's responsibility for installation and maintenance except at such times as the City may be reconstructing, repairing or rehabilitating a sewer main to which such service lateral is connected. During the time period when City reconstruction, repair or rehabilitation of a sewer main is in progress, service laterals that connect to the sewer main within the limits of the project shall become the responsibility of the City, and may be simultaneously reconstructed, repaired or rehabilitated as deemed necessary by the City Engineer. Upon completion of the City reconstruction, repair or rehabilitation project, the responsibility for maintenance of the lateral shall revert to the owner of the property which the lateral serves. [Ord. 1072 § 1, 1991.]

#### **18.12.120 Installation of sampling manholes.**

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When required by the City Engineer, the owner of any property served by a building sewer carrying industrial wastes shall install a sampling manhole in the building sewer service lateral to facilitate observation and sampling of wastes. The sampling manhole shall be located in the public street or easement and shall be constructed to City standards. [Ord. 1072 § 1, 1991.]

#### **18.12.130 No discharge into surface drains.**

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It is unlawful to discharge into any natural outlet, or surface drain of any kind, any domestic or industrial wastewater, steam cleaning residual runoff, commercial wastewater, petroleum products or other waste materials unless permitted by the City Engineer as a measure necessary to accommodate an emergency condition. [Ord. 1072 § 1, 1991.]

#### **18.12.140 Storm water connections prohibited.**

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No connection shall be made to any service lateral or sewer main for the purpose of conducting any storm water, surface water, or ground water into the City sewer system, and it is unlawful to discharge into any service lateral or sewer main the water from any roof drain or yard drain. [Ord. 1072 § 1, 1991.]

#### **18.12.150 Discharge prohibitions.**

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No person shall discharge or deposit or cause or allow to be discharged or deposited into the City sewer system any wastewater which contains the following:

- A. Cooking grease whether emulsified or not.
- B. Waste automotive radiator coolant.
- C. Explosive mixtures.
- D. Radioactive wastes.
- E. Solid or viscous wastes which may cause obstruction to the flow in a sewer pipeline.
- F. Any toxic substances in excess of the United States Environmental Protection Agency standards pursuant to Section 307(a) of the Clean Water Act, or any other substances which may interfere with the biological processes of the wastewater treatment system.
- G. Petroleum products of any kind. [Ord. 1072 § 1, 1991.]

#### **18.12.160 Damage to City sewer system.**

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It is unlawful for any person to maliciously, willfully, or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is part of the City sewer system. [Ord. 1072 § 1, 1991.]

#### **18.12.170 Summary abatement of certain nuisances.**

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Whenever the City Engineer finds that a nuisance exists that is the result of inadequate, improper or negligent operation or maintenance of any sewer service lateral or appurtenance thereto which may endanger public health and safety, he may elect to pursue the remedies set forth in Article 2 of Chapter 6 of Part Two of Division 5 of the Health and Safety Code (Section 5410 et seq.), and he may also abate the same forthwith. All costs associated with such abatement shall be charged to the responsible party. [Ord. 1072 § 1, 1991.]

#### **18.12.180 Judicial remedies.**

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Any violation of the provisions of this chapter is a public nuisance. If any person violates the provision of this chapter or any order of the City Council pertaining to this chapter, the City Attorney may commence an action for appropriate legal relief in any appropriate court. [Ord. 1072 § 1, 1991.]

#### **18.12.190 Infractions.**

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Any violation of the provisions of this chapter, in addition to any other penalty established by City ordinance, may be cited and charged as an infraction. [Ord. 1072 § 1, 1991.]

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**The Sausalito Municipal Code is current through Ordinance 1214, passed May 7, 2013.**

Disclaimer: The City Clerk's Office has the official version of the Sausalito Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

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**Appendix C**  
**Supporting Documents for Element 4 – Operations and Maintenance Program**





Placeholder for CMMS Map Example



SAUSALITO, CALIFORNIA

Department of Public Works – Engineering Division

Account	Description	Actual 2011-12	Amended Budget 2010-11	Projected Budget 2013-14	Inc.	
					Over PY Budget	% Change
100-410-1000-110	Salaries & Wages	150,013	147,864	122,790	(25,074)	-17.0%
100-410-1000-130	Overtime	1,187	-	-	-	0.0%
100-410-1000-140	Transportation Allowance	1,500	1,500	-	(1,500)	-100.0%
100-410-2000-215	Cafeteria Plan	23,926	23,616	32,408	8,793	37.2%
100-410-2000-221	Medicare	2,214	2,144	1,780	(364)	-17.0%
100-410-2000-230	PERS Employee Contrib	23,370	20,961	18,419	(2,543)	-12.1%
100-410-2000-251	State Unemployment	1,498	1,479	1,228	(251)	-17.0%
100-410-2000-260	Worker's Comp	624	700	875	175	25.0%
100-410-2001-010	Salaries allocated to CIP	(71,380)	(75,916)	(87,699)	(11,783)	15.5%
<b>Total Salaries &amp; Benefits</b>		<b>132,952</b>	<b>122,348</b>	<b>89,802</b>	<b>(32,546)</b>	<b>-26.60%</b>
100-410-3000-320	Professional Services	32,422	40,959	25,959	(15,000)	-36.6%
100-410-4000-412	Utilities - Telephone	130	750	750	-	0.0%
100-410-4000-441	Repair Machinery & Equip	1,222	750	750	-	0.0%
100-410-4000-442	Rental Mach and Equipment	2,881	1,000	1,000	-	0.0%
100-410-5000-551	Printing - External Service	493	500	500	-	0.0%
100-410-5000-581	Conferences	50	1,000	2,000	1,000	100.0%
100-410-5000-582	Training and Workshops	603	1,300	2,300	1,000	76.9%
100-410-5000-583	Mileage Reimbursement		100	100	-	0.0%
100-410-5000-586	Memberships & Dues	813	475	475	-	0.0%
100-410-6000-610	Supplies - General		1,000	1,000	-	0.0%
100-410-6000-611	Office Supplies	5,350	2,000	2,200	200	10.0%
100-410-6000-612	Postage	883	700	700	-	0.0%
100-410-7000-740	Machinery & Equipment	831	9,500	9,500	-	0.0%
100-410-9100-260	Trsfer to EE Benefits Fund	1,471	1,479	1,228	(251)	-17.0%
<b>Total Operations</b>		<b>47,149</b>	<b>61,513</b>	<b>48,462</b>	<b>(13,051)</b>	<b>-21.22%</b>
<b>Total DPW Engineering</b>		<b>180,101</b>	<b>183,861</b>	<b>138,264</b>	<b>(45,597)</b>	<b>-24.80%</b>

# SAUSALITO, CALIFORNIA

## Department of Public Works – Maintenance Division

Account	Description	Actual 2011-12	Amended Budget 2012-13	Projected Budget 2013-14	Inc.	
					Over PY Budget	% Change
100-500-1000-110	Salaries & Wages	648,785	648,820	678,835	30,016	4.6%
100-500-1000-130	Overtime	10,076	2,000	2,000	-	0.0%
100-500-1000-140	Transportation Allowance	2,654	1,500	1,500	-	0.0%
100-500-1000-145	Commuter Checks	460	-	-	-	0.0%
100-500-2000-215	Cafeteria Plan	149,833	154,747	169,563	14,816	9.6%
100-500-2000-221	Medicare	9,592	9,408	9,843	435	4.6%
100-500-2000-230	PERS Employer Contrib	101,171	91,977	101,825	9,849	10.7%
100-500-2000-251	State Unemployment	6,488	7,967	8,016	49	0.6%
100-500-2000-260	Workers' Compensation	49,953	56,000	70,000	14,000	25.0%
100-410-2001-010	Salaries allocated to CIP	(23,566)	(30,439)	(31,566)		
<b>Total Salaries &amp; Benefits</b>		<b>955,447</b>	<b>941,980</b>	<b>1,010,017</b>	<b>69,165</b>	<b>7.3%</b>
100-500-3000-320	Professional Services	58,627	55,000	50,000	(5,000)	-9.1%
100-500-3000-341	Health & Medical - On Job	1,140	2,500	2,500	-	0.0%
100-500-4000-410	Utilities - Electricity	76,516	75,000	75,000	-	0.0%
100-500-4000-411	Utilities - Gas	7,357	9,000	10,000	1,000	11.1%
100-500-4000-412	Utilities - Telephone	6,676	10,000	10,000	-	0.0%
100-500-4000-413	Utilities - Water	57,277	60,000	60,000	-	0.0%
100-500-4000-414	Utilities - Sewer	15,381	18,000	18,235	235	1.3%
100-500-4000-415	Utilities - Solid Waste	1,272				
100-500-4000-420	Custodial Costs	8,262	20,000	10,000	(10,000)	-50.0%
100-500-4000-429	Energy Improvements	7,422	-	-	-	0.0%
100-500-4000-430	Repairs & Maint Buildings	4,329	25,000	5,000	(20,000)	-80.0%
100-500-4000-431	Repair Machinery & Equip		1,500	1,500	-	0.0%
100-500-4000-436	Aggregates	2,293	3,000	3,000	-	0.0%
100-500-4000-437	Landscape Maintenance	6,237	10,000	5,000	(5,000)	-50.0%
100-500-4000-438	Plant Fertilizers	1,522	500	500	-	0.0%
100-500-4000-439	Pesticides	180	300	300	-	0.0%
100-500-4000-442	Rental Mach and Equip	8,820	6,000	2,000	(4,000)	-66.7%
100-500-4000-450	Construction	1,766				
100-500-4500-010	Repair & Maint Vehicles PW	17,778	25,000	7,000	(18,000)	-72.0%
100-500-4500-020	Repair Vehicles Police	13,957	20,000	9,000	(11,000)	-55.0%
100-500-4500-030	Repair Vehicles Fire	1,084	-	-	-	0.0%
100-500-4500-040	Rec Vehicles	1,326	1,000	1,000	-	0.0%
100-500-4500-090	Street Signs	8,137	6,000	6,000	-	0.0%
100-500-4710-000	Energy Conservation Loan Prin		-	-	-	0.0%
100-500-4710-001	MERA - Principal Share (10%)	3,172	3,172	3,172	-	0.0%
100-500-4720-000	Energy Conservation Ln Interest		-	-	-	0.0%
100-500-4720-001	MERA - Interest Share (10%)	1,326	1,580	1,580	-	0.0%
100-500-4720-002	MERA - New Debt	428	428	428	-	0.0%
100-500-5000-001	MERA Operating Costs	2,852	2,852	2,852	-	0.0%

**SAUSALITO, CALIFORNIA**

Department of Public Works – Maintenance Division (Continued)

Account	Description	Actual 2011-12	Amended Budget 2012-13	Projected Budget 2013-14	Inc.	
					Over PY Budget	% Change
100-500-5000-540	Recruitment Costs	507	-		-	0.0%
100-500-5000-551	Printing - External Service	132	200	200	-	0.0%
100-500-5000-581	Conferences		1,500	1,500	-	0.0%
100-500-5000-582	Training, Workshops & Mileage	1,219	1,800	1,800	-	0.0%
100-500-5000-586	Memberships & Dues	292	575	575	-	0.0%
100-500-6000-610	Supplies - General	43,374	53,000	27,000	(26,000)	-49.1%
100-500-6000-611	Office Supplies	1,798	1,000	1,000	-	0.0%
100-500-6000-612	Postage	12	50	50	-	0.0%
100-500-6000-621	Oil and Gasoline	32,250	30,000	30,000	-	0.0%
100-500-6000-622	Uniforms	5,396	6,000	6,000	-	0.0%
100-500-6000-625	Safety Supplies	4,429	5,000	5,000	-	0.0%
100-500-6000-630	Food	55	200	200	-	0.0%
100-500-6000-640	Books and Subscriptions		200	200	-	0.0%
100-500-7000-750	Equipment		21,000	1,000	(20,000)	-95.2%
100-500-7000-780	Furnitures & Fixtures	14,770	-		-	0.0%
100-500-9100-240	Transfer to Vehicle Replace Fd	15,357	20,930	9,084	(11,846)	-56.6%
100-500-9100-260	Transfer to EE Benefits Fd	6,732	6,488	6,788	300	4.6%
100-500-9100-301	Trsfer to Energy Ln Debt Svs Fd	3,173	3,173	-	(3,173)	-100.0%
<b>Total Operations</b>		<b>444,631</b>	<b>506,948</b>	<b>374,465</b>	<b>(132,483)</b>	<b>-26.1%</b>
<b>Total Public Works</b>		<b>1,400,078</b>	<b>1,448,928</b>	<b>1,384,482</b>	<b>(63,319)</b>	<b>-4.4%</b>

**SAUSALITO, CALIFORNIA**

**Sewer Fund**

<u>Account</u>	<u>Description</u>	<u>Actual 2011-12</u>	<u>Amended Budget 2012-13</u>	<u>Projected Budget 2013-14</u>	<u>Inc. (Dec.) Over PY</u>	
					<u>Budget</u>	<u>% Change</u>
110-000-3100-000	Sewer Fees on Property Tax Bill	1,492,093	1,620,997	1,750,677	129,680	8.0%
110-000-3600-010	Interest on Investment	1,013	5,000	1,000	(4,000)	-80.0%
110-000-3900-000	Miscellaneous Revenue	(8,768)	1,000	1,000	-	0.0%
	SRF Loan Proceeds	100,000	839,163	1,885,480	1,046,317	124.7%
110-000-3910-100	Transfer In from General Fund	81	(18,000)	5,000	23,000	-127.8%
	<b>Total Operating Revenue</b>	<b>1,584,418</b>	<b>2,448,160</b>	<b>3,643,157</b>	<b>1,194,997</b>	<b>48.8%</b>
						0.0%
110-550-1000-110	Salaries & Wages	705,833	689,204	659,574	(29,631)	-4.3%
110-550-1000-130	Overtime	24,720	5,000	5,000	-	0.0%
110-550-1000-140	Transportation Allowance	4,558	3,000	1,500	(1,500)	-50.0%
110-550-2000-210	Retiree Health					
110-550-2000-215	Cafeteria Plan	135,951	147,323	167,972	20,649	14.0%
110-550-2000-221	Medicare	10,739	9,993	9,564	(430)	-4.3%
110-550-2000-230	PERS Employer Contrib	108,973	97,702	99,899	2,197	2.2%
110-550-2000-251	State Unemployment	7,035	6,892	6,596	(296)	-4.3%
110-550-2000-260	Workers' Compensation	8,931	17,500	87,500	70,000	400.0%
110-5000-2001-010	Salaries Allocated to CIP			-	-	0.0%
	<b>Total Salaries &amp; Benefits</b>	<b>1,006,740</b>	<b>976,614</b>	<b>1,037,604</b>	<b>60,990</b>	<b>6.2%</b>
110-550-3000-310	Official & Admin		-	-	-	0.0%
110-550-3000-311	Contract Labor		-	20,000	20,000	0.0%
110-550-3000-320	Professional Services	16,416	151,381	151,381	-	0.0%
110-550-3000-323	Legal Services	11,529	-	-	-	0.0%
110-550-3000-340	Technical Services	86,273	87,000	101,000	14,000	16.1%
110-550-3000-341	Water Board ACL Compliance		-	-	-	0.0%
110-550-4000-410	Utilities - Electricity	6,060	6,000	6,000	-	0.0%
110-550-4000-412	Utilities - Telephone	6,677	7,000	8,000	1,000	14.3%
110-550-4000-413	Utilities - Water	1,897	2,000	2,000	-	0.0%
110-550-4000-414	Utilities - Sewer	81	-	-	-	0.0%
110-550-4000-415	Utilities - Solid Waste		10,000	10,000	-	0.0%
110-550-4000-420	Cleaning Services		10,000	10,000	-	0.0%
110-550-4000-430	Repair & Maint Buildings		-	1,000	1,000	0.0%
110-550-4000-432	Repair & Maint Vehicles	593	5,150	5,000	(150)	-2.9%
110-550-4000-435	Repair of Sewer Infrastructure	72,059	25,000	25,000	-	0.0%
110-550-4000-442	Rental Mach and Equip	7,719	10,000	10,000	-	0.0%
110-550-4100-551	Sewer Management Prog.	200	15,000	25,000	10,000	66.7%
110-550-4200-001	Riverwatch Settlement Inspections	7,725	20,000	12,000	(8,000)	-40.0%
110-550-4200-002	Riverwatch Settlement Repairs	36,821	40,000	40,000	-	0.0%
110-550-4200-003	Riverwatch Settlement loans		-	5,000	5,000	0.0%

**SAUSALITO, CALIFORNIA**

Sewer Fund (Continued)

<u>Account</u>	<u>Description</u>	<u>Actual</u> <u>2011-12</u>	<u>Amended</u> <u>Budget</u> <u>2012-13</u>	<u>Projected</u> <u>Budget</u> <u>2013-14</u>	<u>Inc.</u>	
					<u>Over PY</u> <u>Budget</u>	<u>%</u> <u>Change</u>
110-500-4710-001	MERA - Principal Share	3,172	3,140	3,232	92	2.9%
110-500-4720-000	Energy Conservation Ln Interest		-		-	0.0%
110-500-4720-001	MERA - Interest Share	1,326	1,203	1,111	(92)	-7.6%
110-500-4720-002	MERA - New Debt	428	428	576	148	34.7%
110-500-4730-001	SRF Debt Service			10,000		
110-500-5000-001	MERA Operating Costs	2,852	3,027	4,330	1,303	43.1%
110-550-5000-520	Insurance - Liability	14,799	17,500	17,500	-	0.0%
110-550-5000-541	Advertising - Noticing	86	1,000	1,000	-	0.0%
110-550-5000-551	Printing - External Service	237	1,000	1,000	-	0.0%
110-550-5000-561	Permits	2,736	16,000	16,000	-	0.0%
110-550-5000-581	Conferences		6,000	7,000	1,000	16.7%
110-550-5000-582	Training and Workshops	10,870	12,000	12,000	-	0.0%
110-550-5000-586	Mileage Reimbursement		-	-	-	0.0%
110-550-5000-584	Dues and Subscriptions	150	-	2,000	2,000	0.0%
110-550-6000-610	Supplies - General	37,255	42,000	43,260	1,260	3.0%
110-550-6000-611	Office Supplies	1,968	2,000	2,000	-	0.0%
110-550-6000-621	Oil and Gasoline	7,884	7,210	7,426	216	3.0%
110-550-6000-622	Uniforms	227	10,200	10,200	-	0.0%
110-550-6000-625	Safety Supplies	163	-	5,000	5,000	0.0%
110-550-6000-640	Books		150	1,000	850	566.7%
110-550-7000-740	Machinery & Equipment		21,000	10,000	(11,000)	-52.4%
110-550-7000-750	Vehicles		-	110,000	110,000	0.0%
110-550-7000-760	Computer Equipment		3,500	3,500	-	0.0%
	Total Operations	338,203	535,889	699,516	153,628	28.7%
110-550-9100-101	Admin Charge - General Fund	162,283	162,283	162,283	-	0.0%
110-550-9100-140	Transfer to Gen Capital Improvement Fd		-	-	-	0.0%
	Total Operating Transfers Out	162,283	162,283	162,283	-	0.0%
						0.0%
110-550-4000-450	Total Capital Improvement Projects	331,232	1,057,978	2,073,480	1,015,502	96.0%
	Total Expenditures	1,838,458	2,732,764	3,972,883	1,230,119	45.0%
	Change in Net Assets	(254,040)	(284,604)	(329,726)		
	Beginning Unrestricted Net Assets	1,019,544	764,314	479,709		
	Change in Restricted Assets	(1,191)				
	Ending Unrestricted Net Assets	764,314	479,709	149,983		





## Sewer System Management Plan APPENDIX C

### CITY OF SAUSALITO SANITARY SEWER VEHICLE AND EQUIPMENT INVENTORY

Item	Vehicle/Equip #	Description	Year	Original Cost	Comments
1	121	2011 Ford F-650 Super Cab XL	2011	\$ 64,049.00	Vehicle cab and chassis for Rodder
2		OK Champion Power Rodder	2011	\$ 116,000.00	Truck mounted continuous power rodder (8k) .393 d rod
3	119	John Deere 310D Backhoe	1996	\$ 67,225.00	Extend Hoe
4	103	GMC 2500 Pickup	1993	\$ 21,395.00	Sewer Maintenance Truck
5	106	International Dump Truck	1999	\$ 64,342.00	Automatic
6	E-1	Ford Pickup F250 Camera Truck	1999	\$ 22,607.00	Houses SS Cameras and Videotape System
7	120	Ford F5000 Sewer Flusher Truck	1994	\$ 234,285.00	3 cubic yard mobile combination sewer cleaning vehicle (aka: Vactor)
8	N/A	Push/Pull Color Sewer Camera	2011	\$ 19,569.86	Aries Seeker SK904 mini cam Reel capacity 200'
9	N/A	Self Propelled Color Sewer Camera	2011	\$ 54,756.15	Aries PE 3400 Path Finder Reel capacity 1000'
10	N/A	Wacker		\$ 1,200.00	Viber-plate compaction machine
11	N/A	Air Compressor	1997	\$ 1,700.00	
12	N/A	Confined Space Entry Equipment			
13	N/A	Tri-Pod	2006	\$ 2,800.00	With 2 wenches and 2 harnesses
14	N/A	Air Ventilator	2000	\$ 250.00	12/1 rate of air exchange
15	N/A	GasAlert (3)	2003	\$ 4,500.00	3 hand-held gas detector (4 gas model)
16	N/A	Digital Color Camera	2008	\$ 100.00	Olympus Stylus 720 SW
17	N/A	Electronic Pipe Locators (2)	2000/2003	\$ 5,000.00	1250 each
18	N/A	Radio Detection Pipe Locator	2007	\$ 3,000.00	Transmitter emits 512 Hz
19	N/A	Metal Detector	2007	\$ 350.00	Strictly for buried access ports



## Sewer System Management Plan APPENDIX C

### CITY OF SAUSALITO SANITARY SEWER VEHICLE AND EQUIPMENT INVENTORY

Item	Vehicle/Equip #	Description	Year	Original Cost	Comments
20	N/A	Color Training TV	2005	\$ 575.00	Equipped with both VHS and DVD players, training
21	N/A	Computer System	2004	\$ 7,500.00	
22	N/A	AutoCAD Programing	Annual	\$ 1,600.00	1600 annual membership
23	N/A	Videotape Capture	2005	\$ 250.00	Able to capture VHS and DVD, file, and email
24	N/A	CMOM DataBase	2001/Present	\$ 750,000.00	DataBase of Entire SS System, Scheduling, Service Calls, CCTV
25	N/A	Push/Pull Color Sewer Camera	2011	\$ 19,569.86	Aries Seeker SK904 mini cam Reel capacity 200'
26	N/A	Self Propelled Color Sewer Camera	2011	\$ 54,756.15	Aries PE 3400 Path Finder Reel capacity 1000'
27	N/A	Safety Devices (at DPW Corp.yard)	Annual	\$ 1,200.00	Traffic Cones, 10 Barricades, High Flyers, Construction Signs
28	N/A	NexTel Phone System	Annual	\$ 400.00	Able to coordinator with Contractors, and others
<b>SSO Response Equipment</b>					
29	N/A	Honda portable pump	2008		Honda portable wastewater pump
30	N/A	Godwin Dri-Prime Transfer Pump	2010		Godwin Model CD150M 6" 1/2 owned with SMCS D
231	N/A	SSO Response Two axle Trailer	2011		Sewer Overflow Trailer with 50 barricades, 20 18" reflective cones. 400 x 4" lay flat hose, 300' x 6" lay flat, 80' of rigid suction side with camlocks, toolbox with required tools, adapters, etc. Additional 30' of 6# and 4"

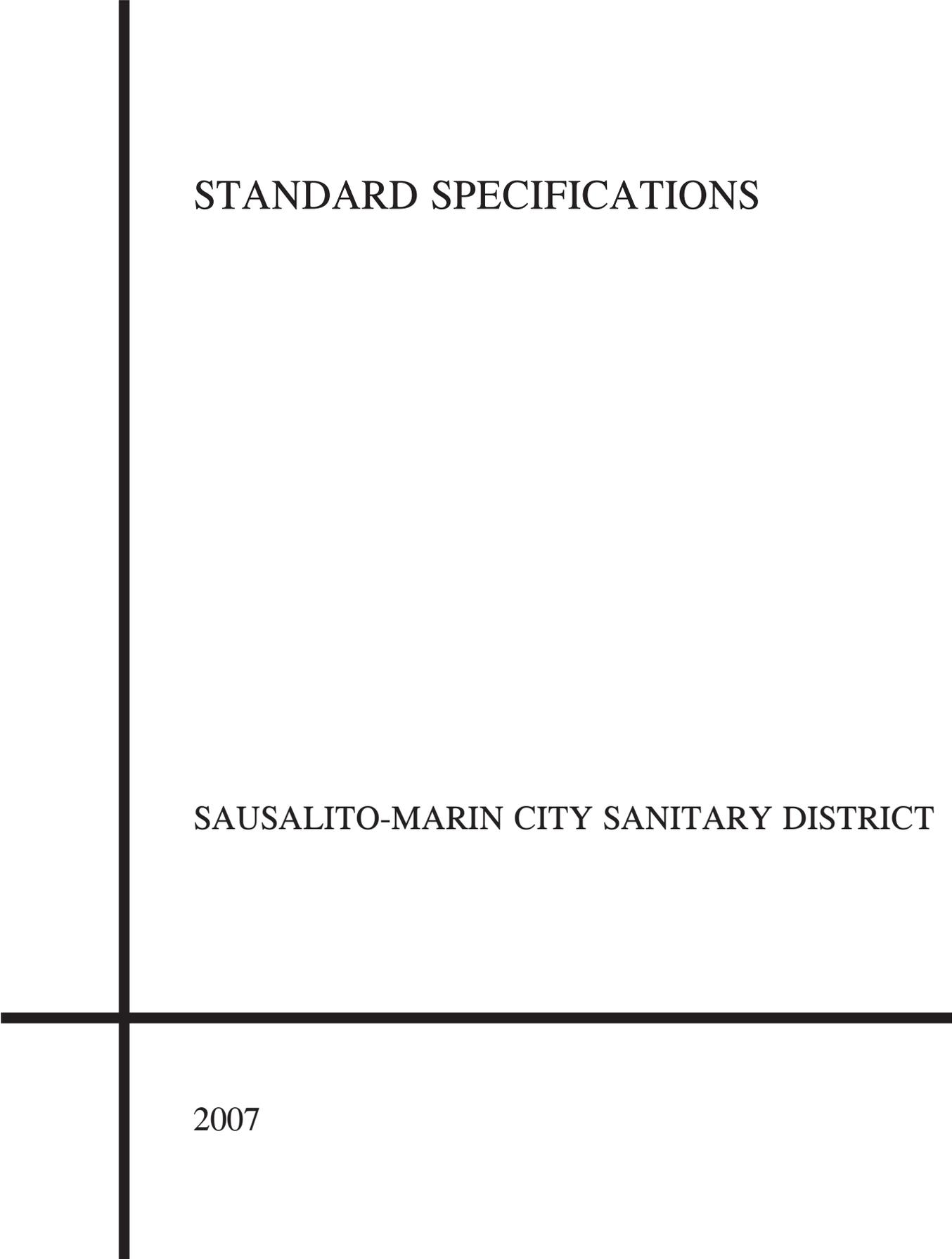


## Sewer System Management Plan APPENDICES

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### Appendix D Supporting Documents for Element 5 – Design and Construction Standards





# STANDARD SPECIFICATIONS

SAUSALITO-MARIN CITY SANITARY DISTRICT

2007



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**Appendix E**  
**Supporting Documents for Element 6 – Overflow Emergency Response Plan**





Placeholder for Overflow Emergency Response Plan





## Sewer System Management Plan APPENDICES

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### Appendix F

### Placeholder for Future Supporting Documents for Element 7 – FOG Control Program





## Sewer System Management Plan APPENDICES

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### Appendix G Supporting Documents for Element 8 – Capacity Assurance Plan



# Executive Summary

## Capacity Assessment and Assurance Plan

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### ES.1 BACKGROUND

In June 2010, the City of Sausalito (City) retained West Yost Associates (West Yost) to develop a computerized hydraulic model and complete a capacity assessment of the sewer collection system, based on known conditions and information collected during the 2008/09 flow monitoring program. The purpose of the project included the following objectives, as established by EPA Order for Compliance CWA309(1)-08-031 (November 2008):

- Evaluate system-wide flow characteristics to identify areas, sources, and quantities of significant inflow and infiltration into the sewage collection system;
- Identify capacity constraints in the system caused by the design peak wet weather flow event;
- Discuss the impact of wet weather flow between the City and Sausalito-Marin City Sanitary District's (SMCSD) conveyance system, which crosses through and is integrated with the City's sewer collection system, and
- Provide a schedule of improvements to address the identified capacity needs and eliminate spills from the collection system during the design peak wet weather flow event.

The final deliverable for this project is a Capacity Assessment and Assurance Plan (Capacity Plan) that provides recommendations for capacity-related projects to be included in the City's long-term Capital Improvement Plan (CIP). The CIP is described in the *Pipeline Rehabilitation and 10-Year Capital Improvement Plan, West Yost Associates, October 2010*. This Executive Summary provides key findings from this Capacity Plan and includes the following sections:

- ES.1 Background. This section discusses project objectives.
- ES.2 Existing Wastewater System. This section describes the existing City of Sausalito sewer collection system.
- ES.3 System Flows. This section describes the factors contributing to base wastewater flows.
- ES.4 Inflow and Infiltration (I&I) Analysis. This section summarizes findings regarding the location and quantity of measured I&I in the City's service area. This section includes recommends for additional flow monitoring.
- ES.5 Hydraulic Modeling. This section summarizes development of the City's hydraulic sewer model.
- ES.6 Capacity Analysis and Assurance. This section describes capital improvements that are recommended to address capacity issues as defined through the hydraulic analysis.



## ES.2 EXISTING WASTEWATER SYSTEM

The City is located at the southern tip of Marin County, north of San Francisco. The City's service area, shown in Figure ES-1 includes all parcels within City limits, and ranges from hilly, tree-covered residential areas to relatively low-topography communities adjacent to the San Francisco Bay. The City's service area encompasses 1,359 acres, and, as reported in the 2000 Census, serves a population of 7,330. The City's population has remained steady for many decades, and the service area is considered built out. New development is primarily in the form of home remodels or replacements.

The collection system is comprised of approximately 20.4 miles of pipe ranging in diameter from 4 to 18 inches, as shown in Figure ES-2. The predominant historical pipeline material is vitrified clay pipe. Recently-installed pipe is comprised of polyvinyl chloride (PVC). The City also owns three pump stations (Whiskey Springs, Gate 5 and Anchor Street Pump Stations), as shown in Figure ES-2, that are operated by Sausalito-Marin City Sanitary District (SMCSD).

The City's system flows to a conveyance system owned and operated by SMCSD. The conveyance system crosses through the City, and intercepts City flows at several locations. SMCSD provides wastewater treatment by contract for the City. SMCSD facilities are also depicted in Figure ES-2.

The City supports a variety of land uses, as shown in Figure ES-3.

## ES.3 SYSTEM FLOWS

Land use categories from the City's General Plan were utilized in development of the hydraulic model. The initial dry weather or base wastewater flow (BWF) component of the collection system hydraulic model was defined by multiplying land use by a unit flow factor for the specific land use designation. These initial flows were further refined through the hydraulic model calibration process described in Section ES.5.

Table ES-1 summarizes the land uses that are included in the General Plan and are also assigned flow factors in the hydraulic model. The predominant land use designations are Medium Low and Medium High Density Residential, which together comprise 33.5 percent of the service area. Industrial uses form the next highest land use, followed by Waterfront. However, Waterfront areas comprised boat slips that were assumed to generate minimal flows.

During the 2008/09 flow monitoring period discussed in ES.4, the City generated average dry weather flow (ADWF) of 589,000 gallons per day (gpd) from the eleven monitored sewer basins. The measured ADWF included dry weather groundwater infiltration and potentially some tidal flows. During this program, three of the City's sewer basins and a portion of a fourth basin were not monitored.

During the same period, SMCSD calculated potential Sausalito ADWF of 840,000 gpd from the entire service area, after subtracting known SMCSD (Marin City) and Tamalpais Community Services District (TCS) flows from total SMCSD metered flows. After reviewing the difference between metered and total reported flows during the period, it appears that the mathematical flow calculation may provide a high estimate of City flows. The City is



considering additional flow monitoring to better define volumes and locations of dry weather inflow and infiltration into the sewer collection system.

**Table ES-1. City of Sausalito Land Uses Utilized in Hydraulic Model**

District Customer Classification	Percentage of Modeled Acreage
Ark & Houseboat	1.1%
Low Density Residential	1.2%
Medium Low Density Residential	23.3%
Medium Density Residential	0.4%
Medium High Density Residential	10.2%
High Density Residential	7.9%
Planned Development	0.4%
Mixed Residential and Commercial	1.6%
Central and Neighborhood Commercial	2.5%
Commercial Waterfront	1.1%
Shopping Center	0.3%
Industrial	14.9%
Waterfront	18.2%
Public Institutional	9.5%
Public Park	1.1%

## ES.4 INFLOW AND INFILTRATION ANALYSIS

The City conducted a flow monitoring program, smoke testing, and conductivity testing during the 2008/2009 wet weather season in order to measure dry weather flows and also assess contributions from inflow and infiltration (I&I). West Yost analyzed the collected flow data to quantify the extent of infiltration and inflow (I&I) entering the collection system.

I&I describe extraneous water that enters the collection system through voids in the sewer system or through unpermitted connections. The most prevalent sources of I&I include: groundwater infiltration (GWI); rainfall-dependent infiltration from saturated soils; and rainfall-dependent inflow through unpermitted connections. Together, rainfall-dependent inflow and infiltration is referenced as rainfall-dependent inflow and infiltration (RDII). Within certain areas of the City, infiltration also includes a tidal component. Figure ES-4 provides examples of common inflow and infiltration sources.

### ES.4.1 Flow Monitoring Program

A comprehensive flow monitoring program was completed by the City from December 2008 to March 2009. The City documented the 2008/2009 flow monitoring program in a report titled, “2009 Annual Report on Flow Monitoring” (RMC, 2009). Meter locations and basin delineation figures from this report are included as Figures ES-5 and ES-6.



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One rain gauge was installed near the intersection of Locust Street and Bridgeway, to capture rainfall during the flow monitoring period. The largest rainfall event occurred during the February 15-17, 2009 storm event, and the second largest storm event occurred from February 22-23, 2009.

The flow monitoring data showed surcharging in metering sites S-4 and S-5 during the February 2009 storm events. Meter Site S-4 measured flows from the area that includes Pine and Johnson Streets. Meter Site S-5 measured flows from an area that includes Napa and B Streets. Flow levels exceeded the crown of the pipe in both locations, but did not escape the pipe. Meter S-6 surcharged 9-inches above the crown of the pipe and Meter S-4 surcharge 34 inches above the crown of the pipe.

This surcharging could not be re-created in the initial development of the hydraulic model based on known flow characteristics and the general flow information collected during the 2008/09 monitoring program. Therefore, The City and SMCS D have discussed potential reasons for the surcharging, and are investigating whether capacity issues at the Locust Street pump station may have contributed to surcharging at the two meters, which are both located upstream of the pump station. At the same time, the City has discussed the potential for high groundwater in a limited area near the eastern boundary of Basin S-2C (Meter S-4). During a recently completed pipeline replacement project, flowing groundwater was visible within the trench on Johnson Drive.

Additional, targeted flow monitoring in Basin S-2C is recommended to help the City pinpoint specific contributions to I&I. Additional information on I&I flows, when included in the hydraulic model, will help the City to further refine capacity needs.

#### ES.4.2 Dry Weather Flow Components

Flow data, which was collected in 15-minute increments, was averaged over one-hour periods for the I&I analysis. The first step in the analysis required an estimation of dry weather or BWF for each of the monitored basins.

The following notable observations were found at three of the metering sites during the dry weather flow analysis:

- Monitoring site S-9, tributary to the Gate 5 Pump Station, had flow variations that matched tidal patterns. Therefore, water usage records, and not meter data, were used to determine the dry weather flow component and derive the wet weather component of flow.
- Monitoring site S-3, tributary to the Anchor Street Pump Station, showed a small component of GWI, as evidenced by constant high flows observed through the low-use nighttime flow period.
- Monitoring site S-2, tributary to the Princess Street Pump Station, showed low levels of tidal infiltration at high-high tide only, as evidenced by flow variations that matched tidal patterns.



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**ES.4.3 Wet Weather Flow Components - Inflow and Infiltration**

ES 4.3.1 Inflow Analysis

Inflow was measured based on I&I response immediately following the rainfall event. Basins were ranked based on peaking factor, defined as peak hourly wet weather flow as compared to average dry weather flow.

As shown in Table ES-2, Basin S-2C, which contains Johnson and Pine Streets and is metered by Meter S-4, ranked highest for non-tidal inflow. Identifying the sources and volumes of this inflow, and then removing the inflow through capital improvements, could result in a large reduction in basin flows. This basin overlaps with the Glen Creek watershed, which is the only formally determined USGS perennial stream in the City.

Basin	Meter	Average Dry Weather Flow, mgd	Peak Hourly Wet Weather Flow, mgd		Basin Ranking	
			Feb. 15-17, 2009	Feb. 22-23, 2009	Feb. 15-17, 2009	Feb. 22-23, 2009
S-1A	S-1A	0.023	0.15	0.20		HIGH
S-1B	S-1B	0.052	0.37	0.36		MEDIUM
S-1C	S-1C	0.042	0.20	0.20		
S-1E	S-2	0.034	0.27	0.20	MEDIUM	
S-1F	S-3	0.0053 <sup>(a)</sup>	0.038	0.034	MEDIUM	
S-2C	S-4	0.090	0.90	0.75	HIGHEST	MEDIUM
S-2B	S-5	0.057	0.30	0.26		
S-3C	S-6	0.11	0.40	0.48	LOW	LOW
S-3A	S-7	0.021	0.18	0.20	HIGH	HIGHEST
S-4C	S-8	0.041	0.28	0.26		
S-4B	S-9	0.023 <sup>(a)</sup>	0.41	0.41	N/A <sup>(b)</sup>	N/A <sup>(b)</sup>

<sup>(a)</sup> Average dry weather flow for Sites S-3 and S-9 are based on water usage data for 2008-2009, at a 90% wastewater flow generation.  
<sup>(b)</sup> Meter S-9 has very high peaking factors. The high peaking factors are the result of substantial tidal infiltration into this basin and not the result of stormwater inflow.

Often, inflow results from unpermitted or other connections that are integral to a larger, historical stormwater control philosophy. Solutions required to discontinue this inflow must be considered on a case by case basis. Targeted flow monitoring would help the City to pinpoint the sources of this direct inflow and the optimal solution for its abatement.

Non-tidal peaking factors were also relatively high in the southernmost Basin S-1A, and in Basin S-3A, which includes Nevada Street and vicinity. Basin S-1A has been observed by City staff to have steady and reliable groundwater to surface water discharges. However, these basins, monitored by Meters S-1A and S-7, respectively, had moderate overall peak flows when



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compared to other service area basins. Therefore, addressing inflow in Basins S-1A and S-3A, although recommended as part of the City's long-term I&I abatement program, would likely not result in a significant reduction in system-wide flows.

The basin with the lowest dry weather GWI was Basin S-3C, monitored by Meter S-6.

#### ES 4.3.2 Infiltration Analysis

To complete the I&I analysis, monitored flow data was analyzed to evaluate and quantify the components of wet weather infiltration. The I&I analysis was based on collection system flows during two storm events: February 15-18, 2009 and February 22-24, 2009.

Based on the City's available data, infiltration was measured and compared in three ways: 1) Gallons per day per Inch-Diameter-Mile Method (gpd-idm); 2) Gallons per acre per day (GPAD); and 3) Percent I&I (% I&I). Using these three methods, the volume of infiltration was defined as the total flow volume minus the baseflow (or average dry weather flow) volume.

Tables ES-3 and ES-4 summarize results from the infiltration analyses for the periods between February 15 and 18, and February 22 and 24, 2010. After comparing the two analyses, the basin with the highest level of rainfall-dependent I&I is Basin S-2C, which contains Pine and Johnson Streets and is metered by Meter S-4. This is the same basin that had the highest level of stormwater inflow. Therefore, this basin continues to be a strong candidate for additional flow monitoring.

Basins S-1C (Meter S-1C), containing North Street and surrounding areas, and S-2B (Meter S-5), which includes Napa and Bee Streets, also had high I&I response during both storms and should be considered for the City's long-term flow monitoring strategy.

Basin S-1A (Meter S-1A) which drains the area surround South and Edwards Streets, Basin S-1B (Meter S-1B), which contains Main Street and surrounding areas, and Basin S-1F (Meter S-3), which drains to the Anchor Street pump station showed I&I response in one but not both of the measured storms. Basin S-1A flows also indicated high stormwater inflow. Therefore, future monitoring of Basin S-1A to further define causes and locations of I&I should be considered.



**Table ES-3. Infiltration Analysis: February 15-18, 2009**

Meter	Service Area, acres	GPD per Inch-Diameter Mile, IDM	Gal per Acre per Day, GPAD	Percent I&I	Total Flow Volume, MG	Basin Ranking for Each Analysis Method		
						GPD-IDM,	GPAD	Percent I&I
S-1A	29.0	9,970	2,900	79%	0.428			HIGH
S-1B	34.1	10,870	3,490	70%	0.685	HIGH	HIGH	
S-1C	24.3	10,052	3,550	67%	0.513	HIGH	HIGH	
S-2	25.6	7,387	2,830	68%	0.427			
S-3	7.80	11,443	2,230	77%	0.074	HIGH		HIGH
S-4	97.8	13,572	3,880	81%	1.88	HIGHEST	HIGHEST	HIGHEST
S-5	36.6	10,997	3,390	69%	0.725	HIGH	HIGH	
S-6	73.8	8,100	2,360	61%	1.135			
S-7	32.0	10,058	2,420	79%	0.394	HIGH		HIGH
S-8	56.0	9,932	1,970	73%	0.605			
S-9	61.8	46,234	2,720	88%	0.766	N/A <sup>(a)</sup>		N/A <sup>(a)</sup>

MG = million gallons

<sup>(a)</sup> Meter S-9 has very high peaking factors. The high peaking factors are the result of substantial tidal infiltration into this basin and not the result of stormwater inflow

**Table ES-4. Infiltration Analysis: February 22-24, 2009**

Basin	Service Area, acres	GPD per Inch-Diameter Mile, IDM	Gal per Acre per Day, GPAD	Percent I&I	Total Flow Volume, MG	Basin Ranking for Each Analysis Method		
						GPD-IDM,	GPAD	Percent I&I
S-1A	29.0	10,545	3,070	79%	0.428	HIGH	HIGH	HIGH
S-1B	34.1	8,398	2,700	64%	0.685			
S-1C	24.3	10,474	3,700	68%	0.513	HIGH	HIGHEST	
S-2	25.6	5,350	2,050	60%	0.427			
S-3	7.80	5,871	1,140	63%	0.074	HIGH		
S-4	97.8	11,967	3,420	79%	1.88	HIGHEST	HIGH	HIGH
S-5	36.6	10,619	3,280	68%	0.725	HIGH	HIGH	
S-6	73.8	8,144	2,370	61%	1.135			
S-7	32.0	10,670	2,570	80%	0.394	HIGH		HIGHEST
S-8	56.0	7,874	1,560	68%	0.605			
S-9	61.8	39,409	2,320	86%	0.766	N/A <sup>(a)</sup>		N/A <sup>(a)</sup>



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The three unmetred basins from the 2008/09 study that captured flows from the areas surrounding Liberty Ship Way, Marinship, and Ebbside are adjacent to the Bay. Existing facilities within two of these basins are likely to be located in Bay Mud. Elevation studies conducted by the City have confirmed that large areas of the City that are located in Bay Mud have settled over time, and are expected to continue to subside. Infiltration characteristics in these areas are expected to be substantially different than the infiltration that was measured west of Bridgeway, in the upland areas. Additional flow monitoring of these basins may identify currently unknown sources of I&I, and new projects needed to abate this I&I.

#### ES.4.4 Flow Monitoring Recommendations

Based on estimates of tidal influence within the Gate 5 pump station basin (S-4B, Meter 9) tidal inflow and infiltration has the potential to be the largest contributor to system-wide I&I. Tidal influence was also found in Basin S-1E, adjacent to the Princess Street pump station, during high tidal periods. It is recommended that the City conduct a second season of flow monitoring to refine flow data for the basins adjacent to Basin S-4B, including Basins S-2B (Liberty Ship Way), S-3A (Marinship), and S-4A (Ebbside).

Specific sewer basins showed high levels of inflow and/or infiltration. Additional flow monitoring in these basins will help pinpoint the locations and causes of inflow, and the most prevalent locations for infiltration. Basin S-2C, which contains Johnson and Pine streets, had the highest non-tidal inflow

Another basin with high non-tidal inflow and infiltration is Basin S-1A, which includes Edwards and South Street. Metering of Basin S-1A would provide additional flow data to further refine the City's understanding of this I&I. At the same time, metering would provide additional data to supplement the data collected in 2008/09, which was at times inconsistent for this meter.

Basin S-1C (Meter S-1C), containing North Street and surrounding areas, and Basin S-2C (Meter 5) which includes Napa and Bee Streets also had high I&I response and should be considered for future flow monitoring.

Basin S-3A, which includes Nevada Street and vicinity has a lower priority for monitoring. Although this basin had high I&I, basin flows are relatively small. Therefore, I&I abatement in this basin would likely not have a significant effect on reducing system flows.

#### ES.5 HYDRAULIC MODELING

West Yost developed a computer-based hydraulic sewer model of the City's wastewater collection system using MWHSoft® InfoWorks™ CS software. This software was selected to be consistent with modeling efforts underway by SMCSD and TCSD. Dry and wet weather flows were developed and input into the model. Various model parameters were then adjusted until modeled flows compared well to measured flows, during dry weather and wet weather calibration.



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#### ES.5.1 Model Development

The hydraulic model comprises a skeletonized network of manholes and pipelines, and was developed based on the City's system data in Geographic Information Systems (GIS). The model consists of approximately 4.6 miles of sewer pipeline ranging in diameter from 6-inches to 12-inches, representing approximately 23 percent of the City's 20.4-mile system.

The three City pump stations are included in the hydraulic model: Anchor Street, Gate 5 and Whiskey Springs Pump Stations. The modeled collection system facilities are presented in Figure ES-7.

The City's collection system flows into the regional interceptor sewer, which is owned and operated by SMCSO. The SMCSO regional sewer facilities were not included in the City's collection system model.

#### ES.5.2 Load Allocation

Sewer load components included BWF, GWI, and RDII. West Yost created 95 sewersheds to facilitate the assignment of sewer loads in the hydraulic model. Each sewershed flows to a low point in the City's collection system. Flows were estimated by sewershed, and assigned to the node at the downstream end of the sewershed. Figure ES-8 shows the sewersheds that were included in the hydraulic model.

BWF was calculated by applying a unit flow factor to each of the City's land use designations. Average daily flows per basin were then compared with the metered flow data and adjusted per land use category and per monitored basin, until predicted BWF matched measured data within each of the monitored basins and throughout the entire service area.

West Yost then used dry weather data from the City's 2008/09 flow monitoring program to develop 24-hour diurnal patterns for each monitored basin within the City's service area. In order to reliably compare calculated-to-measured flow values, contributions to GWI and other sources of infiltration were considered and added to individual basin flows on a case by case basis. In particular, high levels of tidal infiltration occurred in Basin S-4B, which drains to the Gate 5 Pump Station.

Wet weather flow created through RDII was calculated through the model using the synthetic unit hydrograph, RTK method. This method generates wet weather I&I hydrographs from each sewershed that reflect short-term, medium-term, and long-term rainfall response. Hourly peak wet weather flows ( $Q_{pwwf}$ ) were generated in the model by combining the dry weather flow with flows from the I&I hydrographs, by sewershed.

#### ES.5.3 Dry Weather Flow Calibration

The City's hydraulic model was calibrated to confirm that the computer simulation will accurately represent the operation of the collection system under dry weather flow conditions. The weekday dry weather flow calibration was based on average flows from January 12-16, 2009. The weekend dry weather flow calibration was based on average flows from



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January 10-11 and 17-18, 2010. The weekend and weekday flows were similar in most basins. Overall, flows tended to increase slightly on the weekend compared with the weekday flows.

Calibration was considered completed when minimum, maximum, and average modeled flows as well as the temporal distribution of flow over a 24-hour period were representative of measured flows. A sample dry weather flow calibration hydrograph for Meter S-8 (Basin S-4C) is provided in Figure ES-9.

#### **ES.5.4 Wet Weather Flow Calibration**

Following completion of dry weather calibration, West Yost calibrated the model for wet weather flow conditions. The largest storm events captured during the 2008/09 flow monitoring season occurred from February 15-16, 2009, February 22-23, 2009 and March 1-5, 2009. The wet weather model simulation represented flows during the most significant flow event.

The model reached calibration for all basins except for the basin that contains South Street and vicinity, monitored by Meter S-1A. Figure ES-10 presents a sample of the wet weather flow calibration for Meter S-8 for the February 2009.

Confirming calibration results for Meter S-1A were difficult to achieve due to inconsistency in the metered flow data. Further evaluation will be made to determine the reason for inconsistent flows from this basin. This basin is a candidate for future flow monitoring to further identify locations and volumes of both inflow and infiltration, and to collect basin-wide flows to help resolve the calibration issues for Basin S-1A.

#### **ES.6 CAPACITY ANALYSIS AND ASSURANCE**

The hydraulic model was used to determine the hydraulic capacity of the City's collection system under wet weather flow conditions. The hydraulic capacity analysis was completed under the assumption that the SMCSD interceptors, which receive City flows, have sufficient capacity to accept peak wet weather flows without causing backwater effects in the City's collection system. The City and SMCSD are working together to confirm that the systems will operate together in this manner, and to provide a system that most efficiently conveys wet weather flows from the design flow event.

The capacity analysis was completed using the statistically-developed design wet weather flow event that serves as the basis for the capacity assessments for the SMCSD and TCSD systems. The design flow event uses rainfall data from the December 31, 2005 wet weather event. This event is considered a 5-year wet weather flow event, and is discussed further in the SMCSD Annual Report, as required by the EPA Order.

##### **ES.6.1 Hydraulic Capacity Analysis Results and Recommended Solutions**

Results from the hydraulic capacity analysis are provided in Table ES-5.

The wet weather capacity analysis revealed four pipeline projects that are required for the City to meet capacity requirements, and two pump stations that require additional firm capacity. The pipeline projects are located on Nevada Street, Coloma Street, on the west side of Bridgeway,

**Table ES-5. Capacity Assurance Projects**

Project Priority	Location	Upstream Manhole ID	Downstream Manhole ID	Existing Diameter, in	Recommended Improvement Pipe Size, in	Length, ft	Peak Hourly Flow, mgd	d/D Ratio with Improvement Pipe Size
In design	Gate 5 Road	430107	430107	6	4-inch force main <sup>(a)</sup>	821	0.44	n/a
1	Nevada Street	370400	370100	6	8	460	0.49	0.56
2	Coloma Street	440501	440500	6	8	212	0.19	0.67
	Coloma Street	440400	440201	6, 8	8, 12	443	0.67	0.63
3	Bridgeway	210200	210001	12	15	315	1.57	0.58

<sup>(a)</sup> Gate 5 Road gravity sewers are being converted to a low-pressure pumped system.



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and on Gate 5 Road. All of these pipelines surcharged during the design wet weather flow event, but did not overflow.

Replacement pipelines were increased in size by one pipeline diameter in order to convey wet weather flows. New pipes were then checked to confirm that the pipe diameter maintained a maximum depth-to-diameter ratio of 0.75 during peak wet weather flow, and a minimum velocity of 2 fps during peak dry weather flow to promote self-cleaning.

The replacement pipeline on Coloma Street, which is currently sized as a 12-inch diameter pipeline, does not currently meet the minimum velocity requirement. Alternatives to this single pipeline solution are under review by the City; the final project configuration will be included in this or subsequent capacity plans.

In addition to the pipeline projects, the Whiskey Springs Pump Station, located near Coloma Street and Bridgeway, has a firm capacity of 321 gallons per minute (gpm) but requires capacity of 465 gpm. In order to meet capacity constraints, this pump station requires two new pumps with capacity of at least 465 gpm, as well as associated improvements.

Also, the Gate 5 Pump Station has a firm capacity of 283 gpm, but requires capacity of 342 gpm. In lieu of increasing pump station capacity, the Gate 5 Road Pipeline Replacement project, discussed in Chapter 6, will address the tidal I&I issue in this basin and reduce peak flows to a level that is below the pump station firm capacity.

#### ES.6.2 Replacement Projects and Conceptual Costs

For the purpose of assigning costs to the pipeline replacement projects, all projects were assumed to require removal and replacement of the existing pipeline in its current alignment, using open trench construction methods.

The City's capacity improvement projects are considered to have normal construction conditions, with a unit cost of \$10 per inch diameter per foot of pipe. An amount equal to the base pipeline installation cost was applied to allow for mobilization, paving, traffic control, and pipeline appurtenances. A 30 percent contingency was applied for construction unknowns, and an allowance made for design and project administration. Costs are based on the August 2010 Engineering News Record Construction Cost Index (ENR CCI), San Francisco, 9909.67.

Proposed project costs for the capacity assurance aspect of the required projects are summarized below. It is expected that these projects will be combined with other projects required to address known structural condition issues, as described in the *Pipeline Rehabilitation and 10-Year Capital Improvement Plan (CIP)* (West Yost Associates, October 2010). Therefore, the costs provided are preliminary, and should be confirmed through review of the City's 10-year CIP.

- Nevada Street: This project includes replacement of 460 feet of existing 6-inch diameter pipe with 8-inch diameter pipe. The estimated total project cost, including contingencies, is \$139,000.

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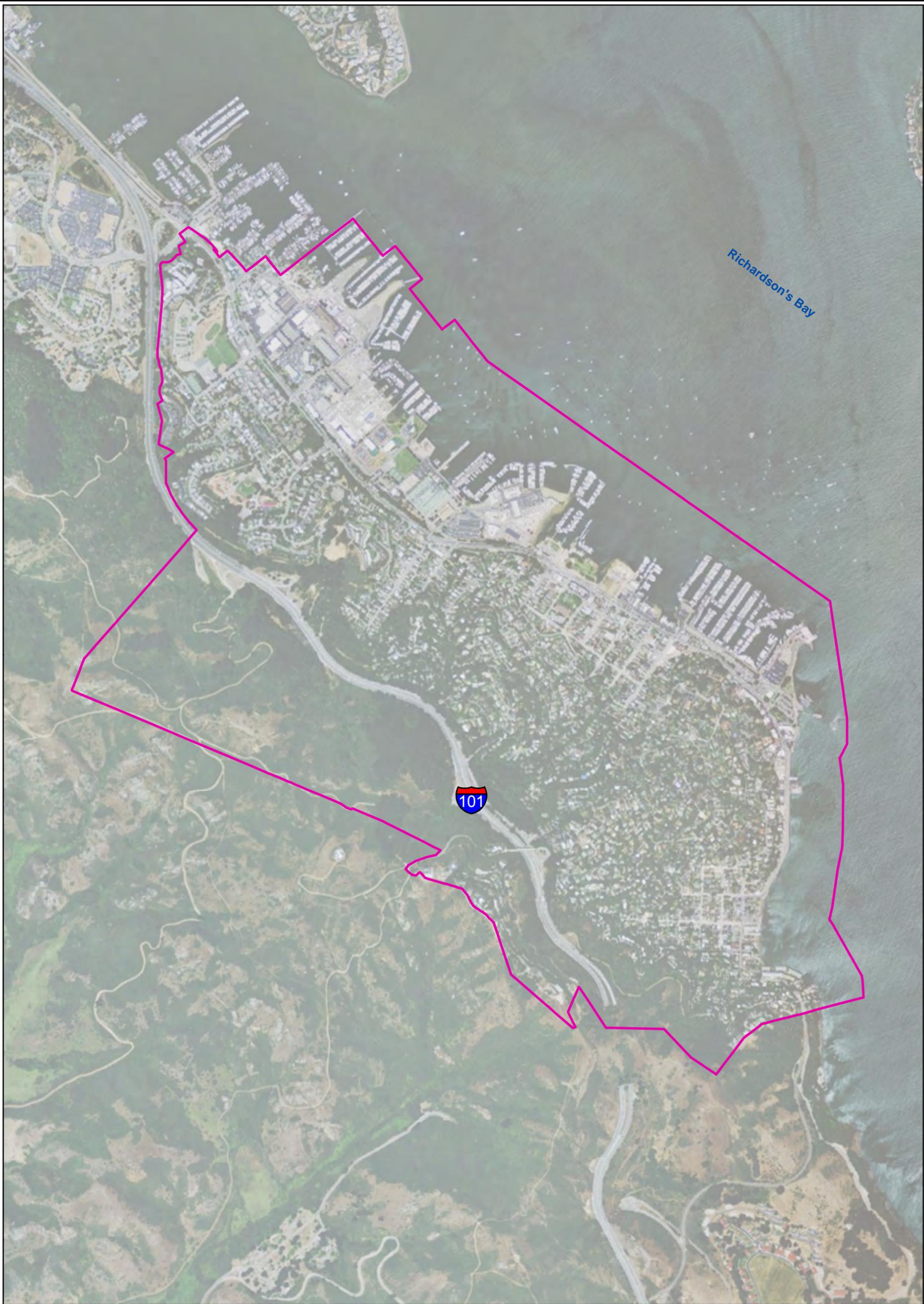
### Capacity Assessment and Assurance Plan

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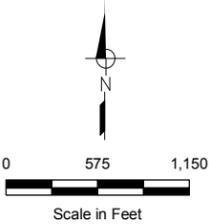
- Coloma Street: This project includes replacement of 655 feet of existing 6-inch and 8-inch diameter pipe with 12-inch diameter pipe. The estimated total project cost, including contingencies, is \$250,000.
- Bridgeway between Turney and Locust Street: This project includes replacement of 315 feet of existing 12-inch diameter pipe with 15-inch diameter pipe. The estimated total project cost, including contingencies, is \$490,000.
- Gate 5 Road: This project is in the final design stage as the City's Priority 1a project. The project includes converting approximately 2,300 linear feet of existing 8-inch sewer pipelines to a low pressure system through lining and installation of individual grinder pump stations. The estimated total project cost, including contingencies, is \$750,000.
- Whiskey Springs Pump Station: This capacity improvement project involves installing two new pumps, each with the capacity to handle peak wet weather flows of 465 gpm. This work includes mechanical and electrical demolition of the existing pump station, demolition of the wet well top, relining the wet well with epoxy, replace the self priming pumps with submersible pumps, replacing the internal 4-inch discharge piping with 6-inch piping, valves and fittings, new 15kW stand by generator, electrical power distribution panels and new controller. The estimated total project cost, including contingencies, is \$450,000.

The Whiskey Springs Pump Station operates in conjunction with the SMCSD Scotty's Pump Station. Any improvements at the Whiskey Springs Pump Station will be coordinated closely with related improvements to the SMCSD conveyance system.



**LEGEND**

 Service Area



**FIGURE ES-1**  
**City of Sausalito**  
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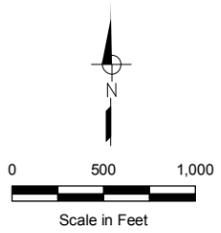
**SERVICE AREA**





**Notes**

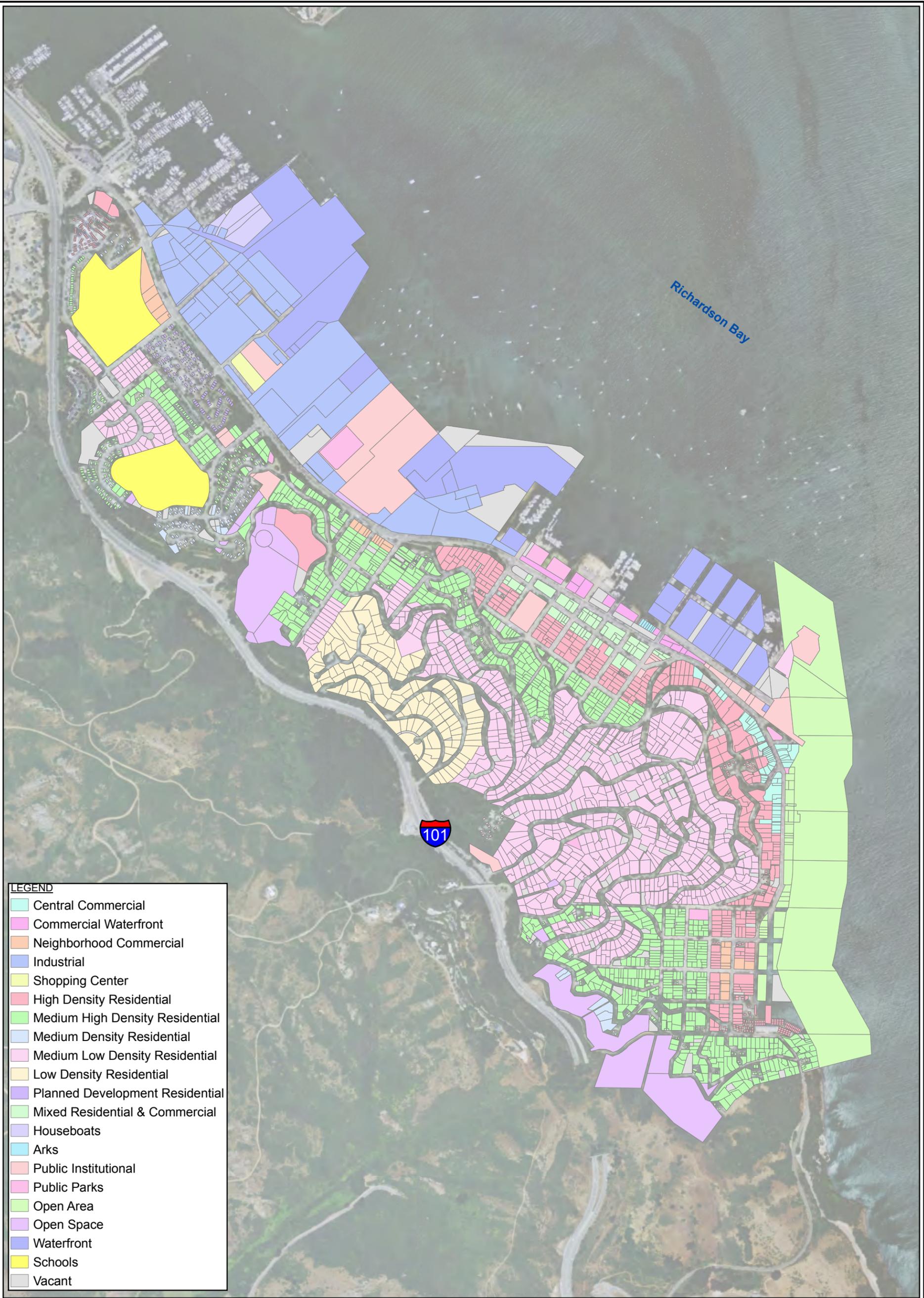
1. Source: City of Sausalito
2. Pipe sizes shown as Unknown based on City GIS data. For model purposes, an upstream pipe size was assigned to any unknown pipe size.



**FIGURE ES-2**  
**City of Sausalito**  
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**Existing Facilities**



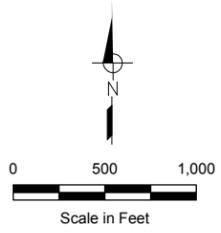


**LEGEND**

Central Commercial
Commercial Waterfront
Neighborhood Commercial
Industrial
Shopping Center
High Density Residential
Medium High Density Residential
Medium Density Residential
Medium Low Density Residential
Low Density Residential
Planned Development Residential
Mixed Residential & Commercial
Houseboats
Arks
Public Institutional
Public Parks
Open Area
Open Space
Waterfront
Schools
Vacant

**Notes**

1. All land use categories except Schools and Vacant based on County of Marin General Plan land use designations.
2. Schools land use category based on Sausalito Marin City School District and Marin School data.
3. Vacant Land use category based on County of Marin existing land use designations.



**FIGURE ES-3**  
**City of Sausalito**  
**Capacity Assessment and**  
**Assurance Plan**

**LAND USE**



**Figure ES-4. Inflow and Infiltration Sources**

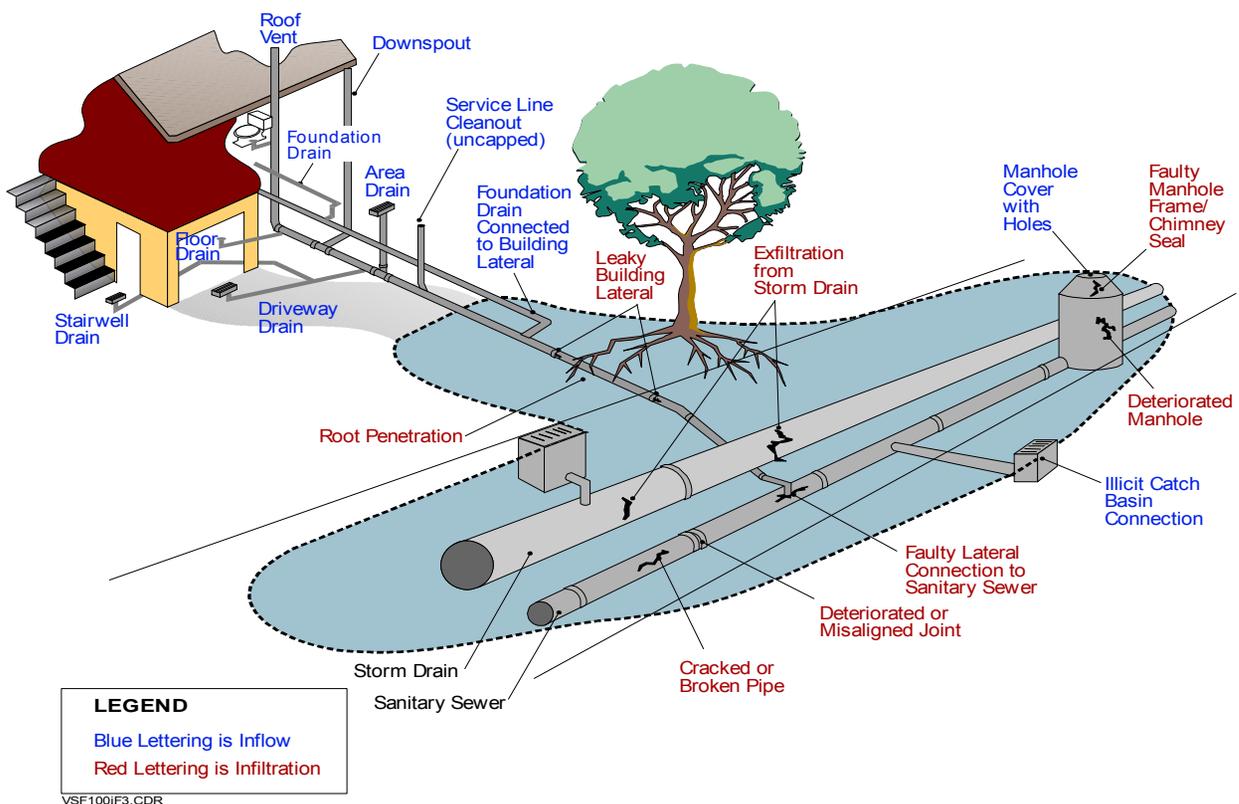


Figure 2-2: City of Sausalito Sewer Basins and Wet Weather Flow Monitoring Sites

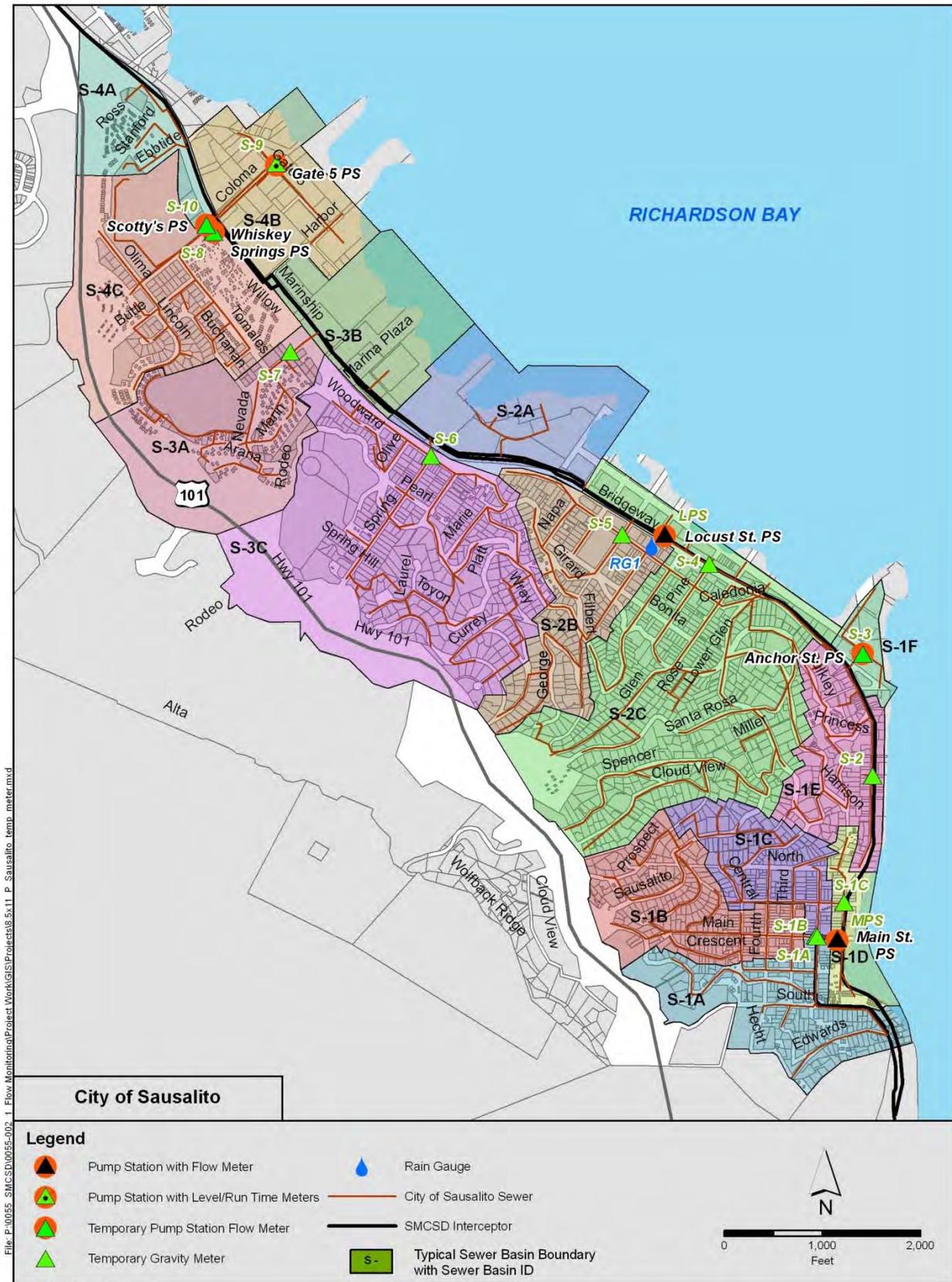
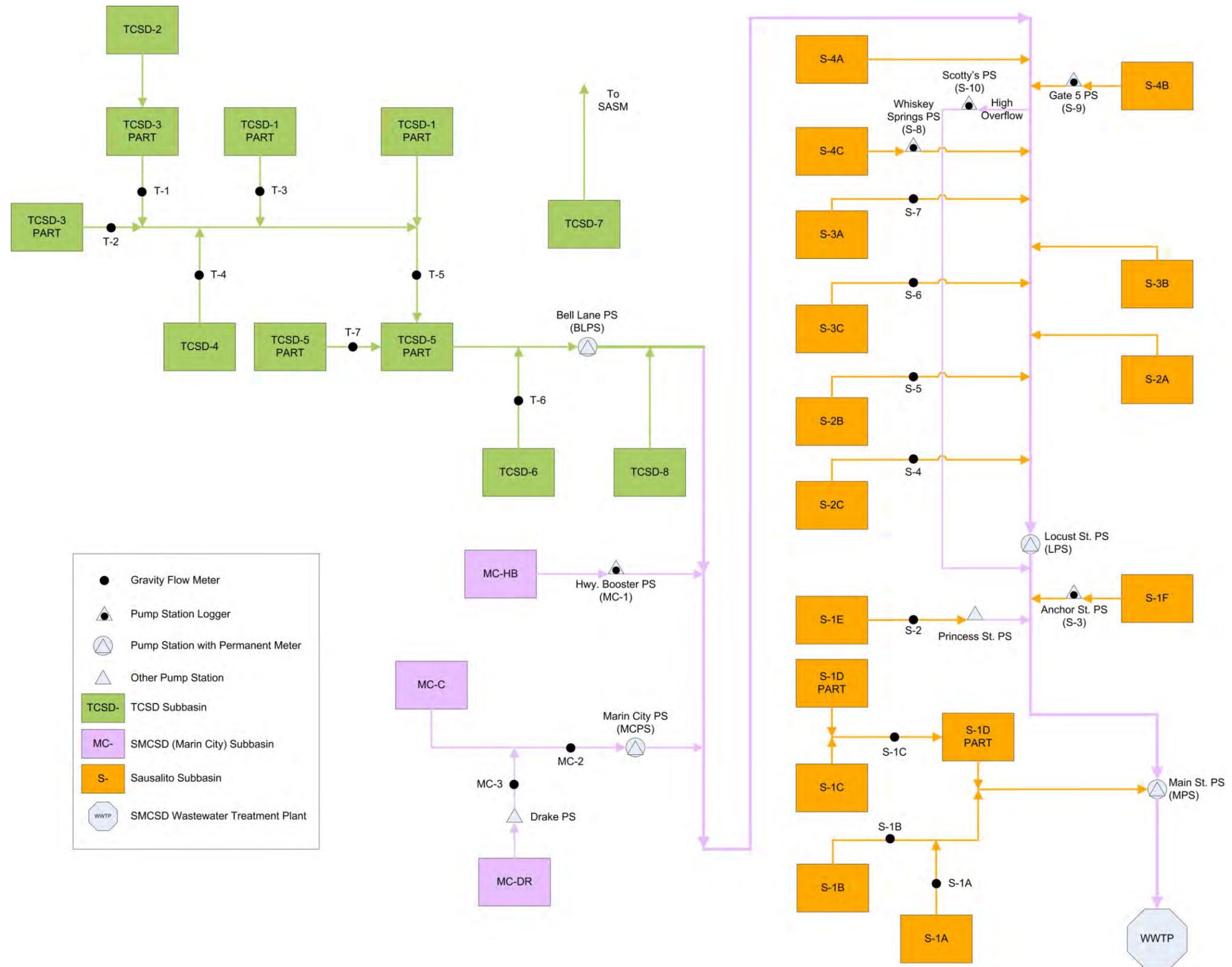
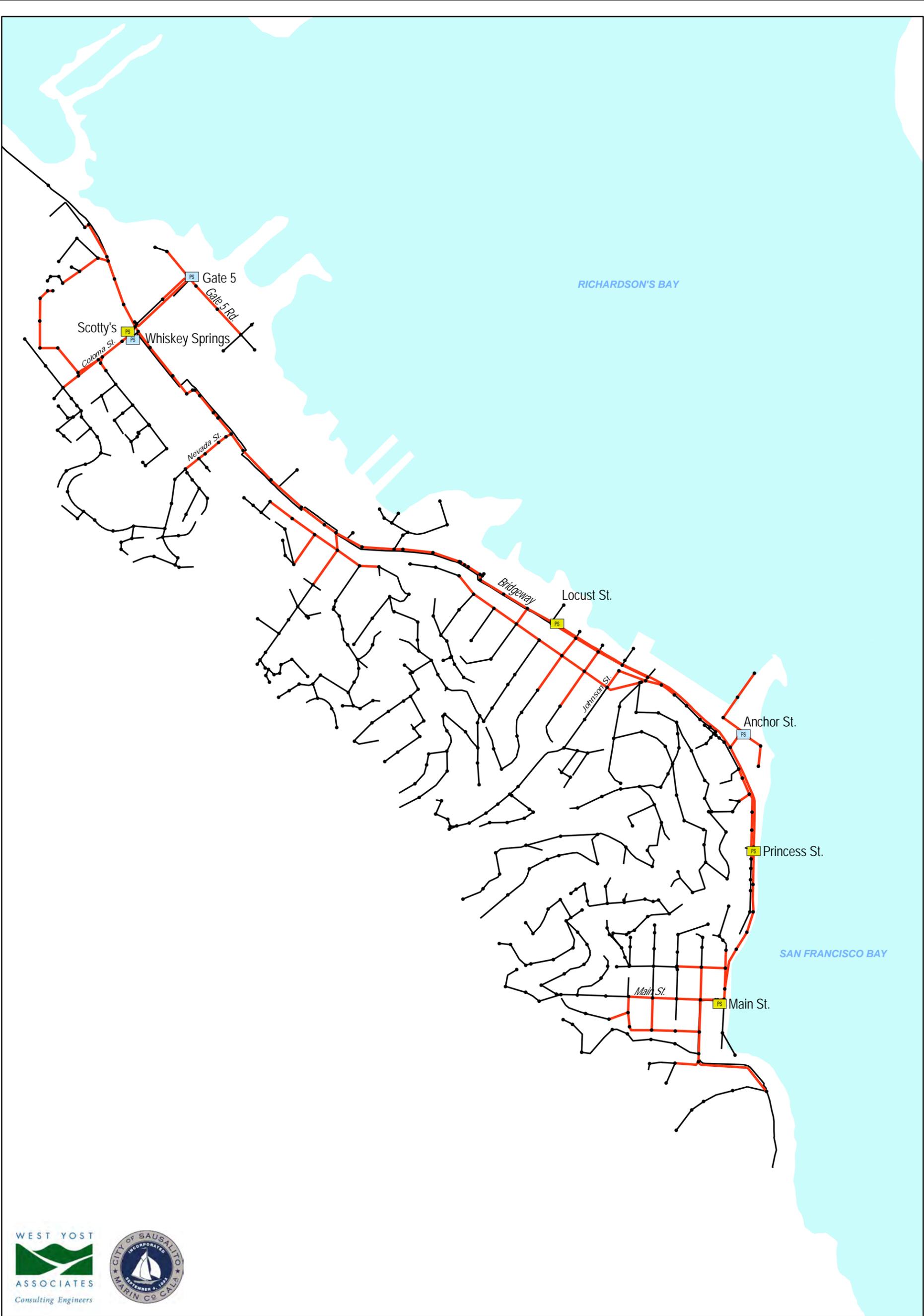


Figure 2-5: SMCS D System Flow Meter Schematic





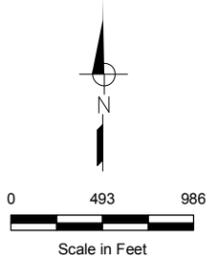
**LEGEND**

**Type of Structure**

- PS City Owned PS
- PS District Owned PS
- Manhole

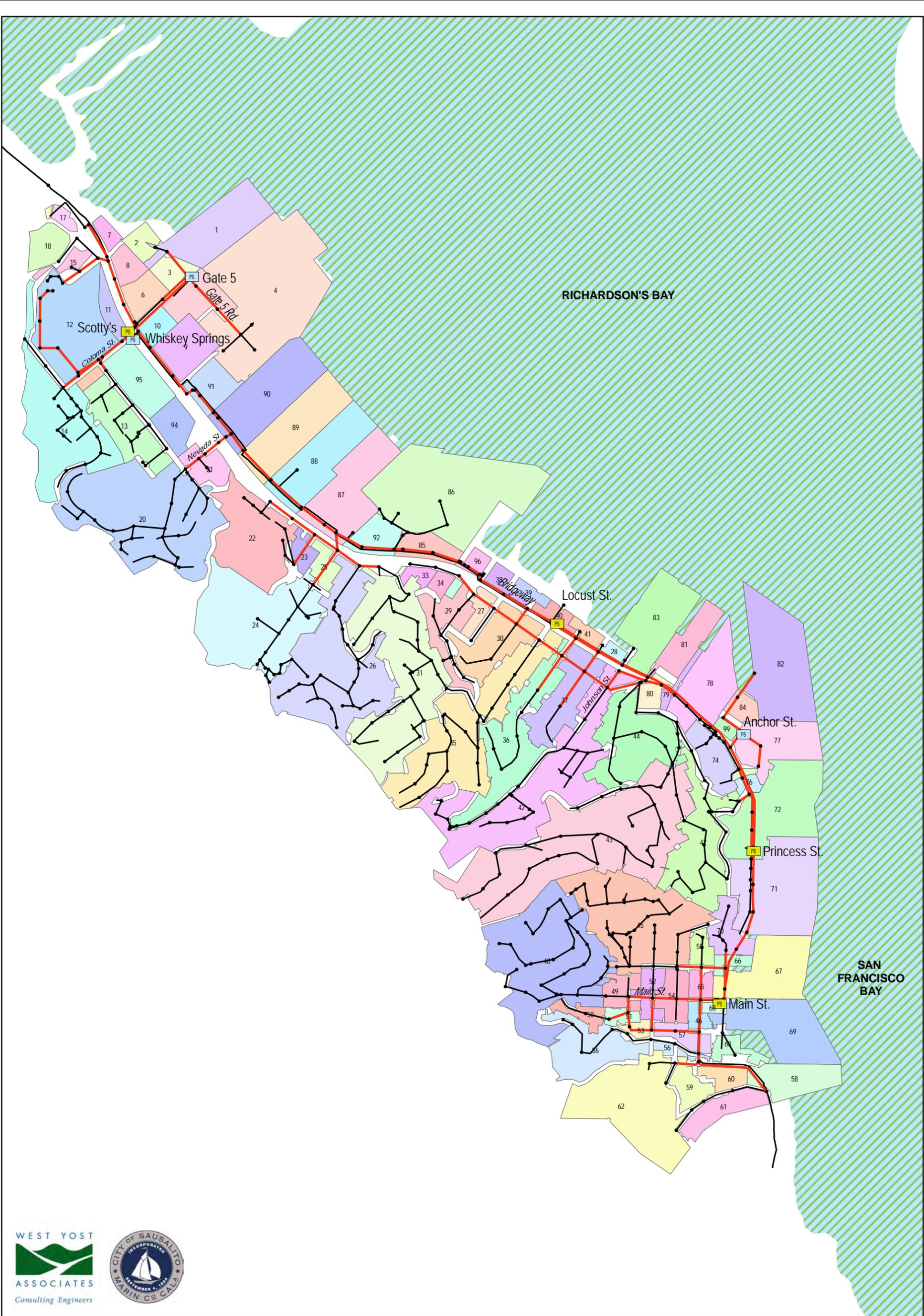
**Pipes**

- Modeled Pipe
- Existing System



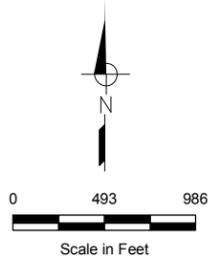
**FIGURE ES-7**

**City of Sausalito  
Capacity Assessment and Assurance Plan  
Modeled Collection System Facilities**



**LEGEND**

- |                          |                 |
|--------------------------|-----------------|
| <i>Various</i>           |                 |
| Sewersheds               |                 |
| <b>Type of Structure</b> |                 |
| City Owned PS            | <b>Pipes</b>    |
| District Owned PS        | Modeled Pipe    |
| Manhole                  | Existing System |



**FIGURE ES-8**  
**City of Sausalito**  
**Capacity Assessment and Assurance Plan**  

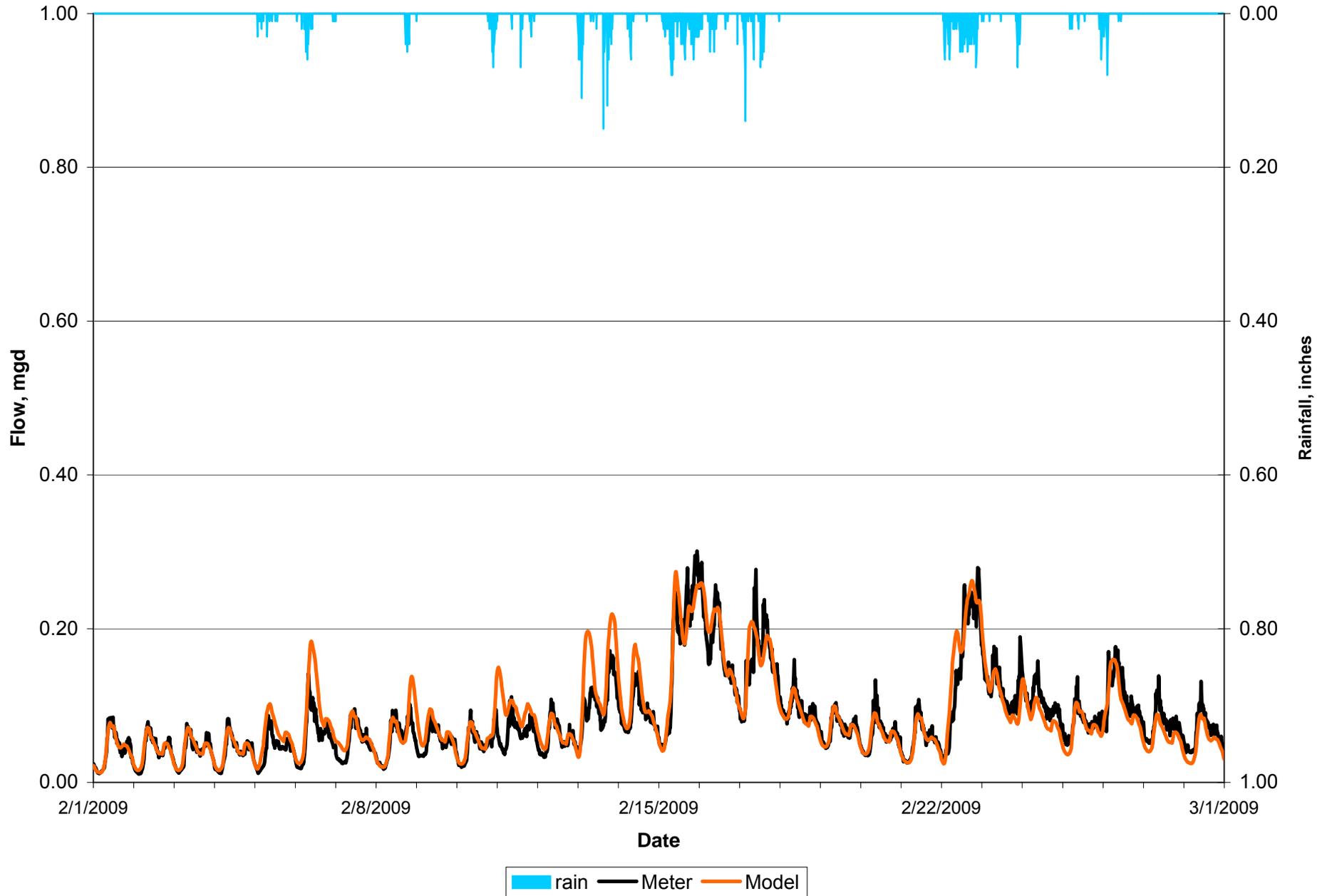

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**Sewershed Basins**

Figure ES-9. Meter S-8 (Basin S-4C) Weekday Dry Weather Flow Calibration Capacity Assessment & Assurance Plan



Figure ES-10. Meter S-8 (BasinS-4C) Wet Weather Flow Calibration Capacity Assessment & Assurance Plan







**Appendix H**  
**Placeholder for Future Supporting Documents for Element 9**  
**Monitoring, Measurement, and Modifications**





## Sewer System Management Plan APPENDICES

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### Appendix I Supporting Documents for Element 10 – SSMP Audits







# City of Sausalito

## SSMP Audit Report Form

Audit Period Covered: \_\_\_\_\_

Introduction		Yes	No
Is the current system description complete and up to date? Are all infrastructure statistics current and complete?		<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
Element 1 – Goals		Yes	No
A	Are the goals stated in the SSMP still appropriate and accurate?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

Element 2 -- Organization		Yes	No
A	Is the Contact Information current?	<input type="checkbox"/>	<input type="checkbox"/>
B	Is the Sanitary Sewer Overflow Responder List current?	<input type="checkbox"/>	<input type="checkbox"/>
C	Is the Organization Chart in Figure 2-1 of the SSMP current?	<input type="checkbox"/>	<input type="checkbox"/>

<b>Element 2 -- Organization</b>		<b>Yes</b>	<b>No</b>
D	Are the position descriptions an accurate portrayal of staff responsibilities?		
E	Is the chain of communication for reporting and responding to SSOs accurate and up-to-date?		
Discussion:			

<b>Element 3 – Legal Authority</b>		<b>Yes</b>	<b>No</b>
Does the SSMP contain current references to the District’s Code documenting the District’s legal authority to:			
A	Prevent illicit discharges?		
B	Require proper design and construction of sewers and connections?		
C	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City?		
D	Limit discharges of fats, oil and grease?		
E	Enforce any violation of its sewer ordinances?		
F	Were any changes or modifications made in the past year or since the last SSMP audit to District Ordinances, Regulations, or standards?		
Discussion:			

<b>Element 4 – Operations and Maintenance</b>		<b>Yes</b>	<b>No</b>
<b>Collection System Maps</b>			
A	Does the SSMP reference the current process and procedures for maintaining the District’s sanitary sewer system maps?		
B	Are the District’s wastewater collection system maps complete, current, and sufficiently detailed?		
<b>Prioritized Preventive Maintenance</b>			
C	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?		
D	Based upon the SSO information in CIWQS and the Annual SSO Report, are the District’s preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?		
<b>Rehabilitation and Replacement Program</b>			
E	Is there an ongoing condition assessment program sufficient to rank the condition of sewer pipes and schedule rehabilitation? Are the current components of this program documented in the SSMP?		
F	Does the rehabilitation and replacement plan include a capital improvement plan that addresses proper management and protection of the infrastructure assets? Does the plan include a time schedule for implementing the short and long-term plans plus a schedule for developing the funds needed for the capital improvement plan?		
<b>Contingency Equipment and Replacement Inventory</b>			
G	Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system?		
H	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?		
<b>Training</b>			
I	Are the training records current?		
J	Does the SSMP document current training expectations and programs?		

<b>Element 4 – Operations and Maintenance</b>		<b>Yes</b>	<b>No</b>
Discussion:			

<b>Element 5 – Design and Performance Standards</b>		<b>Yes</b>	<b>No</b>
A	Does the SSMP reference current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?		
B	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?		
Discussion:			

<b>Element 6 – Overflow and Emergency Response Plan</b>		<b>Yes</b>	<b>No</b>
A	Does the District’s Overflow Emergency Response Plan (OERP) contain proper notification procedures so that the primary responders and regulatory agencies are informed of all sanitary sewer overflows (SSOs) as required by the WDR and MRP?		
B	Does the OERP have a program to ensure an appropriate response to all overflows?		

<b>Element 6 – Overflow and Emergency Response Plan</b>		<b>Yes</b>	<b>No</b>
C	Does the OERP contain procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities of all SSOs that potentially affect public health or reach waters of the State in accordance with the MRP? Does the SSMP identify the officials who will receive immediate notification of such SSOs?		
D	Are staff and contractor personnel aware of and appropriately trained on the procedures of the OERP?		
E	Does the OERP contain procedures to address emergency operations such as traffic and crowd control and other necessary response activities?		
F	Does the OERP 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 SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge?		
G	Considering SSO performance data, is the OERP effective in handling SSOs in order to safeguard public health and the environment?		
H	Is the Water Quality monitoring Plan current and has it been trained on and practiced by staff that would be involved in a SSO of large volume?		
I	Was sampling conducted within 48 hours for all SSOs greater than 50,000 gallons and were results entered for these SSOs through the CIWQS website?		
J	Has the District prepared a Technical Report for all SSOs larger than 50,000 gallons? Have all Technical Reports been filed on the CIWQS website as required?		
Discussion:			

<b>Element 7 – Fats, Oils, and Grease (FOG) Control Program</b>		<b>Yes</b>	<b>No</b>
A	Does the Fats, Oils, and Grease (FOG) Control Program include a description of public education outreach efforts that promote proper handling and disposal of FOG?		
B	Does the FOG program include a plan for the disposal of FOG generated within the sewer system service area?		
C	Does the District have sufficient legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG?		
D	Are there requirements to install grease removal devices (such as traps or interceptors), best management practices (BMP) requirements, record keeping, maintenance requirements and reporting requirements established in the City’s FOG Control Program?		
E	Does the District have authority to inspect grease producing facilities and have sufficient staff to inspect and enforce the FOG ordinance?		
F	Does the FOG control program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?		
G	Does the FOG control program implement source control measures for all sources of FOG discharged to the collection system?		
H	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?		
Discussion:			

<b>Element 8 – System Evaluation and Capacity Assurance Plan</b>		<b>Yes</b>	<b>No</b>
A	Does the System Evaluation and Capacity Assurance Plan evaluate hydraulic deficiencies in the system and provide estimates of peak flows associated with conditions similar to those causing overflow events, if applicable?		
B	Does the District’s capital improvement program (CIP) establish a schedule of approximate completion dates for both short-term and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?		
C	Does the District take steps needed to establish a short and long-term CIP to address hydraulic deficiencies, including prioritization, alternatives analysis, and schedules? Are repair and replacement projects developed based upon condition assessment and/or field maintenance results?		
Discussion:			

<b>Element 9 – Monitoring, Measurement, and Program Modifications</b>		<b>Yes</b>	<b>No</b>
A	Does the District maintain relevant information that can be used to establish and prioritize appropriate SSMP activities?		
B	Does the District monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP?		
C	Does the District assess the success of the preventive maintenance program?		
D	Does the District update program elements, as appropriate, based upon monitoring or performance evaluations?		
E	Does the SSMP identify and illustrate SSO trends, including frequency, location and volume of SSOs?		

<b>Element 9 – Monitoring, Measurement, and Program Modifications</b>		<b>Yes</b>	<b>No</b>
Discussion:			

<b>Element 10 – SSMP Audits</b>		<b>Yes</b>	<b>No</b>
A	Does the audit focus on the effectiveness of the SSMP? If not, what needs to be changed to increase the effectiveness of the overall collection system program?		
B	Were the audit results shared with the District Board? And the public, via the District website?		
C	Will the SSMP Audit be completed, reviewed, and filed as an Appendix to the SSMP on a biennial basis?		
D	Do any proposed changes to the SSMP require Board approval as they have a substantial change in the policies and procedures for collection system operations and maintenance?		
Discussion:			

<b>Element 11 – Communication Program</b>		<b>Yes</b>	<b>No</b>
A	Does the District communicate on a regular basis with the public and other agencies about the development and implementation of the SSMP? Does the communication system provide the public the opportunity to provide input as the program is developed and implemented? Were annual progress reports and metrics of implementation of the SSMP provided to the District Board?		

Element 11 – Communication Program		Yes	No
Discussion:			

Change Log		Yes	No
A	Is the SSMP Change Log current and up to date?		
Discussion:			





## Sewer System Management Plan APPENDICES

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### Appendix J Placeholder for Future Supporting Documents for Element 11 Communication Program