City of Imperial Beach Sewer System Management Plan
2012 Audit Report

July 9, 2012

Auditors: Chris Helmer- Environmental Program Manager

A.J. Moeller- Sewer Division Supervisor

Peter Lau- Public Works Superintendent

Hank Levien- Public Works Director

System Overview	
Miles of gravity sewer mains	39.5 miles
Miles of force mains	4.4 miles
Total miles of all sewer lines	43.9 miles
Number of pump stations	11 sewer and 1 storm drain
Number of private sewer lateral connections	10,892 equivalent units
Population served	26,543

Introduction

The Sewer System Management Plan (SSMP) is a guiding document developed by the City of Imperial Beach and RBF Consulting to meet the requirements in Statewide Order 2006-003-DWQ. The SSMP is a living document that is updated and revised to reflect changes in practices, procedures, technology, and the collection system. The SSMP was last updated in April 2010 during the previous program audit. The SSMP is designed to protect the public and the environment, to provide best management practices for the operation and maintenance of the collection system, and to conform to the Orders set forth by California's State Water Resources Control Board and the San Diego Region of California's Regional Water Quality Control Board.

Element 10.0 in the SSMP requires a biennial audit of the program that provides the necessary assessment and program updates to ensure that the City's sewer collection system is being operated and maintained in an efficient and effective manner. The following sections of this Audit Report are organized by each SSMP element as listed in the Statewide Order 2006-003-DWQ. The following report identifies key areas of performance measures within the SSMP, identifies areas where actual operations differs from documented procedures, provides criteria for measuring system performance and plan compliance, and documents the effectiveness of the program.

Each section of the SSMP Audit presents a series of prompted questions that guide the auditor through the review process. Supporting information is then presented in a discussion for each section with any additional information provided as Attachments to the report. The complete SSMP document will be updated based on the results of the Audit and maintained on file at the Public Works Department and made available to the public online.

Element 1.0 Goals:

The City of Imperial Beach has developed a list of goals in accordance with the requirements of the GWDR. The City expects to meet these goals through the development and implementation of the SSMP.

Audit Questions:

Are the goals stated in the SSMP still appropriate and accurate? ☐ Yes ☒ No

Discussion:

The six goals developed by the City in accordance with the GWDR are still appropriate but not necessarily accurate for the current implementation of the SSMP and were therefore updated during this Audit process. The SSMP goals were originally established for the development of the SSMP and do not accurately meet the goals for an established program with multiple years of implementation. It is appropriate to update the SSMP because the SSMP is now firmly established as the City's sewer maintenance program. The updated SSMP goals are as follows:

1. Annually evaluate the funding needs to operate and maintain the sanitary sewer system using the most up-to-date *Sewer Utility Cost-of-Service Independent Rate Study*.
2. Implement the sewer system capital improvement program (CIP) projects as scheduled in the adopted 5-year CIP budget.
3. Annually review the priority of projects in the adopted 5-year CIP budget to address the most critical maintenance needs.
4. Annually evaluate the sewer system problem areas with an objective of designing maintenance and repair tasks that result in reduced jetting frequencies.
5. Maintain operation and maintenance records of the sanitary sewer system.
6. Update planned maintenance system checklists with each major equipment change.
7. Provide annual training on the elements of the SSMP and a minimum of 12 classroom hours per 24-month period for each sewer maintenance division employee.

Element 2.0 Organization:

The Organization element includes the following subsections: *a) Authorized Representative, b) Contact Information*, and *c) Chain of communication* and provides the organizational structure for implementation of the SSMP.

Audit Questions:

Is the Authorized Representative for the management of the City's collection system still Mr. Hank Levien, Public Works Director?	☒ Yes	☐ No
Is the SSMP contact information still current with agency and staffing contact information?	☐ Yes	☒ No
Is the chain of communication within the City for reporting sanitary sewer overflow events current and up-to-date?	☐ Yes	☒ No

Discussion:

Since the last SSMP Audit the City has experienced turnover in employees and undergone a forced internal restructuring as the result of elimination of the City's redevelopment agency. The City also hired Tran Consulting Engineers as the City's designated Sewer Service Engineer in October 2011 for a 5-year contract and hired an in-house GIS Manager in May 2011. As a result of these changes updates were necessary in the contact information and chain of communication subsections within this chapter.

Element 3.0 Legal Authority:

The intent of the Legal Authority element is to provide authority for the City to administer its collection system and to provide measures to enforce codes and regulations.

Audit Questions:

Does the SSMP contain current information about the City's legal authority?	☒ Yes	☐ No
Is the SSMP Legal Authority matrix up-to-date?	☒ Yes	☐ No
Are supporting legal documents provided in Appendix A of the SSMP?	☒ Yes	☐ No
Has the City implemented the RBF recommended code updates in the SSMP?	☒ Yes	☐ No
Does the City have complete legal authority to implement all the elements of the SSMP?	☒ Yes	☐ No

Discussion:

Upon the completion of the SSMP document, RBF consulting provided a number of recommendations and suggested updates to consider. The City implemented all of the RBF recommendations which were reported in the 2010 Audit report and continue to make as needed legal updates to strengthen the City's legal authority. The Legal Authority Matrix in the SSMP is current and up-to-date with the legal authority to manage the sewer collection system. The Imperial Beach Municipal Code Chapter 13 establishes the legal authority over the sewer collection system.

Element 4.0 Operation and Maintenance:

The Operation and Maintenance element includes the following subsections: *a) Collection System Map, b) Preventative Operation and Maintenance, c) Rehabilitation and Replacement Plan, d) Training,* and *e) Contingency Equipment and Replacement Inventories*. This element also includes the following relevant appendixes in the SSMP: Appendix B- System Maps, Appendix C- O&M Schedule, Appendix D- Rehabilitation and Replacement Plan, Appendix E- Training Program, and Appendix F- Contingency Equipment and Replacement Inventory.

Audit Questions:

Are the City's sewer collection system maps/GIS complete?	☒ Yes	☐ No
Is the Operation and Maintenance schedule in Appendix C up-to-date for planned cleaning, inspection, and maintenance of the waste collection system?	☐ Yes	☒ No
Are current maintenance activities sufficient and effective in reducing and preventing sewer system overflows?	☒ Yes	☐ No
Are the City's resources and budget sufficient to support effective sewer system management?	☒ Yes	☐ No
Do the City's planning efforts support long-term goals?	☒ Yes	☐ No
Is the City on track to complete the CCTV inspection for the entire sewer system?	☒ Yes	☐ No
Does the Rehabilitation and Replacement Plan in Appendix D provide up-to-date short and long term rehabilitation actions?	☐ Yes	☒ No
Are all Sewer Division employees certified for their job title and have they received the necessary annual training as outlined in the Training Program Appendix E?	☒ Yes	☐ No
Do supervisors believe that their staff is sufficiently trained?	☒ Yes	☐ No
Is staff satisfied with training opportunities and support?	☒ Yes	☐ No
Is the inventory in Appendix F for Contingency Equipment and Replacement Part Inventories current?	☐ Yes	☒ No
Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conducted maintenance activities?	☒ Yes	☐ No

Discussion:

The following subsections of the SSMP have incorporated changes as a result of the biannual audit:

a) *Collection System Map*: The City maintains up-to-date maps of the wastewater collection system facilities, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water pumping and piping facilities. Appendix B of the SSMP provides a map book of the entire collection system; however, the City's GIS database is where the most recent updates to the collection system maps are maintained. Revisions to the collection system maps are maintained on the City's GIS where both the Sewer Division Supervisor and City Management have access to print and download maps. In May 2011 the City established a GIS Manger position within the Public Works Department to help with the ongoing effort of maintaining the City's GIS database.

b) *Preventative Operation and Maintenance:* The operation and maintenance activities include the routine preventative maintenance and cleaning for each individual pump station and sewer main lines as identified in the SSMP Appendix C. The City's sewer collection system main lines are separated into 16 different subareas that are maintained through annual jetting, with targeted problem areas receiving higher frequency cleaning. The City also operates 12 pump stations, generators, and backup pumps that receive routine maintenance according to the manufacturer's specifications. Minor updates were made to the O&M schedule in Appendix C of the SSMP to more accurately present the current maintenance activities. The updated O&M schedule is provided in Attachment 6.

c) *Rehabilitation and Replacement Plan*: The Rehabilitation and Replacement Plan in the SSMP Appendix D identify and prioritize system deficiencies and presents short and long-term rehabilitation actions that address each deficiency. The Capital Improvement Project Division in Public Works maintains the most recent 5-year CIP revisions and adjusts the priorities based on the results of additional CCTV inspections. The most recent update to the 5 year Sewer CIP is provided in Attachment 1 and is provided as an update to the Rehabilitation and Replacement Plan in Appendix D of the SSMP. The following summarizes recently completed projects and pending projects.

   a. Completed Projects:
      i. FY09/10 Televise Pipe Sections/Sewer Mains W10-202 [Completed 4-12-11]
      ii. No 1. Annual Main Line Repairs W10-201 [Completed 10-14-11]
      iii. No 1. Annual Main Line Repairs W10-101 [Completed 10-14-11]
      iv. Sealing & Repair Wet Wells & Manholes W05-401 [Completed 8-13-11]
      v. PS 7 Wet Well Replacement W06-101 [Completed 9/21/11]
   b. CIP Pending Budgeted Projects:
      i. No 2. FY11/12 Annual Main Line Repairs W12-201
      ii. No 3. FY11/12 FY11/12 Annual Main Line Repairs W12-201
      iii. FY10/11 Televise Pipe Section/Sewer Mains W11-202
      iv. FY12/13 $200,000 (Pipes 669, 526, 724, 690, 524)
      v. FY13/14 $230,000 (Capacity via pipe bursting)
      vi. Pump Station No 4. Rehabilitation FY13/14 $75,000
      vii. Pump Station No 6. Rehabilitation FY 11/12 $75,000
      viii. Pump Station No 10. Rehabilitation FY10/11 $180,000 (next project)
      ix. Televise Pipe Sections/Sewer Mains FY10/11 $80,000
      x. Televise Pipe Sections/Sewer Mains FY13/14 $80,000

d) *Training*: Regular training for sanitary sewer operations and maintenance staff ensures that employees are safe and adequately prepared on the job. All sewer division staff receives the necessary training for the duties and responsibilities of their assigned job. No updates were made as a result of this audit to the Training Program in the SSMP Appendix E.

e) *Contingency Equipment and Replacement Inventories*: The list of sewer system operation equipment and replacement parts is provided in the SSMP Appendix F. Minor updates were made to the inventory during this audit. The City also maintains a fixed asset lists for audit purposes. The fixed asset list and an updated Contingency Equipment and Replacement inventory for the Sewer Division is provided in Attachment 3.

Element 5.0 Design and Performance Design Standards:

This element provides the standards for the design and performance for installation and repair as well as the inspection and testing of sewer facilities.

Audit Questions:

Are the design and performance standards in the SSMP current and up-to-date for installation, rehabilitation, testing and repair of equipment and facilities?	☐ Yes	☒ No
Is Appendix G for design and performance standards current with the most recent council resolution for the standards stated above?	☐ Yes	☒ No

Discussion:

The performance and design standards for the SSMP are listed in *The Standard Specifications for Public Works Construction (Greenbook), and* the regional supplements to the Greenbook. A regional update to the GreenBook was made available in 2012 and subsequently adopted by the City in Resolution No. 2012-7152. The updates to the Greenbook by reference are included as part of this SSMP Audit. Appendix G in the SSMP was also updated to support the most recent Greenbook standard adopted by City Resolution No. 2012-7152. The adopted Greenbook resolution is provided as Attachment 2.

Element 6.0 Overflow Emergency Response Plan:

The overflow emergency response plan identifies measures to protect public health and the environment. The Sewer Overflow Emergency Response Plan is provided in Appendix H.

Audit Questions:

Does Appendix H contain up-to-date information on the emergency response plan?	☐ Yes	☒ No
Is the current Sewer Overflow Emergency Response Plan effective in handling SSOs?	☒ Yes	☐ No

Discussion:

The Overflow Emergency Response Plan in Appendix H of the SSMP provides City staff with the direction and guidance for a quick and effective response to a sewer system overflow event. On Thursday September 8, 2011 the City experienced a complete power loss as the result of a major SDGE power outage in Southern California and Baja. Power was out in the City between 4:00 p.m. and 10:30 p.m. and affected all the pump stations in the City. The sewer division and Public Works staff implemented the Complete Loss of Power Plan in the Emergency Response Plan and successfully maintained the operation of the sewer collection system and prevented a potential SSO spill from the complete loss of power. Public Works management and sewer division staff held a post event debrief on the City's response to the complete loss of power event and as the result updated the Emergency Response Plan to best represent the lessons learned from putting the plan into action on September 8th. The updated Emergency Response Plan is provided in Attachment 4.

Element 7.0 Fats Oil and Grease Control Program:

The fats, oil, and grease (FOG) control program identifies source control measures to reduce the amount of grease blockages in the sewer system.

Audit Questions:

Does the City's FOG Control Program in Appendix I adequately protect the sewer system from SSOs caused by grease? ☒ Yes ☐ No

Discussion:

Fats, oils, and grease from food service establishments can contribute to the buildup of grease in the City's sewer collection system and have contributed to private lateral spills in the City. The existing FOG Control Program in Appendix I of the SSMP requires the Environmental Division to inspect and evaluate all food service establishments and to make modifications to the FOG Control Program as necessary.

The Environmental Division initiated a FOG inspection program in 2009 for food service businesses in combination with the annual commercial storm water inspections. The food service establishments are evaluated on compliance with the Uniform Plumbing Code, training of staff, following of best management practices, and proper maintenance of grease treatment devices. As the result of the annual FOG inspections and the FOG assessment conducted in the 2010 SSMP Audit Report the City has decided to move forward with an update to it municipal code to more effectively manage the discharge of grease into the City's collection system. The City is currently in the process of updating its municipal code to require the implementation of minimum best management practices and installation of grease control devices at food service establishments. The municipal code update will be completed in 2012 and reported on in the next SSMP Audit report.

Element 8.0 System Evaluation and Capacity Assurance Plan:

This element provides an evaluation of the sewer system in regards to current and future dry and wet weather peak flow events. The hydraulic model also evaluates the wet wells at the pump stations to determine additional capacity needs. The results from the hydraulic model should be used in conjunction with the CCTV inspections in the development and prioritization of sewer capital improvement projects. The hydraulic model should also be used when assessing the impact of new development projects on the City's collection system.

Audit Questions:

Does the hydraulic model contain up to date information on the capacity assessment of the sewer system and adequately prepare the City for future growth?	☒ Yes	☐ No
Is the hydraulic model that is part of the Capacity Assurance Plan in Appendix J considered in the Sewer Division CIPs?	☒ Yes	☐ No
Does the City us the hydraulic model when constructing new development projects?	☒ Yes	☐ No
Does the City adequately evaluate the long term capacity assurance needs when developing future capital improvement projects?	☒ Yes	☐ No

Discussion:

Imperial Beach is almost completely developed out. Future sewer system capacity needs for the City are minor and will result from the redevelopment of existing facilities. The City evaluates the long term capacity assurance of the sewer system through the general planning process and the short term 5-year capital improvement program. The City also requires new developments or significant redevelopment projects to verify sewer system hydraulic capacity as a condition of construction. The City only had three projects (Seacoast Inn, Sedberry Redevelopment of 9th and Palm, and the American Legion Redevelopment) since the last reporting period that required verification with the RBF hydraulic model. Both projects are not projected to have significant impacts on the collection system.

Element 9.0 Monitoring Measurement and Program Modifications:

Each of the elements of the SSMP has methodology for updating the processes and maintaining records. Each element of the SSMP shall be modified as needed to represent the lessons learned through implementation.

Audit Questions:

Does the City maintain relevant documentation that can establish and prioritize activities?	☒ Yes	☐ No
Did the Sewer Division Supervisor and Public Works Director monitor the implementation and, where appropriate, measure the effectiveness of each SSMP element?	☒ Yes	☐ No
Did the City make efforts to identify and illustrate SSO trends, including frequency, location, and volume?	☒ Yes	☐ No

Discussion:

The City properly maintains the documentation for each SSMP element and continuously reviews the effectiveness of the SSMP to ensure the highest level of service. One measure of effectiveness used by the City is a review of historic sewer system overflow to identify trends in sewer system overflows including cause, frequency, location, and volume. By understanding the history of sewer system overflows the City can more effectively implement or modify existing management programs to prevent future overflows from occurring. The City conducted an assessment of sewer overflow trends dating back to 1997 in the 2010 Audit Report. The analysis presented in Attachment 5 assesses sewer overflow trends dating from 2007 through 2012.

Element 10.0 SSMP Audits:

Every even year (biennially), the Public Works Director shall oversee an audit of the SSMP program that will culminate in a report documenting the effectiveness of the program in regards to reducing sewer spills, maintaining the level of service of the sewer system, and providing sewer capacity for development. The report shall identify areas where actual operations differ from the documented procedures and provide recommendations for updating either the operations or documented procedures. The report shall identify deficiencies in the SSMP and provide steps to correct them. This report shall be kept on file.

Audit Questions:

Is an update to the City's SSMP warranted based on the results of the audit? ☒ Yes ☐ No

Discussion:

The following updates were made to the City's SSMP:

Section	Updates Made
1.0 Goals	Updated SSMP goals
2.0 Organization	Updated City staff and contacts and Chain of Communication
3.0 Legal Authority	The legal authority matrix is up-to-date
4.0 Operation & Maintenance	***a) Collection System Map***: Maintain and up-to-date waste collection system map that is maintained on the City's GIS. Hired an in house GIS Manager. ***b) Preventative Operation and Maintenance***: Minor updates to Appendix C for Operation and Maintenance Schedule were made to reflect the current planned cleaning, inspection, and maintenance of the waste collection system. **c) Rehabilitation and Replacement**: Completed second phase of CCTVs and annual sewer CIP repairs. Updated 5-year CIP is provided in Attachment 1.
5.0 Design & Performance Standards	Updated 2012 Greenbook through Resolution No. 2012-7152
6.0 Overflow Emergency Response Plan	Updated the Sewer Overflow Response Plan with lessons learned after successfully preventing any sewer system overflows during the 2011 southern California blackout.
7.0 Fats, Oil, and Grease	The City is currently reviewing an update to its FOG control ordinance that will be reported in the next Audit Report.
8.0 System Evaluation & Capacity Assurance Plan	The City evaluates the long term capacity assurance of the sewer system through the general planning process and the short term 5-year capital improvement program. The City verified 3 new redevelopment projects with the model.
9.0 Monitoring Measurement and Program Modifications	Since 2007 the City has experienced 11 sewer main spills and 31 private lateral spills.

Element 11.0 Communication Program:

The SSMP process will be discussed and open for public input at the City Council meetings. The 2012 SSMP Audit report will be presented at a City council meeting where the public can provide input. In addition, the SSMP will be posted on the City's website along with contact information where interested parties can comment on the plan and the implementation.

Audit Questions:
None

Discussion:
None

Attachment 1

Sewer Division 5-Year CIP

SEWER

SUMMARY

Sewer Projects

CARRYOVER (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING FOR NEW BOND (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Sewer Fund [601-5060-536-xxxx]	$ 240,000	$ 480,000	$ 275,000	$ 270,000	$ 405,000	$ 1,670,000	$ -	$ 1,670,000
						$ -		$ -
TOTAL FUNDING	**$ 240,000**	**$ 480,000**	**$ 275,000**	**$ 270,000**	**$ 405,000**	**$ 1,670,000**	**$ -**	**$ 1,670,000**

Budgets and expenditures current as of 12/23/08

Annual Main Line Repairs

Sewer Project

Project Number: **MULTI**

PROJECT DESCRIPTION

Repairs to existing sewer mains at select locations. (See RBF Consulting report titled "Sanitary Sewer Maintenance Report," dated June 2008)

FUNDED & COMPLETED		*FUNDED & PENDING*		UNFUNDED	
		Annual #1: Main line repairs (Pipes 579, 429, 578, 373, 365, 343)	$ 225,000		
		Annual #2: Main line repairs (Pipes 99, 548, 547, 55, 401, 108, 109, 410, 286)	$ 220,000		
		Annual #3: Main line repairs (Pipes 669, 526, 724, 690, 524)	$ 200,000		
		Annual #4: Additional Capacity (via pipe bursting)	$ 270,000		
		Annual #5: New work identified via CCTV	$ 250,000		
EXPENDED as of December 23, 2008	$ -	Project Delivery (30%)	$ 349,500	ESTIMATE	$ -
		Construction (70%)	$ 815,500		
		UNEXPENDED	$ 1,165,000		

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Annual #1 Y6 09/10 Budget	Annual #2 Y7 10/11 Budget	Annual #3 Y8 11/12 Budget	Annual #4 Y9 12/13 Budget	Annual #5 Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Sewer Fund [601-5060-536-xxxx]	$ 225,000	$ 220,000	$ 200,000	$ 270,000	$ 250,000	$ 1,165,000	$ -	$ 1,165,000
TOTAL PROPOSED FUNDING	$ 225,000	$ 220,000	$ 200,000	$ 270,000	$ 250,000	$ 1,165,000	$ -	$ 1,165,000
					TOTAL ADJUSTED FUNDING	$ 1,165,000	$ -	$ 1,165,000

Budgets and expenditures current as of 12/23/08

NOTES

Pump Station No. 1B Wet Well

AJ 9

Sewer Project

Project Number: TBD

PROJECT DESCRIPTION

"Sanitary Sewer Maintenance Report" (June 2008) identified the wet well to be undersized. This project will increase the wet well an additional 238 cubic feet.

FUNDED & COMPLETED	*FUNDED & PENDING*	UNFUNDED
		Wet Well Increase
EXPENDED as of December 23, 2008 $ -	Project Delivery (30%) $ -	ESTIMATE $ 500,000
	Construction (70%) $ -	
	UNEXPENDED $ -	

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL PROPOSED FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
					TOTAL ADJUSTED FUNDING	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

NOTES

Pump Station No. 4 Rehabilitation

AJ 7

Sewer Project

Project Number: **TBD**

PROJECT DESCRIPTION

Replace pumps, stands and foundations; remove/replace vertical brace for piping; replace wet well inlet valves.

FUNDED & COMPLETED	*FUNDED & PENDING*	UNFUNDED
	New pumps	
	New pump stands	
	Remove/replace vertical pipe brace	
	New wet well inlet valves	

EXPENDED as of December 23, 2008	$ -	Project Delivery (30%)	$ 22,500	ESTIMATE	$ -
		Construction (70%)	$ 52,500		
		UNEXPENDED	$ 75,000		

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Sewer Fund [601-5060-536-xxxx]	$ -	$ -	$ -	$ -	$ 75,000	$ 75,000	$ -	$ 75,000
TOTAL PROPOSED FUNDING	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,000**	**$ 75,000**	**$ -**	**$ 75,000**
				TOTAL ADJUSTED FUNDING		**$ 75,000**	**$ -**	**$ 75,000**

Budgets and expenditures current as of 12/23/08

NOTES

Pump Station No. 5 Rehabilitation

AJ 3

Sewer Project

Project Number: TBD

PROJECT DESCRIPTION

Renovate or replace the pump station to include pump foundations, new pumps, new valves, and wall casings. Prepare construction plans and specifications. Award a contract to replace or modify pump station and/or wet well to eliminate surcharging of incoming lines.

FUNDED & COMPLETED		*FUNDED & PENDING*		UNFUNDED	
				New wet well and pumps	
				(Full scope TBD)	
EXPENDED as of December 23, 2008	$ -	Project Delivery (30%)	$ -	ESTIMATE	$ 285,000
		Construction (70%)	$ -		
		UNEXPENDED	$ -		

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL PROPOSED FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
					TOTAL ADJUSTED FUNDING	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

NOTES

Pump Station No. 6 Rehabilitation

AJ 6

Sewer Project

Project Number: **TBD**

PROJECT DESCRIPTION

Renovate Pump Station #6 to include replacement of station flooring, pump foundations, pumps, valves, and piping.

FUNDED & COMPLETED	*FUNDED & PENDING*	UNFUNDED
	Repair/replace pump station floor	
	Replace check valves	
	Replace inlet gate valves	
	Replace pumps, stands and foundations	
	Replace vertical bracing	

EXPENDED as of December 23, 2008	$ -	Project Delivery (30%)	$ 22,500	ESTIMATE	$ -
		Construction (70%)	$ 52,500		
		UNEXPENDED	$ 75,000		

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Sewer Fund [601-5060-536-xxxx]	$ -	$ -	$ 75,000	$ -	$ -	$ 75,000	$ -	$ 75,000
TOTAL PROPOSED FUNDING	$ -	$ -	$ 75,000	$ -	$ -	$ 75,000	$ -	$ 75,000
				TOTAL ADJUSTED FUNDING		$ 75,000	$ -	$ 75,000

Budgets and expenditures current as of 12/23/08

NOTES

Pump Station No. 8 Rehabilitation

AJ 8

Sewer Project

Project Number: TBD

PROJECT DESCRIPTION

Replace all three foundations and float floor.

FUNDED & COMPLETED	*FUNDED & PENDING*	UNFUNDED
		Replace all three pump foundations
		Repair/replace float floor
EXPENDED as of December 23, 2008 $ -	Project Delivery (30%) $ -	ESTIMATE $ 30,000
	Construction (70%) $ -	
	UNEXPENDED $ -	

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL PROPOSED FUNDING	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
					TOTAL ADJUSTED FUNDING	$ -	$ -	$ -

Budgets and expenditures current as of 12/23/08

NOTES

Pump Station No. 10 Rehabilitation

AJ 2

Sewer Project

Project Number: TBD

PROJECT DESCRIPTION

Replace suction line in south compartment and secure to the wet well wall. Modify wet well to eliminate surcharging of incoming lines.

FUNDED & COMPLETED	*FUNDED & PENDING*	UNFUNDED
	Add "I" beams in wet well to provide structural support	
	Remove dividing wall between the two wet well chambers	
	Replace pump suction lines	
	Seal the wet well	

EXPENDED as of December 23, 2008	$ -	Project Delivery (30%)	$ 54,000	ESTIMATE	$ -
		Construction (70%)	$ 126,000		
		UNEXPENDED	$ 180,000		

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Sewer Fund [601-5060-536-xxxx] (Transfer from W05-401)	$ -	$ 180,000	$ -	$ -	$ -	$ 180,000	$ -	$ 180,000
TOTAL PROPOSED FUNDING	**$ -**	**$ 180,000**	**$ -**	**$ -**	**$ -**	**$ 180,000**	**$ -**	**$ 180,000**
				TOTAL ADJUSTED FUNDING		**$ 180,000**	**$ -**	**$ 180,000**

Budgets and expenditures current as of 12/23/08

NOTES

Televise Pipe Sections/Sewer Mains

AJ 1

Sewer Project

Project Number: **TBD**

PROJECT DESCRIPTION

This project will televise the remaining 151,000 linear feet of sewer main in the City. The first 70,000 linear feet was televised in FY 2007/2008. Based on pipe failures found in FY 2007/2008, it is estimated hat 41 new pipe section failures will be found. Estimated repair per pipe section is $20,000.

FUNDED & COMPLETED	*FUNDED & PENDING*	UNFUNDED
	Televise 12,000 feet of monthly jetting list (Y6)	Repair defects found from televising $ 820,000
	Televise 69,520 feet sewer mains (Y7)	
	Televise 69,520 feet sewer mains (Y10)	
EXPENDED as of December 23, 2008 $ -	Project Delivery (30%) $ 52,500	ESTIMATE $ 820,000
	Construction (70%) $ 122,500	
	UNEXPENDED $ 175,000	

CARRYOVER FUNDING FROM CIP (FY 05 - 09)	Y1 04/05 Budget	Y2 05/06 Budget	Y3 06/07 Budget	Y4 07/08 Budget	Y5 08/09 Budget	Total Budget	Total Expenditures	Balance
Not Applicable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL CARRYOVER FUNDING	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Budgets and expenditures current as of 12/23/08

PROPOSED FUNDING SOURCES FOR CIP (FY 10 - 14)	Y6 09/10 Budget	Y7 10/11 Budget	Y8 11/12 Budget	Y9 12/13 Budget	Y10 13/14 Budget	Total Budget	Total Expenditures	Balance
Sewer Fund [601-5060-536-xxxx]	$ 15,000	$ 80,000	$ -	$ -	$ 80,000	$ 175,000	$ -	$ 175,000
TOTAL PROPOSED FUNDING	**$ 15,000**	**$ 80,000**	**$ -**	**$ -**	**$ 80,000**	**$ 175,000**	**$ -**	**$ 175,000**
					TOTAL ADJUSTED FUNDING	**$ 175,000**	**$ -**	**$ 175,000**

Budgets and expenditures current as of 12/23/08

NOTES

Attachment 2

Greenbook Resolution 2012-7152

RESOLUTION NO. 2012-7152

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IMPERIAL BEACH, CALIFORNIA, ADOPTION OF THE 2012 EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEEN BOOK 2012), THE 2012 REGIONAL SUPPLEMENTS TO THE GREEN BOOK 2012, THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION 2006 EDITION AND THE RETENTION OF THE 2009 EDITION OF THE SAN DIEGO REGIONAL STANDARD DRAWINGS

WHEREAS, on March 4, 2009, City Council, City of Imperial Beach adopted resolution 2007-6718 establishing the 2009 Edition of the Standard Specifications for Public Works Construction (Green Book 2009), and the 2009 Edition of the Regional Supplement Amendments to the "Standard Specifications for Public Works Construction"; and

WHEREAS, the 2012 Edition of the "Greenbook" has recently been published for use as a reference document with public works construction projects and is designed to replace the "2009 Greenbook"; and

WHEREAS, each succeeding edition of the Greenbook is prepared to reflect the constantly changing technology and advanced thinking of the construction industry; and

WHEREAS, the Greenbook Committee has also published the "Standard Plans For Public Works Construction" 2006 Edition that is designed to be a companion document to the Greenbook; and

WHEREAS, City Council has the authority to establish appropriate reference documents as the construction standard within the City when performing public works projects; and

WHEREAS, the Greenbook is designed to aid in furthering uniformity of plans and specifications accepted and used by those involved in public works construction and to take such other steps as are designed to promote more competitive bidding by private contractors; and

WHEREAS, the "Standard Specifications for Public Works Construction" and "Standard Plans for Public Works Construction" provide specifications and plans respectively that have general applicability to public works projects; and

WHEREAS, the August 2009 Edition of the San Diego Area Regional Standard Drawings adopted with Resolution 2011-7050 has not been revised and is still applicable.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Imperial Beach as follows:

1. The above recitals are true and correct.
2. This legislative body adopts "Greenbook 2012", Regional Supplements to Greenbook 2012 and the Standard Plans for Public Works Projects, 2006 edition, as City of Imperial Beach constructions standards documents for public works construction projects.
3. This legislative body retains the 2009 Edition of the "San Diego Regional Standard Drawings" with modifications as approved in Resolution 2011-7050 as City of Imperial Beach construction standards documents for public works projects.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of Imperial Beach at its meeting held on the 15th day of February 2012, by the following vote:

AYES:	**COUNCILMEMBERS:**	**BILBRAY, KING, BRAGG, SPRIGGS, JANNEY**
NOES:	**COUNCILMEMBERS:**	**NONE**
ABSENT:	**COUNCILMEMBERS:**	**NONE**

JAMES C. JANNEY, MAYOR

ATTEST:

JACQUELINE M. HALD, MMC
CITY CLERK

Attachment 3

Sewer Division Fixed Asset List

Contingency Equipment and Replacement Inventory

Sewer Division Fixed Assest List
6/30/2011

ID	Description
1179	PS # 8 & 9
1179A	2nd PHASE # 8 & 9
520001	Pump Station #8
520002	Pump Station #8
520008	Pump Station #8
520076	Manholes 2" Diameter
520090	Sewer Line-Vitrified
520107	Pump Station #5
520108	Pump Station #5 Wet
520109	Pump Station #5 Pump
520111	Pump Station #7 Lift
520112	Pump Station #7 Wet
520113	Pump Station #7 Pump
520115	Pump Station #2
520116	Sewer Line Cherry 8"
520120	Pump Station #2 Pump
520121	Pump Station #10
520125	Pump Station #10
520130	Sewer Force Main-Sea
520132	Sewer Line-1445 Elder
520133	Pump Station #8 Flow
520137	Jetter for Cleaning
520139	Pump Station #8 Cont
520143	Tripod
520147	Pump Station #1B
520148	Sewer Line-S. Seacoast
520149	Sewer Upgrade N. Seacoast
520150	Manholes
520151	Honeywell UDC Digital
520152	Telmar Pneumatic Tra
520153	Pump Station #8-Driv
520154	Pump Station #1B Con
520157	Pump Station #8 Force
520158	Pump Station #3 Capa
520160	Pump Station #10-Pum
520161	Pump Station #8-Addi
520162	Sewer Line-Rehabilitation
520165	Western Mule Truch Portable Cr
520168	Pump Station #8 Force
520169	Sewer Infiltration
520170	Pump Station #9 Upgrade
520171	Pump Station #1A
520172	Pump Station #9 Manhole
520176	Pump Station #6 Upgrade
520177	Sewer Line Relining
520181	Pump Station #3 Pump
520183	Ramjeter Pump (Trail
520184	Pump Sewer Locator
520187	Dry Pip Pump
520188	Pump Station #10 Force
520189	Manhole Rehab
1429	Pedestal Chopper Pump
CIP S04107	From Streets II Sewer
CIP S04107	From Streets II Storm Drain
CIP W05103	Pump Station 1B
CIP P03-502	5th Street Storm Drain
CIP P03-502	5th Street Storm Drain
CIP W03101	Alarms Pump Sta 4 & 6
CIP W03101	Pump Sta's 8 & 9 Rebuild
D05105	Oneonta To Nolf Dvtr
W03101	Sewer Pump Station Alarms
W05102	Pump Stations #6 Force Main
D05105	Oneonta To Nolf Dvtr ADD'l
W05401	SEALING WET WELLS/MANHOLE
	Yeomans Sub. Pump 9100-4103S
	Conversion Part GR-48313-799
	Sapre Motor Pump 7.5 HP 200 Volt
	Generator - Baldor TS130
	PS8 REBUILD PARTS
	Paco Model 78-49531-046D30
	Paco Model 78-49531-046D30
	Paco Model 78-49531-046D30
	VERTICAL SOLID SHAFT MOTO
	CONTROLLER EPS 21000
	Palm Ave Storm Sewer D03102
	Gorman Pump T4A36-B
	GR-27781-044 Controller
520186	Chopper Pump
	VA 62180R Rodder Pump Assembly

ID	Description
520168	Pump Station #8 Force
520169	Sewer Infiltration
520170	Pump Station #9 Upgrade
520171	Pump Station #1A
520172	Pump Station #9 Manhole
520176	Pump Station #6 Upgrade
520177	Sewer Line Relining
520181	Pump Station #3 Pump
520183	Ramjeter Pump (Trail
520184	Pump Sewer Locator
520187	Dry Pip Pump
520188	Pump Station #10 Force
520189	Manhole Rehab
1429	Pedestal Chopper Pump
CIP S04107	From Streets II Sewer
CIP S04107	From Streets II Storm Drain
CIP W05103	Pump Station 1B
CIP P03-502	5th Street Storm Drain
CIP P03-502	5th Street Storm Drain
CIP W03101	Alarms Pump Sta 4 & 6
CIP W03101	Pump Sta's 8 & 9 Rebuild
D05105	Oneonta To Nolf Dvtr
W03101	Sewer Pump Station Alarms
W05102	Pump Stations #6 Force Main
D05105	Oneonta To Nolf Dvtr ADD'l
W05401	SEALING WET WELLS/MANHOLE
	Yeomans Sub. Pump 9100-4103S
	Conversion Part GR-48313-799
	Sapre Motor Pump 7.5 HP 200 Volt
	Generator - Baldor TS130
	PS8 REBUILD PARTS
	Paco Model 78-49531-046D30
	Paco Model 78-49531-046D30
	Paco Model 78-49531-046D30
	VERTICAL SOLID SHAFT MOTO
	CONTROLLER EPS 21000
	Palm Ave Storm Sewer D03102
	Gorman Pump T4A36-B
	GR-27781-044 Controller
520186	Chopper Pump
	VA 62180R Rodder Pump Assembly

PUMPS & PARTS INVENTORY

Pump Stations

Pump Station	Address	Pump Manufacturer	Model Number	Serial Number	Impeller Size	Start	Stop	FM Size
1A	862 Seacoast	Wemco	4X11 EVS		9"	1.6	0.04	12"
1B	1098 Seacoast	Gorman Rupp	Super T-6			2.5	1.4	12"
2	1306 Seacoast	Gorman Rupp	T4A3-B	88-2765-A		3.5	2	12"
3	501 Elm	Wemco	4X11 EVS	07DW06782-01&02	9" SS	3.4	2	10"
4	755 Delaware	Fairbanks Morse	5432	760092		3	1.5	8"
5	133 Dahlia	Paco Pump	495-31 NCF		9.5	5	2	12"
6	498 Rainbow	Fairbanks Morse	5432K		9.75	1.8	0.09	12"
7	504 Oneonta	Paco Pump	495-31 NCF		6 7/8	4	2	8"
8	895 Imperial Beach Bl.	Krogh/Peerless	NCV	U04T3610495R-2	16.5"	VFD	VFD	12"
9	1025 9th St.	Krogh/Peerless	NCV		16.5"	VFD	VFD	12"
10	814 Cypress	Gorman Rupp	Super T-6			6.5	5.5	12"

	Gorman Rupp	T-4A3-B	88-2765-A	
Item No.	Pump Part Name	Part Number	Material Code	Quanity
2	Repair Potating assy	10537C	--	1
5	Suction Flange Gasket	11389G	19370	1
10	Disch Flange Gasket	25113-034	--	1
13	Rotation Assy O-ring	S1674	--	2
17	Rot Assy Shim Set	13130	17040	2
18	Seal Plate O-Ring	25154-273	--	2
19	Wear Plate Assy	10532A	15990	1
21	Back Cover O-Ring	S1674	--	1
35	Suct Check Valve Assy	46411-062	--	1

	Parts List	10537C Repair Rotating Assembly		
Item No.	Pump Part Name	Part Number	Material Code	Quantity
1	Impeller	10928	11010	1
2	Seal Plate Gasket	10959G	20000	1
3	Seal Assembly	46513-150	--	1
4	Inboard Ball Bearing	23276-009	--	1
9	Outboard Ball Bearing	S1040	--	1
11	Impeller Shaft	10529	16040	1
12	Shaft Key	N0608	15990	1
13	Bearing Cap Oil Seal	S1352	--	1
18	Inboard Oil Seal	S1352	--	1
22	Seal Plate O-Ring	25154-273	--	1
29	Impeller Adj Shim Set	25154-022	17090	2
30	Seal Sleeve O-Ring	25154-022	--	2
33	Rotating Assy Adj Shim Set	13130	17000	4
34	Rotating Assy O-Ring	S1674	--	1

	Gorman Rupp	T-6A3-B	1010691std	
Item No.	Pump Part Name	Part Number	Material Code	Quanity
2	Repair Potating assy	10956F	--	1
5	Suction Flange Gasket	11402G	19370	1
10	Disch Flange Gasket	25113-036	--	1
13	Rotation Assy O-ring	S1676	--	2
17	Rot Assy Shim Set	13131	17040	2
18	Wear Plate Assy	10532A	15990	1
20	Back Cover O-Ring	S1676	--	1
34	Suct Check Valve Assy	46411-064	--	1
38	Fill Cover Gasket	50G	19210	1

	Parts List	10537C Repair Rotating Assembly		
Item No.	Pump Part Name	Part Number	Material Code	Quanity
1	Impeller	10928	11010	1
2	Seal Plate Gasket	10959G	20000	1
3	Seal Assembly	46513-150	--	1
4	Inboard Ball Bearing	23276-009	--	1
9	Outboard Ball Bearing	S1040	--	1
11	Impeller Shaft	10529	16040	1
12	Shaft Key	N0612	15990	1
13	Bearing Cap Oil Seal	S1352	--	1
18	Inboard Oil Seal	S1352	--	1
28	Impeller Adj Shim Set	37J	17090	2
29	Seal Sleeve O-Ring	25154-022	--	2
32	Rotating Assy Adj Shim Set	25154-022	17000	4
33	Rotating Assy O-Ring	S1676	--	1
	Seal Plate O-Ring	25154-273		

	Krogh	Model NCV	
Item No.	Pump Part Name	Part Number	Quanity
1	Oil Seal		1
7	Gasket		1
11	Gland Clamp		1
15	Gasket, Spacing		1
16	Seal Gasket		1
23	Shaft		1
25	Gasket		1
28	Gasket Fitting		1
33	Oil Seal		1
35	Deflector Ring		1
38	Key, Sleeve		1
41	Gasket		1
42	Key, Impeller		1
43	Impeller		1
45	Gasket		1
48	Gasket		1

	Dakota		
Item No.	Pump Part Name	Part Number	Quanity
	Impeller		1
	Shaft		1
	Double Mechanical Seal		1
	Key, Impeller		1
	Seal Head Compressed Length		1
	Seal O.D.		1
	Ball Bearings		

	Wemco	**4x11 EVMS**	**52443**	
Item No.	Pump Part Name	Part Number	Material Code	Quanity
3	Impeller		CI	1
7	Shaft		SAE 1141	1
10	Impeller Key		STL	1
11	Case Gasket		Asbestos	1
12	Lantern Ring		Tiflon / Bronze	1
13	Packing Rings		Graph Impr Asbestos	Ref
18	Shaft Sleeve Gasket		Teflon	1
56	Inpection Hole Gasket		NEOP	1
58	Gasket, Suction Piece		Asbestos	1

	Fairbanks Morse	**SVNC**	
Item No.	Pump Part Name	Part Number	Quanity
1	Impeller		1
4	Shaft, Dry Pit		1
14	Sleeve		1
98	Bushing, Upper Bearing		1
98A	Bushing, Lower Bearing		1
102	Key, Impeller		1
111	Bushing, Floorplate		1
115	Bushing, Column Bearing		1
156	Gasket, Suction Elbow or Bell		1
157	Gasket, Casing		1
162	Washer, Impeller Nut		1
163	Bearing, Lower		1
166	Shim, Impeller Hub		Ref
168	Bearing, Upper		1
186	Shim, Lower Bearing		Ref
186A	Shim, Upper Bearing - Expandable		Ref
186B	Shim, Upper Bearing Cover		Ref
206A	Closure Seal, Bearing Bushing		1
272	Key, Coupling		1
291	Gasket, Suction Elbow Plug		1
433	Gasket, Stuffing Box		1

	Fairbanks Morse	Model 5430	
Item No.	Pump Part Name	Part Number	Quanity
1	Impeller		1
9A	Washer, Impeller		1
14	Sleeve, Shaft		1
31A	Screw, Gland		1
154	Gasket, Suction		1
156	Gasket, Volute		1
156A	O-Ring Adapter		Ref
203	Gasket, Volute Handhole		1
291	Gasket, Suction Handhole		1
433	Gasket, Seal Housing		1
431	Housing, Seal		1
456	Mechanical Seal		1
B	Rotary Bellows		1
E	Stationary Seal		1
G	Filter		1

Collection System Spot Repairs

SDR 35 PVC Pipe		
Diameter (IN)	Stock Length (FT)	Quanity
6" VCP Pipe - 8' length	8	2
8" VCP Pipe - 8' length	8	2
10" VCP Pipe - 8' length	8	2
12" VCP Pipe - 8' length	8	1
Fernco 8"x8" Coupling	1001-88	

Fernco Coupling		
Size	Part#	Quantity
6" Clay to Plastic	1002-66	4
8" Clay to Plastic	1002-88	4
8" Plastic to Plastic	1056-88	2
10" Clay to Plastic	1002-1010	2
12" Clay to Plastic	1002-1212	2

Fernco Clamps		
Size	Part#	Quantity
6" Plastic	116-300	4
6" Clay	128-300	4
8" Plastic	152-300	4
8" Clay	164-300	4
10" Plastic	184-300	2
10" Clay / 12" Plastic	212-300	4
12" Clay	248-300	2

Bedding & Trench Cap		
Material	Unit	Quantity
1/2" Crushed Rock	CY	3
3/4" Crushed Rock	CY	2
Clean Fill	CY	3
Warning Tape	Roll	2
Filter Fabric		
Cold Mix		
Concrete		

Attachment 4

Overflow Response Plan Update

Sewer Overflow Response Plan

City of Imperial Beach

June 2008,
Updated April 2010 Chris Helmer
Updated September 2011 Chris Helmer

Prepared by:

RBF CONSULTING
9755 Clairemont Mesa Blvd. Suite 100
San Diego, California 92124-1324
858.614.5000 telephone
858.614.5001 fax

RBF Contact Persons:
Mark Hill, P.E.
John Harris, P.E.

RBF JN 25-102462.001

H:\PDATA\25102462\Admin\reports\SORP\SORP.doc

TABLE OF CONTENTS

List of Appendices

ABBREVIATIONS

CIWQS	California Integrated Water Quality System
NPDES	National Pollutant Discharge Elimination System
OES	Office of Emergency Services
SDCDEH	San Diego County Department of Environmental Health
SDRWQCB	San Diego Regional Water Quality Control Board
SORP	Sewer Overflow Response Plan
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow

1. PURPOSE

The City of Imperial Beach has developed this Sewer Overflow Response Plan (SORP) in order to protect the public and the environment, and to conform to the Orders set forth by California's State Water Resources Control Board and the San Diego Region of California's Regional Water Quality Control Board. The following specific Orders have been addressed in this document:

-STATE WATER RESOURCES CONTROL BOARD ORDER NO. 2006-0003
Statewide General Waste Discharge Requirements for Sewer Systems
-CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD REGION 9, SAN DIEGO REGION ORDER NO. R9-2007-0005
Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region
-STATE OF CALIFORNIA STATE WATER RESOURCES CONTROL BOARD ORDER NO. WQ 2008-0002-EXEC ADOPTING AMENDED MONITORING AND REPORTING REQUIREMENTS FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SEWER SYSTEMS.

In the event of an overflow of the sewage system, this document will provide direction and guidance to the City in order to respond promptly and effectively. The City of Imperial Beach shall keep this report current as regulations change.

2. SPILL RESPONSE ORGANIZATION

a. *Sewer Division Supervisor/On-Call Duty Personnel*

The primary role of the Sewer Division Supervisor/On-Call Duty Personnel is to take responsibility for effectively coordinating the overall response to the sewer overflow event once it has occurred. His/her responsibilities include:

1) Assume primary management and coordination of all overflow response actions

2) Assist in evacuations if necessary

3) Mobilize staff and equipment for spill abatement activities

4) Request assistance or resources from other agencies within the greater Imperial Beach area, as necessary

5) Direct immediate spill control and containment measures

6) Delegate assignments to staff members in order to achieve spill containment and control

7) Assess the sewer overflow situation and establish the spill abatement priorities

8) Maintain security control at the spill site

9) Provide input regarding the appropriate technical specifications for emergency repairs and materials

10) Set up emergency power sources if needed and / or bypass pumps as needed

11) Oversee contractor work and cleanup activities, as needed

12) Document all spill response and abatement activities, as necessary

13) Perform an initial assessment of the extent of the onsite and off-site impacts

14) Provide assistance is assessing possible damage to facilities

15) Conduct the initial notification to the SDRWQCB, OES and SDCDEH (see Chain of Communication for working or after hour instructions)

16) Ensure that the details of the spill event are accurately entered into the Imperial Beach Spill Overflow Report Log.

17) Update the Sewer Overflow Response Plan and provides staff training

b. *Public Works Superintendent*

The duties of the Public Works Superintendent consist of organizing the activity of the public works crew in order to mitigate the sewer overflow event. His/her responsibilities include:

1. Provide overall supervision and coordination in support of the Division Supervisor.

2. Act on behalf of the Division Supervisor if the Division Supervisor is not on scene.

3. Assist the Public Works Director in completing online reports.

c. *Public Works Director*

The duties of the Public Works Director consist of providing oversight of response personnel and equipment in order to mitigate the sewer overflow event. His/her responsibilities include:

1. Ensure that all online and written reports are finished and certified within the allotted time requirements

2. Review and certify reports to CIWQS

3. Review the preliminary and final spill reports to SDRWQCB, OES, SDCDEH, and the other local notification recipients for accuracy

4. Provide media and public information

d. *Environmental Program Manager*

Whenever sample collection occurs by regulatory agencies, verification of all laboratory reports and possible coordination of regulatory agencies is needed. This position will:

1) Mobilize the laboratory staff for the monitoring of receiving waters

2) Develop a sampling regimen, including the sampling sites, frequency levels, receiving water background coliform levels, et cetera

3) Coordinate the sampling efforts with the SDRWQCB, SDCDEH and the California Fish and Game Department

4) Verify all laboratory reports. Provide laboratory results to the Public Works Director

3. OVERFLOW RESPONSE PROCEDURES

All procedures listed in this section may be performed by any of the members of the spill response team, unless otherwise noted.

a. *Call Routing*

See Chain of Communication

b. *"First Responder" - Response and Initial Assessment (Sewer Division Supervisor/On-Call Duty Personnel*

It is the responsibility of the first City of Imperial Beach employee arriving at the scene of the sewer overflow to take the following steps to protect the health and safety of the public:

1) Re-assess the situation upon arrival.

2) Evacuate anyone in the flow or in the path of the flow

3) Determine the immediate destination of the overflow, for example, the street curb gutter, storm drain, body of water, streambed, etc.

4) Determine if spill is Public or Private

5) Determine if hazardous substances are present as stated in Paragraph C of this section.

6) Identify and request any additional City personnel and equipment or private contractors necessary to contain the flow, mitigate the cause, and secure the site.

7) Take immediate steps to contain the overflow as detailed in Paragraph D of this section.

c. *Coordination with Hazardous Material Response, If Needed*

1) Upon arrival at the scene of an SSO, should a suspicious substance (e.g. oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g. the strong smell of gasoline) not common to the sewer system be detected, the Sewer Division Supervisor/On-Call Duty Personnel should contact the local fire department. See Communication Plan for contact information.

2) If containment can be done without harmful exposure or contact, then containment shall be performed immediately. The response crew shall then wait for the arrival of the local fire department.

3) After arrival of the local fire department, sewer response crewmembers will take direction from the fire department's on scene commander. Only when the on scene commander determines it is safe and appropriate for the sewer response crew to proceed, can they then carry on with containment and cleanup activities in accordance with the SSMP and SORP.

* **<u>CAUTION:</u> Vehicle engines, portable pumps, or open flames (e.g. cigarette lighters) can provide the ignition for an explosion or fire should flammable vapors or fluids be present at the site. Maintain a safe distance and observe caution until and after assistance arrives.**

d. *Spill Containment and Site Isolation*

The primary objective of the responders to a sewer overflow incident is to protect the public's health. This can be achieved by working to achieve both containment of the overflow and the isolation of the spill site in an effort to avoid any human contact. Although these two tasks can be done simultaneously, the initial effort should be focused on the containment of the spill. Expeditious attempts must be

made to prevent sewage from contaminating storm drains, drainage channels and surface waters by performing the following:

1) Determine the immediate destination of the overflow, e.g. storm drain, street curb gutter, body of water, culvert, landscaped area, et cetera.

2) Take immediate steps to contain the overflow, e.g.:
   a. Place sand bags and rubber mats around the storm drain inlet.
   b. Direct overflow to a natural low point, if possible, or construct a containment pond.
   c. Recover the ponded material utilizing a combination truck.

3) In the event of a prolonged line blockage, breakage or collapse, a determination must be made to set up a portable bypass pumping operation around the problem area. If this becomes the case, personnel should continuously monitor the bypass pumping operation.

4) Control perimeter of overflow site with barricades, cones, vehicles, or other barrier to restrict access.

5) Establish required traffic control, per Regional Standard Drawings, to divert traffic around the spill area and work zone.

e. *Determine the Cause and Responsible Party of the Overflow*

Primary causes of a sewage overflow may include:

Public Causes:

1) Sewer main pipe blockage

2) Sewer main pipe failure

3) Pump station failure

Private Causes:

1) Private lateral pipe blockage

2) Private lateral failure

3) Grease trap overflow.

If the cause is found to be at a pump station or in a sewer main, the responsibility lies with the City of Imperial Beach to mitigate the sewer overflow and make the appropriate notifications. The service lateral that stems from the sewer main line, with the exception of the saddle connection to the main line, is owned by the associated private property owner(s). The City of Imperial Beach is required to respond to a private sewer spill and notify the proper authorities, but it is the responsibility of the property owner to mitigate and repair any damages resulting from that spill. If the property owner is not present, the City shall contain the spill and contact a plumbing contractor to make the necessary repairs. The property owner will then be accountable for the plumber's work and for the time and materials expended by City Crews.

f. *Devise and Initiate a Remedy Plan of Action to Mitigate a Public Sewer Overflow (Sewer Division Supervisor/On-Call Duty Personnel)*

1) Gather any additional staff and/or equipment needed to put the plan of action into effect

2) Determine the flow path, width, length and depth in order to document the volume of the spill

3) If possible, take pictures to document the spill and your efforts to contain the flow and restore the area

4) Utilize the SSO Response Flow Chart to aid in decision making

g. *Correct Cause of the Overflow*

1) If overflow out of a manhole lid occurs, the spill response staff should work to remove the obstruction in the length of pipe downstream of that overflowing manhole.

2) If an attempt at cleaning the downstream pipe does not remedy the problem, the pipe flow shall be diverted around the overflowing manhole to allow the inspection of the suspected length(s) of pipe with a Closed Circuit Television unit.

3) In the event of a pipe breakage, that portion of the sewer conveyance system shall be bypassed in order to facilitate necessary repairs.

4) If there is an overflow out of a private cleanout, or a breakage in a private lateral, the City of Imperial Beach shall respond. If the property owner is unavailable to correct the cause of the spill, the City of Imperial Beach shall contain the spill and hire a private plumbing contractor to perform the necessary cleaning or repairs.

h. *Spill Cleanup*

Sewer overflow sites are to be thoroughly cleaned as soon as possible after the overflow incident is mitigated. No residue is to be left for future rains to carry away or for public contact to occur. The following steps should be taken to ensure that the overflow sites are returned to their former conditions:

1) Wash down and clean up all areas of the spill. Recover the wash down water and return it back into the system.

2) Solids and debris are to be flushed, swept, raked or picked up by combination truck, brought to the City's Public Works yard and contained in order to dry. The City's waste management contractor will then transport the dried solids from the Public Works yard to a landfill.

3) On impervious areas, the overflow site is to be disinfected with bleach with a 6:1 water to bleach concentration ratio. **Never** flush any disinfectant into a storm drain or body of water.

4) In the event of a grease trap spill, apply simple green with push broom. The simple green will break up the grease if left to soak. Then pressure wash and collect.

5) If sewage has resulted in ponding, the pond should be vacuumed dry with the combination truck and the residue and site cleanup managed as previously mentioned

i. *Spill Classification and Quantification (Sewer Division Supervisor/On-Call Duty Personnel*

Order 2006-0003 has identified three general classifications of spills based on volume, spill location, and flow path.

Category 1:

- Spills that reach surface waters, drainage channels or storm drain systems.
- Spills that are ∃ 1,000 gallons in volume.

Category 2:

- Spills which are < 1,000 gallons in volume.

Category 3:

- Private spills.

Spill quantification requires careful documentation and close observation of

discharges. Staff should make every effort to maintain a careful chronology of the events during a spill and make every attempt to conduct linear measurements of the discharge streams and flow velocities in order to effectively quantify the spill volumes. Photo documentation of the spill event should become a routine procedure in the spill documentation process. Official estimates of the spill volume will be the responsibility of the Sewer Division Supervisor/On-Call Duty Personnel.

j. *Spill Documentation*

Aside from the "Sewer Overflow Report", which is the official report sent to the regulatory agencies and the local recipients, City of Imperial Beach employees shall also compile and document the SSO in the Quarterly Report spreadsheet.

Records shall be maintained by the City of Imperial Beach for a minimum of five years. The Regional Water Board Executive Officer may request for the five-year period to be extended.

k. *Posting*

Order 2006-0003 requires the posting of the spill location and quarantine area with contaminated water signs. The SDCDEH is the responsible authority for directing the closure of areas and the posting of signs, but the City of Imperial Beach will provide assistance if the request is made. The City of Imperial Beach does have the final authority though, and will conduct the posting under the following guidelines:

1. If posting at the beach is required, the signs shall be placed at 50-foot intervals for a minimum of 600 feet on each side of the point of ocean entry.

2. If posting at lagoons, wetlands, or creek beds is required, the signs shall be placed at 50-foot intervals for high use areas and 600-foot intervals for low use areas. Both sides of creek beds must be posted.

Whenever posting of any areas is conducted by the SDCDEH, it should be the responsibility of the Sewer Division Supervisor/On-Call Duty Personnel to remain in contact with the SDCDEH until such time as the signs are removed, so that answers about the impacts to the receiving waters can be provided to the Regional Board, the public and the Board of Supervisors, if appropriate.

l. *Spill Sampling and Monitoring*

The SDCDEH shall perform sampling of water impacted by the spill. Conducting sampling at the appropriate locations will allow staff to establish and monitor the levels of contamination as well as to establish or compare with the natural background levels of bacteria in the receiving waters. The Environmental Program Manager will review the sampling reports.

The sampling regimen is to be continued until a determination is made that contamination resulting from the spill event no longer exists and no longer poses danger to the public. All final summary sampling and monitoring reports will be shared with the California Department of Fish and Game.

m. *Complete Loss of Power Plan*

This plan is for a complete loss of power that is expected to last for a period of time lasting more than eight hours but less than one month. At the initial loss of power, all Public Works personnel will report to the Public Works yard for assigned tasks and to gather needed equipment. Modifications to this manning schedule may be made with the Director's concurrence as the situation dictates.

The emergency response will consist of two seven-person teams that rotate on three eight-hour shifts with one half hour provided for turnover. (Turnover may be extended for sewer personnel but not to exceed two hours). The first team on assignment may require additional sewer personnel to set up the response plan. Any additional sewer personnel on the first response team will depart after three hours once the response plan is established and then return five hours later with Team Two. The management personnel on assignment is expected oversee multiple emergency response tasks for Public Works and dedicate time where need is the greatest.

Emergency Response Teams

Team 1	Team 2
Two sewer personnel	Two sewer personnel
Four non-sewer personnel	Four non-sewer personnel
One management personnel	One management personnel

Emergency Response Equipment

- One-Generator (130 kw)
- One-Generator (150 kw)
- Two-Bypass Pumps (4")
- Two-Bypass Pumps (3")
- One-Vactor Truck

Sewer Pump Stations

Pump Station ID	Location
1A	Seacoast Drive and Elm Avenue
1B	Seacoast Drive and I.B. Avenue
2	1300 block of Seacoast Drive
3	Fifth Street and Elm Avenue
4	Staples Alley
5	100 block of Dahlia Avenue
6	Calla Avenue and Rainbow Drive
7	Oneonta Avenue and California Street
8	Main Station, 800 block of I.B. Blvd
9	Ninth Street and Ebony Avenue
10	Cypress Avenue and Ninth Street
11 (Storm Water)	100 ½ Palm Ave

Emergency Response Team Responsibilities

Pump Station	Staff Assignment	Equipment
1B	1 Non-Sewer	Generator
3	1 Non-Sewer	Bypass Pump
5	1 Non-Sewer	Bypass Pump
9	1 Non-Sewer	Generator
2, 4, 6, and 7	2 Sewer	Bypass Pump
All	1 Management	Various

Notes:

- This plan assumes that no outside resources are used.
- Pump station 1A will bypass to pump station 5 and therefore does not need to be monitored.
- Pump station 8 and 9 bypass with each other and therefore only pump station 9 will need to have a generator.
- Pump station 10 has a natural gas generator and operates independently.
- Pump station 11 wet well collects storm water runoff and has an ample amount of capacity and does not need to be manned under non-storm conditions. It will be pumped during low flow times on an as needed basis.
- If pump station 11 loses power during a storm then a generator will be needed and a bypass pump will be used at pump station 1B.

4. NOTIFICATION AND REPORTING OF A SPILL

The City of Imperial Beach has a responsibility to report and monitor all spills according to the requirements of Orders 2006-0003, R9-2007-0005, WQ 2008-0002-EXEC and its NPDES permits. Individual NPDES permit holders and enrollees under the statewide

general sewer overflow (SSO) order are able to submit information to the Water Boards via the CIWQS online database. In order to prevent re-registration, the "Collection System Questionnaire" must be up-dated at least every 12 months. The Sewer Division Supervisor/On-Call Duty Personnel, or a delegated staff member shall submit the draft report of the spill to the CIWQS digital database. The draft report also needs to be certified by the Public Works Director in accordance with the timelines listed below and in the Response Flow Chart. All notification deadlines listed are to be met only if there is no substantial impact on mitigation, containment, cleanup or other emergency services. For specific contact information, see Section 2.0 of the City of Imperial Beach Sewer Maintenance Plan, by RBF Consulting. Refer to **Attachment D** for a notification report form that can be faxed to the Regional Board in case the CIWQS is not working. A spill notification matrix is located in **Attachment B**.

a. *Category 1 Spills That Reach Surface Waters, Drainage Channels or Storm Drain Systems*

1) The SDRWQCB, OES and SDCDEH shall all be notified via telephone, voice mail, written report or facsimile **within 2 hours** of contamination, if practicable.

2) Enter the notification data into CIWQS **within 24 hours** (no need to certify or enter all info).

3) Enter the draft report into CIWQS **within 3 days** and certify **within 15 days**.

b. *Category 1 Spills That Are ≥ 1,000 Gallons in Volume*

1) Notify the SDRWQCB by phone via telephone, voice mail, written report or facsimile **within 24 hours** of knowledge of the event.

2) Enter the draft report into CIWQS **within 3 days** and certify **within 15 days**.

c. *Category 2 Spills Which Are < 1,000 Gallons in Volume*

- Enter a certified report into CIWQS **within 30 days** after the month that the spill occurred

d. *Category 3 Spills*

e. *Non-Event Reporting Information*

- If there are no SSOs during the calendar month, a statement through the online CIWQS database is required to be submitted within 30 days of the end of that calendar month.

5. REVISIONS AND EMPLOYEE TRAINING

a. *SORP Revisions & Record Updating*

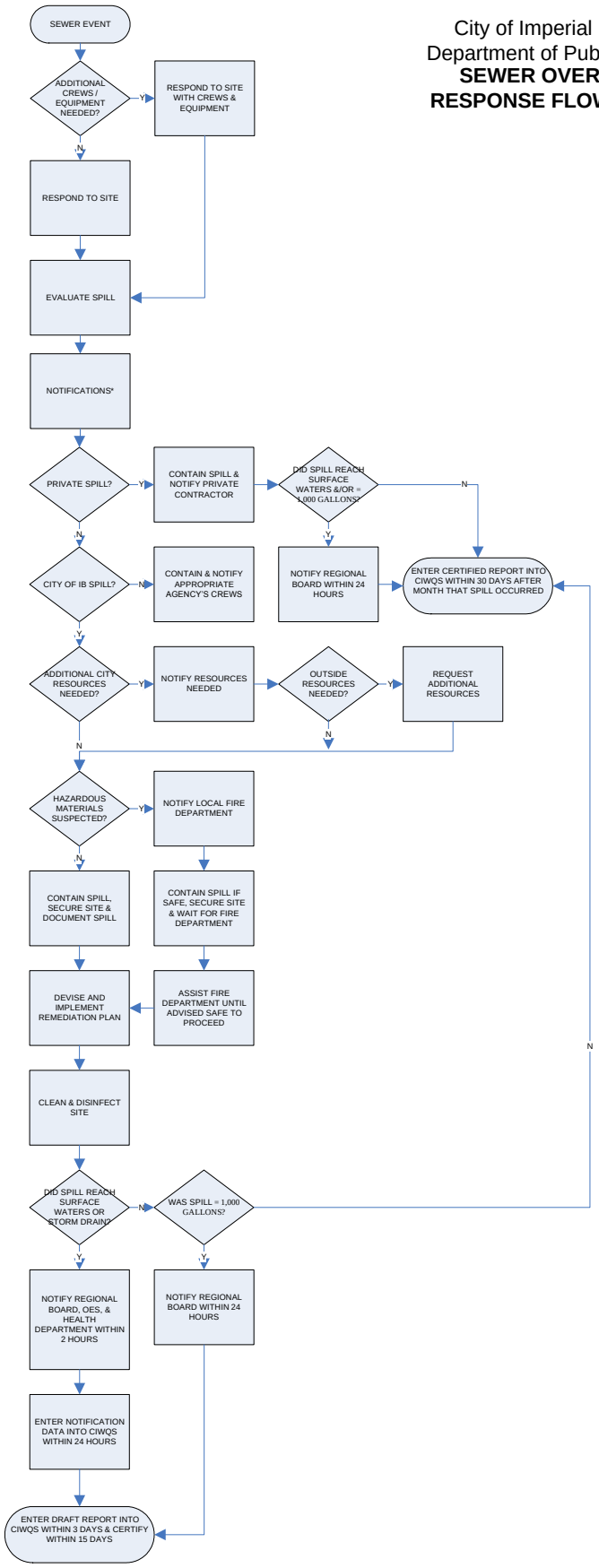
The City of Imperial Beach Sewer Overflow Response Plan shall be reviewed and revised, as necessary, specifically after events that do fall into the standard operating procedures that will allow the expansion of these instructions to include new circumstances or more efficient procedures. The Sewer Division Supervisor/On-Call Duty Personnel will conduct an annual review of the SORP in order to maintain a document that remains up-to-date. All relevant in-house records of spreadsheets and shape files shall be updated.

b. *Annual Training*

The Sewer Division Supervisor/On-Call Duty Personnel, or his/her designee, shall schedule annual training designed to identify resource shortcomings, clarify roles and responsibilities, improve response performance and reveal any response weaknesses. The training may consist of:

- **Response training-** An annual awareness training meeting will be conducted with respect to the details of the SORP and the responsibilities of each employee. All employees will attend this meeting. Additional training sessions may also be conducted at the discretion of the Public Works Director or Public Works Superintendent, to further familiarize their employees with the response procedures.
- **Tabletop exercise-** A simulated spill event may be scheduled, according to need, to allow the exercise participants to discuss and understand the necessary response actions, test equipment and gauge the response ability of the employees. Scheduling a simulate Tabletop exercise will be at the discretion of the Public Works Director.
- **Spill Review Committee-** After each spill event, the City of Imperial Beach Spill Review Committee will meet in order to review the event's cause, the procedural response of the employees, the regulatory and compliance documentation and whether additional issues and/or resources have to be addressed. The Spill Review Committee is comprised of the Sewer Division Supervisor/On-Call Duty Personnel, the Public Works Director, and the Public Works Superintendent.

City of Imperial Beach
Department of Public Works
SEWER OVERFLOW
RESPONSE FLOW CHART



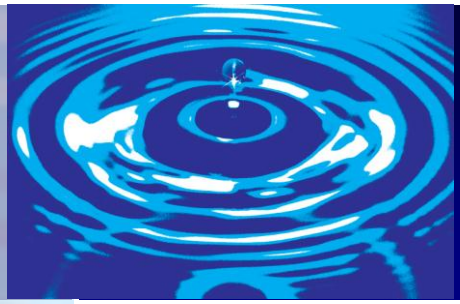
NOTIFICATIONS

NOTIFY LIFEGUARDS FOR ALL SPILLS THAT REACH STORM DRAINS OR SURFACE WATERS OR ARE AT THE BEACH

NOTIFY TIJUANA ESTUARY FOR SPILLS TRIBUTARY TO THE ESTUARY INCLUDING STORM DRAINS

NOTIFY THE PORT OF SAN DIEGO FOR SPILLS ON THE PIER

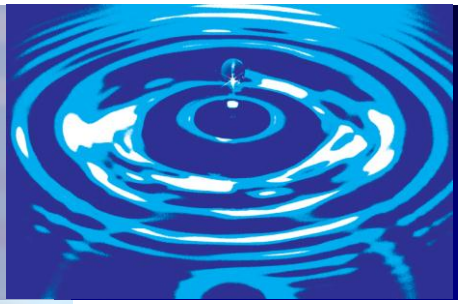
NOTIFY FIRE DEPARTMENT & COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH FOR SUSPECTED HAZARDOUS MATERIALS



ATTACHMENT B –
Spill Notification Matrix

Spill Notification Matrix

Situation	RWQCB Notification by Phone, Voice Mail or Facsimile within 24 Hours	RWQCB Sanitary Overflow Reporting for within 5 days	SDCDEH notification	Office of Emergency Services (OES) Notification	Notification to Other Recipients and Spill Entry Into the City of Imperial Beach Overflow Log
Untreated or secondary treated spills resulting in a discharge of greater that 1000 gallons to surface waters	YES	YES	YES	YES	YES
Untreated or secondary treated spills that do not result in a discharge to surface waters or are less than 1000 gallons	NO	NO	YES	NO	YES
Untreated or secondary treated spills that impact surface waters regardless of volume	YES	YES	YES	YES	YES



Attachment C

Sanitary Sewer Overflow Report

☐ Preliminary report ☐ Final report ☐ Revised final report

Sanitary Sewer Overflow Report

(Revised January 2003)

Sanitary Sewer Overflow Tracking Number:_____

Reported to: ☐ Sent Regional Board a fax ☐ Left Regional Board a voice mail message

☐ Spoke with RB staffer: _____

Date & Time reported: _____

Reported by: _____

(include a phonenumber where individual can be reached)

Reporting sewer agency: _____

Responsible sewer agency: _____

Overflow Start Date/Time _____**(AM/PM)**

Overflow End Date/Time _____**(AM/PM)**

Estimated overflow volume (gpm) _____

Total overflow volume recovered (gallons) _____

Estimated overflow volume recovered (gallons) _____

Volume released to the enviornment (gallons) _____

Overflow location _____

(Name of structure, e.g. pumpstation, etc. if applicable)

Street address: _____

City & Zip: _____

County: _____ **State:** _____

Number of overflows within 1000 feet of this location in last 12 months: _____

Dates of overflows within 1000 feet of this location in last 12 months: _____

Overflow cause: (check appropriate box)

☐ Roots ☐ Blockage ☐ Construction

☐ Rocks ☐ Flood damage ☐ Manhole failure

☐ Debris ☐ Line Break ☐ Pump Station failure

☐ Grease ☐ Infiltration ☐ Power Failure

☐ Vandalism ☐ Other _____

Overflow type: (check appropriate box)

☐ Untreated Sewage ☐ Secondary treated

☐ Recalimed water ☐ Other

RBF

Detailed explaination of the cause:

_____

_____

_____

_____

_____

_____

Overflow correction: (describe preventative and/or corrective measures taken/planned)

_____

_____

_____

_____

Was there measureable precipitation during the 72-hour period prior to the overflow?

☐ Yes ☐ No

Initial/Secondary receiving water impacted (check appropriate boxes)

Did the overflow reach a storm drain?	☐ Yes	☐ No
Did the overflow reach surface water other than a storm drain?	☐ Yes	☐ No

Name or Description of initial receiving waters

_____

_____

(e.g., stream, river, lake, pond, etc., if applicable)

Description of secondary receiving waters

_____

_____

(e.g., next impacted receiving water after first passin through the initial waters, if applicable)

Description of overflow's final destination if receiving water were not impacted

_____

(e.g., Vactor truck, etc.)

NOTIFICATION CHECKLIST

AGENCY	DATE	TIME	PHONE/FAX/VOICE (Indicated which)
Regional Water Qualtiy Control Board - San Diego (9) (858) 467-2952 (858) 571-6972 - Fax			
Regional Water Qualtiy Control Board - San Ana (8) (909) 782-4130 (909) 781-6288			
Office of Emergency Services (800) 852-7550			

Affected area posting (check appropriate boxes)

Were signs posted to warn of contamination? ☐ Yes ☐ No

How many days were signs posted? _____

(This information should be verified)

Additional remarks or comments

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

NOTES:

1. **For descriptions and clarifications of all items on this form, refer to the San Diego Regional Water Quality Control Board Order 96-04 as amended, including the document entitled, "Required Fields for Order 96-04 Quarterly Summary Report".**

2. **If the sanitary overflow event results in a discharge of 1,000 gallons or more, or in a discharge to surface waters, this form must be received by the San Diego Regional Water Quality Control Board no later than 5 days after the overflow start date.**

The following certification must be completed with the 5-day notice:

Certification statement:

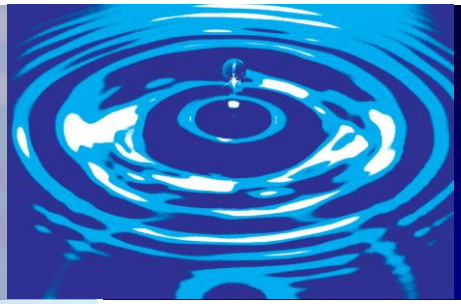
I swear under penalty of perjury that the information submitted in this document is true and correct. I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Name

Title

Date



Attachment D –
Sanitary Sewer Overflow Notification Form

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD –
SANITARY SEWER OVERFLOW 24-HOUR NOTIFICATION REPORT FORM
FOR CATEGORY 1 SPILLS IN THE SAN DIEGO REGION
ORDER No. R9-2007-0005

If CIWQS is not working , the 3-day draft report may be faxed in using this form. Please provide the following information, if available.

RWQCB STAFF CONTACT _____

DATE OF NOTIFICATION ___ / ___ / ___ TIME OF NOTIFICATION __ __ : __ __ AM / PM

REPORTED BY _____ PHONE: (_____) _____

REPORTING AGENCY: _____

AGENCY ADDRESS: _____

RESPONIBLE PARTY (if not the Reporting Agency): _____ O

O PUBLIC SPILL O PRIVATE SPILL

ESTIMATED TOTAL SSO VOLUME (GALLONS): _____

ESTIMATED RECOVERED VOLUME (GALLONS): _____

LOCATION OF SSO: _____ START DAY/TIME: _____

_____ O CONTAINED O ON-GOING

CITY: _____ END DAY/TIME: _____

ZIP: _____

WATERS OF STATE IMPACTED? O YES O NO

STORM DRAIN: _____

PRIMARY SURFACE WATER: _____

SECONDARY SURFACE WATER: _____

OTHER IMPACTED WATER: _____

BEACH CLOSURE? O YES O NO LOCATION: _____

LOCAL HEALTH AGENCY NOTIFIED IMMEDIATELY? O YES O NO DATE/TIME _____

OFFICE OF EMERGENCY SERVICES NOTIFIED? O YES O NO DATE/TIME _____

OES CONTROL # _____

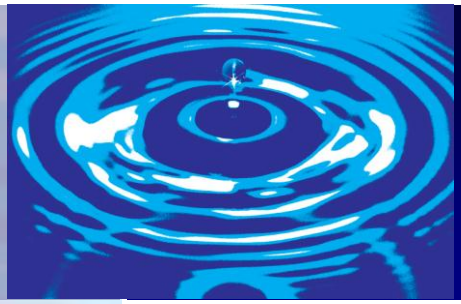
CAUSE / COMMENTS / OTHER DETAILS:

_____

_____

_____

RBF



Attachment E –
Sewer Spill Estimating

Spill Volume Estimating

A variety of approaches exist for the estimation of the volume of a sanitary sewer overflow. This appendix documents the three methods that are most often employed by the City of San Diego. The person preparing the estimate should use the method most appropriate to the sewer overflow in question using the best information available. Every effort should be made to make the best possible estimate of the volume. Assistance from the WWC Engineering Section should be sought for larger sewer overflows.

Method 1 Eyeball Estimate

The volume of very small spills can be estimated using an "eyeball estimate." To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to 100 gallons.

Method 2 Measured Volume

The volume of most small spills can be estimated using this method. The shape, dimensions, and the depth of the spilled wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

Step 1 Sketch the shape of the contained sewage
Step 2 Measure or pace off the dimensions.
Step 3 Measure the depth at several locations
Step 4 Convert the dimensions, including depth to feet.
Step 5 Calculate the area using the following formulas:

Rectangle	Area = length x width
Circle	Area = $0.785 \times D^2$ (where D is diameter of pipe)
Triangle	Area = base x height x 0.5

Step 6 Multiply the area times the depth
Step 7 Multiply the volume by 7.5 to convert it to gallons

Method 3 Duration and Flow Rate

Calculating the volume of spills where it is difficult or impossible to measure the area and depth requires a different approach. In this method a separate estimate is made of the duration of the spill and the flow rate. The methods of estimating duration and flow rate are:

Duration: The duration is the elapsed time from the start time to the time the spill stopped.

Start time is sometimes difficult to establish. Here are some approaches:

Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported in short order. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.

Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are "cut off" or flattened by the loss of flow. This can be identified by comparing hourly flow data, when available.

Conditions at the spill site change with time. Initially there will be limited deposits of grease and toilet paper. After a few days to a week, the grease forms a light colored residue. After a few weeks to a month the grease turns dark. In both cases the quantity of toilet paper and other materials of sewage origin increase in amount. These changes with time can be used to estimate the start time in the absence of other information.

End time is usually much easier to establish. Field crews on-site observe the "blow down" that occurs when the blockage has been removed. The "blow down" can also be observed in downstream flowmeters.

Flow Rate: The flow rate is the average flow that left the sewer system during the time of the spill. There are three ways to estimate the flow rate:

San Diego Manhole Flow Rate Chart: This chart shows the sewage flowing from a manhole cover for a variety of flow rates. The observations of the field crew are used to select the approximate flow rate from the chart.

Flowmeter: Changes in flows in the downstream flowmeters can be used to estimate the flow rate during the spill.

Estimate based on up-stream connections: Once the location of the spill is known, the number of upstream connections can be determined from the field books. Multiply the number of connection by 200 to 250 gallons per day per connection or 8-10 gallons per hour per connection.

Once duration and flow rate have been estimated, the volume of the spill is the product of the duration in hours or days times the flow rate in gallons per hour or gallons per day.

City of San Diego
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)

Wastewater Collection Division
(619) 654-4160

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

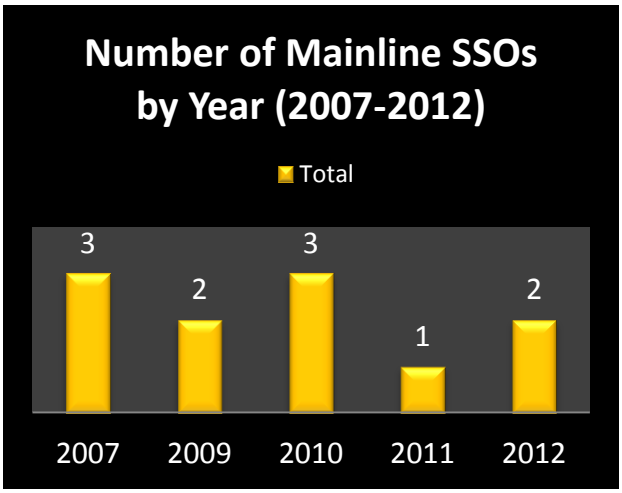
rev. 4/99

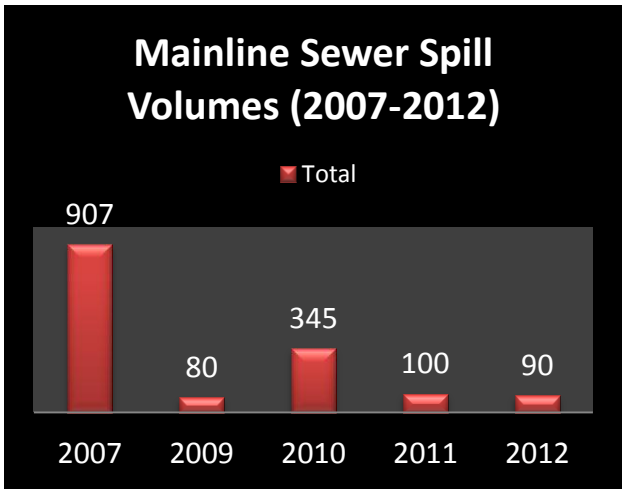
Attachment 5

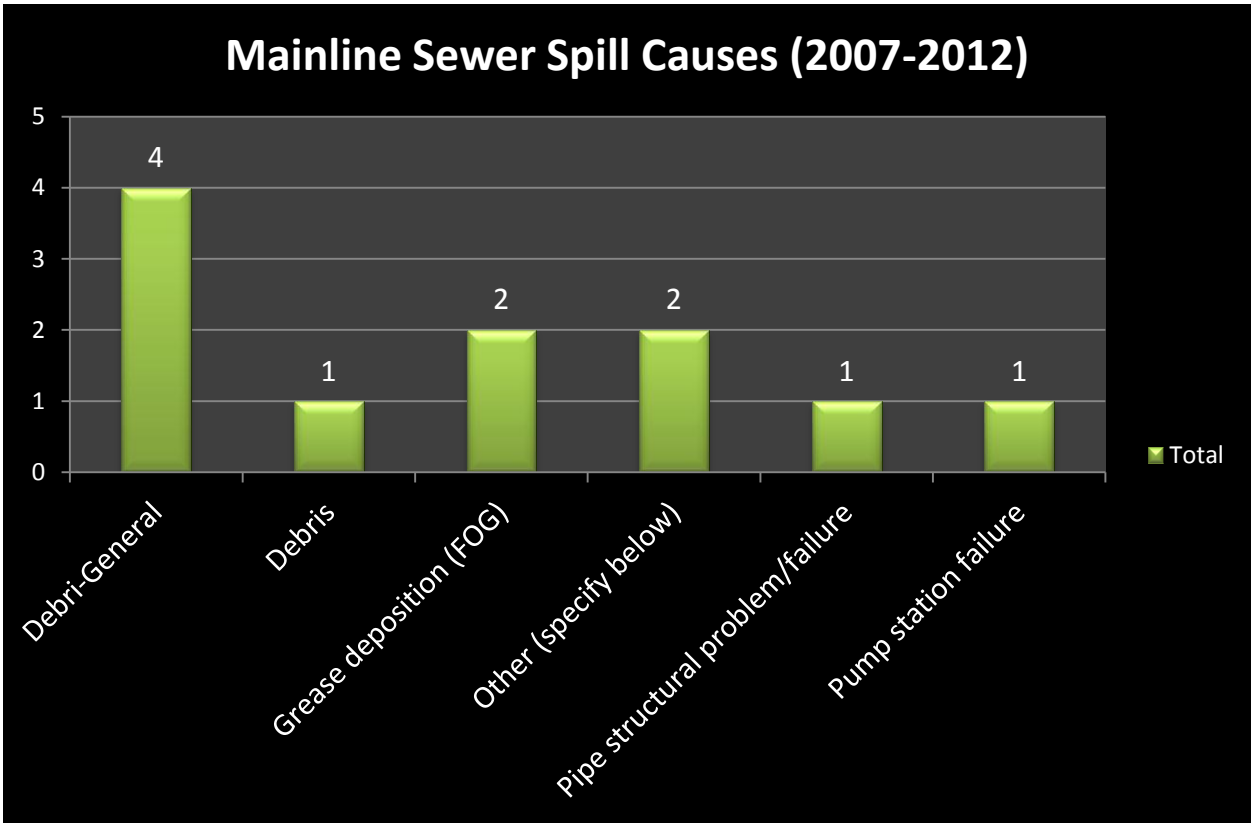
Sewer Overflow Trend Analysis

Sewer Overflow Trend Analysis 2007 through 2012
July 2, 2012

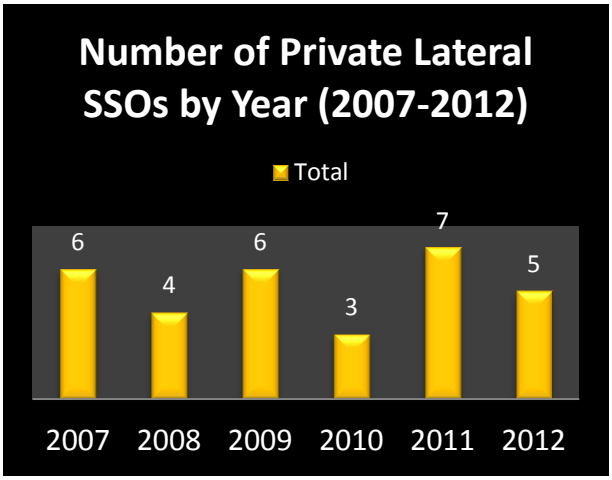
The following presents a summary of the sewer system overflows in the City of Imperial Beach from jurisdictionally maintained sewer main lines from 2007 through 2012 as reported on the CIWQS reporting system.

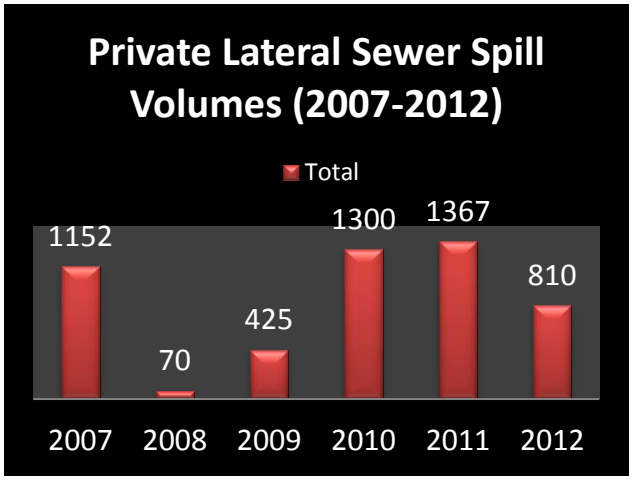


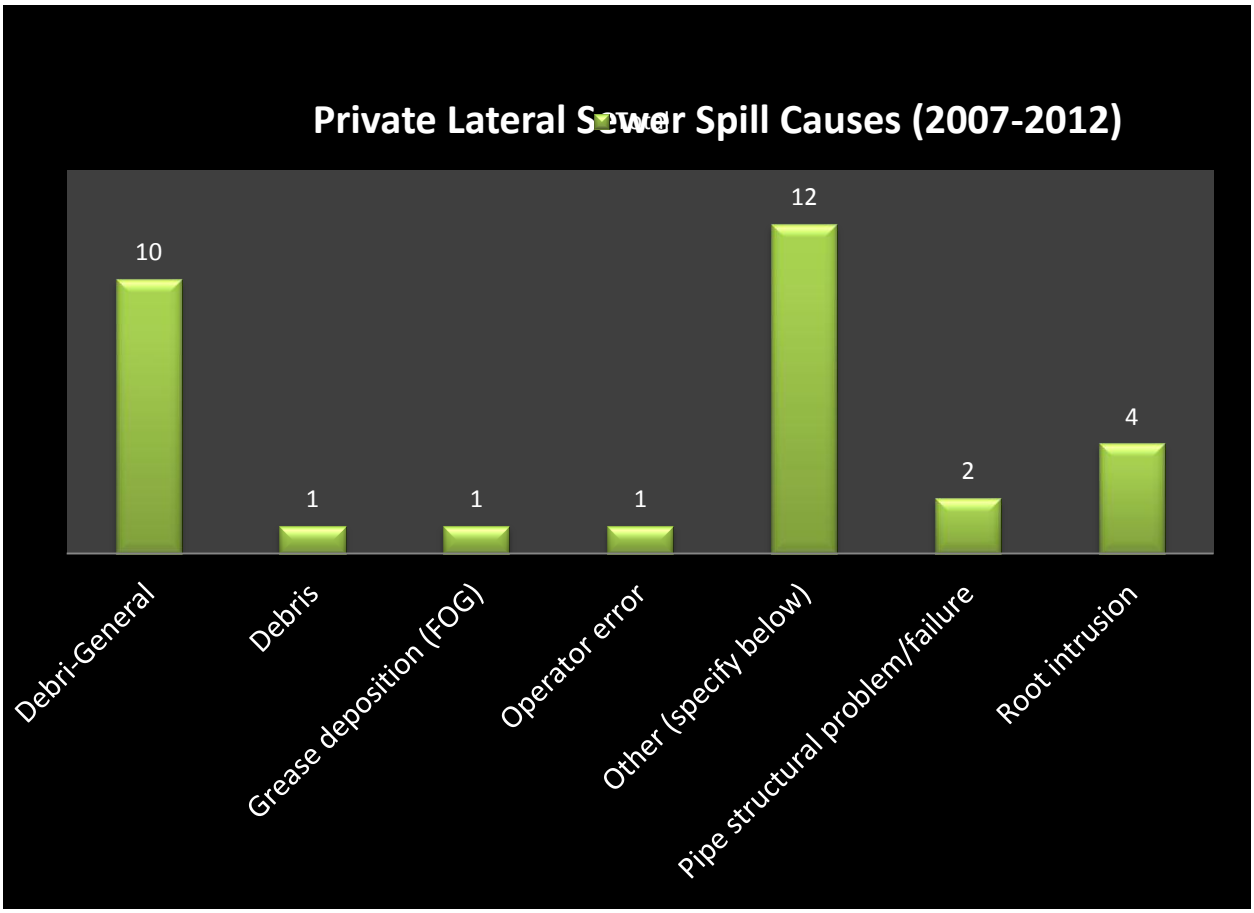




The following presents a summary of the sewer system overflows in the City of Imperial Beach from private lateral lines from 2007 through 2012 as reported on the CIWQS reporting system.







Attachment 6

Updated Preventative O&M Schedule

PREVENTIVE MAINTENANCE SCHEDULE PS 1A

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (before entry).
3. Inspect general condition of electrical panels.
4. Turn both pump switches off and inspect the following:
5. Turn #1 pump switch to **MANUAL** and observe water level indicators for proper operation, then turn back to the **OFF** position.
6. Repeat Step 5 with pump #2.
7. Return both #1 and #2 pump switches to **AUTO**.
8. Test moisture sensor by depressing button. The illumination lamp should light indication power. If the light is illuminated without depressing the button, schedule a lower seal replacement with-in 7-10 days.
9. Inspect sump pump for proper operation.
10. Inspect trouble light for proper operation.
11. Turn off lights on departure.
12. Log hour meter readings and sign off check sheet.

WEEKLY

1. Exercise all gate valves.
2. Clean station.
3. Pump wet well below set level

MONTHLY

1. Wash down station.

SEMI-ANNUALLY

1. Remove pumps from base to inspect the volute and impeller for wear and corrosion. Replace the above parts if worn excessively or damaged. If the motor cord needs replacing, consult the instructions inside the cap of the motor and the motor instruction book.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 1B

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (before entry).
3. Check sump pump for proper operation.
4. Inspect general condition of electrical panels.
5. Turn both pump switches off and inspect the following:
    a. Oil levels for proper level;
    b. Water and oil leaks;
    c. Belts for alignment and proper tension;
    d. Belts guard for security.
6. Turn pump #1 switch to **MANUAL** and observe water level indicator for proper operation, then turn back to the **OFF** position.
7. Repeat Step 6 with pump #2.
8. Inspect air flow for bubbler system operation.
9. Switch to back-up air pump and check indicator for proper operation, then switch back to lead air pump.
10. Return all switches to **AUTO**.
11. Log hour meter readings and sign off check list.
12. Check trouble light for proper operation.
13. Turn off lights on departure.

WEEKLY

1. Exercise gate and plug valve.
2. Clean station.
3. Pump wet well below set level.

MONTHLY

1. Wash down station.
2. Test Alarm

SEMI-ANNUALLY

1. Adjust impeller to wear plate clearance. (depending on application, this may need to be done quarterly)
2. Grease motors.

ANNUALLY

1. Change oil in pump seal chamber and bearing chamber or every 4,000 hrs.
2. Replace air pump filter

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 2

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (on thermostat).
3. Inspect general condition of electrical panels.
4. Turn both pump switches off and inspect the following:
    e. Oil levels for proper level;
    f. Valves and piping for leaks;
    g. Belts for alignment and proper tension;
    h. Belts guard for security.
5. Turn pump #1 switch to **MANUAL** and observe water level indicator and check valves for proper operation, then turn back to the **OFF** position.
6. Repeat Step 5 with pump #2.
7. Inspect air pump indicator for proper air pump operation.
8. Switch to back-up air pump and check indicator for proper operation, then switch back to lead air pump.
9. Return all switches to **AUTO**.
10. Log hour meter readings and sign off check list.
11. Turn off lights on departure.

WEEKLY

1. Exercise gate and plug valves.
2. Clean station.
3. Pump wet well below set level

MONTHLY

1. Open and inspect sliding cover.
2. Wash down station.
3. Test Alarm

SEMI-ANNUALLY

3. Adjust impeller to wear plate clearance. (depending on application, this may need to be done quarterly)
4. Replace air pump filter.
5. Grease motors.

ANNUALLY

1. Change oil in pump seal chamber and bearing chamber or every 4,000 hrs.
2. Replace air pump filter

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 3

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (before entry).
3. Inspect general condition of electrical panels.
4. Inspect sump pump for proper operation.
5. Inspect trouble light for proper operation.
6. Inspect general condition of electrical panels.
7. Turn both pump switches to the **OFF** position.
8. Turn #1 pump switch to **MANUAL** and observe water level indicator for proper operation, then turn back to the **OFF** position.
9. Repeat Step 6 with pump #2.
10. Return all switches to **AUTO**.
11. Test moisture sensor by depressing button. The illumination lamp should light indication power. If the light is illuminated without depressing the button, schedule a lower seal replacement with-in 7-10 days.
12. Inspect pumps, check valves and piping for leaks.
13. Log hour meter readings and sign off check list.
14. Turn off lights on departure.

WEEKLY

1. Exercise gate valves.
2. Clean station.

MONTHLY

1. Wash down station.
2. Test alarm

SEMI-ANNUALLY

1. Remove pumps from base to inspect the volute and impeller for wear and corrosion. Replace the above parts if worn excessively or damaged. If the motor cord needs replacing, consult the instructions inside the cap of the motor and the motor instruction book.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 4

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (before entry).
3. Inspect sump pump for proper operation.
4. Inspect trouble light for proper operation.
5. Inspect general condition of electrical panels.
6. Inspect packing glands for leakage and bolts for security. Adjust as necessary.
7. Turn both pump switches to the **OFF** position.
8. Turn pump #1 switch to **MANUAL** and observe water level indicator for proper operation, then turn back to the **OFF** position.
9. Repeat Step 6 with pump #2.
10. Return all switches to **AUTO**.
11. Inspect pumps, check valves and piping for leaks.
12. Log hour meter readings and sign off check list.
13. Turn off lights on departure.

WEEKLY

1. Exercise gate valves.
2. Clean station.

MONTHLY

1. Wash down station.
2. Test alarm.

SEMI-ANNUALLY

1. Grease motors.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 5

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (before entry).
3. Inspect trouble light for proper operation.
4. Operate air compressor, observe press gauge.
5. Check air pumps to ensure proper bubbler system air flow.
6. Switch to back-up air pump and check indicator for proper operation, then switch back to lead air pump.
7. Operate both pumps while observing check valve lever operation and level control.
8. Inspect pump packing, check valves and piping for leaks. Adjust as necessary.
9. Inspect sump pump for proper operation.
10. Record elapsed time meter readings.

WEEKLY

1. Check compressor belts and proper oil level.
2. Exercise gate valves.
3. Clean station.
4. Pump wet well below set level.

MONTHLY

1. Wash down station.
2. Test alarm

SEMI-ANNUALLY

1. Check self greaser on pumps and grease motors.
2. Inspect motor to pump shaft couplers.
3. Replace air pump filter.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 6

DAILY

1. Ensure lights work.
2. Ensure blower is working (before entry).
3. Inspect sump pump for proper operation.
4. Inspect trouble light for proper operation.
5. Inspect electrical panels for general condition.
6. Turn both pump switches to the **OFF** position.
7. Turn pump #1 switch to **MANUAL** and observe water level indicator for proper operation (turn back to the **OFF** position).
8. Repeat Step 6 with pump #2.
9. Return all switches to **AUTO**.
10. Inspect pumps, check valves and piping for leaks.
11. Log hour meter readings and sign off check list.
12. Turn off lights on departure.

WEEKLY

1. Exercise gate valves.
2. Clean station.
3. Pump wet well below set level

MONTHLY

1. Wash down station.
2. Clean station.
3. Test alarm

SEMI-ANNUALLY

1. Grease motors.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 7

DAILY

1. Ensure lights work.
2. Ensure vent fan is working (before entry).
3. Inspect trouble light for proper operation.
4. Operate air compressor, observe pressure gauge.
5. Check air pumps to ensure proper bubbler system air flow.
6. Switch to back-up air pump and check indicator for proper operation, then switch back to lead air pump.
7. Operate both pumps while observing check valve lever operation and level control.
8. Inspect pump packing, check valves and piping for leaks. Adjust as necessary.
9. Inspect sump pump for proper operation.
10. Record elapsed time meter readings.

WEEKLY

1. Check compressor belts and proper oil level.
2. Exercise gate valves.
3. Clean station.
4. Pump wet well below set level

MONTHLY

1. Wash down station.
2. Test alarm

SEMI-ANNUALLY

1. Check self greaser on pumps and grease motors.
2. Inspect motor to pump shaft couplers.
3. Replace air pump filter.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 8

DAILY

1. Ensure lights work.
2. Ensure vent fan is working.
3. Inspect general condition of electrical panels.
4. Inspect Panel #3 for proper level setting.
5. Inspect air flow indicator for operation of bubbler system.
6. Inspect non running drive shafts for security and ease of turning.
7. Inspect pump packing for leakage and gland nut security. (adjust as necessary)
8. Inspect check valve operation on duty pump.
9. Inspect sump pump for proper operation.
10. Inspect trouble light for proper operation.
11. Log hour meter readings and sign off check sheet.
12. Turn off lights on departure.

WEEKLY

1. Exercise all gate valves.
2. Inspect drive units for condition and operation of fans.
3. Run pump #3 for proper operation.
4. Change lead pump.
5. Clean station.

MONTHLY

1. Wash down station.
2. Test alarm

SEMI-ANNUALLY

1. Grease motors and "U" Joints/Pillow Blocks.
2. Replace air pump filter.

PREVENTIVE MAINTENANCE SCHEDULE PS 9

DAILY

1. Ensure lights work.
2. Ensure vent fan is working.
3. Inspect general condition of electrical panels.
4. Inspect Hydro Ranger for correct settings.
5. Inspect non running drive shafts for security and ease of turning.
6. Inspect pump packing for leakage and gland nut security. (adjust as necessary)
7. Inspect check valve operation on lead pump.
8. Inspect sump pump for proper operation.
9. Inspect trouble light for proper operation.
10. Log hour meter readings and sign off check sheet.
11. Turn off lights on departure.

WEEKLY

1. Exercise all gate valves.
2. Inspect drive units for condition and operation of fans.
3. Clean station.

MONTHLY

1. Wash down station.

SEMI-ANNUALLY

1. Grease motors and "U" Joints/Pillow Blocks.

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 10

DAILY

1. Ensure lights are working.
2. Inspect general condition of electrical panel.
3. Inspect trouble light for proper operation.
4. Turn both pump switches to the **OFF** position.
5. Turn #1 pump switch to **MANUAL** and observe water level indicator for proper operation (turn back to the **OFF** position).
6. Repeat Step 6 with pump #2.
7. Return all switches to **AUTO**.
8. Inspect proper operation of air pump.
9. Inspect valves and piping for leaks.
10. Inspect south wet well and manhole 221 for proper levels.
11. Turn off lights on departure.

WEEKLY

1. Run emergency engine not to exceed 52 hours per year.
2. Water/Cut grass as needed.
3. Clean station.
4. Pump wet well below set level

MONTHLY

1. Wash Down Station.
2. Test alarm

SEMI-ANNUALLY

1. Adjust impeller to wear plate clearance. (depending on application, this may need to be done quarterly)
2. Grease Motors
3. Replace air pump filter

# # #

PREVENTIVE MAINTENANCE SCHEDULE PS 11

DAILY

1. Inspect general condition of electrical panels.
2. Ensure heater working.
3. Ensure no warning lights are illuminated.
4. Ensure the hydro ranger has a pump called out as lead.
5. Using the Jockey pump, lower the wet well to proper level. Log all 3 hour meters and as found wet well level.
6. Check wet well for excess debris. (remove as necessary)

WEEKLY

1 Clean stainless Steel Cabinets to remove corrosion. (Performed by Tidelands).

MONTHLY

1. Check stainless steel strainer grate in upstream manhole for excess debris. (remove as necessary)
2. Inspect cabinet handles for broken screws etc.
3. With water in the wet well, bump start pumps two and three during the dry weather season.

SEMI-ANNUALLY

1. Inspect female plug for gen set.
2. Remove sand from hatch channels. More often if needed.

There are two and five year maintenance checks for Yeomans pumps. This applies to both the 3HP and both 60HP. Refer to O&M for details.

# # #

Sewer System Management Plan

2012 Audit Report

July 18, 2012

Chris Helmer – Environmental Programs Manager

SSMP (Eleven Elements)

- 1.0 Goals
- 2.0 Organization
- 3.0 Legal Authority
- 4.0 Operation and Maintenance
- 5.0 Design and Performance Design Standards
- 6.0 Overflow Emergency Response Plan
- 7.0 Fats, Oil, and Grease Control Program
- 8.0 System Evaluation and Capacity Assurance
- 9.0 Monitoring Measurement and Program Modifications
- 10.0 SSMP Audit
- 11.0 Communication Program

- Objective: Improve the reliability of the sewer collection system and reduce the level of maintenance it takes to operate it.

Sewer Division Assets

- 39.5 miles of gravity sewer mainlines
- 4.4 miles of force mainlines
- 11 sewer pump stations and wet wells
- 10,892 private lateral connections
- 1 vactor truck
- Multiple backup pumps and generators

Sewer Division Organization

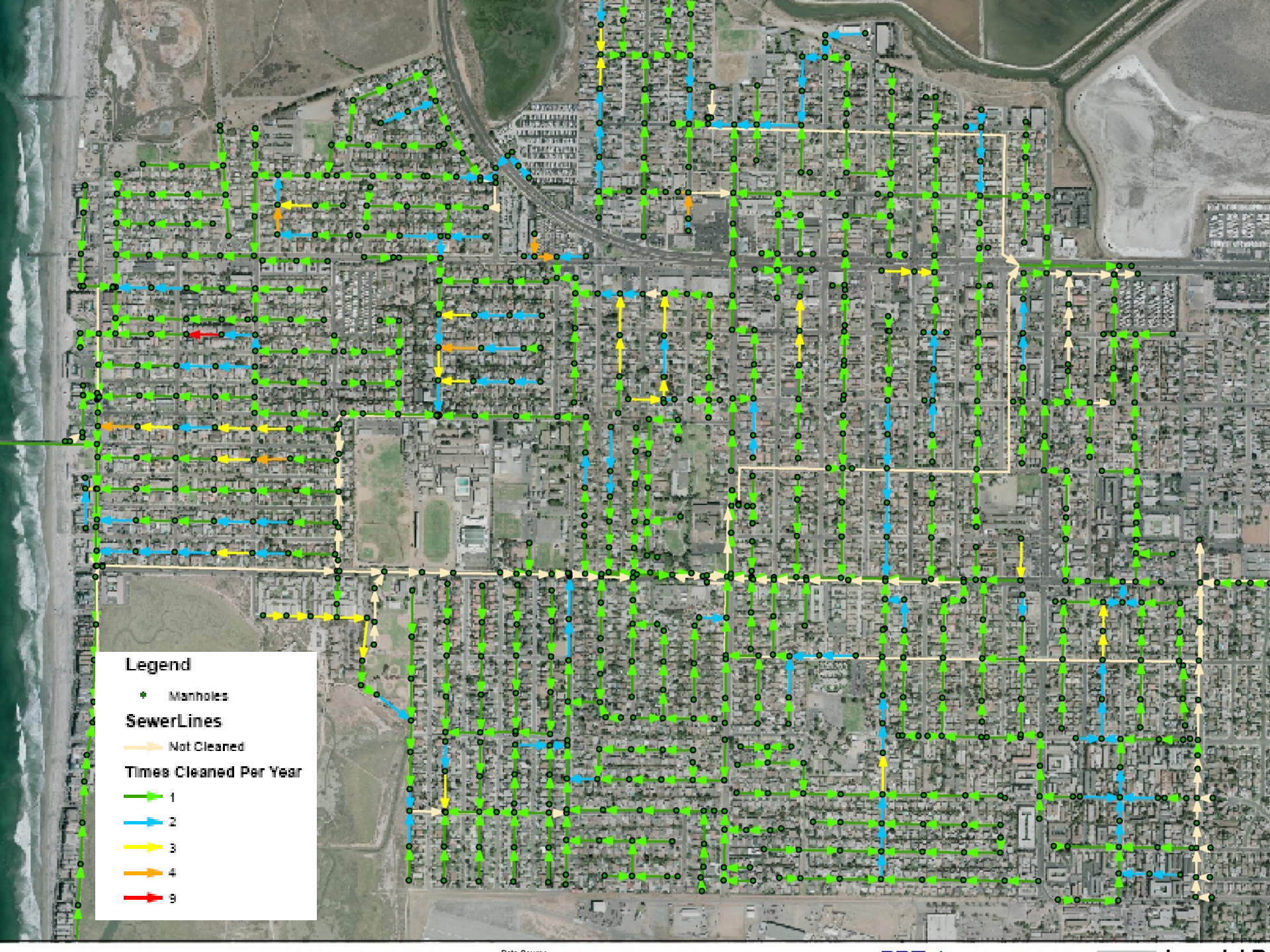
Sewer Division Supervisor

Maintenance Worker II

Maintenance Worker I

Maintenance Worker

Maintenance Worker


Legend
Manholes
SewerLines
Not Cleaned
Times Cleaned Per Year
1
2
3
4
9

Capital Improvement Projects

Reduce Sewer System Maintenance Activities

Completed Projects:

- FY09/10 Televise Pipe Sections/Sewer Mains W10-202
  - Completed 4-12-11
- No 1. Annual Main Line Repairs W10-201 & W10-101
  - Completed 10-14-11
- Sealing & Repair Wet Wells & Manholes W05-401
  - Completed 8-13-11
- PS 7 Wet Well Replacement W06-101
  - Completed 9/21/11

Capital Improvement Projects

Reduce Sewer System Maintenance Activities

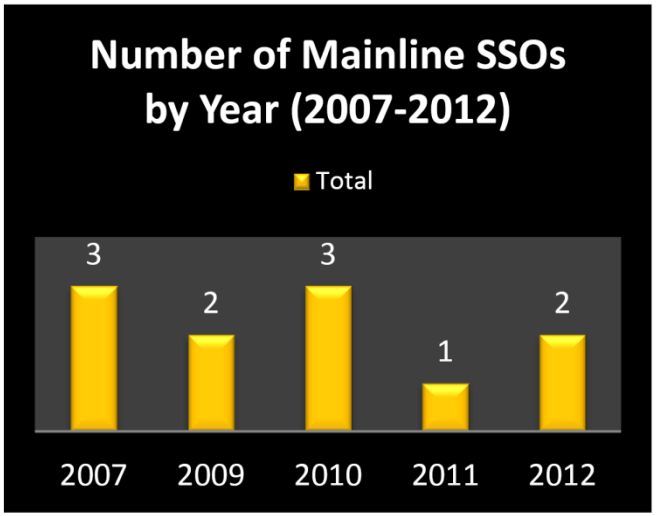
Pending Projects:

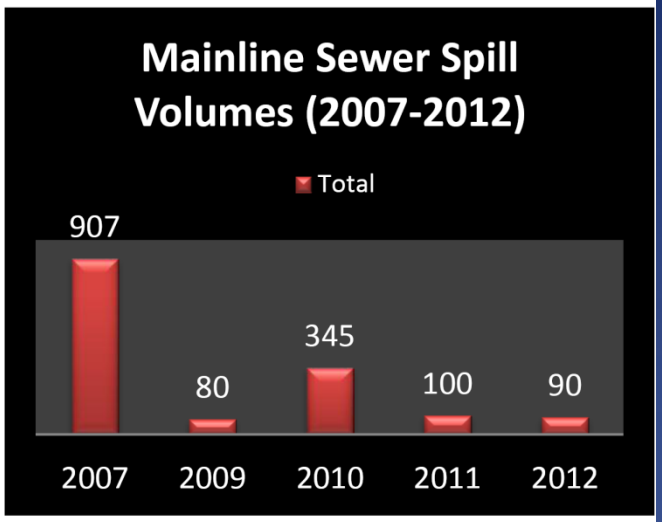
- No 2. FY11/12 Annual Main Line Repairs W12-201
- No 3. FY11/12 FY11/12 Annual Main Line Repairs W12-201
- FY10/11 Televise Pipe Section/Sewer Mains W11-202
- FY12/13 $200,000 (Pipes 669, 526, 724, 690, 524)
- FY13/14 $230,000 (Capacity via pipe bursting)
- Pump Station No 4. Rehabilitation FY13/14 $75,000
- Pump Station No 6. Rehabilitation FY 11/12 $75,000
- Pump Station No 10. Rehabilitation FY10/11 $180,000 (next project)
- Televise Pipe Sections/Sewer Mains FY10/11 $80,000
- Televise Pipe Sections/Sewer Mains FY13/14 $80,000

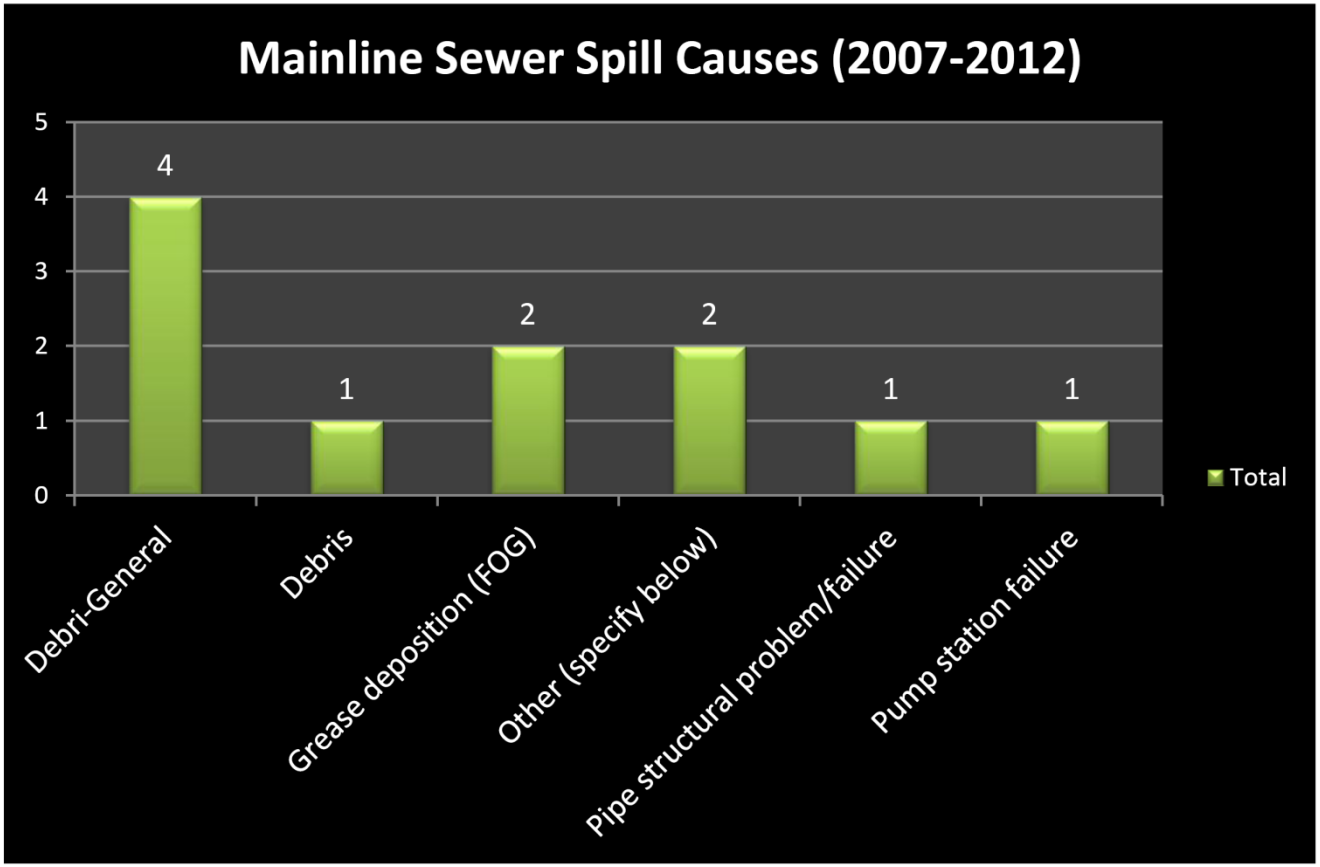
Fats, Oil, and Grease

- Update FOG Ordinance:
  - Promote and enforce proper management and disposal of FOG
  - Maximize beneficial use of City's wastewater collection system
  - Minimize the potential for sewer backups
  - Prevent increased costs of operation and maintenance activities

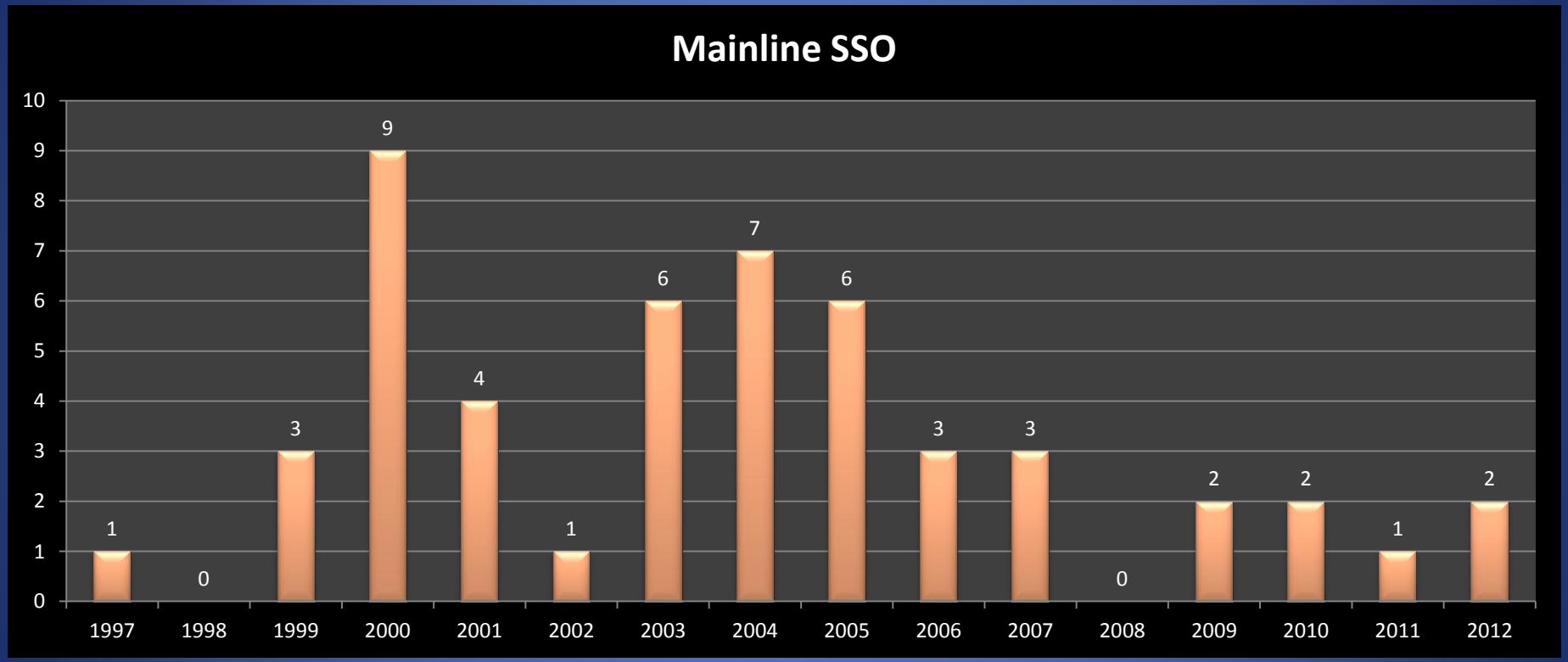



Number of Mainline SSOs by Year (2007-2012)
Total
3
2
3
1
2
2007
2009
2010
2011
2012


Mainline Sewer Spill Volumes (2007-2012)
Total
907
80
345
100
90
2007
2009
2010
2011
2012


Mainline Sewer Spill Causes (2007-2012)
5
4
3
2
1
0
4
1
2
2
1
1
Total
Debri-General
Debris
Grease deposition (FOG)
Other (specify below)
Pipe structural problem/failure
Pump station failure

Historic SSO Trend



Conclusion

- SSMP is effective at preventing SSO
- Sewer CIP projects are leading to increased reliability and will eventually require less maintenance to operate
- Only minor updates were made to the SSMP document.

Comments