



**CITY OF MORRO BAY
PUBLIC WORKS ADVISORY BOARD
REVISED AGENDA**

The City of Morro Bay is dedicated to the preservation and enhancement of the quality of life. The City shall be committed to this purpose and will provide a level of municipal service and safety consistent with and responsive to the needs of the public.

**Thursday, April 17, 2014
Veteran's Memorial Building - 6:00 P.M.
209 Surf Street, Morro Bay, CA**

Matt Makowetski, Chair

Ron Burkhart
Janith Goldman
Stephen Shively

Deborah Owen
Marlyns McPherson
David Sozinho

ESTABLISH QUORUM AND CALL TO ORDER
MOMENT OF SILENCE/PLEDGE OF ALLEGIANCE
ANNOUNCEMENTS/PRESENTATIONS

PUBLIC COMMENT PERIOD

Members of the audience wishing to address the Board on City business matters other than scheduled items may do so at this time. To increase the effectiveness of the Public Comment Period, the following rules shall be followed:

- When recognized by the Chair, please come forward to the podium and state your name and address for the record. Board meetings are audio and video recorded and this information is voluntary and desired for the preparation of minutes.
- Comments are to be limited to three minutes.
- All remarks shall be addressed to the Board, as a whole, and not to any individual member thereof.
- The Board respectfully requests that you refrain from making slanderous, profane or personal remarks against any elected official, commission and/or staff.
- Please refrain from public displays or outbursts such as unsolicited applause, comments or cheering.
- Any disruptive activities that substantially interfere with the ability of the Board to carry out its meeting will not be permitted and offenders will be requested to leave the meeting.
- Your participation in Board meetings is welcome and your courtesy will be appreciated.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Public Services Department at (805) 772-6264. Notification 24 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

A. CONSENT CALENDAR

A-1 Approval of Minutes of February 20, 2014 Meeting
Recommendation: Approve minutes.

A-2 Director's Report
Recommendation: Receive and file.

B. OLD BUSINESS - None

C. NEW BUSINESS

- C-1 City Participation in FEMA's Community Rating System
Recommendation: Receive Presentation.

- C-2 Seimens Presentation: Energy and Cost Savings
Recommendation: Receive Presentation and Make Recommendations to City Council.

- C-3 Approval of the Updated Sewer System Management Plan
Recommendation: Review Updated Plan and Recommend the City Council Approve the Updated Sewer System Management Plan.

- C-4 Review of List from Morro Bay Citizens Bike Committee List of "Unmet Bicycle Needs".
Recommendation: Review and Rank the List of "Unmet Bicycle Needs" for Presentation to the City Council at their May 13, 2014 Meeting.

- C-5 Streets Summit: A Review of the 2013/2014 Activities and Recommendations for Future Work
Recommendation: Receive Update, Take Public Testimony and Provide Recommendations to City Council for the Upcoming Goal Setting and Budget Process

D. FUTURE AGENDA ITEMS

E. ADJOURNMENT

Adjourn to the Public Works Advisory Board meeting at the Veteran's Memorial Building, 209 Surf Street, on **Thursday, June 19, 2014 at 6:00 p.m.**

This agenda is subject to amendment up to 72 hours prior to the date and time set for the meeting. Please refer to the agenda posted at the Public Services Department, 955 Shasta Avenue, for any revisions or call the department at 772-6264 for further information.

Materials related to an item on this Agenda are available for public inspection during normal business hours in the Public Services Department, at Mill's/ASAP, 495 Morro Bay Boulevard, or the Morro Bay Library, 695 Harbor, Morro Bay, CA 93442, or online at www.morro-bay.ca.us/pwab . Materials related to an item on this Agenda submitted to the Board after publication of the Agenda packet are available for inspection at the Public Services Department during normal business hours or at the scheduled meeting.

The motion was seconded by Boardmember Goldman and carried unanimously. (5-0)

A-2 Director's Report/Information Items – Verbal Report

Livick presented the staff report.

Boardmember McPherson asked Livick if the Forestry's Management plan went to the Planning Commission. Livick stated it did go and was passed onto City Council.

Boardmember Shively asked if a 5 year time frame for design and construction of the new Water Reclamation Facility is feasible. Shively stated he understands the permitting process with City Council and Coastal Commission. Livick stated the project schedule is doable but certainly very aggressive. Staff is also looking at alternate delivery options for design and build.

Boardmember Shively asked Livick if there is a benefit at looking at the 5 year window, funding wise. Livick stated the longer it takes the more expensive it will be and the City continues to spend money with the existing WWTP major maintenance and repair plan until a new facility is built.

Chairperson Makowetski asked Livick what the time frame would be on the South Bay and Theresa Dr. project for underneath over pass. Livick stated a schedule has not yet been set and the City still has consultants evaluating what can be done and what is most cost effective.

MOTION: Boardmember Burkhart approved the Director's report

The motion was seconded by Boardmember Shively, and carried unanimously. (5-0)

A-3 Morro Bay Citizens Bike Committee Memo

Chairperson Makowetski stated the committee has pushed back the meeting for April.

MOTION: Boardmember Goldman approved item A-3 to be moved to Public Works Advisory Board April's meeting.

The motion was seconded by Boardmember Shively and carried unanimously (5-0)

OLD BUSINESS

None

NEW BUSINESS

C-1 Stormwater Management Post Construction and Low Impact Development Requirements

Rands presented the staff report.

Chairperson Makowetski opened public comment period and seeing none closed public comment.

Boardmember McPherson asked how the standards are enforced by the community, and what inspections are in effect. Rands stated there are 2 levels of inspections; one is at the basic lay out phase, and the other is the final inspection. Rands also stated that a requirement in a manual as recorded part of the deed as part of the property to go along with the sale of the property and the home owner is required to do annual reports on the performance of the facility.

Boardmember Shively asked about compliance of the report. Who turns the report in to make sure that the report is being done? What has been the impact to those who have not turned in reports? What is the enforcement? Livick stated there are not a lot of options to enforcement. The City may have to increase staffing noting the City has authorization for a lower level engineering tech to help with the program with monitoring. Livick stated that the City could implement a system like the business license reporting.

Boardmember Shively asked Livick if a homeowner has exemptions when re-roofing a home. Livick stated a re-roof is maintenance and not new development.

Boardmember Goldman asked about the Stormwater Management guide for new development for annual reporting, what happens when the home changes hands? Rands stated the Stormwater reporting would go along with the deed of the land and it is then the responsibility of the new owner.

Boardmember Owen asked if Stormwater is something we have always done and if it's something for everyone to use? Livick stated 10 years ago Morro Bay implemented the first Stormwater Plan in 2005 and went through the first cycle, resubmitted and we are now on our third cycle with SWMP.

Chairperson Makowetski asked if there is a place for incentives/exemption for people who create artificial retention for rain water drain off for both existing and new development. Livick stated the Board would have a staff meeting to discuss the matter further.

C-2 WATER STATUS REPORT

Livick presented the staff report.

Chairperson Makowetski opened the floor for questions and comments.

Boardmember Owen asked Livick if there was a program that removed lawns in Morro Bay? Livick stated outlining areas have turf removal programs and that it might be a future item for discussion.

Boardmember Goodman asked about residential allocations on a first come basis, and if builders are allowed to get building licenses due to the water shortage.

Livick stated City Council announced at the last meeting 115 WEU to be allowed without any restrictions.

Boardmember Shively asked if the City provides sources for non-portable water. Livick responded yes.

Boardmember Shively asked if the Vactor trucks use portable water. Confirmed that they do use potable water.

Boardmember Shively asked what for the definition of a WEU. Livick stated one WEU is 1078 cubic feet or average water usage for one single family residents per year. Livick also stated the amount of bathrooms does not relate to the amount of water usage.

Boardmember Shively asked Livick if the City had any new water projects planned in the future. Livick stated the second phase for the Desal plant is in the works and had been approved by the City Council.

Boardmember McPherson asked what the cost is to reclaim water, and does the new waste treatment facility that the City is building incorporating water reclamation. Livick stated the direction from City Council is to have a Water Reclamation Facility ready for agricultural reuse or recharge of the aquifer.

Chairperson Makowetski asked how prepared the City is to use the Desal plant to produce water full time without using outside water sources. Livick stated physically the City is ready, but does not have a permit from the California Coastal Commission to use water from the Desal plant. Livick also stated the City used the Desal plant during the water shut down, and the California Coastal Commission had been notified when the Desal plant is being run. Livick stated the City is working with the California Coastal Commission to get the finalized permits.

Boardmember McPherson asked how much more costly would it be if the City relied on the Desal plant. Livick stated it would be the same cost as State water.

C-3 Special Meeting for Water Equivalency Unit Offset Policy.

Livick presented the Board with future dates for the Water Equivalency unit offset policy. The Board agreed to have a Special Meeting on March 12, 2014.

D. FUTRUE AGENDA ITEMS

- Water Equivalency meeting
- Radcliffe and Main St. traffic issues

ADJOURNMENT

The meeting adjourned at 7:30 p.m. to the next scheduled meeting to be held at the Veteran's Memorial Hall on Wednesday, March 12, 2014, at 6:00 p.m.

PUBLIC WORKS ADVISORY BOARD
 City of Morro Bay, Department of Public Services
Director's Report / Information Items
 Prepared: 4/10/2014

AGENDA NO.: <u>A-2</u> DATE: <u>4/17/2014</u>
--

Category	Information Item	Staff Contact	Status
Transit	Morro Bay Transit and Trolley	Janeen Burlingame	<p>At its March 11 meeting, the City Council approved expanding Morro Bay Transit to operate on Saturdays and approved reallocation of Local Transit Funds in order to begin service on March 29.</p> <p>The 2014 Trolley season will begin Memorial Day weekend.</p> <p>The San Luis Obispo Council of Governments completed its North Coast Transit Surveys 2013 project and which the Board has seen the Technical Memorandums at your November 2013 meeting. Attached is the SLOCOG Board staff report and Executive Summary for the project. Staff has met with MV Transportation's General Manager to discuss recommendations from the final report to address and also begin identifying additional Morro Bay Transit stops to include along the route.</p>
Wastewater	NEW WRF MMRP	Bruce Keogh, Rob Livick	<p>The City and District have awarded contracts for the purchase of new headworks equipment and digester sandblasting and recoating. Future projects this year include installation of headwork's equipment and installation of new chlorine contact chamber equipment, see City Council agenda from 2-11-2014</p> <p>Current information on the status of the New Water Reclamation Facility (WRF) project can also be found on the City of Morro Bays website (www.morro-bay.ca.us/WRF).</p>

Category	Information Item	Staff Contact	Status																																																																																
Water	Resource Management, Operations	Rob Livick, Jamie James	<p>The City Council at its April 22, 2014 will be reviewing the results of the discussions regarding and this Board's recommendations regarding retrofit options along with a separate item regarding declaration of a water emergency at the April 22, 2014 meeting.</p> <p>City Council did approve a modification to the conservation regulations allowing use of hoses with spring loaded auto shutoff for vehicle, vessel and dock rinsing.</p> <p>Statistics</p> <table border="1"> <thead> <tr> <th></th> <th>Jan-14</th> <th>Feb-14</th> <th>Mar-14</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">Million Gallons</td> </tr> <tr> <td>Morro Basin</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Chorro Basin</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>R/O</td> <td>0.69</td> <td>0.96</td> <td>1.92</td> <td>3.56</td> </tr> <tr> <td>State Water</td> <td>34.69</td> <td>26.23</td> <td>28.36</td> <td>89.28</td> </tr> <tr> <td>TOTAL</td> <td>35.37</td> <td>27.19</td> <td>30.28</td> <td>92.85</td> </tr> <tr> <td colspan="5" style="text-align: center;">Gallons</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Average</td> </tr> <tr> <td>Morro Basin</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Chorro Basin</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>R/O</td> <td>22,106.45</td> <td>34,207.14</td> <td>61,967.74</td> <td>39,601.11</td> </tr> <tr> <td>State Water</td> <td>1,118,977.42</td> <td>936,896.43</td> <td>914,948.39</td> <td>992,053.33</td> </tr> <tr> <td>TOTAL</td> <td>1,141,083.87</td> <td>971,103.57</td> <td>976,916.13</td> <td>1,031,654.44</td> </tr> <tr> <td>Monthly Rain Total (inches)</td> <td>-</td> <td>5.06</td> <td>0.72</td> <td>5.78</td> </tr> <tr> <td>Average Usage (Gal/person/day)</td> <td>106.01</td> <td>90.22</td> <td>90.76</td> <td>95.84</td> </tr> </tbody> </table> <p style="text-align: center;">= After water conservation declaration</p>		Jan-14	Feb-14	Mar-14	Total	Million Gallons					Morro Basin	-	-	-	-	Chorro Basin	-	-	-	-	R/O	0.69	0.96	1.92	3.56	State Water	34.69	26.23	28.36	89.28	TOTAL	35.37	27.19	30.28	92.85	Gallons									Average	Morro Basin	-	-	-	-	Chorro Basin	-	-	-	-	R/O	22,106.45	34,207.14	61,967.74	39,601.11	State Water	1,118,977.42	936,896.43	914,948.39	992,053.33	TOTAL	1,141,083.87	971,103.57	976,916.13	1,031,654.44	Monthly Rain Total (inches)	-	5.06	0.72	5.78	Average Usage (Gal/person/day)	106.01	90.22	90.76	95.84
	Jan-14	Feb-14	Mar-14	Total																																																																															
Million Gallons																																																																																			
Morro Basin	-	-	-	-																																																																															
Chorro Basin	-	-	-	-																																																																															
R/O	0.69	0.96	1.92	3.56																																																																															
State Water	34.69	26.23	28.36	89.28																																																																															
TOTAL	35.37	27.19	30.28	92.85																																																																															
Gallons																																																																																			
				Average																																																																															
Morro Basin	-	-	-	-																																																																															
Chorro Basin	-	-	-	-																																																																															
R/O	22,106.45	34,207.14	61,967.74	39,601.11																																																																															
State Water	1,118,977.42	936,896.43	914,948.39	992,053.33																																																																															
TOTAL	1,141,083.87	971,103.57	976,916.13	1,031,654.44																																																																															
Monthly Rain Total (inches)	-	5.06	0.72	5.78																																																																															
Average Usage (Gal/person/day)	106.01	90.22	90.76	95.84																																																																															
Collection System Capital Projects	Collection System	Bruce Keogh Rob Livick	Being addressed at the April meeting in the SSMP update.																																																																																

Category	Information Item	Staff Contact	Status
Streets/Sidewalks/ Storm Drain Maintenance	Local Street Maintenance Projects	Mike Wilcox, R&P	Street, Sidewalk, Street Tree and Storm drain maintenance has shifted to the Recreation and Parks Maintenance Division as of July 1, 2010. If you have street, street tree or storm drain maintenance issues please call 772-6278 so that it can be added to the list of work. The City will still be patching potholes and the best way to notify the City regarding a pothole that needs attention is to use our E-Notify system (on the City's website www.morro-bay.ca.us , click on City Departments, then on Recreation and Parks to the E-Request Form or http://morro-bay.ca.us/erequest). Upon receipt, those E-Requests will be reviewed, cataloged and entered into our database. Finally, the repairs will be scheduled. In the future, the City will be adding to the website a list or "Street Maintenance Queue" so you will be able to monitor the progress and see when your pothole may be repaired.
	Pavement Management Plan	Sauerwein/Whelan	Plan for South Bay Blvd and 2014 projects being addressed at the April meeting
	Morro Creek Bridge	Sauerwein/Rands	The project is proceeding forward per the schedule. The environmental document is currently out for its 30 day public review. To review the initial study go to http://www.morro-bay.ca.us/index.aspx?nid=771 Project is being reviewed by CCC and is on schedule. Currently working with the City's funding partner to address funding shortfalls due to additional items added to the project, i.e. Large Emergency Vehicle capability and Lighting.
Street Trees	Urban Forest Plan	Hanson	Was heard at City Council April 8, 2014, Going back for resolution adoption at a future meeting.
Misc			Notify Me: Sign up for Notify Me on the City's Website for notification of Council, Boards and Commissions information. Notify Me can be accessed from a link on the City's Homepage. Let Us Know: The City has added a new feature to the website, Let Us Know, which is replacing the Citizen E-Request link on the City's Homepage. With Let Us Know, citizens can submit a compliment, request, or report a concern to the City for predetermined issues without the need to phone the City during business hours (for example: reporting a pothole). Staff can also add requests to Let Us Know for someone over the phone or in the office if they do not have access to a computer. Each category in Let Us Know is assigned to the appropriate staff member to handle so citizens don't have to figure out what department to contact for an issue they need to report on.

*** Please contact individual staff members prior to the meeting if possible for more detailed information.**

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS

STAFF REPORT

MEETING DATE: December 4, 2013

ITEM: B-1

SUBJECT: North Coast Transit Surveys' Findings and Recommendations

SUMMARY

This report follows the October 2013 update on outreach performed along the North Coast, meant to gather feedback on the survey findings. This survey effort began in April 2013 (all RTA routes and Morro Bay Transit) and ended in mid-July (seasonal Morro Bay Trolley); it was led by a consultant team. The small contract was funded by a Federal Transit Administration (FTA) Section 5304 rural grant at no cost to the 2 participating operators: respectively RTA and Morro Bay. Both supplied historical data, gave input on surveys design, reviewed interim products and helped SLOCOG with the outreach.

The Executive Summary (Page B-1-4) gives a recap on services surveyed & major transfer points and highlights key findings/recommendations by service, shown below. The full report is at www.slocog.org.

RTA

- a. Revise Route 14 to better coordinate with Cuesta bell times. Review Route 12 schedule to determine if changes can be made to better meet bell schedules without significantly disrupting transfers.
- b. Consider adding later weekday evening service on both Routes 12 and 14.
- c. Consider a SMART card to attract less frequent transit users at Cuesta.
- d. Consider direct service between Cuesta College and the Cal Poly campus.
- e. No service expansion is needed on Route 15 (Morro Bay-Cambria) due to low demand, low fare revenue and high cost.

Morro Bay

- a. Morro Bay Transit: Consider adding stops to make the route more visible. Stops should be included every few blocks in the Main Street/downtown area.
- b. Morro Bay Trolley: 1) Operate per the published route and schedule. 2) Ensure a lunch relief driver is available for all service days.
- c. Morro Bay Trolley: 1) Keep published schedules and websites up to date, and date materials that are published. 2) Regularly supply local tourism outlets and parks with current schedule information.

RECOMMENDATION

Staff: Accept 2013 North Coast Transit Surveys' Findings and Recommendations, and integrate into future Short Range Transit Plan

SSTAC: Concur with staff recommendations with need for clarification on new Cuesta fare media

TTAC: Concur with staff recommendations

CTAC: Concur with staff recommendations

BACKGROUND

North Coast Outreach

During the April surveys performed by interns, the consultant led intercept surveys on the Cuesta campus over a 2-day period. A frequent comment was that one barrier to bus transit use is the low cost of an on campus parking permit (less than \$20 for a quarter) compared to the RTA 31 day pass even after the \$5.00 discount offered by the College. After the draft survey report release, survey results were presented to several groups as follows:

- August 22nd: Los Osos Citizens Advisory Council (LOCAC)-focus on RTA Route 12; questions were raised about the number of RTA bus stops within the community. Overall the participants were satisfied with the frequency of service.
- September 4th: Cayucos Citizens Advisory Council-focus on RTA Route 15; the Council was surprised by the large number of Route 15 riders without access to a car. Overall the Council supported the current level of service along this part of SR 1.
- September 12th: Cuesta Student Senate-focus on RTA Routes 12 and 14; very few members of the Senate actually rode the bus or knew enough about it to use it. Question was raised about a fare media accepted both on RTA and SLO Transit, which exists, but is not sold at the campus outlet.
- November 4th: Public Works Advisory Board in Morro Bay-focus on local services; City staff asked for comments from the members by early November. No comments were received, possibly because this was put on the Consent agenda.
- November 20th: North Coast Citizens Advisory Council (Cambria)-focus on trolley/RTA Route 15; most members were more familiar with the trolley than RTA Route 15. Suggestions were: increase RTA visibility and present the benefits and savings from transit, promote Regional Rideshare role and the Transit Trip Planner to understand how to use Route 15, and work with the Tourism Bureau to bring the trolley to special events all year, not just in the summer.

What changed since the 2006 North Coast Transit Plan?

One reason for doing the 2013 North Coast Surveys was the need to assess the current customers' profile and how responsive are services to their needs. Other reasons were to assess how well the services are performing, where are major transfers and update other factors on customer satisfaction and desired improvements by service.

Multiple changes both by the RTA and Morro Bay took place since 2006. Regional changes were: 1) Eliminate the need to transfer in Morro Bay to reach Los Osos, coming from San Luis Obispo or Cuesta; 2) Add Route 14 between downtown SLO and the campus to supplement Route 12, resulting in 30 minute headways at busiest times; 3) Expand Route 15 to Cambria from 3 to 5 daily roundtrips. Local changes were: 1) Restructure the Morro Bay trolley into 3 routes and 2) Replace the Dial-A-Ride with a local weekday only one-way fixed-route deviation.

FINDINGS

Highlights from Passengers' On Board Surveys

- Morro Bay Transit: 1) 88% of riders walked to the bus; 2) 48% of riders take the bus daily, while 41% ride 2 to 4 days a week; 3) 39% transfer to RTA Route 12, while 4% transfer to RTA Route 15; 4) 72% of riders had no car available, while 46% had no drivers' license; 5) 58% of riders are 25 to 61 years old; 6) 36% of riders would like Saturday service, while 26% would like Sunday service; 7) Overall the service rated 4.5 (scale of 1 to 5).

- Morro Bay Trolley: 1) 93% walked to the trolleys 2) 33% of the trips were for sightseeing and another 31% recreational/social; 3) 48% just "came for a visit", while 42% were first-time riders; 4) 87% were not local residents; 5) 58% were 25 to 61 years old, 17% 62 to 74 years old and 11% 13 to 18 years old; 6) Overall the service rated 4.5.
- RTA Route 12: 1) 48% of respondents walked to the bus, while 26% transferred from another bus and 15% biked; 2) 46% of respondents rode daily, while another 40% rode two to four days a week; 3) 64% of the riders had no car available and 38% had no drivers' license; 4) 39% were 19 to 24 years old and 41% were 25 to 61 years old; 5) 39% of riders went to school/college and 35% to work; 6) Transfers were made mostly to other RTA routes in downtown San Luis Obispo with only 11% to SLO Transit, and less than 3% to Morro Bay Transit; 7) Overall the service rated 3.9, with one of the lowest rated factor for service end time.
- RTA Route 14: 1) 94% of respondents were students and 91% were going to school; 2) 68% of respondents were between age 19 and 24; 3) 75% of respondents did not have a car available; 4) Most transfers were onto RTA Route 10 (South County) & SLO Transit Routes 3 and 4 (southeast and southwest parts of the City); 5) 60% of riders took the bus daily, while 37% did so two to four days a week; 6) 83% of respondents came from SLO with no clear geographic pattern among other origins; 7) Overall the service rated 4.0 with fares ranked the lowest..
- RTA Route 15: 1) 21% of respondents were going to school/college, while 36% were going to work; 2) Most transfers took place in Morro Bay with RTA Route 12 and very few onto Morro Bay Transit; 3) 62% had no car available and 46% had no drivers' license; 4) 50% walked to the bus, 22% transferred from other buses and 15% biked; 5) Overall the service rated 4.3.

Staff report prepared by Eliane Wilson

North Coast Transit Surveys 2013

Final Draft Report Executive Summary

Prepared for the

San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, California 93401
805 ♦ 781-4219

Prepared by

LSC Transportation Consultants, Inc.
2690 Lake Forest Road, Suite C
P.O. Box 5875
Tahoe City, California 96145
530 ♦ 583-4053

November 11, 2013

LSC Ref. 137060



Executive Summary

PURPOSE AND BACKGROUND

On behalf of the San Luis Obispo Council of Governments (SLOCOG), a Transit Ridership Survey was conducted for fixed route transit services serving the North Coast region of San Luis Obispo County. These services include Morro Bay Transit, Morro Bay Trolleys and selected routes on San Luis Obispo Regional Transit Authority (RTA). Additionally, an outreach survey was conducted at Cuesta College. The purpose of the surveys was to gain a better understanding of transit ridership characteristics, passenger needs and opinions, travel patterns (including transfers between buses) and potential opportunities for improvements. The survey was planned and directed through a coordinated effort between LSC Transportation Consultants, Inc., SLOCOG, RTA, and Morro Bay Transit staff from February to October 2013.

NORTH COAST TRANSIT SERVICES

The North Coast of San Luis Obispo County is served by a combination of transit services:

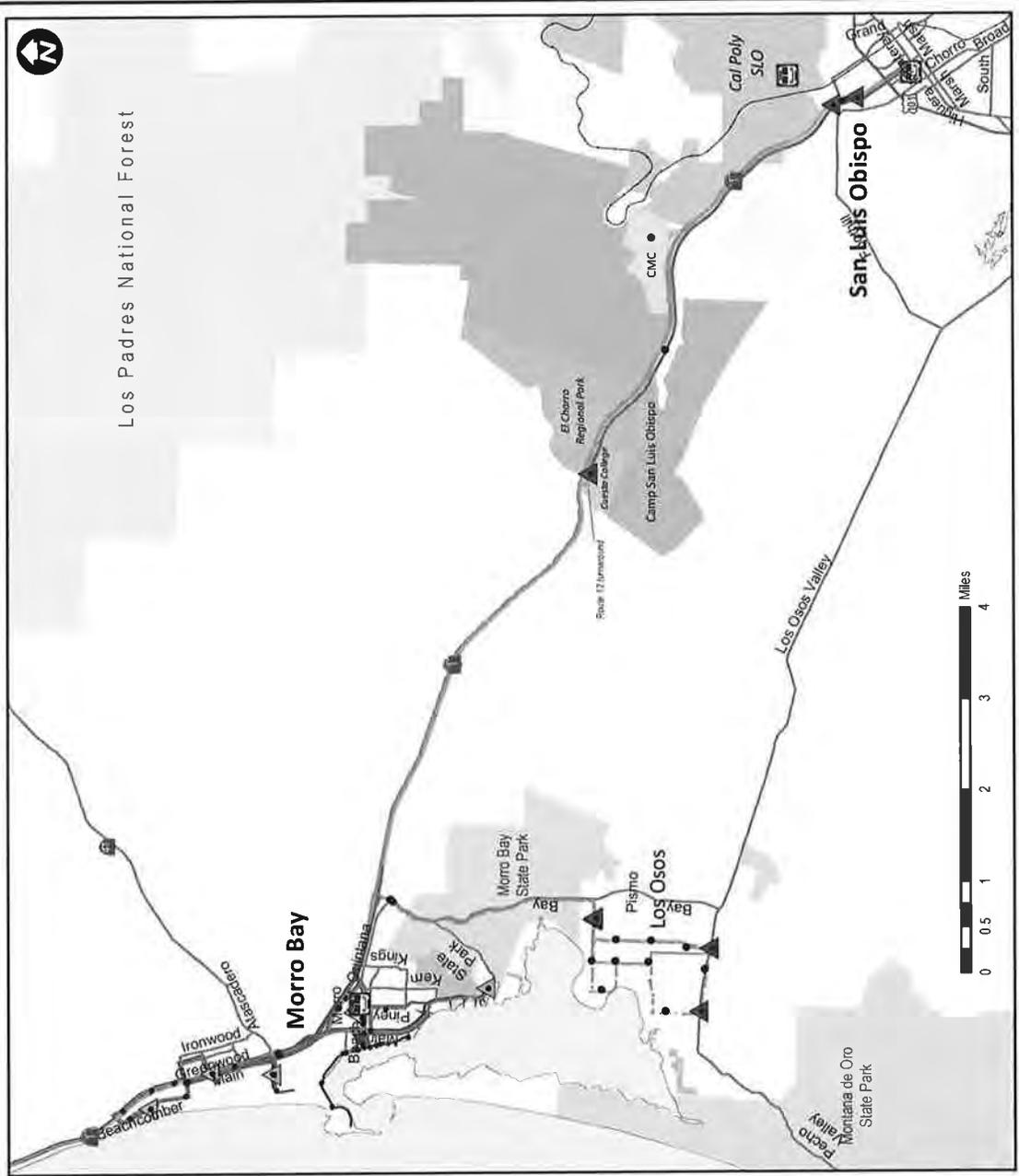
- RTA Route 12: Operating between San Luis Obispo and Los Osos via Cuesta College.
- RTA Route 14: Providing service from San Luis Obispo to Cuesta College during school sessions.
- RTA Route 15: Operating along the coast between Morro Bay and San Simeon.
- Morro Bay Transit: Providing a fixed route within Morro Bay, with on-call deviations.
- Morro Bay Trolley: A summer trolley service with three routes serving Morro Bay and popular campgrounds.
- A number of community and regional services, including the Cambria Community bus, RTA Runabout (ADA complementary paratransit), Ride-On North Coast Senior Shuttle, and the Cayucos Senior van.

A map of the existing services is shown in Figure 1. There are transfer opportunities at the Government Center in San Luis Obispo (between RTA Routes 12/14 and RTA Routes 9/10, as well as between RTA and SLO routes); and at Morro Bay Park (between RTA Route 12, RTA Route 15, Morro Bay Transit and summer Morro Bay Trolleys).

SURVEY EFFORTS

Onboard surveys were conducted on Morro Bay Transit, and on RTA Routes 12, 14 and 15 in late April/early May of 2013. Surveys included opinion surveys, boarding and alighting counts, on-time performance surveys, and observations of transfer activities. Outreach surveys were also conducted on the Cuesta College campus in the spring to solicit input from passers-by on their transit habits and desires for transit services to and from the college. Finally, additional onboard opinion surveys and boarding / alighting counts were conducted on the Morro Bay Trolleys in July 2013.

Figure 1
North Coast Transit Service
RTA Routes 12-14-15, Morro Bay Transit, and Cambria Trolley



Legend

Regional and Local Transit Routes

- ~ RTA Route 12, Short (SLO-MB-LO-MB-SLO)
- ~ RTA Route 12, Long (SLO-MB-LO-MB-SLO)
- ~ RTA Route 14 (SLO to Cuesta College)
- ~ RTA Route 15 (Morro Bay to Hearst Castle)
- ~ Cambria Trolley (serviced by RTA)
- ~ Morro Bay Transit: Fixed Route
- ~ Morro Bay Trolley

Regional and Local Transit Stops

- ▲ RTA stops, time points
- RTA stops, non-time points
- ▲ Local transit stops, time points
- Local transit stops, non-time points

☐ Transit Center

Roadways

- ~ Freeway and Expressway
- ~ Rural 2-Lane Highway
- ~ Major Roadways
- ~ Union Pacific Railroad
- ~ Regional Parks and Golf Courses

☐ City limits

☐ Unincorporated communities



Map purpose: North Coast Transit Survey RFP
 Map created by: Geoffrey Chiappella, SLOCOG
 Date created: January 4, 2013

SURVEY FINDINGS AND RECOMMENDATIONS

The survey was an extensive effort to collect data on all runs of all routes over the equivalent of one full weekday of service. While this gives a good indication of operations and provides valuable information, it should be emphasized that this is a "snapshot" of services. Nonetheless, the results are helpful in determining passenger demographics, general travel patterns, on-time performance issues, and etcetera. Highlights of the surveys and recommendations are summarized as follows.

RTA Routes 12, 14 and 15

Route 12 and 14 schedules do not fit the Cuesta College Bell Schedules – Revise the Route 14 schedule (which is a route largely not dependent on other bus schedules) to better coordinate with Cuesta College bell times. Review the Route 12 schedule to determine if changes can be made to better meet bell schedules without significantly disrupting important transfer opportunities.

The most often requested improvement on Routes 12 and 14 is for later weekday service – If RTA has the opportunity to expand service, it should consider later weekday service as a priority.

Route 15 riders cited increased frequency as a top desire – Due to the low ridership, low fare revenue, and high cost of Route 15, it is not practical to expand service on this route.

Morro Bay Transit

Ridership is concentrated at a few stops – Morro Bay should consider adding additional stops to make the route more visible. There are no stops located along Main Street in Morro Bay, even though it is served by the route. Stops should be included every few blocks in this area.

Morro Bay Trolley

Drivers did not maintain a consistent schedule or route, partially due to a lack of a relief driver – Operate according to the published route and schedule, and ensure a lunch relief driver is available for all service days.

Several versions of the schedule were available. Web information and schedules at trolley stops had outdated information. Local park staff did not provide current information to campers – Keep published schedules and websites up to date, and date materials as they are published. Regularly supply local tourism outlets and parks with current schedule information.

Transfer Surveys

Transfer data was obtained through onboard counts (by asking boarding passengers what bus they just transferred from) and from onboard surveys. The largest number of transfers in San Luis Obispo was found to be between RTA Routes 9 and 12, followed closely by transfers between RTA Routes 10 and 12. Of passengers transferring to board Route 12, 48 percent transferred from Route 9 and 40 percent transferred from Route 10, with only 12 percent

transferring from SLO routes. Over all RTA routes surveyed, only approximately 10 percent of those transferring to RTA buses in San Luis Obispo transferred from SLO routes. In Morro Bay, 91 percent of transfers were between RTA Route 12 and RTA Route 15, with 9 percent occurring between RTA buses and Morro Bay services.

Cuesta College Outreach

Two comments were made in regards to the cost of service being high for infrequent transit users (students or faculty on a two or three day per week schedule) – Consider offering a smart card fare to attract less frequent transit users.

Several people stated they wished there were a direct bus to the Cal Poly campus – Consider direct service between the Cuesta College campus and the Cal Poly campus.

RTA and SLOCOG were hoping to reach non-riders through the intercept surveys. However, mostly current riders stopped by the information booths – For future surveying, coordinate with College staff to create a campus-wide online survey. Offer incentives for completing the survey among non-riders. The intercept survey used bus passes as incentives, but this was not necessarily valuable to non-users.



AGENDA NO: C-1

MEETING DATE: April 16, 2014

Staff Report

TO: Public Works Advisory Board **DATE: April 10, 2014**

FROM: Barry Rands, PE – Associate Engineer

SUBJECT: City Participation in FEMA’s Community Rating System

RECOMMENDATION

That the Public Works Advisory Board receive a presentation about the City’s participation in FEMA’s Community Rating System and its impact of flood insurance rates.

FISCAL IMPACT

Other than additional staff responsibilities in maintaining our rating, there is no fiscal impact to the City. Property owners in Morro Bay receive up to a 10% discount on their insurance rates.

SUMMARY

City participation in FEMA’s Community Rating System (CRS) has resulted in a number of benefits to citizens of Morro Bay.

BACKGROUND AND DISCUSSION

The National Flood Insurance Program’s (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premium rates are discounted in participating communities to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:

1. Reduce flood damage to insurable property;
2. Strengthen and support the insurance aspects of the NFIP, and
3. Encourage a comprehensive approach to floodplain management.

Morro Bay applied for participation in 2012 and is the second city in the county to participate in the CRS. Participation levels are ranked by a point system which results in a Class Rating and corresponding percentage discount in insurance premiums. We are ranked at level 8, which awards property owners with a 10% premium discount. In 2012, residents and businesses in Morro Bay paid over \$165,000 in flood insurance premiums. The discount equates to a \$16,500 savings in annual premiums. Another benefit to property owners is lower insurance rates for new structures that are built according to our 2012 floodplain ordinance.

Prepared By: BR Dept Review: RL

ATTACHMENTS

Community Rating System Fact Sheet



Community Rating System

March 2014

The National Flood Insurance Program (NFIP) Community Rating System (CRS) was implemented in 1990 as a voluntary program for recognizing and encouraging community floodplain management activities exceeding the minimum NFIP standards. Any community in full compliance with the minimum NFIP floodplain management requirements may apply to join the CRS.

1,296 Communities Participate in the CRS

Nearly 3.8 million policyholders in 1,296 communities participate in the CRS by implementing local mitigation, floodplain management, and outreach activities that exceed the minimum NFIP requirements.

Under the CRS, flood insurance premium rates are discounted to reward community actions that meet the three goals of the CRS, which are: (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management.

Although CRS communities represent only 5 percent of the over 22,000 communities participating in the NFIP, more than 67 percent of all flood insurance policies are written in CRS communities.

CRS Classes

The CRS uses a Class rating system that is similar to fire insurance rating to determine flood insurance premium reductions for residents. CRS Classes* are rated from 9 to 1. Today, most communities enter the program at a CRS Class 9 or Class 8 rating, which entitles residents in Special Flood Hazard Areas (SFHAs) to a 5 percent discount on their flood insurance premiums for a Class 9 or a 10 percent discount for Class 8. As a community

engages in additional mitigation activities, its residents become eligible for increased NFIP policy premium discounts. Each CRS Class improvement produces a 5 percent greater discount on flood insurance premiums for properties in the SFHA.

Best of the Best

Four communities occupy the highest levels of the CRS. Each has developed a floodplain management program tailored to its own particular hazards, character, and goals. Under these programs, each community carries out numerous and varied activities, many of which are credited by the CRS. The average discount in policyholder premiums varies according to a community's CRS Class and the average amount of insurance coverage in place. Some highlights:

Roseville, California was the first to reach the highest CRS rating (Class 1). Damaging floods in 1995 spurred Roseville to strengthen and broaden its floodplain management program. Today the City earns points for almost all CRS creditable activities. The average premium discount for policies in the Special Flood Hazard Area (SFHA) is \$832.

Comprehensive planning for floodplain management has been a key contributor to **Tulsa, Oklahoma's** progress in reducing flood damage from the dozens of creeks within its jurisdiction. The City (Class 2) has cleared more than 900 buildings from its floodplains. The average premium discount for policies in the SFHA is \$583.

King County, Washington (Class 2) has preserved more than 100,000 acres of floodplain open space and receives additional CRS credit for maintaining it in a natural state. The average premium discount for policies in the SFHA is \$650.

Pierce County, Washington (Class 2) maintains over 80 miles of river levees. County officials annually mail informational brochures to all floodplain residents. The average premium discount for policies in the SFHA is \$666.

* CRS Class changes occur on May 1 and October 1 of each year. The data contained in this fact sheet were current through May 2014.

CRS Credit

A community accrues points to improve its CRS Class rating and receive increasingly higher discounts. Points are awarded for engaging in any of 19 creditable activities, organized under four categories:

- Public information
- Mapping and regulations
- Flood damage reduction
- Warning and response.

Formulas and adjustment factors are used to calculate credit points for each activity.

The communities listed below are among those that have qualified for the greatest premium discounts:

Class 1: Roseville, California

Class 2: Tulsa, Oklahoma
King County, Washington
Pierce County, Washington

Class 3: Sacramento County, California

Class 4: Fort Collins, Colorado
Skagit County, Washington
Snohomish County, Washington
Charleston County, South Carolina
Maricopa County, Arizona
Louisville-Jefferson County, Kentucky
Thurston County, Washington

Benefits of the CRS

Lower cost flood insurance rates are only one of the rewards a community receives from participating in the CRS. Other benefits include:

- Citizens and property owners in CRS communities have increased opportunities to learn about risk, evaluate their individual vulnerabilities, and take action to protect themselves, as well as their homes and businesses.
- CRS floodplain management activities provide enhanced public safety, reduced damage to property and public infrastructure, and avoidance of economic disruption and loss.
- Communities can evaluate the effectiveness of their flood programs against a nationally recognized benchmark.

- Technical assistance in designing and implementing some activities is available to community officials at no charge.
- CRS communities have incentives to maintain and improve their flood programs over time.

How to Apply

To apply for CRS participation, a community must initially inform the Federal Emergency Management Agency (FEMA) Regional Office of its interest in applying to the CRS and will eventually submit a CRS application, along with documentation that shows it is implementing the activities for which credit is requested. The application is submitted to the Insurance Services Office, Inc. (ISO)/CRS Specialist. ISO works on behalf of FEMA and insurance companies to review CRS applications, verify communities' credit points, and perform program improvement tasks.

A community's activities and performance are reviewed during a verification visit. FEMA establishes the credit to be granted and notifies the community, the State, insurance companies, and other appropriate parties.

Each year, the community must verify that it is continuing to perform the activities that are being credited by the CRS by submitting an annual recertification. In addition, a community can continue to improve its Class rating by undertaking new mitigation and floodplain management activities that earn even more points.

CRS Training

CRS Specialists are available to assist community officials in applying to the program and in designing, implementing, and documenting the activities that earn even greater premium discounts. A week-long CRS course for local officials is offered free at FEMA's Emergency Management Institute (EMI) on the National Emergency Training Center campus in Emmitsburg, Maryland, and can be field deployed in interested states. A series of webinars is offered throughout the year.

For More Information

A list of resources is available at the CRS website: www.fema.gov/national-flood-insurance-program-2/community-rating-system For more information about the CRS or to obtain the CRS application, contact the Insurance Services Office by phone at (317) 848-2898 or by e-mail at nfipcrs@iso.com.



AGENDA NO: C-2

MEETING DATE: April 17, 2014

Staff Report

TO: Public Works Advisory Board **DATE:** April 12, 2014

FROM: Rob Livick, PE/PLS – Public Services Director/City Engineer

SUBJECT: Review of Presentation from Siemens regarding Energy/Cost savings project and make recommendations to the City Council

RECOMMENDATION

That the Public Works Advisory Board reviews the presentation and makes any recommendations to the City Council for their consideration.

FISCAL IMPACT

The proposed project has significant cost and resource savings for the City.

DISCUSSION

The following is from the executive summary of the report:

The City of Morro Bay pays for energy to maintain a comfortable environment for its employees. To counter the rising energy bills, the City performed facility improvement measures that included changing to newer generation T-8 lighting at all their city building. Like most cash-strapped California Cities, the City struggles with finding the funds to finance a more energy efficient infrastructure and hedge against climbing energy costs.

Based upon a preliminary survey of City of Morro Bay buildings, Siemens Industry, Inc. (Siemens) finds it is feasible to provide a program of energy conservation measures and capital improvements to save the City significant funds. Depending on the type of financing chosen, preliminary calculations indicate that the City can reduce its annual utility bills and operating costs and increase (annual) water revenue by an estimated amount of \$59,000.

Preliminarily, Siemens recommends the following FIMs:

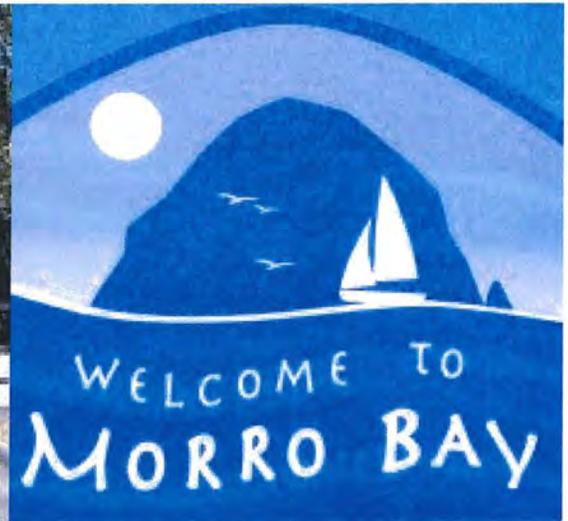
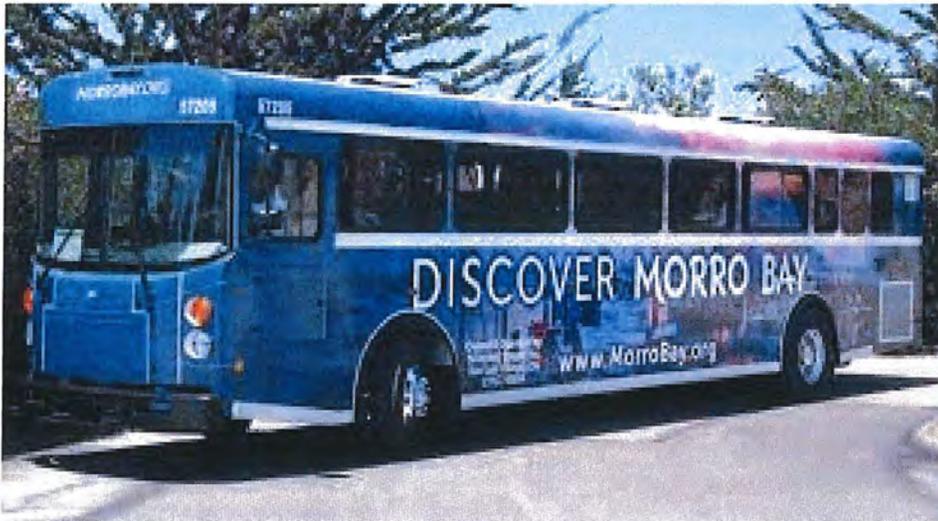
- Water Meter Replacement and AMR System
- Interior Lighting Controls
- Heating, Ventilation and Air Conditioning (HVAC) Systems
- HVAC Controls
- Solar Maintenance

Prepared By: RL Dept Review: RL

The combination of the energy and water efficiency measures is a strategy to put the City in top energy shape and to make the City financially and environmentally sustainable. In the following pages, Siemens is pleased to present City of Morro Bay with the details of our preliminary feasibility study and recommendations, keeping the City's objectives and goals at the center of our proposed solution. On August 26th of 2013, select members of the Siemens team had the privilege to visit the City of Morro Bay. Follow up interviews were conducted with select staff members. This report presents Siemens' recommendations to the benefit of the City.

ATTACHMENTS

Report from Siemens dated October 28, 2013.



SIEMENS

Energy Services and
Facilities Modernization Program

City of Morro Bay

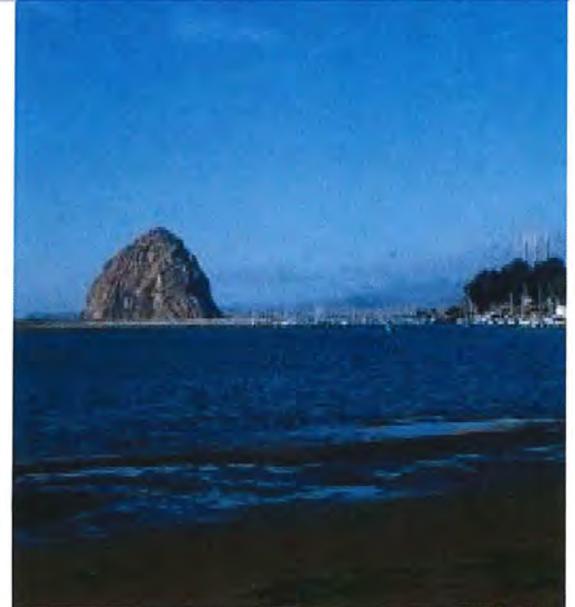
Siemens Industry, Inc.,
Building Technologies
Energy & Environmental Services

October 28, 2013

Business Development Manager
Ernest Kim (714) 425-7140
Ernest.Kim@Siemens.com

Sr. Energy Engineer
Donald Page (714) 454-2622
Donald.Page@Siemens.com

Energy Engineer
Sirisha Nerella (714) 478-8437
Sirisha.Nerella@Siemens.com



Contents

EXECUTIVE SUMMARY	3
INTRODUCTION.....	3
PROGRAM GOALS AND OBJECTIVES.....	4
ENERGY SERVICES PROGRAM OVERVIEW	5
GENERAL FACILITY DESCRIPTION	6
UTILITY DATA ANALYSIS.....	8
FACILITY IMPROVEMENT MEASURES.....	11
SUSTAINABILITY AND ENVIRONMENTAL STEWARDSHIP.....	17
NEXT STEPS	18
Development and Partnership Process	18
Thank You	20
QUALIFICATIONS:	21
Overview.....	21
Siemens Energy and Environmental Solutions	25
Ongoing Services	26
Experience and References	26
Organizations and Memberships	27
Accreditations.....	28

EXECUTIVE SUMMARY

The City of Morro Bay pays for energy to maintain a comfortable environment for its employees. To counter the rising energy bills, the City performed facility improvement measures that included changing to newer generation T-8 lighting at all their city building. Like most cash-strapped California Cities, the City struggles with finding the funds to finance a more energy efficient infrastructure and hedge against climbing energy costs.

Based upon a preliminary survey of City of Morro Bay buildings, Siemens Industry, Inc. (Siemens) finds it is feasible to provide a program of energy conservation measures and capital improvements to save the City significant funds. Depending on the type of financing chosen, preliminary calculations indicate that the City can reduce its annual utility bills and operating costs and increase water revenue by an estimated amount of \$59,000.

Preliminarily, Siemens recommends the following FIMs:

- Water Meter Replacement and AMR System
- Interior Lighting Controls
- Heating, Ventilation and Air Conditioning (HVAC) Systems
- HVAC Controls
- Solar Maintenance

The combination of the energy and water efficiency measures is a strategy to put the City in top energy shape and to make the City financially and environmentally sustainable.

In the following pages, Siemens is pleased to present City of Morro Bay with the details of our preliminary feasibility study and recommendations, keeping the City's objectives and goals at the center of our proposed solution. On August 26th of 2013, select members of the Siemens team had the privilege to visit the City of Morro Bay. Follow up interviews were conducted with select staff members. This report presents Siemens' recommendations to the benefit of the City.

INTRODUCTION

The City of Morro Bay has asked Siemens Industry, Inc. (Siemens) to preliminarily propose the feasibility of providing a program of energy conservation and capital improvements to the City. Looking to the most energy and operation consumptive systems, Siemens has included the City's lighting systems, mechanical heating, ventilation and air conditioning systems (HVAC) as well as the water meter replacement with AMR Technology.

SIEMENS

The energy service program in this preliminary proposal is a guaranteed program. This means that, once our final engineering analysis has been conducted, we will stipulate how much the City will realize in terms of energy costs savings and operational costs savings. Our financial guarantee will be based on our engineered savings.

The guarantee will be an annual reconciliation of our engineered energy and operational savings versus the actual savings. If the energy services program exceeds our estimated savings, all the increased savings dollars remain with the City. If the energy services program does not meet our guaranteed savings, Siemens will make up the difference between the actual operational and energy savings and our guaranteed amount. This reconciliation would be in the form of a direct payment to the City of Morro Bay.

In preparation for this preliminary proposal, Siemens performed facility surveys at Community Center, Public services Building, City Hall, veterans Memorial Building, Youth Facility, Police Department and Fire Station. Additionally, we interviewed City personnel who acknowledge that energy conservation measures have saved the City impactful funds in the past and, once renewed, will continue to save into the future. Siemens is grateful for the time and resources provided by Matt Bishop, along with on-site specialists serving the buildings.

Siemens has received utility expenditures for the entire City, as well as facility age, square footage data, and the hours of operation. Based on the site visits and the referenced data, Siemens has built an accurate picture of the energy and operational conditions in the City and asserts that this preliminary proposal is an excellent foundation for a mutually beneficial energy services program for the City of Morro Bay.

Siemens is confident that we can provide an energy services program which can modernize and upgrade the City's infrastructure and affect the budget through energy and operational savings, generated with specific energy and operational efficiency measures at the City.

PROGRAM GOALS AND OBJECTIVES

Siemens gauges success by its ability to meet the goals and objectives of its customers. Through the course of our initial time getting to know Morro Bay, the following goals and objectives have been identified:

- Reduce costs
- Fund upgrades
- Reduce energy usage
- Expand awareness of environment
- Minimize risk

ENERGY SERVICES PROGRAM OVERVIEW

Many Cities choose to enter into an energy services and facilities modernization program to improve the facilities, reduce annual utility bills and operational costs and to benefit the City stakeholders. The hidden expense of aging equipment and building technologies can quickly add up and affect your City's bottom line. Installing new, efficient equipment is the answer to lowering your facilities' energy use and reducing greenhouse gas emissions. Accessing capital improvement funds is the biggest impediment to the solution, particularly for California's cash-strapped Cities.

Siemens Energy Services Program is a guarantee-based program that allows Cities to make capital improvements and facility upgrades with energy savings. The program uses savings resulting from the energy efficiency upgrades to repay for cost of the project. The design, installation, cost guarantee and performance financial risk is shifted from the City and guaranteed by Siemens.

Siemens Energy Services Program has been used by Cities for many years and is a smart, affordable and popular approach to implementing required improvements during these economically challenging times. Due to the lack of State-provided Deferred Maintenance matching funds, many facility managers and Boards have turned to Siemens Energy Services Program to combat rising energy and infrastructure repair costs by replacing aging equipment and leveraging the future savings to pay for the improvements, all while transferring the risk.

The State of California is committed to making the implementation of energy efficiency projects easier for public entities to procure. As such, California Code 4217 allows Cities to select and negotiate a turn-key performance contracting energy services company based on the City's preference, avoiding the lengthy and costly bid process, and allows for an expedited program to realize savings and transfer risks. This code has been regularly used by Cities and other public institutions to realize the benefits and implement a custom, co-authored program solution to meet their individual needs.

Key Reasons Cities enter into a Performance-based energy projects:



Our mission is to help our customers manage their buildings' energy costs, improve reliability and enhance performance while having a positive impact on the environment.

SIEMENS

- **Limited (or eliminated) Budgets** - With rising energy costs and shrinking budgets, many Cities do not have the money to maintain their facilities and meet current repair and preventative maintenance needs. Typically, classroom improvements have been significantly delayed.
- **Transfer Risk** - In these times there is NO room for error that results in negative impact on the school's general fund. Transferring the risk to a third party entity with the financial strength to deliver on the guarantees is critical.
- **Design, Installation, Cost and Performance Risk Eliminated**
No change orders - This is an important cost control feature so the City can ensure the cost will not increase throughout the duration of construction.
- **No upfront costs** - Cities typically can't afford the 6-8% to develop a capital program that addresses the energy equipment.
- **Turnkey/Sole Source Accountability** - California law unburdens the City by allowing this ease of procurement and providing one single point of responsibility for the entire project.
- **Reduced maintenance and operating costs** - With the installation of new energy efficient equipment and upgraded technologies, the cost to maintain and operate those systems will be dramatically reduced.
- **Ability to incorporate temporary assistance with maintenance programs** - Siemens recognizes the current economical challenges facing Cities and offers temporary assistance to help keep school systems maintained while staff may be limited.
- **Guarantees- Sustainable savings** - One of the key values Siemens Energy Services Program brings is a guaranteed assurance of savings year after year. If the savings are exceeded they go directly to your City's bottom line. *If Siemens misses the performance guarantee, we write you a check!*

GENERAL FACILITY DESCRIPTION

The City of Morro Bay is a waterfront city in San Luis Obispo County with an area of 10.32 square miles. City of Morro Bay is a full service city with its own Police Station and Fire Department. The water division is committed to providing safe and adequate potable water in a cost effective and dependable manner. They are also responsible for the upgrades and maintenance of all water system facilities. The water utility serves approximately 5,600 water meters which includes both residential and commercial.

To perform this study, a site investigation of the following sites was conducted by a team of engineers from the SIEMENS energy team.

Public Services Building: Public services Building is located at 955 Shasta Ave and has 28W T-8 fixtures with electronic ballasts throughout the building. There are no lighting occupancy sensors in this building. The building is served by 6 Goodman Carrier rooftop package units which are more than 15 years old. Presently the units are controlled by stand alone programmable thermostats.

Old Police Station: Old Police station is located on 850 Morro bay Blvd. The PD provides 24 hours a day, 7 days a week law enforcement services to the City. They have 28W T-8 fixtures with electronic ballasts and no occupancy sensors. This building is served by 2 Amana heating and air conditioning units which are more than 15 years old. The units are controlled by stand alone thermostats. They have a small brand new Fujitsu unit serving their computer servers.

Community Center: Community Center is located on 1001 Kennedy Way and has 28W T-8 fixtures with electronic ballasts. There are no lighting occupancy sensors in the building. The building is served by the 6 rooftop package units which are fairly new and in good condition. There is no building automation system and the units are controlled by stand alone thermostats. There are no motion detectors in this building. This location also has an 11kW solar system generating electric power for use at the community center.

Building Name and Address	Area (gross square feet)	Occupancy Schedule
Public Services Building 955 Shasta Ave	4,970	M-F 8 AM – 5 PM
Old Police Station 850 Morro bay Blvd	4,500	24hr, 7 days
Community Center 1001 Kennedy Way	19,289	Varies based on the events
City Hall 595 HARBOR ST	3,550	M-F 8 AM – 5 PM

SIEMENS

UTILITY DATA ANALYSIS

Siemens’ approach to developing energy projects begins with understanding where the customer currently stands with their energy consumption. The Utility Data Analysis (UDA) enables Siemens to “benchmark” the City’s usage, and understand the variations throughout the years.

ELECTRICITY

Pacific Gas and Electric (PG&E) provides electric service to City of Morro Bay. Electricity usage was calculated through a collection of a year’s worth of bills and industry experience understanding the monthly and seasonal variations. Siemens engineers looked at City Hall, Veterans Building, Youth Center, Fire Station, PD, Public Services Building and Community Center. City hall has only one small air conditioning unit and there is no air conditioning at veterans building and the youth center. Fire Station is a brand new building and hence we concentrated on the PD, Public Services Building and Community Center for our analysis.

Building	Rate Schedule	Annual Electricity Consumption	Annual Electricity Spend
		(kWh)	(\$)
Public Services Building 955 Shasta Ave	A1	21,150	\$ 3,853
Old Police Station 850 Morro bay Blvd	A6	74,852	\$ 13,594
Community Center 1001 Kennedy Way	NEMEXPM	49,680	\$ 10,495
City Hall 595 HARBOR ST	A1	57,203	\$ 10,205
Totals		202,885	\$ 38,147

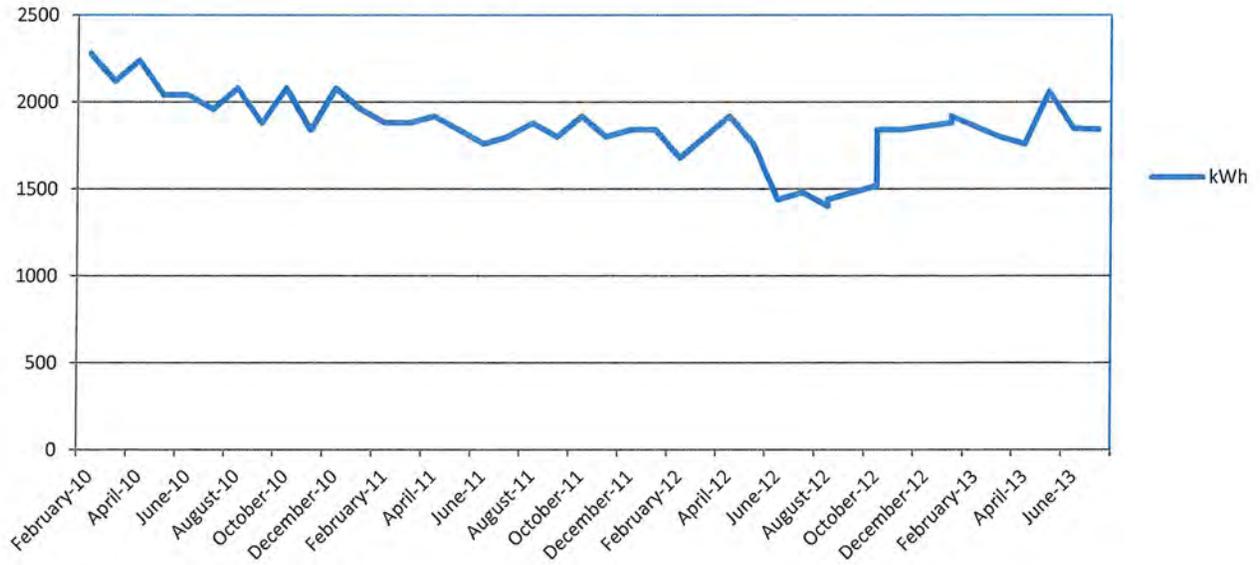
Table 1 – Annual Electricity Spending

Below, Siemens has graphically depicted the annual consumption. Seasonal variations indicate the typical pattern for office buildings.

SIEMENS



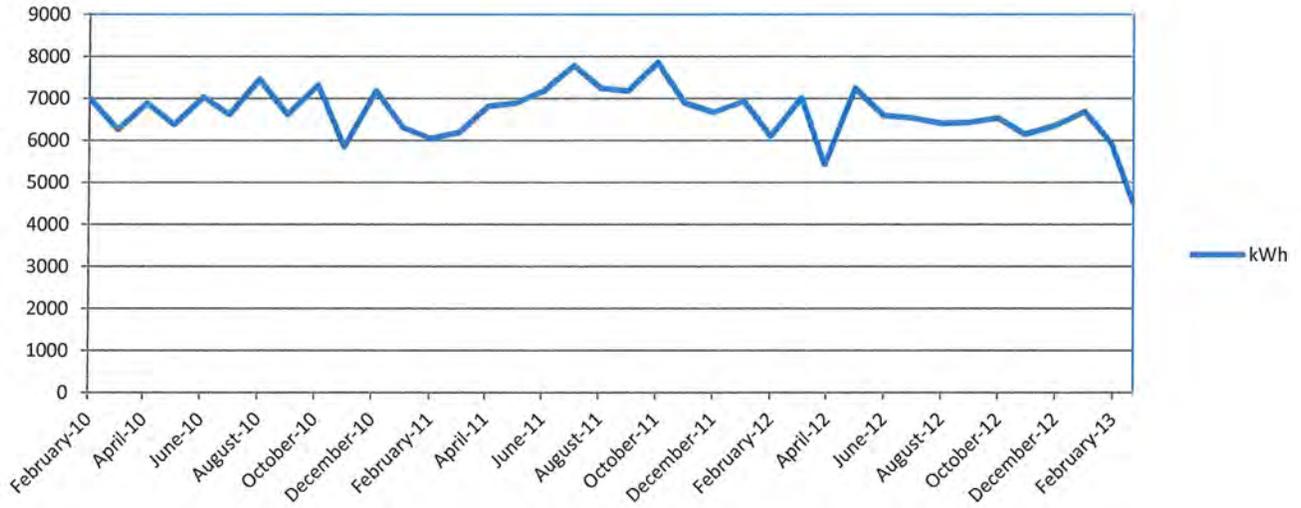
Public Services Building



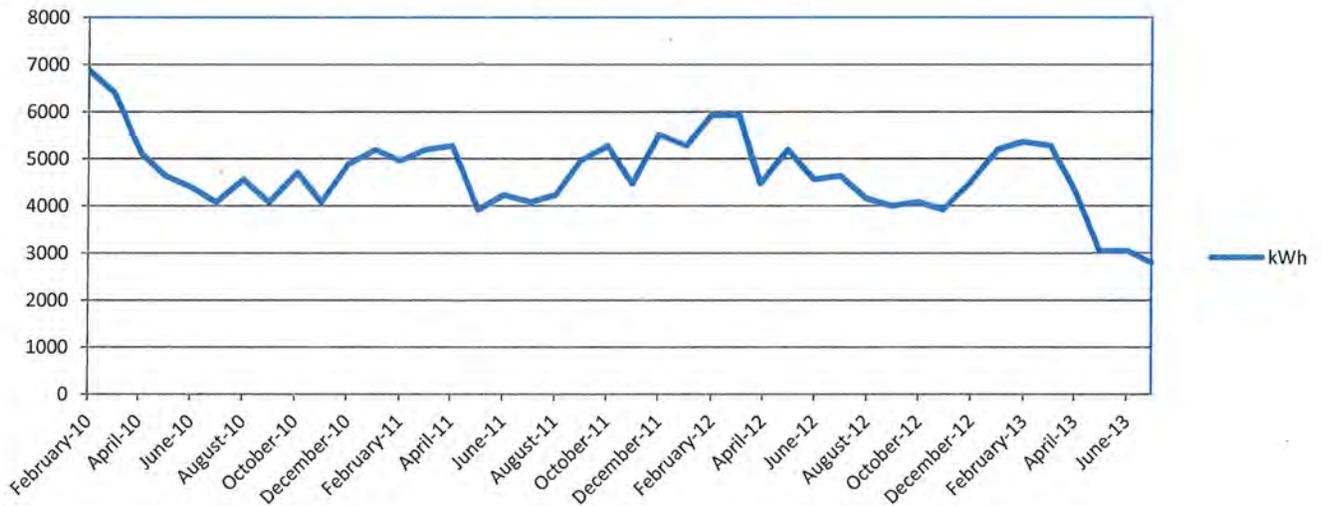
SIEMENS



PD Old



Community Center



NATURAL GAS

Siemens did not receive the natural gas bills from Pacific Gas and Electric in time of this analysis. Hence we assumed that the city is receiving service under GN-R1 rate schedule which is a small commercial and industrial rate. GN-R1 rates are used in calculating the gas savings in this report.

FACILITY IMPROVEMENT MEASURES

Facilities and equipment were inspected via a site visit to assess the general operation and condition of the buildings and preliminarily, Siemens recommends the following Facility Improvement Measures (FIMs) that will result in energy efficiency and conservation:

- Water Meter Replacement and AMR Technology
- Lighting Control Upgrade
- Package Unit Replacement
- Installation of Programmable Thermostats

These descriptions are provided to demonstrate the type of equipment modifications, installations, or replacements that Siemens Industry would consider as part of this project. Other improvements will be proposed at the time of a detailed audit.

FIM: Water Meter Replacement & AMR System

The fundamental principle behind the water meter retrofit FIM is the fact that observable decline in measurement efficiency of a water meter is predictable over time. Also, factors affecting this decline are measurable and repeatable.

The major factors influencing decline in meter measurement accuracy are cumulative quantity of water measured through the meter over its service life, and the quality of the metered water. Meter age is also a factor contributing to meter accuracy decline, but it is a secondary factor to the two factors mentioned above. Subsequently, age is typically not considered a primary factor in determining expected meter efficiency.

The white paper entitled, "Residential Water Meter Replacement Economics", by S. E. Davis, Sacramento, CA, 2005, is a case study of an Arizona based water district where the specific factors of cumulative water measured and meter age were evaluated in relation to one another. The conclusion of the paper was that cumulative water measured can be clearly shown as the most determining factor in estimating meter measurement accuracy. Age has historically been the parameter used as a simple benchmark used by meter manufacturers to gage meter wear, but age alone is not the most influential factor.

SIEMENS

Accordingly, the technical basis for this FIM resides in Siemens practical ability to accurately discern the status of existing meter accuracies from an analysis of existing historical meter records, and through meter accuracy tests performed on existing field water meters. These two parameters sufficiently benchmark existing meter conditions within a given water authority. Relying on the proven relationship between physical predictability in meter accuracy as a function of cumulative water measured, a profile or model of the efficiencies of the existing water district meter infrastructure can be constructed with confidence. Additionally, the predictability of future meter accuracy declines within newly installed meters can be benchmarked using the same methodology described above. A process can be developed that enables Siemens to develop payback, and measurement & verification (M&V) criteria around this FIM. Because of this, Siemens can guarantee and support this FIM.

The benefits for municipal customers implementing this FIM are:

- Revenue enhancement to the municipal water authority;
- Operational cost savings;
- Cost avoidance of future meter failure.

Siemens guarantees increased accuracy in meter readings through a replacement strategy of older existing water meters. Increased meter accuracy in turn has the effect of increasing the billable revenues for the City.

The increase billable can be further enhanced by an associated increase in sewerage charges where the charges are based on the measured water consumption. As the measured water consumption increases due to more accurate measurements, the sewerage charges also increase.

Operational costs can also be realized through reductions in customer meter inventories. This is attributable to the standardization around the newly installed meters. The Siemens meter warranty and replacement guarantee would not necessitate high meter inventories for the staff to accommodate meter failures.

Below are some of the benefits to the customer:

- more accurate billing;
- recovered revenue;
- fairness (new water customers do not bear the higher proportion of costs);
- risk reduction/persistence of revenue;
- reduction in labor requirements;
- Financial solution to funding issues.

Additionally, Automatic Meter Reading (AMR) is an innovative technology that allows water authorities to take multiple meter readings simultaneously, remotely and to various levels of automation; therefore, reducing additional costs associated with reading meters. There are two types of AMR technology, a fixed base and a drive by system. Fixed based systems, as the name implies, is a system of fixed based antennas that receive transmissions from all water

SIEMENS

meters to be read. The system collects all water meter readings and requires the least effort to perform these tasks. The second type of system is a drive by system which is currently a system already in practice in limited areas of the City. This system requires an operator to travel with a mobile data collector in a vehicle as the operator drives along a predetermined route that brings the collector in close proximity to each of the meters. This system is still automatic and offers the same level automatic reading accuracy but does require additional costs to operate.

Siemens recommendation consists of retrofitting and/or replacing the water meters currently found at each location with a transponder for remote communication. Siemens is recommending a fixed based AMR system for City of Morro Bay. The AMR technology will have a significant and positive impact on operational costs, reading errors, worker compensation costs, risk and liabilities, thus meter reading efficiency is significantly improved.

The turnkey solution proposed by Siemens includes:

- Install fixed based AMR system;
- download of billing account data from the billing system;
- installation of meter endpoints;
- programming of meter endpoints;
- installation of all boosters, repeaters, concentrators and system software;
- capture and recording of GPS coordinates for each meter location;
- upload of all critical billing account data back into the billing system;
- Commissioning/verification of the system.

Siemens will include added inventory of the dominant meter sizes for replacements and reactivations. The necessary auxiliary equipment such as curb stops, lids, nuts, boxes, bolts & gaskets will be provided as required. Siemens will also provide training and administrative support prior to project completion to ensure a functional system.

FIM: Lighting Control Upgrade



The city changed out all of their out dated lighting to the newer generation 28W T-8's to save on the energy. Presently the lights in the indoor spaces are controlled locally by wall switches. These switches allow the occupant to turn the light fixtures on and off as required. However, there are times when lights are left on even though the rooms are unoccupied. Siemens recommends installing motion/occupancy sensors to turn the lights on and off based on the use of the space. The sensors will be mounted strategically so that the entire room is sensed. The sensing device will be a dual technology infrared and ultrasonic device. This will sense both noise and motion. The sensors will have time and sensitivity

adjustments. Occupancy sensors are recommended in the Public Services Building, City Hall, Police Station and Community Center

FIM: Package Units Replacement

Currently there are direct expansion (D/X) package cooling units in need of replacement at Old Police station and Public Services Building. These systems have surpassed their useful life.

Morro Bay Public Services Building			
Manufacturer	Model #	Serial #	Tons
GOODMAN MANUFACTURING CO. LP.	PGB030050-1	9512822052	2.5
GOODMAN MANUFACTURING CO. LP.	PGB024050-1	9506802119	2
GOODMAN MANUFACTURING CO. LP.	PGB024050-1	9506802118	2
GOODMAN MANUFACTURING CO. LP.	PGB024050-1	9506802117	2
GOODMAN MANUFACTURING CO. LP.	PGB030050-1	9512822053	2.5
GOODMAN MANUFACTURING CO. LP.	PGB036050-1	9510803415	3

Morro Bay Police Dept Building			
Manufacturer	Model #	Serial #	Tons
AMANA HEATING AND AIR CONDITIONING	PGB60C0902E	911102811	5
AMANA HEATING AND AIR CONDITIONING	PGB48C0902E	9907211536	4



As D/X equipment ages and the condition of the equipment deteriorates the energy efficiency of these units also degrades. In recent years the energy efficiency of D/X equipment has improved due to mandates as well as manufacture improvements. D/X air-conditioning systems are rated by their Seasonal Energy Efficiency Ratios (SEER). The higher the SEER rating the more energy efficient the units are. Older units have average SEER ratings between 8-10 while new units have average SEER ratings of 12 or greater. Siemens recommends replacing all D/X equipment that has surpassed its useful life (15 years according to the

American Society of Heating Refrigeration and Air-conditioning Engineers (ASHRAE)) with new high efficiency units.

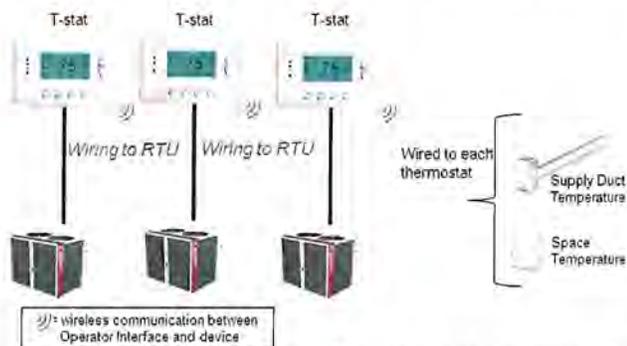
Benefits including:

- Reduced energy consumption
- Improved occupant comfort.
- Reduced complaints from occupants
- Reduced maintenance cost associated with the upkeep of the old units

Siemens recommends replacing the 2 aging package units at the old police station and 6 units at public service building.

FIM: Programmable Thermostats

Public Services Building, Old PD, City Hall and Community Center have stand alone thermostats which are used to control the heating ventilating and air-conditioning (HVAC) systems. A technician has to program each and every thermostat to make changes locally and generally left in the occupied mode during non-occupied hours.



For smaller buildings with less than 6 HVAC systems it may not be economically feasible to add the HVAC units to a system wide building automation system. Siemens recommends replacing the existing thermostats with programmable thermostats. These thermostats can be programmed for different temperature set points during occupied and unoccupied hours as well as be programmed for multiple occupied and unoccupied times during the week.

unoccupied hours as well as be programmed for multiple occupied and unoccupied times during the week.

Benefits including:

- Reduced energy consumption related to the HVAC equipment
- Prolonged equipment life due to a reduction in run hours.
- Local control of thermostat settings
- Ease of override if an occupant works during non typical hours
- Freeze protection due to setting back the thermostats rather than turning them off.

FIM: Solar Maintenance

Community Center has a PV System installed 2006. It is approximately 11.2kW DC system with 72 panels, SMA 2500 inverters, 8 strings – preliminary examination, we suspect some inverters may be failing or not functioning properly. Initial inspection shows panels severely soiled, including excessive bird droppings. Seagulls are naturally attracted to blue colored panels.



For optimal performance, solar arrays should be free of debris and soil. Siemens recommends performing an onsite diagnostic, re-commissioning of the system, and regular washing. Further investigation is highly recommended.

Benefits including:

- Increased performance
- Reduced energy consumption
- Lengthen lifespan of system
- Protect investment

SUSTAINABILITY AND ENVIRONMENTAL STEWARDSHIP

In addition to energy savings, the program would have a significant positive impact on the environment. Financial savings are not the only consideration in energy reduction. Working to reduce air pollutants is a worthy cause in an effort to make the Earth's environment sustainable for generations to come. Under the Clean Air Act, the EPA establishes air quality standards to protect public health and the environment. The EPA has set national air quality standards for six common air pollutants. These include:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO_x)
- Ozone (VOCs)
- Particulate Matter (PM)
- Sulfur Dioxide (SO₂)

Air quality improvements resulting from emission reductions are often standardized as car, coal and/or acres of trees equivalents. When an entity completes an energy efficiency project or a renewable energy installation, the emission reductions are calculated in this manner. The project emission summary is shown below with annual pollutant reductions.

SIEMENS

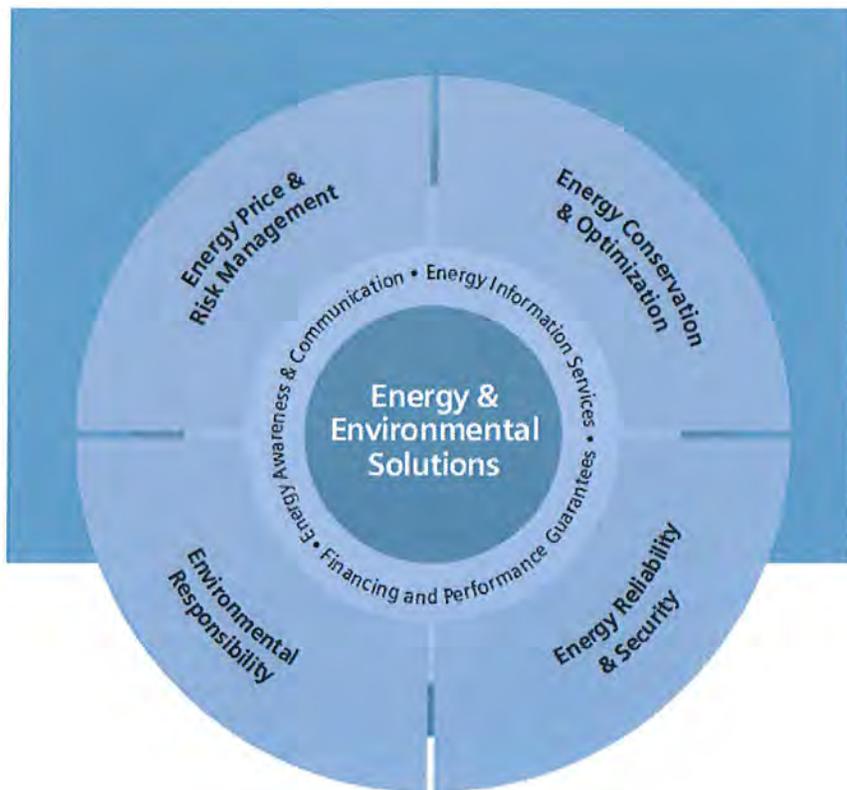
NEXT STEPS

Development and Partnership Process

Siemens strives to build long-term business relationships with our customers. Under the performance-contract business model, Siemens defines a true strategic alliance by sharing in the investment and risks with our customers. From this arrangement our customers achieve the maximum return on their facility project investments with minimized risk. This performance-based strategy lends itself to adaptability, flexibility, and a full range of possibilities under a strategic alliance arrangement.

Siemens is extremely flexible in doing business with our customers. Siemens and our customers desire to build a long term partnership. It is extremely important for both parties to understand each other's goals, expectations, and to approach the business relationship with mutual trust.

Siemens has a full array of Energy Services to complement any service package. Our Energy Services agreements and programs take a partnership approach. We understand your facility challenges and the economic and operational impacts to your business. Energy Services help minimize energy consumption and its environmental impact by further optimizing building and equipment performance.

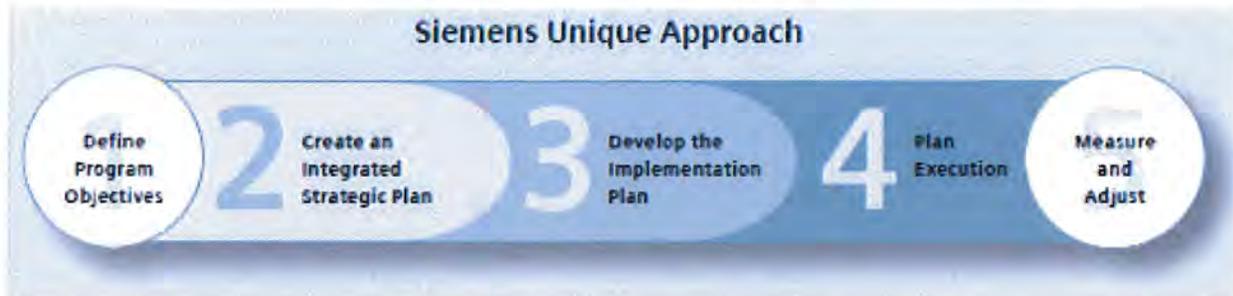


SIEMENS

A suggested process for project development and implementation is outlined below in our Unique Five Step Program.

When delivering Energy Services we offer a unique five step program to address the following issues:

- Energy costs and consumption
- Improved facility performance
- Improved budget management and energy forecasting
- Improved occupant comfort
- Environmental goals and targets



Siemens Industry recommends that Matt Bishop move forward with a detailed energy and project analysis.

Step I: Initial Planning – Identify & Determine Concerns, Opportunities & Priorities *Define Program Objectives*

Initial Planning is Siemens' first step of a Five Step approach to implementing a performance-based energy project, and represents a critical phase of directing the subsequent efforts.

Step II: Strategic Planning – Feasibility Study & Staff Workshop(s) *Create an Integrated Strategic Plan*

Strategic Planning is Siemens' second step of a Five Step approach to implementing a performance-based energy project, and the Preliminary Proposal is the final product of this current Step. As the chosen energy service provider, Siemens invests its resources to deliver services through Step II – Strategic Planning. The City *is not* responsible for any costs incurred by Siemens for services performed through Step II – Strategic Planning.

Step III: Development – Detailed Study, Design & Proposal *Develop the Implementation Plan*

The next step would verify savings, assess project feasibility, and develop a comprehensive energy services program. In Step III – Development, SIEMENS *shares the risk* of the

SIEMENS

development costs with the City. Siemens focuses mainly on solutions chosen by the customer that were discovered in the Feasibility Study during Step II – Strategic Planning. The detailed study would include measurements of existing conditions, a thorough analysis of efficiency measures, engineered specifications, performance measurement and verification criteria, a project cash flow analysis, and a comprehensive financing package. At this stage applications for utility and other rebates and incentive programs would be completed, by Siemens on behalf of the City.

The results of this phase include a comprehensive scope, cost, risk analysis and turn-key fixed price proposal to the City. These deliverables are the result of numerous collaborative meetings and the results are a coauthored solution based on input and direction from the City.

Step IV: Implementation

Plan Execution

The implementation is typically conducted in five stages – Final Approved Design, mobilization, installation, commissioning, and turnover and acceptance.

Detailed projected schedules are developed in conjunction with the customer. Siemens meets with the customer on a regular basis throughout each of these phases of the project to ensure smooth workflow and execution. The Siemens team has a significant on-site presence and attends construction meetings to resolve site issues in a timely manner.

Step V – Training & Performance Assurance

Measure and Adjust

On all performance solutions projects Performance Assurance, is performed and a formal turnover process is executed. Turnover should occur within two weeks of sign-off by the customer on the letter of substantial completion. The letter of substantial completion should be executed by the customer at the time construction is significantly finished. Upon this sign-off, the customer will be assigned a Performance Assurance Engineer (PAE). The PAE will perform measurement and verification to guarantee savings, if guaranteed savings are desired by the customer.

Thank You

Siemens would like to give a special thanks to Matt Bishop for allowing the Siemens Team to study the facility. Siemens would also like to thank Director of Public Works, Rob Livick for the opportunity to prepare and present this proposal for moving ahead with a municipal facilities and infrastructure improvement program.



QUALIFICATIONS:

Overview

For 165 years, Siemens has been a technology powerhouse in the area of electrical engineering and electronics. The factors driving success at the history-making company include innovative prowess, a clear portfolio policy, long-range financial planning, an international setup and strong employee orientation. Formed in 1847, the company Telegraphenbauanstalt von Siemens & Halske grew within the space of a few decades from a small precision-engineering workshop into one of the world's largest companies in electrical engineering and electronics inventing:

- the first electric railway
- the first electric streetlights in Berlin
- the first electric elevator
- the electric streetcar

Today Siemens AG is a global corporation employing roughly 460,000 people in 195 countries world-wide, the 6th largest employer on Earth. Named by Fortune Magazine as the third most admired company in the electronics industry, Siemens holds 8,600 U.S. patents and 45,000 globally. Siemens produces 30 new inventions each business day, offering countless solutions for numerous industries, including energy services, transportation, manufacturing and processing, and healthcare, and offers a wide variety of government solutions. In conjunction with our sister companies, Siemens Water Technologies, OSRAM/Sylvania, Siemens Power Generation and Siemens Energy and Automation, Siemens can fulfill your facilities' overall energy and environmental needs.

Our objective is to facilitate the long-term success of our clients and partners by leveraging the combined power and capabilities of the entire Siemens Corporation. Our ability to provide abundant capabilities as a combined package sets us apart from other corporations. Our experience with energy strategy and management study and implementation in all sectors of the market, as well as our large integrated project experience, provides us with a solid foundation for delivering turnkey solutions and guaranteed results.

Experience in Energy Solutions

Siemens Industry, Inc., has been in the energy related business since the company's founding in 1891. Today, our Energy and Environmental Services (EES) team has grown to include more than 100 energy engineers, 123 LEED® Accredited Professionals, and 56 LEED Green Associates, all supported by our more than 100 U.S. locations.

Our work has helped customers across many markets, including K-12 schools; higher education; public housing; federal, state, and local governments; healthcare; industrial; and commercial/enterprise.



Energy and Environmental Solutions Business Mix

Percent of Performance Solutions business by vertical market FY2010:

Vertical Market	% of Sales
K-12 Schools	13%
State/Local Government	30%
Public Housing	12%
Federal Government	10%
Higher Education	21%
Healthcare	7%
Industrial	4%
Commercial/Enterprise	3%

In the United States, Siemens Industry, Inc. has helped more than 500 customers realize more than \$1.8 billion in energy and operational savings over the past 10 years. We have negotiated more than \$2 billion in energy supply contracts on behalf of our customers.

To date, Siemens has performed more than 1,000 guaranteed Performance Contracts. In fact, Siemens has worked on 385 PC projects for the last three fiscal years shown below:

Fiscal Year	PCProjects (#) > \$100K
2007	160
2008	140
2009	114
2010	137
2011	124
2012	124

SIEMENS

Further, Siemens order intake has experienced consistent growth since entering the PC market nearly 20 years ago:

Fiscal Year	Order Intake (million)
2002	\$200
2003	\$163
2004	\$237
2005	\$237
2006	\$356
2007	\$254
2008	\$345
2009	\$251
2010	\$345
2011	\$344
2012	\$332

Fiscal Year	Revenue (million)
2002	\$168
2003	\$177
2004	\$170
2005	\$238
2006	\$264
2007	\$302
2008	\$274
2009	\$271
2010	\$272
2011	\$302
2012	\$338

Siemens' Experts

Siemens' staff members are LEED™ Accredited Professionals and can provide advice for new or existing buildings. For over 100 years, Siemens has provided exceptional products and services to our customers. At Siemens we believe in investing in local people, resources and communities. The primary local staff is located in Cypress, CA and houses the day-to-day team of business developers, program managers, project managers, construction managers and performance assurance specialists, along with additional training center and support staff.

- Highest ranking in both product and services customer satisfaction
- Highly skilled, trained and tenured engineering and project management staff
- Local Presence of Siemens Building Technologies

With over 100 years of energy management experience and hundreds of energy professionals nationally, Siemens has the intellectual capital and comprehensive toolset to address these dynamic challenges.

Our monitoring tools are among the most robust in the industry, allowing us a window into your buildings, regardless of the automation system or metering technology installed. Our benchmarking tools allow us to identify inefficiencies, and our energy professionals understand how buildings operate and what improvements will help you meet your goals.

Expansive Offerings and Options

Highlights

- Over 100 U.S. offices to provide superior local support
- Local Siemens service experts available 24-7
- Hundreds of energy professionals to support your customized program
- Over 6000 energy related patents
- Sophisticated tools & technology
- Market knowledge

SIEMENS

We are a building technology, service and solutions company. Siemens also has a history of proven success in performance based contracting, delivering over \$1.7 billion in performance contracts in over 600 projects nationwide. Siemens has implemented over 70 successful performance contracting projects in the State of California.

Siemens stands alone among its peers in performance contracting with a record of 99.75% against \$450 million in financial guarantees, which are audited annually by KPMG. Siemens' commitment to excellence has led to a Standard and Poor's rating of AA- and a Moody's rating of AA3, the highest financial ratings in the industry. This has given Siemens the lowest bonding costs industry wide.

As a leading provider of energy and environmental solutions, building controls, and fire safety and security system solutions, Siemens Building Technologies makes buildings comfortable, safe, productive and less costly to operate. As part of an international corporation, we are able to provide world-class solutions in conjunction with local support. Each of our offices is a full-service branch staffed by on-site technical service specialists and project management teams that can deliver complete building solutions.

When it comes to efficiency, we have raised performance standards. Siemens professionals have been vital partners to municipal customers throughout the world, helping raise efficiency and lower operating costs of their facilities while improving ongoing maintenance and operations. Our Energy and Environmental Solutions encompass all aspects of energy and water efficiency, clean energy generation, environmental concerns and long-term sustainability.

At Siemens, we offer our customers a complete program of technical infrastructure for comfort, efficiency, safety and security in buildings. In conjunction with our sister companies, Siemens Water Technologies, OSRAM/Sylvania, Siemens Power Generation and Siemens Energy and Automation, Siemens Building Technologies can fulfill your facilities' overall energy and environmental needs. Below is a brief table that outlines the breadth and depth of solutions and services we deliver to customers like you every day.

SIEMENS

Siemens Energy and Environmental Solutions

Energy Price, Security & Risk Management	Energy Conservation and Sustainability	Environmental Responsibility	Financial Solutions
Energy Procurement Strategies and Management	Energy Master Planning	Green Building Guidance	Guaranteed Performance Contracting
Market Analysis and Risk Assessments	Investment Grade Audits & Analysis	LEED Assessment & Certification	Master Financing Agreements
Energy Rate and Tariff Analysis	Architecture and Design Services	Indoor Environmental Quality	Utility Bill & Rebate Program Management
Alternative Fuel Research and Options	Energy Saving Facility Improvement Measures	Water Efficiency & Conservation Measures	Public Private Partnerships
Energy Monitoring and Management	Continuous Energy Commissioning	Recycling Program Management	State Public Benefit Funds
Back Up Energy Generation	Preventative Maintenance Programs	Environmental Monitoring & Benchmarking	Clean Renewable Energy Bonds
Uninterruptable Power Sources	Solar and Clean Energy Solutions	ENERGY STAR Benchmarking	Power Purchase Agreements
Alternative Energy Solution Evaluation	Building Automation and Controls	On-Site Green Energy Generation	Positive Cash Flow Capital & Operating Leases
On-Site Secure Energy Infrastructure	Fire Prevention and Detection Solutions	Waste – Energy Generation Systems	Tax Free Municipal Leases

SIEMENS

Ongoing Services

Building a long-term relationship with a service provider can be harder than it sounds. Customers who choose Siemens know they have a partner who will be there for them throughout the entire life cycle of their systems. We understand the challenges customers face in maintaining aging buildings and equipment, working within tightening budget constraints, and keeping up with the pace of technology. Our Advantage Services portfolio is designed to help you meet these challenges and ensure a high level of system reliability while keeping your costs low.

With more than 1,500 dedicated service personnel ready to respond to your service needs, Siemens provides national coverage with local response. All Siemens professionals who work with you will know your systems because our highly skilled experts receive continuous training and the average technician has over eight years of experience.

Experience and References

- In the US, Siemens Building Technologies, Inc. employs over 7,000 people and provides a full range of services and solutions to over 45,000 customers from 106 branch offices located throughout the nation.
- Worldwide, Siemens Building Technologies has 29,000 employees and operates from more than 500 locations in 51 countries. Globally, Siemens Building Technologies has over 360,000 customers.
- Siemens Building Technologies is part of Siemens AG, a global technology, engineering and electronics company. Siemens companies spend over \$6 billion each year on research and development, and hold 62,000 worldwide patents.

Since 2000, Siemens has implemented over 3,000 projects with a sales volume of over \$1.3 billion through the performance contracting group using a design-build implementation format.

Last year, Siemens implemented \$355 million in full service performance contracts, and another \$125 million in lighting only performance contracts through OSRAM Sylvania, which is also a wholly owned subsidiary of Siemens, and a further \$600 million in energy management systems.

Siemens Building Technologies is a full service performance contractor. Of the \$998 million of construction executed last year, it is estimated that \$210 million (21 percent) was lighting, \$75 million (7 percent) was HVAC, \$50 million (5 percent) was in central plants, \$625 million (63 percent) was building automation, \$13 million (1 percent) was building envelope



improvements, and \$25 million (3 percent) was cogeneration, solar, and other renewable energy resources.

Further, in 2005, Siemens Building Technologies, Inc. was accredited by the National Association of Energy Service Companies (NAESCO) as an Energy Service Provider (ESP), the highest level of accreditation for companies serving the energy market. Siemens Building Technologies is part of a small, elite group of companies with this accreditation. Of the 100 NAESCO members, only 18 are accredited, and of that, only 11, including Siemens Building Technologies, have achieved the highest level of accreditation, the Energy Service Provider (ESP).

To receive this accreditation, Siemens had to prove it was capable of complying with a set of ethics, as well as provide a significant number of project and customer documentation to verify its competency in project development, energy engineering, project implementation and financial solutions in areas such as energy conservation, co-generation and supply-side services. The accreditation proves the governing board of the energy services industry recognizes Siemens as a reliable, ethical provider of energy products and services.

Siemens has been serving Southern California for over 65 years. The local branches are comprised of over 500 professionally trained team members representing different disciplines.

The Siemens Southern California team members include mechanical engineers, electrical engineers, energy engineers, energy management controls engineers, project managers, technicians, on-line support technicians, administrative support, LEED™ Accredited Professionals, and branch management. Several areas of expertise are provided from the Southern California branches.

Organizations and Memberships

Siemens is an active member in a number of leading industry associations at a national and local level, including:

- Accredited through the National Association of Energy Services Companies (NAESCO)
- Member of the United States Green Building Council (USGBC)
- ENERGY STAR Partner
- Member of the Clinton Climate Initiative C40 Large Building Retrofit Program
- Member of the Alliance to Save Energy (ASE)
- Sponsor of the Association for the Advancement of Sustainability in Higher Education (AASHE)
- Official Sponsor of the American College and University President's Climate Commitment (ACUPCC)
- National Leadership Circle Partner with the Building Owner's and Manager's Association (BOMA)
- National Association of Counties (NACo)
- National Association of College and University Business Officials (NACUBO)
- Association of School Business Officials (ASBO)

SIEMENS

- National League of Cities (NLC)
- National Association of Counties (NACo)
- United States Conference of Mayors (USCoM)
- Government Financial Officers Association (GFOA)



All of the above organizations have some level of pertinent relevance to this Project, depending on the tasks involved or the parties being coordinated with at the campus, District or local government levels. Note that individual project team members also have various credentials and certifications that are particularly relevant to this Project, and these can be seen in the Appendix associated with key personnel.

Accreditations

In 2004, Siemens Building Technologies was accredited by the National Association for Energy Service Companies (NAESCO) as an Energy Service Provider, the highest level of accreditation for companies serving the energy market. Siemens Building Technologies is part of a small, elite group of companies with this accreditation. Of the 100 NAESCO members, only 17 are accredited, and of that, only 11, including Siemens Building Technologies, have achieved the highest level of accreditation, the Energy Service Provider (ESP). Additionally, Siemens is listed on the U.S. Department of Energy's Qualified List of Energy Services Companies.



AGENDA NO: C-3

MEETING DATE: April 17, 2014

Staff Report

TO: Public Works Advisory Board **DATE:** April 10, 2014

FROM: Bruce Keogh, Wastewater Division Manager
Dave Zevely, Collections System Supervisor
Damaris Hanson, Engineering Tech IV

SUBJECT: Approval of the Updated Sewer System Management Plan

RECOMMENDATION

Staff recommends that following review and discussion of this item, the Public Works Advisory Board provides recommendations to the City Council regarding the approval of the updated Sewer System Management Plan (SSMP).

FISCAL IMPACT

No fiscal impact at this time as a result of this report. Fiscal impact is addressed through the budget process.

BACKGROUND AND DISCUSSION:

In 2006 the State Water Resources Control Board (SWRCB) adopted Order No. 2006-003-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). In May 2013, the SWRCB approved Order No WQ 2013-0058-EXEC amending the Monitoring and Reporting Program (MRP) for the WDR. The amended MRP is an effort to more accurately and completely capture information pertaining to Sanitary Sewer Overflows (SSO) and included revisions to SSO categories and their associated reporting requirements.

The WDR created a centralized statewide mechanism to manage all publicly owned wastewater collection agencies. A principal element of the WDR is the requirement that the Collection Agencies adopt and maintain a management plan for the system referred to as an SSMP. The WDR requires that the owners of a wastewater collection system with more than a mile of pipeline have in place a SSMP to reduce the number and severity of sanitary sewer overflows.

The SSMP includes eleven (11) mandatory elements ranging in complexity from preparing goals and a mission statement, to performing a complete collection system capacity assessment. The SSMP must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems while taking into consideration risk management and cost benefit analysis. Additionally an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions. The purpose of the SSMP is to implement a set of Best Management Practices into the operations of all the collection systems in the State.

Prepared by: BK, DZ, DH Dept. Review: RL

The City Council approved the first SSMP in June 2009 following presentations to the Council and Public Works Advisory Board that allowed for review and public comments during the development of the specific sections of the SSMP. The approval process followed the requirements of the SWRCB that the SSMP must be approved by the enrollee's governing board at a public meeting. A copy of the 2009 SSMP is available on the City website at: <http://www.morro-bay.ca.us/SSMP2009>.

The WDR requires that the City conduct periodic internal audits at a minimum of every two years. The audit should focus on evaluating the effectiveness of the SSMP and the City's compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them. Audits were conducted and completed by staff from the City's Collection and Engineering Divisions in June 2011 and June 2013. Overall the audits indicated the City's SSMP is meeting the requirements of the SSMP and SWRCB requirements. Minor modifications were made to reflect current operations and maintenance practices or to correct any noted deficiencies. Copies of the completed audits are posted on the City website.

The WDR requires that the SSMP must be updated every five (5) years, capture any significant program changes, and be re-certified by the City Council. To complete the re-certification process, City of Morro Bay staff must upload a City Council approved SSMP e-copy into the Online SSO Database or provide a URL address where the SSMP is located on the City's website. The due date for the re-certification of the SSMP is June 8, 2014.

This is the first update to the SSMP since its approval by the City Council in June 2009. As part of the approval process, staff is bringing the updated SSMP to PWAB for review and discussion. Any recommendations provided by PWAB, will be forwarded on to the City Council, when they consider the SSMP for approval at their May 13 meeting.

Summary of Revisions to the SSMP

Overall, the SSMP appears to meet the requirements and the intent of the WDR. It contains elements and programs that have been field tested and refined through work practices in the field. The SSMP has been used effectively as a management and planning guide since its adoption in 2009. The SSMP has also been a valuable reference document for the field crews. Prior to 2009, the City and its collection crews performed most of the elements contained within the SSMP; they just weren't contained within a single document that had been approved by the City Council. The effectiveness of the SSMP is also demonstrated by the reduction/lack of SSOs within the City collection system.

One of the major revisions to the SSMP was to incorporate new requirements included in the SWRCB's 2013 amendment to the MRP. The amended MRP included revisions to the categories of SSOs and their associated reporting requirements. For example, the SWRCB added a third category of SSOs and included specific monitoring requirements for each category of SSO. The updated SSMP has been modified to include these new SSO categories and associated monitoring requirements.

Another SSMP revision concentrated on modifications and revisions to reflect changes in collection system assets or modifications to operations and maintenance activities. For example, the recent upgrades to Lift Stations 2 and 3, eliminated the confined space requirements and entry procedures required to enter the old lift stations. Both new lift stations have above ground control systems with submersible pumps in the wet wells. Language within the SSMP was modified to reflect these changes.

Another SSMP revision is based on the fact that the SSMP was completed for the first time in June 2009 and has been utilized as a management guide since its adoption. The original SSMP approved in 2009 contained a detailed schedule for drafting and approving each of the eleven elements of the SSMP. Language within the updated SSMP was modified to reflect that the updated SSMP is a mature plan and the various development and adoption schedules were removed from the updated SSMP.

The MRP recognizes that the SSMP may need to be modified or refined more frequently than every five years. For this reason, it requires that all changes made to the SSMP since its last certification be recorded indicating when a subsection(s) was changed and/or updated and who authorized the change or update. It requires that these records be attached to the SSMP. This provision allows City staff to make minor revisions to the SSMP as needed to ensure the information within the document is current and valid. Any major changes would certainly be brought before the Council for approval as needed. Examples of minor revisions would include updating organizational charts, or minor modifications to O&M procedures to reflect actual practice.

CONCLUSION:

Staff recommends that following the review and discussion of this item, the Public Works Advisory Board provides a recommendation to the City Council regarding the approval of the updated Sewer System Management Plan (SSMP).

Table of Contents

Section	Page
Introduction.....	1
Regulatory Requirement	1
Collection System Description	1
Wastewater Collections Division.....	1
Source Control	2
Fats, Oil and Grease (FOG)	2
SSMP Development Plan and Schedule	2
Electronic reporting of Sewer System Overflows (SSO)	3
Collection System Assessment	3
The Eleven Elements of the SSMP:.....	4
Glossary and Acronyms	5
Element I: Goals.....	10
SWRCB Requirement	10
Mission Statement and Goals.....	10
Element II: Organization	11
SWRCB Requirement	11
Organization Discussion	11
Element III: Legal Authority	14
SWRCB Requirement	15
Legal Authority Discussion	16
3a. Prevention of Illicit Discharges.....	17
3b. Proper Design and Installation of Sewers and Connections	19
3c. Lateral Maintenance Access	20
3e. Enforcement Measures.....	22
Satellite Collection Systems	23
Element IV: Operation and Maintenance	24
SWRCB Requirement	24
4a. Collection System Maps	26
4b. Preventive Operation and Maintenance	28
Daily.....	28
Monthly Tasks	31
Annual Tasks	32
4c. Rehabilitation and Replacement Plan	34
Mainline Repairs.....	34
Manhole Repairs	35
Lift Station Maintenance.....	36
4d. Staff Training	37
4e. Contingency Equipment and Replacement Inventories	38
Element V: Design and Performance Provisions	39
SWRCB Requirement	39
Element 5 Design and Performance Provisions.....	39
5a. Standards for Installation, Rehabilitation and Repair	40

5b. Standards for Inspection and Testing of New, Rehabilitated, and Repaired Facilities	41
Element VI: Overflow Emergency Response Plan	42
SWRCB Requirement	42
Overflow Emergency Response Plan Discussion	43
Laterals.....	43
Current Information	43
Categories of Sanitary Sewer Overflows (SSO's) update	44
Reporting SSO's	45
Overflow Policies and guidelines	50
Spills on private property	51
Private Property spills to city streets.....	52
Traffic and crowd control	52
Lift Station Policies.....	52
Station By-pass	52
Telemetry and Electrical Problems	52
Element VII: FOG Control Program.....	53
SWRCB Requirement	53
FOG Control Discussion.....	54
Traps and Interceptors.....	54
Identification and Sewer Cleaning.....	56
Legal Authority to Control Sources of FOG.....	57
Legal authority to prohibit discharges	57
Authority to install grease, oil and sand interceptors.....	58
Grease, oil and sand interceptors-Maintenance	58
Manhole installation.....	58
Inspection of premises	59
Enforcement measures where appropriate	59
Facility Inspection.....	60
Public Outreach.....	61
Element VIII: System Evaluation and Capacity Assurance Plan	62
SWRCB Requirement	62
Element 8 Evaluation and Capacity Assurance Plan	62
8b. Design Criteria:	62
8c. Capacity Enhancement Measures:	62
8d. Schedule:.....	62
8a. System Evaluation.....	63
Hydraulic Model	63
Flow Estimates.....	63
*Source: City of Morro Bay Sewer Collection System Master Plan Update	64
8b. Design Criteria	64
8c. Capacity Enhancement Measures	64
8d. Capital Improvement Schedule.....	64
Element IX: Monitoring, Measurement, and Program Modification.....	65
SWRCB Requirement.....	65

Element 9 Monitoring, Measurement, and Program Modification.....	65
9a. Maintain Relevant Information	66
9b. Monitor and Measure the Effectiveness	67
Element I: Goals	67
Element II: Organization.....	67
Element III: Legal Authority	67
Element IV: Operation and Maintenance Program.....	67
Element V: Design and Performance Provisions.....	67
Element VI: Overflow Emergency Response Plan.....	68
Element VII: F.O.G. Control Program.....	68
Element VIII: System Evaluation and Capacity Assurance Plan	68
Element XI: Communication Program	68
9c. Success of Preventative Maintenance	69
9d. Update Program Elements	69
9e. Identify and Illustrate SSO Trends.....	69
Element X: SSMP Program Audits.....	70
SWRCB Requirement.....	70
Element 10 SSMP Program Audits.....	70
SSMP Program Audits	70
Element XI: Communication Program.....	71
SWRCB Requirement.....	71
Communication Program for Development of SSMP	72
Communication Program for Implementation of SSMP	72
Communication Program with Satellite Systems	73
Appendix A.....	A
Attachment A: City of Morro Bay Municipal Code Chapter 13.12.....	A
Attachment B: City of Morro Bay Standard Specifications: 8. SEWERAGE.....	A
Attachment C: City of Morro Bay Engineering Standard Drawings: Sewer Section..	A
Appendix B	B
Attachment A: State Waste Discharge Requirements (2006-0003) and Revised Monitoring and Reporting Program (2013-0058).....	B
Attachment B: Sanitary Sewer Overflow Notification Checklist & Numbers	B
Attachment C: SSO Field Report.....	B
Appendix C.....	C
Attachment A: September 2013 Newsletter.....	C
Attachment B: Sample “No Grease/No Grasa” Sticker	C
Attachment C: Sample Maintenance Log.....	C
Attachment D: Fats, Oils, and Grease Brochure / Best Management Practices	C
Attachment E: Sample Site Visit/Trap Inspection Page	C
Appendix D.....	D
Attachment A: Working list of modifications to the SSMP	D

Introduction

Regulatory Requirement

On May 2, 2006, the State Water Resources Control Board (SWRCB) enacted Order No. 2006-0003, State General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The WDR requires any public agency that owns or operates a sanitary sewer system more than one mile in length that conveys untreated or partially treated wastewater to a publicly owned treatment works (POTW) in the State of California; comply with the requirements of the WDR.

The City of Morro Bay (City) owns and operates a wastewater collection system more than one mile in length that conveys untreated wastewater to a publicly owned treatment works (POTW) and therefore is required to comply with the WDR. The City submitted a Notice of Intent (NOI) to the SWRCB on October 4, 2006 for coverage under the WDR and has developed and maintained this Sewer System Management Plan (SSMP) to satisfy the requirements of the WDR. The SSMP was originally adopted by the Morro Bay City Council on June 08, 2009. Per the requirements of the WDR, the City has performed two audits of the SSMP (June 2011 and June 2013), that focused on the effectiveness of the SSMP and the City's compliance with the SSMP requirements identified within the WDR, including identification of any deficiencies in the SSMP and the steps to correct them. In addition, the WDR requires that the SSMP must be updated and adopted by the City Council at least every five years. The revisions contained within this SSMP comply with the requirements of the WDR by updating the SSMP on a five year schedule.

Collection System Description

The City of Morro Bay's collection system serves residential and commercial users. The collection system includes approximately 60 miles of gravity sewer line, approximately 2.5 miles of force main, approximately 1116 manholes, lampholes and clean-outs and three lift stations which are monitored daily. The mainlines are made of a variety of materials, depending on the age; terra cotta salt glazed pipe, vitrified clay pipe (VCP), polyvinyl chloride (PVC), asbestos concrete (AC) and cast iron. There are three lift stations all of which operate with submersible pumps and above ground control panels.

Satellite agencies include the San Luis Coastal Unified School District, the State Parks (2) at the north end of town (Morro Strand State Park) and south end of town (Morro Bay State Park).

Wastewater Collections Division

The City has a separate Wastewater Collections Division, to oversee the operations and maintenance of the collection system. The Department operates under the general supervision of the Public Services Director and the Wastewater Division Manager. The

division includes a Wastewater Collection Supervisor and three Wastewater Collection System Operator levels. The division responds to sewage spills and other calls 7 days a week, 24 hours per day. To expedite cleaning and emergency response, the city also owns and operates a combination cleaner (Hydro-Vac), trailer-mounted jetter, five emergency generators, a diesel powered hydraulic pump, maintains an inventory of spare pumps and motors, confined space entry and safety equipment, and other tools and equipment. The division operates a scheduled preventive maintenance and enhanced maintenance program to maintain the system, and utilizes a contractor for Closed Circuit Television (CCTV) inspection. The division records and maintains historical data about the system, and utilizes this information to prioritize maintenance activities. The programs contained and outlined within the City's SSMP meet the requirements of the WDR.

Source Control

In 1999 businesses in Morro Bay were surveyed for possible industrial-waste discharges. The survey included business names, addresses, names of contacts, telephone numbers, inventories of chemicals, discharge volumes, and other pertinent information. Based on this information and a master list of businesses developed from business license applications, certain businesses were found to have no potential for industrial discharge, such as offices, and retail stores. Others were excluded from further consideration as industrial dischargers because they discharged only domestic wastewater. For the remaining industries, waste discharge volumes were estimated in proportion to water usage determined from billing records provided by the City Water Department. Follow-up activities for these businesses include scheduled return visits, surprise on-site inspections and formal tours of the facilities. These include but may not be limited to a commercial laundry, car washes, a dry cleaner, print shops and the oil-water separator maintained by the Harbor Department.

Fats, Oil and Grease (FOG)

In 2002, restaurants were surveyed for grease removal devices. Based on this survey a grease trap and interceptor inspection program was begun. A Site Visit Book (SVB) was developed and inspections are conducted on a regular basis.

SSMP Development Plan and Schedule

The original SSMP was developed using the Schedule contained within the WDR that outlined the compliance dates and necessary program components that the City was required to incorporate into the SSMP. This document is required to be approved by the City Council during a public meeting at least every five years. As noted earlier, The SSMP was originally adopted by the Morro Bay City Council on June 08, 2009. Per the requirements of the WDR, the City has performed two audits of the SSMP, in 2011 and 2013, that focused on the effectiveness of the SSMP and the City's compliance with the SSMP requirements identified within the WDR, including identification of any deficiencies in the SSMP and the steps to correct them. In addition, the WDR requires

that the SSMP must be updated and adopted by the City Council at least every five years. The revisions contained within this SSMP comply with the requirements of the WDR by updating the SSMP on a five year schedule.

The SSMP is a living document, meaning that it will evolve and modifications will be made as necessary to meet the required regulations. The Collections Division recognizes that the SSMP may be amended during the five year recertification time frame as a result of recommendations contained within the biennial audit of the SSMP or to reflect a change in organizational structure or changes based on modifications to the O&M program or equipment changes. For this reason, the Collections Division has requested and been granted permission from the City Council to have the Director of Public Services authorize and approve any significant changes to the SSMP during this time period. Any amendments incorporated would be highlighted during the public recertification process. Appendix D contains all modifications to the SSMP, this will be a working list used if regulations change or through our internal audit changes to the document are warranted.

Electronic reporting of Sewer System Overflows (SSO)

All Enrollees are required to obtain SSO Database accounts and receive a “Username” and “Password” by registering through the California Integrated Water Quality System (CIWQS) web-site. On an annual basis, all enrollees are required to complete an update to the “Collection System Questionnaire”, which collects pertinent information regarding an Enrollee’s collection system. This questionnaire must be updated at least annually. The questionnaires were first completed on April 17, 2007 and have been updated annually per the requirements of the WDR or as changes have been made. The Morro Bay Collection System has been assigned a Waste Dischargers Identification Number (WDID) of 3 SSO 11429.

Electronic reporting of SSOs was begun on May 2, 2007. This reporting of Category 1 and Category 2 SSOs and other spills will be ongoing. The Collection Department maintains a spread-sheet regarding SSOs on the City’s computer network shared drive; it is kept up-to-date listing all spills including spills originating from private laterals. Written spill reports will be maintained at the Collection Department Office, and will be reported on the Monthly Operation Summary.

Collection System Assessment

The City has an on-going commitment to conducting a sewer system management assessment to ensure that the City continues to meet the requirements of the WDR. This on-going assessment ensures the Collection Division activities meet the requirements of the WDR, and identifies any programs that may require modification or expansion. This program will be on-going, and the SSMP will continue to be modified and refined based on demonstrated need, the outcome of the biennial audit, and any amendments to the WDRs or the Monitoring and Reporting Programs adopted by the SWRCB.

The Eleven Elements of the SSMP:

1. Goals- The stated goals for the SSMP
2. Agency Organizational Structure and SSO reporting chain of communications
3. Document Legal Authority
4. Operation and Maintenance
 - a. Mapping
 - b. Preventative Maintenance Program
 - c. Rehabilitation and replacement program
 - d. Inspection Program
 - e. Staff training
 - f. Equipment and parts inventory
5. Design and Performance
 - a. Design Standards
 - b. Inspection and testing standards
6. Overflow Emergency Response Plan
7. Fats, Oils and Grease (FOG) Control Program
 - a. Fog Ordinance
 - b. A program to reduce or eliminate FOG SSOs
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurements and Program Modifications
10. SSMP Audits
11. Communication Program
 - a. Communications with the public
 - b. Communications with satellite agencies

Glossary and Acronyms

Terms and acronyms used in this document and/or the Statewide GWDR, along with their definitions, are as follows:

AR or (Authorized Representatives) - The person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or a duly authorized representative of that person.

BAT- Best Available Technology

Blockage or stoppage- something that fully or partially blocks the wastewater from flowing through a sewer pipeline.

BMP- Best Management Practice

CWEA (California Water Environment Association) - CWEA is an association of professionals in the wastewater field. CWEA trains and certifies wastewater professionals, disseminates technical information, and promotes sound policies to protect and enhance the water environment. CWEA provides technical references for sewer system operation and maintenance.

CCTV- Closed Circuit Television

CFR- Code of Federal Regulations

CIP- Capital Improvement Program

CIWQS (California Integrated Water Quality System) - All SSO reporting is done on the CIWQS website.

CMMS- Computerized Maintenance Management System

Clean-out or CO- Access hole on a sewer line, normally at the end of the line and normally smaller than a manhole.

Dynamic Model- Computer hydraulic model simulation that solves dynamic flow equations for accurate simulation of backwater, looped connections, surcharging, and pressure flow in a collection system.

FOG (Fats, Oils and Grease)- Fats, Oils and Grease that are discharged into the sanitary sewer system by food service establishments (FSE), homes, apartments, retirement homes, and other sources. FOG is a major cause of blockages leading to increased maintenance and sometimes SSOs.

FOG Control Program - Establishes inspection criteria for FOG discharge at various businesses.

GIS (Geographical Information System)- A database linked with mapping, which includes various layers of information, such as sewer maps, storm drain maps, parcels and other features. The City uses ARCGIS.

Governing Board- In the City of Morro Bay this is the City Council.

GPS- Global Positioning System

GWDR or WDR (General Waste Discharge Requirements)- Order No. 2006-0003, State General Waste Discharge Requirements for Sanitary Sewer Systems (WDR) is designed to ensure proper design, and safe operation and maintenance of the sanitary sewer systems throughout California. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California were required to comply with the terms of this Order. The Statewide General WDR for Sewer systems was adopted by the SWRCB and is implemented by the RWQCB and SWRCB.

I/I- Infiltration and Inflow

Infiltration- The seepage of groundwater into a sewer system, including service connections. Seepage can be through cracked pipes, pipe joints, connections, or manhole walls and joints.

Inflow- Water discharged into a sewer system and service connections from roof leaders, cellars, yard and area drains, foundation drains, springs, swampy areas, around manhole covers, surface runoff, drainage etc. Inflow differs from infiltration in that it is a direct discharge into the sewer rather than a leak.

Lamphole- In the past this was used to lower a lamp into the line for inspection. They are currently used the same as an end of the line clean-out.

Lateral- The portion of a sewer that connects the customer with the City's main line.

Upper lateral: Portion from the building to the property line.

Lower Lateral: Portion from the property line to the sewer main either in an easement or street. Upper and lower lateral are privately owned and maintained.

Lift Station (LS) or Pump Station- A station with redundant pumps, which raise sewage to a level from which it can flow by gravity.

LRO (Legally Responsible Official)- A legally responsible official (LRO) is any individual authorized to enter and certify data into the online sanitary sewer overflow (SSO) database on behalf of an agency enrolled under Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WQO No. 2006-0003). A LRO must certify any submitted SSO report. A LRO is defined as either a principal executive

officer or ranking elected official for an agency, or a duly authorized representative of that person.

Manhole or MH - Access hole on a sewer line with cones and barrels. Installed every 300-400 feet to facilitate cleaning, or change in direction.

MRP (Monitoring and Reporting Program) - Established in the WDR for monitoring, reporting, recording and public notification requirements of the WDR.

O&M- Operation and Maintenance

OES- Office of Emergency Services

Order- SWRCB Order No. 2006-0003-DWQ adopted May 2, 2006

OERP (Overflow Emergency Response Plan) - Identifies a plan for notification procedure(s), appropriate response, procedures to address emergency operations and insure that all reasonable steps are taken to contain and prevent discharges.

PM (Preventive Maintenance) - Regularly scheduled servicing of machines, infrastructure and other equipment.

PLSD (Private Lateral Sewage Discharge) – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the City’s sanitary sewer system or from other private sewer assets.

R&R- Rehabilitation and Replacement can also be CIP.

RWQCB (Regional Water Quality Control Board)- There are nine regional water quality control boards that exercise rulemaking and regulatory activities by basins. The City is in RWQCB Region 3.

POTW- Publicly Owned Treatment Works (WWTP)

SCADA (Supervisory Control and Data Acquisition) - A computerized control and data recording system that operates a wastewater, treatment or water system remotely, recording operational data.

SOP- Standard Operating Procedure

SSO (Sanitary Sewer Overflow) - Any overflow, spill, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system.

Category 1: Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee’s sanitary sewer system failure or flow condition that:

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

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

Category 3: All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition. All other releases from the enrollee's sewer system.

Private Lateral Sewage Discharges (PLSD): Discharges of untreated or partially treated wastewater resulting from blockages or other problems **within a privately owned sewer lateral** connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSD's that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

SSMP (Sewer System Management Plan) - This management plan preparation was required by the SWRCB Order No. 2006-0003, State General Waste Discharge Requirements for Sanitary Sewer Systems (WDR or GWDR).

SCSMP (Sewer Collection System Master Plan) - This refers to the Master Plan submitted by the Wallace Group in 2006 also referred to as the Wallace report 2006.

Sanitary Sewer System- A system of pipes, pump stations, sewer lines or other conveyances upstream of the Wastewater Treatment Plant, used to collect and transport wastewater to the publicly owned treatment works.

Satellite Collection System or Agency- The portion of a sanitary sewer system owned and operated by a different public agency other than the agency that owns the wastewater treatment plant, to which the sanitary sewer system is tributary.

SWRCB or State Board (State Water Resources Control Board) - the State Board protects water quality by setting statewide policy, coordinating and supporting the Regional Water Board efforts, and reviewing petitions that contest Regional Board actions. There are nine regional water quality control boards that exercise rulemaking and regulatory activities by basins. The State Board is the agency responsible for developing and adopting the GWDR (WDR) for collection systems.

WDR- See: General Waste Discharge Requirements (GWDR)

WWC- Wastewater Collections

WWTP- Wastewater Treatment Plant

Element I: Goals

The collection system agency must develop goals to manage, operate, and maintain all parts of its collection system. The goals should address the provision of adequate capacity to convey peak wastewater flows, as well as a reduction in the frequency of sanitary sewer overflows (SSOs) and the mitigation of their impacts.

SWRCB Requirement

The collection system agency must develop goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent SSOs, as well as to mitigate any SSOs that occur.

Mission Statement and Goals

The mission of the Collections Division is to preserve and enhance the quality of life in the City of Morro Bay and to protect the public health and the environment by collecting and conveying wastewater in a safe, environmentally conscientious, and efficient manner.

This can most readily be accomplished by:

- Maintaining and improving the sewer lines and lift stations within the City in a manner consistent with the adopted Sewer System Master Plan now and into the future.
- Aggressively minimizing the number and impact of sanitary sewer overflows (SSOs) that may occur throughout the City of Morro Bay.
- Cost-effectively minimizing inflow/infiltration (I/I) and provide adequate sewer capacity to accommodate design storm flows.
- Controlling source discharges to the Wastewater Treatment Plant in accord with State and Federal regulations.
- Developing and implementing programs necessary to comply with State and Federal mandates, rules, and regulations.
- Developing training programs necessary to teach; up-to-date industrial systems required by State and Federal mandates, rules, and regulations, describing the duties and responsibilities for all positions including supervisory implementation and advancement certification, and additional training on standards and codes to gain additional understanding of the California Building and Plumbing code, trenchless technology (preventative maintenance and repairs) and standard construction methods.

Element II: Organization

The collection system agency's SSMP must identify staff responsible for implementing measures outlined in the SSMP, including management, administration, and maintenance positions. Identify the chain of communication for reporting and responding to SSOs.

SWRCB Requirement

The collection system agency's SSMP must identify:

- (a) The name of the responsible or authorized representative;
- (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. Include lines of authority as shown in an organization chart or similar document with a narrative explanation; and
- (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

Organization Discussion

The Wastewater Division is part of the City Public Services Department. The Wastewater Division is responsible for administration and implementation of the SSMP. The Division includes Wastewater Plant Operations and Collections. The Collections Operators are responsible for the daily maintenance and response to SSOs during regular work hours and after hours and weekends on standby.

The name of the responsible or authorized representative;

The authorized representative or Legally Responsible Official (LRO) for implementing and administering the City's SSMP and completing and certifying spill reports electronically are the Collections System Supervisor, Wastewater Division Manager, Public Services Director and the Collections System Maintenance Worker III.

- (a) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. Include lines of authority as shown in an organization chart or similar document with a narrative explanation; and

Figure 1 is the organization chart for the Wastewater Division as a part of the Public Services Department.

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

Figure 2 illustrates the City's chain of communication and responsible staff for receiving reports, responding to SSOs. This flow chart then refers to the notification checklist (Appendix B, Attachment C) which is used for notifying the proper authorities and for reporting and certifying the spills electronically.

Figure 1 Organization Chart

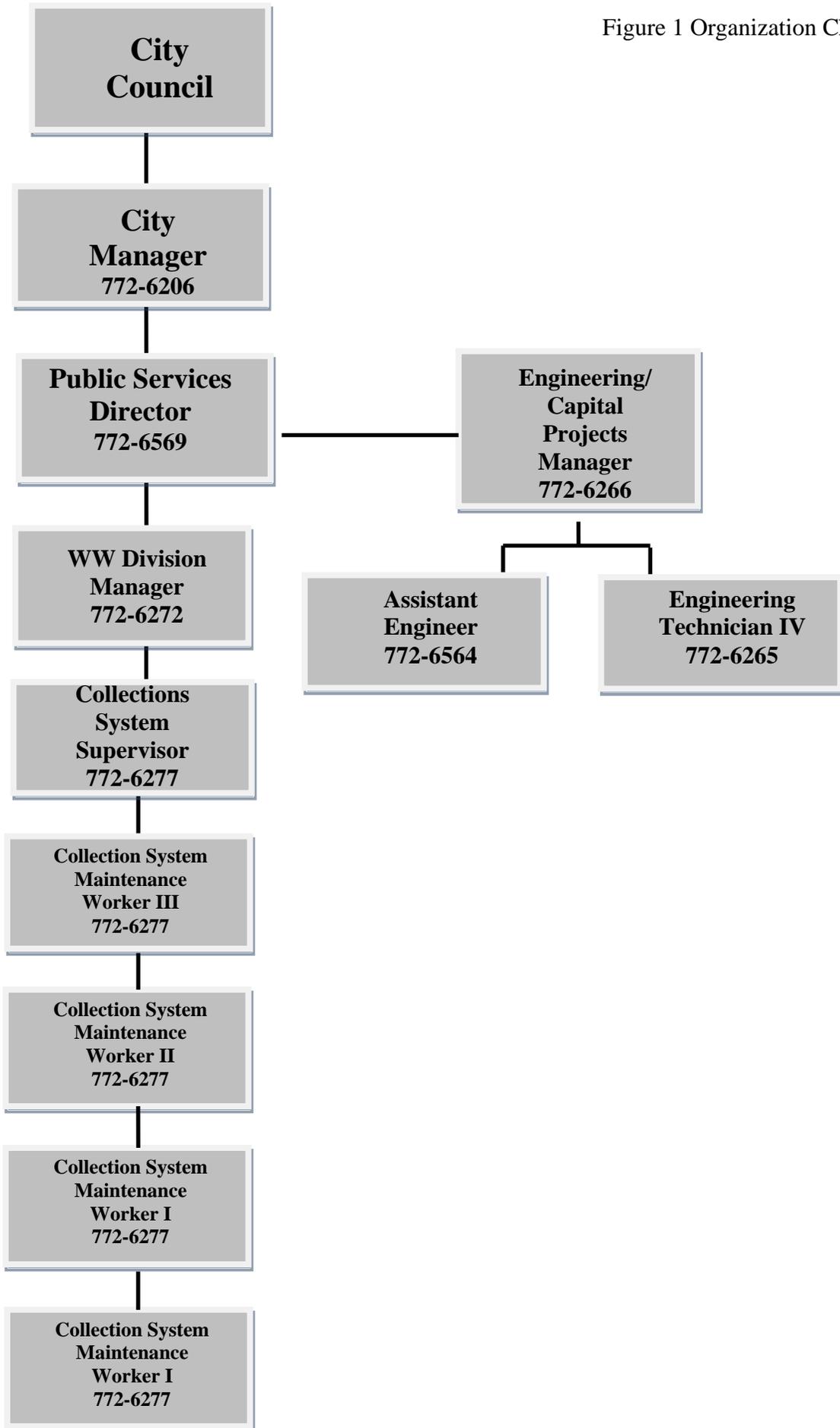
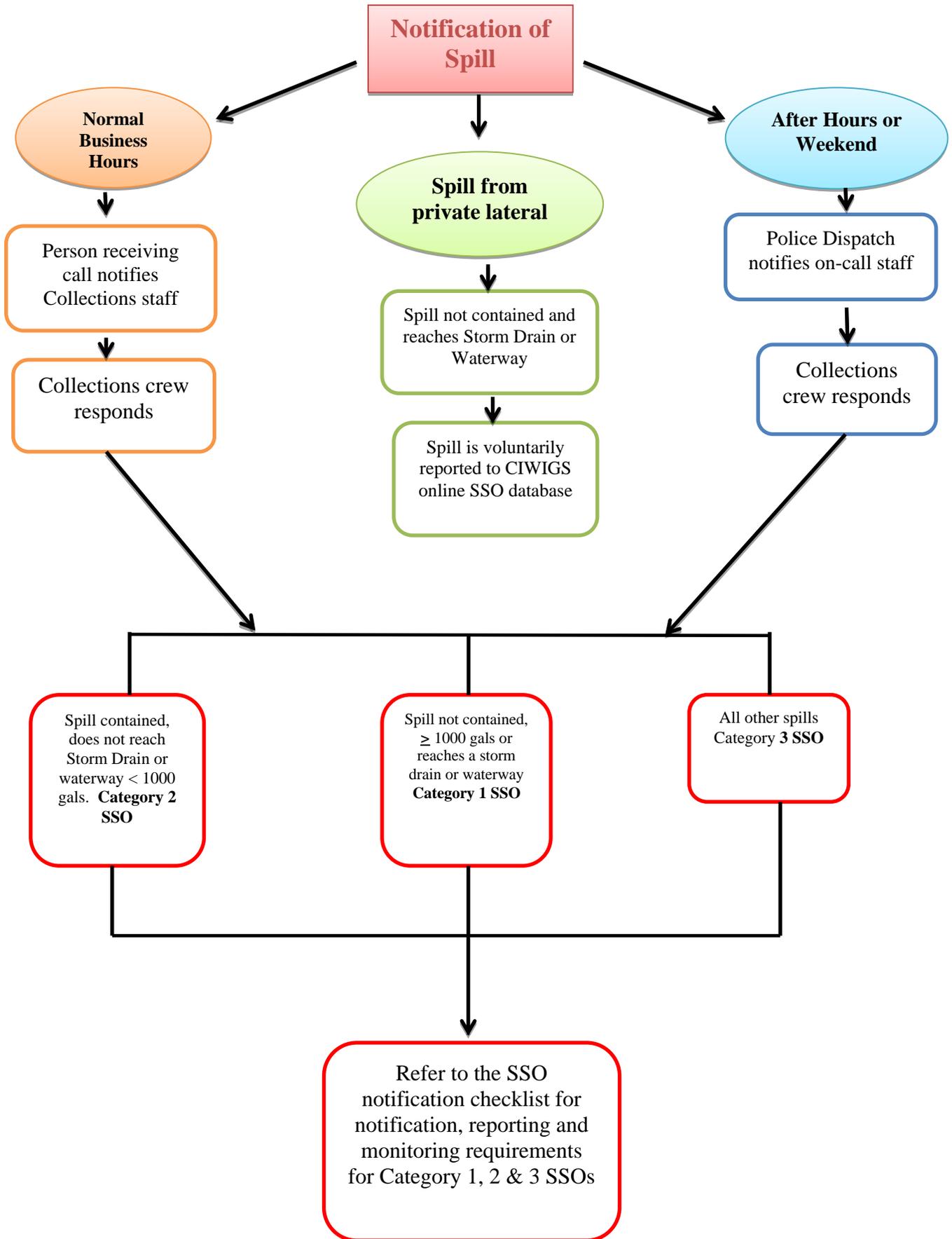


Figure 2 Chain of Communication



Element III: Legal Authority

This section of the SSMP discusses the City of Morro Bay's Legal Authority including Municipal Code and agreements with other agencies. This section is to fulfill the Legal Authority element of the SWRCB (Element 3) SSMP requirements.

SWRCB Requirement

The City must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures that it possesses the necessary legal authority to:

- (a) Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), stormwater, chemical dumping, unauthorized debris and cut roots, etc.);
- (b) Require that sewers and connections be properly designed and constructed;
- (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
- (d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and;
- (e) Enforce any violation of its sewer ordinances.

Legal Authority Discussion

The City of Morro Bay's Municipal Code, Standard Specifications and Development Fee Schedule contain the legal authority the SSMP by the SWRCB requires.

- (a) Chapter 13.12 Sewers of the Municipal Code is dedicated to the city's sewer system. This chapter contains sections stating the city's requirements for the use of sanitary sewer within the city. This chapter includes provisions to protect public health and prevent pollution.
- (b) Title 8 of the Engineering Standard Drawings and Specifications contains the city's requirements for the construction of sanitary sewer facilities installed, altered, or repaired within the city.
- (c) Development Fee Schedule contains policies pertaining to fees, including service charges, billing and collection, and calculation of fees.

The City's Sewer ordinance Chapter 13.12 of the Municipal Code and Title 8 of the Engineering Standard Drawings and Specifications, provide the City staff with the authority to enforce Element III of the SSMP requirements, are included in full in Appendix A. Segments of these documents are discussed in the following sub-sections as they pertain to the prevention of illicit discharges, proper design and construction of sewer mains and connections, maintenance access, and enforcement measures.

3a. Prevention of Illicit Discharges

Chapter 13.12 outlines legal discharges to the City of Morro Bay's sewer system. The chapter also contains measures prohibiting illicit discharges to prevent damage to the collection system, treatment process, or cause harm to the public health or environment.

- (a) Stormwater and I/I Section 13.12.100 prohibits the discharge or cause of discharge of any stormwater, surface water, groundwater, roof runoff, subsurface drainage, unpolluted industrial cooling or unpolluted industrial process waters to any sanitary sewer. Section 13.12.110 requires that all unpolluted discharge shall be discharges to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the director of public works. Unpolluted industrial cooling or unpolluted process waters maybe discharged, upon approval of the director of public works, to a storm sewer, combined sewer or natural outlet.
- (b) Prohibited discharges Section 13.12.120 prohibits the discharge or cause of discharge of any of the following described waters or wastes to any public sewers.
- Any liquid or vapor having a treatment temperature higher than one hundred fifty degrees Fahrenheit;
 - Any water or waste which may contain more than one hundred parts per million, by weight, of fat, oil, or grease;
 - Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas;
 - Any garbage that has not been properly shredded;
 - Any ashes cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works;
 - Any water or wastes having a pH lower than 5.5 or higher than 9.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works;
 - Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans, plants or animals, or create any hazard in the receiving waters of the sewage treatment plant;
 - Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
 - Any noxious or malodorous gas or substance capable of creating a public nuisance;
 - Any wastes which will exceed the limitations set forth in federal pretreatment standards;
 - Any wastes which will interfere with the disposal, reclamation or refuse of the wastewater treatment plant effluent or sludge;

- Any wastes which will cause the wastewater treatment plant to violate its NPDES permit;
- Any radioactive wastes or isotopes or half-life or concentration which exceed limits established by the water quality control superintendent;
- Any wastes which cause a hazard to human life or create a public nuisance.

3b. Proper Design and Installation of Sewers and Connections

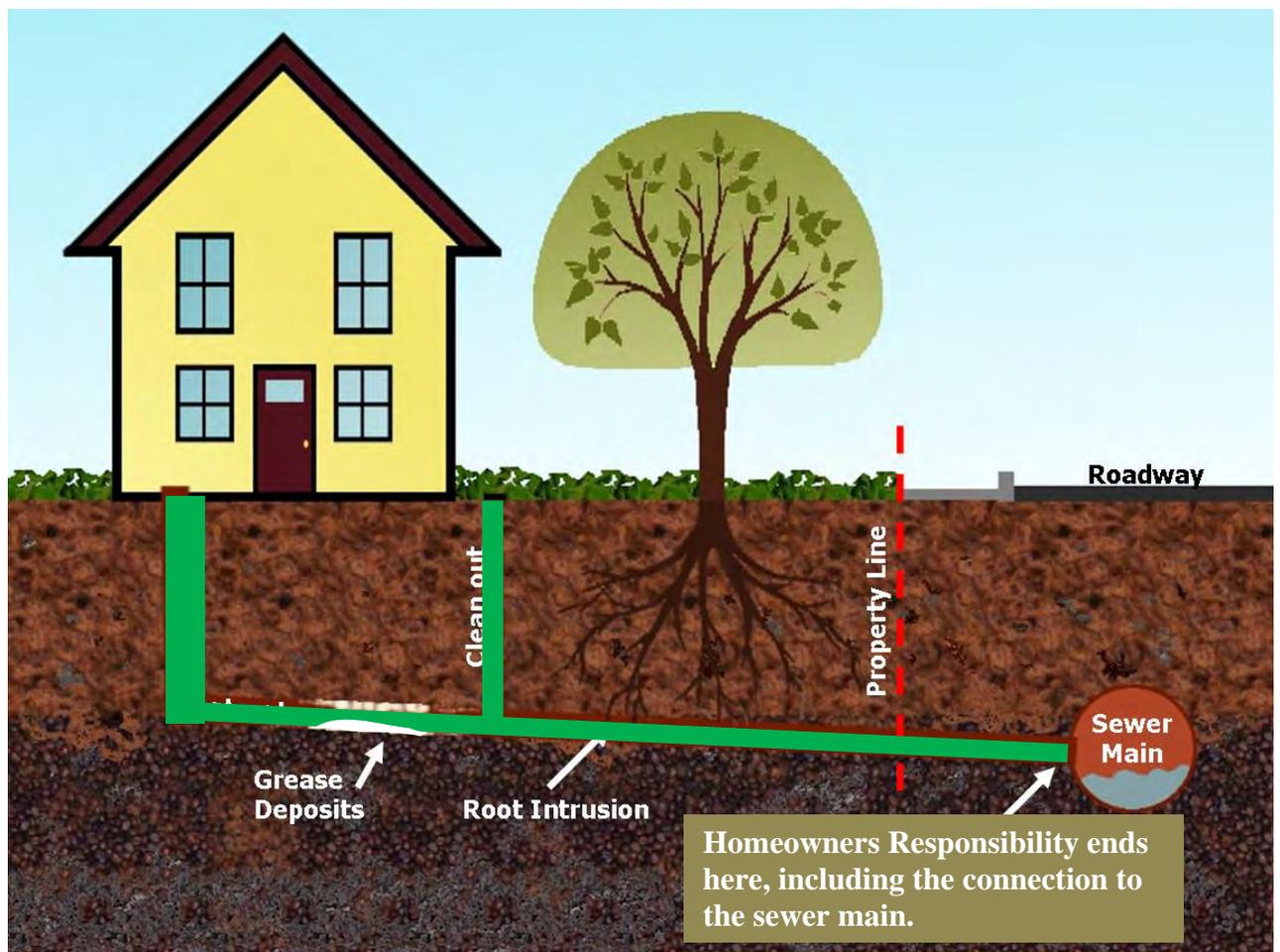
Regulations pertaining to the design, construction and inspection of private sewer systems, building sewers, and connections are included in Chapter 13.12 of the Municipal Code and Title 8 of the Engineering Standard Drawings and Specifications.

- (a) Permit Required: Section 105 of the California Building Code requires a permit to be obtained for the installation of a sewer.
- (b) Design Requirements: Section 8.02 of the Standard Specifications specifies the minimum size and slope of a building sewer. Design requirements are contained in the Standard Specifications and are assessed and revised on a 2 year basis or as needed.
- (c) Installation of Sewers: Section 8.09 states the requirements of lines and grades, trench widths, excavation for sewers, bracing and shoring, laying of pipe, trench backfill, testing of sewer lines, and cleaning for the construction of all sewer lines and connections.

3c. Lateral Maintenance Access

Property owners are responsible for maintaining in satisfactory and effective operation the street and sewer laterals all the way to the main lateral (see image below). Chapters 13.12 and 14.07.030(c) of the City of Morro Bays municipal code are the basis for the property owner maintaining their sewer lateral to the public sewer main. The Universal Plumbing Code also regulates property owners maintain their sewer laterals. The city has a map of city maintained sanitary sewer system.

The director of public works has the authority to enter all properties or send an authorized representative of the city, without prior notice, for the purpose of inspecting, sampling and testing in accordance with the provisions of chapter 13.12 of the Municipal Code.



3d. Limited Discharge of FOG and Other Debris

The Fats, Oils, and Grease (FOG) Control Program contained in this SSMP goes into detail about the city's FOG control measures. Section 13.12.120 of the Municipal Code prohibits specific discharges including any waste containing more than one hundred parts per million, by weight, of fat, oil, or grease.

Section 13.12.130 and 13.12.140 requires grease or oil and sand interceptors to be installed when deemed necessary and where installed to be maintained by the owner at their expense.

Debris discharge into the City of Morro Bay's sanitary sewer is prohibited as a discharge in section 13.12.120 which prohibits the discharge of any ashes cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works.

Section 14.07.030 (c) states that the property owner is responsible for the maintenance of the sewer lateral, up to and including, the connection to the public main.

3e. Enforcement Measures

The City of Morro Bay holds legal right to terminate water service through section 13.12.310 of the Municipal Code if any user fails to meet the requirements set forth in chapter 13.12. The director of public works shall have the authority to terminate water service or use alternate actions to protect the wastewater treatment facilities, employees, and surrounding environment from hazardous discharges.

Section 13.12.320 holds any person violating a provision of chapter 13.12 liable for all damages resulting from such violation, or which arise from actions taken in the correction of such violation, which are incurred by the city. These damages include but are not limited to attorney's fees, court costs, and fines levied on the city by regulatory agencies.

Satellite Collection Systems

There are several agencies that discharge to the City wastewater collection system that we consider to be satellite agencies. These are:

1. Morro Bay High School (San Luis Coastal Unified School District)
2. Morro Bay State Park (2 sources California State Parks)

These systems are owned and operated by other agencies, and may have more than a mile of lines. Under the Morro Bay Municipal Code these agencies are treated like any other discharger. The City does not maintain those systems, but does have the right to regulate the discharge flow into our sewer system.

The Cayucos Sanitary District (CSD) does discharge to the Wastewater Treatment Plant through both a separate main and a shared main. A Joint Powers Agreement (JPA) specifies that their discharge must be such that it does not cause harm to the treatment process, however since the CSD has an ownership interest in the WWTP, the City of Morro Bay does not consider them a satellite agency.

The current Joint Powers Agreement with the CSD is currently under review, and should be updated in conjunction with an upgrade to the WWTP. This agreement specifies ownership and operational contract that detail our legal standing.

Element IV: Operation and Maintenance

The Wastewater Collection System Division is responsible for the operation and maintenance of approximately 60 miles of sewer line; three lift stations; more than 1100 manholes/cleanouts; and equipment and facilities related to wastewater collection and conveyance. Collection Staff administer local, state, and federal regulations to control pollutants discharged into the system that can interfere with treatment processes. Some of these pretreatment programs include a FOG inspection program, a public outreach program, and other programs as necessary to ensure regulatory compliance. Staff works with local businesses to minimize pollutant discharges. Also, Staff schedules; perform maintenance and repairs and construction to the collection system and its appurtenances. Staff inspects mainlines with a CCTV camera and monitors and inspects private lateral repair and replacement. In addition, staff records historical information concerning the system and/or repairs, changes, or other information.

Staff maintains a systematic video inspection of the sewer lines, and a systematic root control program. Collection Staff's goal is to hydro-clean all the City's main lines over a two-year cycle. Lines identified with potential problems are cleaned more frequently.

Employees respond to calls and emergencies twenty-four hours a day, 7 days a week, 365 days a year.

Staff operates and maintains a combination cleaner (Hydro-Vac), a trailer mounted jetter, several emergency generators, a by-pass pump, two service trucks, and other fleet vehicles and equipment.

SWRCB Requirement

Element 4 Operations and Maintenance Program

The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's (City of Morro Bay) system:

4a. Collection System Map

Each wastewater collection system agency shall maintain up-to-date maps of its wastewater collection system facilities, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater pumping and piping facilities.

4b. Preventive Operation and Maintenance

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

4c. Rehabilitation and Replacement Plan

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

4d. Training

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

4e. Contingency Equipment and Replacement Inventories

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

4a. Collection System Maps

As a reference for collection system operation and maintenance, collection staff refers to and annotate hand-drawn and GIS generated maps. These maps divide the City into 14 numbered sections. All manholes are numbered and nearly all sewer line distances are labeled. There are additional notations on these maps concerning street names, force mains, valves, manholes with weirs, lift station locations, and pipe diameters, to aid the collections team during routine cleaning and maintenance.

On these maps, the numbering system generally follows flow direction, in that the lower numbers indicate either the highest point in a section, the end of a line, or where one section ties into another. Additionally, clean-outs and lampholes are also numbered. These set of maps are constantly being updated. When errors in distance or other issues are noticed they are updated on the maps. The information is then passed to the engineering department for inclusion in the digital Geographical Information System (GIS) sewer database described below.

Collection system Staff record lateral information during new building construction, remodels or additions of a bathroom or kitchen require a video inspection of the sewer lateral to ensure the lateral is in good working order prior to building permit issuance. The Sewer Lateral Installation Data Sheet includes a diagram with the distance from the property line, depth at the property line, installation date, contractor name, and inspector's name. This data, the attached sketch and any relevant photographs are kept at the division office, and on the City's shared drive, along with the sewer encroachment permit. The sketch and form are filled out by collections department staff with each lateral inspection.

There are as-built drawings of the three lift stations in the Collection Division office and at the Public Services office. These contain engineering information and drawings of each station. The most complete set of as-built drawings can be found in the Public Services office. There are areas of Morro Bay where sufficient as-built information does not exist. Some portions of the sewer were built prior to the incorporation of the City, and recorded information is scarce or nonexistent.

There is also a Geographical Information System (GIS) called ARCGIS available at the Public Services and collection system offices. The ArcGIS program is updated on a regular basis. Collections staff has incorporated this program into the system operation and maintenance programs.

The Public Services Division also maintains a map of the stormdrain system. Maintenance of the stormdrain maps are the responsibility of the Engineering Department which is permitted under a separate NPDES permit issued by the RWQCB. Work has begun on the updating and recording of GPS data concerning the stormdrains. The stormdrain system can also be laid over the ArcGIS system to enable rapid location of stormwater conveyance facilities in the event of a sewer spill.

In summary, the Public Services Department maintains as-built maps and databases, with the assistance of field staff. As time goes on, the continuous effort required to collect and record as-built documentation will lead to the creation of an even more complete and accurate sets of maps for use in both the office and field.

4b. Preventive Operation and Maintenance

Routine operations and maintenance activities are most readily categorized by dividing them into the normal frequency of occurrence. The time intervals we use are:

- Daily
- Monthly
- Semi-Annual
- Annual
- Others

Daily

Collection Staff inspect vehicles before use and then performs morning rounds. Morning rounds consist of Lift Station checks, USA marking, and periodic inspections of known problem areas.

Safety and Vehicle Inspection

Safety equipment is checked prior to use and/or daily, for faults and preparedness, so Staff can safely respond to an emergency. Vehicles are inspected and maintenance is performed if any problems are found to ensure a reliable operating vehicle fleet.

Underground Service Alerts

Each day operations staff checks for Underground Service Alerts (USAs) received by the Public Services Department. The Administration Utilities Tech forwards all requests to Collection Staff via email. Staff marks sewer facilities in and around the marked excavation area; the operator initials and dates the printed USA ticket. A record of this activity is logged into the locator's daily log, and the completed USA ticket is passed on to the Water Department for their use.

Lift Station checks

Each lift station is checked regularly and most often in the mornings, Monday through Friday. When Staff perform maintenance on pumps, piping system or motor control centers at lift stations, at least one trained stand-by personnel is required in addition to the trained worker performing the work.

Staff uses standard criteria to assess lift station performance. The inspection list includes: 1) check the auto dialer for normal lights and/or faults, 2) observe pump and other indicator lights at the motor control center, 3) record total pump hours and pump run hours since last station check, and if a pump is operating during inspection, observe amp readings and physical indicators of possible problems 4)

inspect wet well surface for unusual objects and mat build up, and inspect equipment inside the wet well for unusual appearance, location within the wet well, or defects 5) inspect the area around the lift station for any unusual appearance and general condition. Staff records the data and observations on lift station record sheets. Any abnormal operations and/or data are assessed, noted in a lift station record log kept at the station and on that day's lift station record sheet, reported to supervisory staff, and additional work or maintenance is scheduled.

Morning rounds may include problem area inspections and 'blind' areas where a Sanitary Sewer Overflow (SSO) could potentially go unnoticed, such as easements and creek crossings.

Electrical problems that cannot be solved or repaired will be contracted to a local electrician for troubleshooting and repair.

Following the morning rounds noted above, Staff performs various other scheduled tasks. These tasks can include PM (Preventive Maintenance) of sewer lines, manhole inspections, lateral/tie-in inspections, pretreatment program inspections, logging and recording of tasks completed or planned, or any of the other required tasks.

Customer and Interdepartmental Calls

Wastewater Collection Staff respond to calls 24 hours-a-day, 7 days-a-week, 365 days-a-year. At least one operator is always on-call and carries a standby duty phone.

Customer calls are prioritized and responded to as soon as possible. All calls are recorded in a daily log for inclusion in the Monthly Operation Summary. Standby personnel record after-hours calls on a call out form and submit this to their supervisor for review and possible staff discussion about the event(s).

Calls may come from different sources, including Public Services Department Staff, the Police Department, directly from customers, or from other City Staff. When possible, staff records the date, time, phone number, name of the reporting party, reported situation, and the resolution of the call. In some instances, Wastewater Collection Staff may not be able to solve a problem because it involves facilities on privately-owned property, which the City neither owns nor maintains. In these cases Collection Staff record the call and assists to the degree possible but does not take responsibility for the incident. Collection Staff will respond to calls associated with Private Lateral Sewage Discharges (PLSD) and assist as possible, but in general they do not perform work on private facilities. Staff may assist with cleanup of PLSDs to City streets, and provide other assistance, where such assistance is necessary to protect the public health and

welfare. The City encourages citizens to hire licensed plumbers to do repairs, maintenance, and facility cleaning on private property.

On-duty standby personnel assess and respond to after-hours calls. On-duty personnel decide on a course of action, and may call other City Staff for assistance or additional equipment.

Line Cleaning

Line cleaning with the Hydro-Vac is one of the primary tasks Collection Staff perform. The City maintains approximately 345,897 linear feet of sewer line and 1116 manholes and cleanouts.

Line cleaning is broken into two maintenance activities:

1. Scheduled maintenance, and
2. Enhanced maintenance.

Scheduled Line Cleaning

The waste water division's goal is to clean all collection system main lines on a 2-year cycle. Line cleaning is recorded in the daily log and in the Simms program on the collection division computer. The Simms program is a work management system that has outlived its useful life and will need to be replaced with a GIS-centric maintenance program.

Enhanced Line Cleaning

Typically, Collection Staff print enhanced maintenance work orders the first week of each month. The print outs provide detailed information about each line. Vac-Con and trailer jetter operators record the cleaning date and debris type and volume captured during enhanced line cleaning.. Main lines on enhanced maintenance are suspected of having FOG, roots, or other debris that could lead to a SSO before their scheduled routine cleaning. Enhanced maintenance is performed on 30, 60, 90, and 180 day intervals. Staff utilizes records, past practices, and operator familiarity to schedule enhanced maintenance.

Main lines on the enhanced maintenance list that have a history of roots will be chemically treated to control roots in main lines. Main lines on the enhanced maintenance list known for FOG and/or debris are hydro-cleaned to reduce any potential problems.

Staff maintain a list of known potential problem areas and periodically checks these areas during morning rounds for soft blockages and stoppages. Staff clean these lines and manholes as needed.

Closed Circuit Television (CCTV)

The City currently contracts CCTV main line inspections. It is the goal of the Collections Department that the collection system is inspected every five years. Other lines may be CCTV'd as problems occur or as requested for project planning purposes.

CCTV inspections are used for discovering mainline defects, prioritizing repairs to familiarizing operators with the system, and developing a conditions-based system assessment for prioritizing CIP projects. Priorities are set in accordance to **Error! Reference source not found.** in section 4c Rehabilitation and replacement. Repairs are prioritized according to condition, location, capacity and other criteria determined by Engineering and WWC staff.

Roots

The City has a systematic chemical root control program to avoid sewer main line stoppages and collection system structural deterioration caused by root intrusion. The chemical root control program consists of treating approximately 13 miles of sewer main lines over a three-year recurring cycle. Main lines included in this program include root infested lines discovered by operators while hydro-cleaning, SSOs caused by excessive roots in main lines, and CCTV observations. A contractor applies the chemical root control treatment in annual installments on one, two, and three-year cycles. During these applications, pre-selected city mains are treated, along with additional lines discovered since the last treatment. After the initial application, the current root treatment product must be reapplied within two years and then within 3 years thereafter, unless Collection Staff determine more aggressive treatment is required. This schedule is used to plan root treatment for existing and future line treatment.

Work Orders

Public Service Work Orders (WOs) are assessed, and attended to by WWC Staff in a timely manner. After the WO is complete staff record the outcome, sign and date the WO, make a copy for WWC files, and return the original WO to the Public Services Department for records retention. Work orders are usually generated from calls to Public Services by citizens or other City Staff.

Monthly Tasks

WWC Staff perform the following tasks on a monthly basis:

- a. Prepare the enhanced maintenance list and perform the maintenance.
- b. Prepare and submit the Wastewater Collections Monthly Report. The Monthly Report documents accomplishments, difficulties, collection system

maintenance and repairs, calls/complaints, spill reports , other WWC subjects that occurred over the last month, , and includes associated records. Staff submits these reports to the Wastewater Division Manager and City Engineer and file reference copies at Public Services and WWC Offices. Monthly Report information is compiled from WWC Staff Daily Logs, Source Control Logs, and other documents staff may use to record operation and maintenance activities.

- c. Report Category III SSOs or ‘No Spill’ certifications on the CIWQS website. Staff report Category I and II SSOs according to current Monitoring and Reporting Program requirements (see notification checklist Appendix B, Attachment C).
- d. Calibrate atmospheric monitors and log test data in the Calibration Log.

Annual Tasks

The following tasks are completed on an annual basis:

- a. Request a copy of the current business license list from staff at City Hall. This list is used for the FOG and Source Control Programs. The list should contain the business names, addresses and other phone and contact information. This yearly list is used to keep track of changes in ownership, and also helps locate any new businesses that may have opened or moved in the last year. From this list an operational list for FOG and Source control inspections is generated, and referenced as part of the FOG program.
- b. Schedule Root Treatment for approximately 4 miles of sewer line. WWC Staff maintain records from previous treatment cycles for scheduling future treatment. Also Staff maintains records of the root treatment guarantees, treated manhole-to-manhole reaches, and treatment costs.
- c. Plan, schedule, and contract CCTV sewer pipeline inspections, so the gravity portion of the sanitary sewer system is CCTV’d approximately every five-year.
- d. Update emergency notification sheet as appropriate. Call all the phone numbers to insure the proper number and contact are current. Assess and update any programs that may have changes to them including, personnel or phone number changes.
- e. Inflow and infiltration (I&I) into the sanitary sewer system is evaluated and discovered by smoke testing, video inspection, visual inspections, and flow meters at lift stations. WWC Staff can set portable flow meters throughout the sewer system to discover, assess, and reduce I&I.

This list is not all-inclusive, as numerous tasks are assigned to WWC throughout each year. Numerous other tasks are also addressed such as: DOT testing; Personnel Evaluations; Driver’s physicals; Certification Testing; Driver’s License Testing; Specialty Training (Confined Space Training, Trenching and shoring training, First Aid/CPR, Safety and other WWC related training); Daily logs, reports, emergency

operations and assisting with satellite agencies; Tie-in inspections, public relations and outreach; Monitoring contract work; FOG issues and source control, and others.

4c. Rehabilitation and Replacement Plan

The City contracts Closed-Circuit Television (CCTV) inspections and requires camera operators be NASSCO certified, a standardized pipeline assessment and certification program. This pipeline assessment program is used for ranking sewer pipeline condition throughout the City and aids City Staff in prioritizing and planning replacement and rehabilitation tasks and projects. In addition to the City's comprehensive GIS-centric condition assessment program, WWC Staff provide regular, detailed line cleaning and manhole assessments and lift station operation checks that can lead to conducting in-house or contracted point repairs, pipeline replacement, manhole rehabilitation/replacement, manhole/cleanout cover and ring replacements, and lift station upgrades or repairs. Also, WWC Staff conduct CCTV inspections in order to further inspect and evaluate the system.

During collection system CCTV, the CCTV operator uploads pipeline assessment data into a formula-based CCTV software program that evaluates and prioritizes pipeline conditions based on NASSCO codes. These conditions are uploaded into the City's GIS and ranked using four pipe line colors: Red indicates severe condition, Orange poor condition, Yellow average condition, and Green good condition.

These monitoring and inspecting efforts are recorded and ranked in accordance with the above color-coded priority ranking. From a priority list generated through GIS, City Staff plan sewer rehabilitation and replacement (R&R) projects.

The Morro Bay Sewer Collection System Master Plan Update, May 2006, which is the City's adopted planning document, describes short-term and long-term projects that focus on proper management and protection of the collection system infrastructure. This document delineates Capital Improvement Projects (CIPs) necessary to provide an adequate and operable sewer system for both current and future customers.

Several important techniques are available for sewer rehabilitation. The types used are best determined by an economic analysis after sewer evaluation.

Mainline Repairs

Point Repairs and Replacement

Point repairs consist of repairing cracked, corroded, or broken gravity sewers and force mains. This work typically includes excavation to the location of the break, removal of the broken pipe section(s) and replacement with new pipe.

Joint Testing and Grouting

Joint testing and grouting are done on sewer line sections with leaking joints but no structural defects. This work can be done in conjunction with the routine

televising of lines. Grouting has a limited life and must be repeated every 5-10 years.

Sewer Lining

Sewer lining is a technique which returns pipe to new condition. Many of the current systems can be used where pipe is structurally deficient. Due to the limited excavation required for these techniques, they are good choices where surface construction would cause much disruption.

Pipe Bursting

Pipe Bursting is a technique used to replace an existing pipe by splitting the existing pipe and putting the new pipe inside. This technique can be used to put in a larger pipe or replace broken sections of pipe. Due to the limited excavation required for this technique, it is a good choice where surface construction would cause much disruption.

Manhole Repairs

Manhole repairs consist of repairing structural defects or leakage in individual manholes and castings. The structural repair work may include:

Replacement of casting (lid and frame)

The castings of a manhole protect the integrity of the inside of the manhole and help prevent inflow of surface stormwater. Replacement of the casting is used when the lid and frame of a manhole have deteriorated. This technique involves replacing the old lid and frame with a new lid and frame.

Replacement of defective adjusting rings or top sections

The concrete rings that make up a sewer manhole deteriorate over time causing weak spots in the manhole walls. Rings that show extensive wear can be replaced as an alternative to replacing the whole manhole. This technique is best used for manholes that have only a few worn rings near the top section of the manhole.

Replacement of Complete manhole

Manhole replacement involves demolition and removal of the existing manhole and the construction of a new manhole. This technique is commonly used to replace damaged or caved manholes.

Relining the existing manhole

Existing Manholes can be lined with an epoxy liner to seal the manhole to prevent infiltration. Wire mesh is placed before the liner in cases where additional structural support is needed. Due to the limited excavation required for this technique, it is a good choice where surface construction would cause much disruption.

Grouting to eliminate leakage

Grouting to eliminate leakage is a technique used to seal joints between manhole rings or cracks in a manhole. By grouting joints and cracks in the sides of a manhole inflow and infiltration of stormwater and groundwater can be reduced.

Lift Station Maintenance

WWC Staff maintain three lift stations at least twice a week. Maintenance activities include checking pump station operation, removing surface mat and grease and grit build up in wet wells, checking alarm functions, inspecting and maintaining lift station check valves and checking and maintaining other lift station appurtenances in order to maintain lift stations in good, operable working order. These and other repairs that are necessary for reliable operation of the lift stations are scheduled by the Collection Supervisor.

4d. Staff Training

Training Staff is important to keep sewer systems operating efficiently. The City of Morro Bay encourages and sends staff to training seminars to teach sewer maintenance and operation skills. In addition staff also brings ideas for new technology to the City for possible adoption into the sewer program.

The table below represents the minimum level of training for the Waste Water Collections Staff. In addition to these training requirements, topics of interest to collections operations and maintenance are

- Annual training of water utility personnel and service contractors (sampling, smoke/dye testing, and CCTV inspection).
- California Water Environment Association trainings
- CJPIA online and classroom training
- Safety and other WWC related training

Training	Frequency
Injury Illness and Prevention Program	Initially, then at least annually
Hazard Communication	Initially, then at least annually
Bloodborne Pathogens	Initially, then at least annually
Heat Stress	Initially, then at least annually
Fire Extinguisher Operation	Offered annually
First Aid/CPR	Initially, then every two years
Forklift Operator Training	As needed, every 3 Years
Confined Space Entry	Recommended Every 2 Years
Lockout/Tagout/Basic Electrical Safety	Recommended Every 2 Years
Driver Awareness Traffic Control and Flagging Safety	Recommended Every 3 Years
Preventing Substance Abuse in the Workplace	Recommended Every 2 Years
Ladder Safety	Recommended Every 2 Years
Ergonomics - Office Personnel	Recommended Every 2 Years
Safe Workplaces	Recommended Every 2 Years
Hand and Portable Power Tool Safety Technology	Recommended Every 2 Years
Trench Safety Competent Person	Recommended Every 3 Years
Safety through Maintenance and Construction Zones	Recommended Every 3 Years
Fall Protection Awareness	As Needed
Backhoe Operator Training	As Needed

4e. Contingency Equipment and Replacement Inventories

WWC keeps an inventory log of all operations equipment and replacement parts. The item description, quantity, and storage location are recorded. This inventory list is kept in the WWC office, to track and manage equipment held by WWC. The list is updated on a periodic basis as equipment and replacement inventory changes. Every year the list is reviewed to verify inventory. In the event something is missing from the inventory list WWC staff investigates and updates the inventory log.

Staff operate and maintain a combination cleaner (Hydro-Vac) used for scheduled and enhanced maintenance. This tool allows the city to clean main sewer lines on a routine basis and clean mains in response to an emergency. WWC owns five emergency generators to operate lift stations during a power outage. When a lift station is being worked on, WWC owns a trash pump to move wastewater.

Spare parts are kept on hand at the City yard in order to be used to make repairs at night or on weekends when supplies are hard to obtain. Spare parts on hand include:

- Fittings
- Wyes
- Pumps
- Seals
- Blind flanges for lift stations
- Check valve parts
- Valves
- Hydro-Vac parts
- Cleaner supplies
- Paint

In the event of a catastrophic event where major repairs are needed, WWC will provide a safe, temporary solution until a specially qualified repair crew is able to make needed repairs.

Element V: Design and Performance Provisions

This section of the SSMP identifies the City of Morro Bay's design and performance provisions found in the City's Municipal Code, Standard Drawings, and Specifications. This section is to fulfill the Design and Performance Provisions element of the SWRCB (Element 5) SSMP requirements.

SWRCB Requirement

Element 5 Design and Performance Provisions

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

5a. Standards for Installation, Rehabilitation and Repair

The SSMP must identify design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.

5b. Preventive Operation and Maintenance

The SSMP must identify the procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5a. Standards for Installation, Rehabilitation and Repair

The City requires specific standards for new construction and rehabilitation of existing sewer lines. The City of Morro Bay Department of Public Works Engineering Standards Drawing and Specifications communicate these standards. These Engineering Standards are currently under review to incorporate new technologies in sanitary sewer installation, rehabilitation, and repair techniques.

The Engineering Standards are available on the City's website at:
www.morro-bay.ca.us/engineeringstandards

The City is in the process of updating its standard drawings and specifications. The update is currently in draft format and is expected to be completed in 2014. The previous update was in 1987. The City Engineer has the authority of maintaining and modifying these documents as needed.

Section 8 of the City's Engineering Standards addresses Sanitary Sewer Installation. This section includes specifications on pipe, manhole, cleanout, and sewer lateral materials and construction methods, including acceptable methods for sewer taps, as well as sewer line testing, acceptance, and abandonment of existing sewer mains. These requirements are used to ensure that sewers are constructed to meet or exceed the City's specifications and will perform adequately with minimal infiltration or maintenance problems and will maintain their structural integrity for the duration of their intended service lives.

Many of the specifications included in Section 8 of the City's Engineering Standards also apply to sewer pipeline rehabilitation and repair projects. Additional specifications related to specific sewer rehabilitation and repair projects will be added as the City selects the preferred method of such rehabilitations and repairs. Additional requirements will be included in project-specific specifications as needed to ensure a quality product.

- The City owns and operates three lift stations and does not anticipate building additional lift stations. Therefore, lift station plans and specifications are not included in the standards and will be reviewed on a project specific basis. Design standards and construction specifications for lift stations will be developed as needed on a project-specific basis should any new municipal lift stations or major lift station rehabilitation or repair projects be implemented.

All public sewer mains within the City are designed and constructed by the City or by consultants under contract to the City. The City's Engineering Standards contains design requirements for building sewers, including minimum sizes and slopes. Design flow and capacity criteria for sewer mains and trunk lines are described in the Sewer Collection System Master Plan.

5b. Standards for Inspection and Testing of New, Rehabilitated, and Repaired Facilities

In order to prevent sanitary sewer overflows and operating problems attributed to poor construction or design, inspection and testing are performed to ensure project construction conforms to contract specifications and City standards. Completed construction is not accepted by the City until the facilities are tested in accordance with the provisions of the contract and meets City standards. Inspection and testing of construction projects may be conducted by the City Engineering Department, the Wastewater Collection Staff, or by the contractor while a representative of the City monitors inspections.

Acceptance testing for gravity sewers can include:

- Low pressure air test or water test to identify leakage
- Mandrel test to identify deflection in flexible pipe
- Water, spark, or vacuum test of manholes to identify leakage
- Television inspection to identify grade variations or other construction defects
- Visual inspection

Larger construction projects, such as newly constructed or rehabilitated lift stations, are considered complete when the construction is sufficiently complete and when the facility is tested in accordance with the contract and its specifications and can be used for its intended purpose. Before acceptance of a facility, Wastewater Collection Staff and Engineering receive O&M manuals, record and as-built drawings, permanent keys, final cleanup, final repairs, etc. The testing and startup is completed when factory trained technicians start-up test results are City Staff approved and a systems reliability test demonstrates the system functions as designed.

Element VI: Overflow Emergency Response Plan

The collection system agency must develop an overflow emergency response plan (OERP) that provides procedures for SSO notification, response, reporting, and impact mitigation. The response plan should be developed as a stand-alone document and summarized in the SSMP.

SWRCB Requirement

The collection system agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- (b) A program to ensure appropriate response to all overflows;
- (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc...) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;
- (d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- (f) A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Overflow Emergency Response Plan

Discussion

The mission of the Collection Division is to provide wastewater collection and source control in a safe, environmentally conscientious and efficient manner: to implement preventive maintenance and improvements that accommodate the community's adopted goals and objectives; to develop and implement programs that comply with State and Federal mandates, rules, and regulations; to protect the health and safety of the environment, the public, and the employees; to protect the City's investment in infrastructure and equipment; to perform preventive maintenance of the City's 60 miles of collection lines and three lift stations; to assure control of source discharges to the wastewater treatment plant in accord with State and Federal regulations; to reduce storm water sources flowing into the collection system by encouraging the use of BMP's; and to aggressively minimize the potential of discharge of untreated waters to the Bay and Ocean, and throughout the City of Morro Bay.

Preventative maintenance is the best method for reducing Sanitary Sewer Overflows (SSO) throughout the City's wastewater collection system. However, SSOs can occur from time-to-time and WWC Staff are trained on quick response to the SSO site, safe use of equipment to restore collection system flow, methods to mitigate effects of SSOs on the environment, and safeguards to protect City Staff and the public.

WWC Staff respond to sewage overflow reports 24-hours-a-day, seven-days-a-week. If WWC Staff requires additional assistance, they may call upon other City Staff, including City Fire and Police.

Laterals

Sewer Laterals: The Collection Division responds to Sewer System Overflows (SSO's) and maintains manholes and main lines up to, but **not** including sewer laterals. Property owners are responsible for the repair and maintenance of private laterals. A "lateral is defined as any facility installed and intended to be used by one or more private properties, not the general public, including but not necessarily limited to, piping from City main to building and main connection. (See: Private lateral spills to city streets (PLSD), Page 44)

Current Information

Current Information: It is the responsibility of the Collection Division to ensure that all phone numbers and other references in this manual are up-to-date.

Categories of Sanitary Sewer Overflows (SSO's) update

Categories of SSO's: The State Water Resources Control Board Order No. WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program (MRP), for the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR's) categorizes SSO's as follows:

Category 1: Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure of flow condition that:

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

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

Category 3: All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

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

Reporting SSO's

All Category 1, Category 2, and Category 3 sanitary sewer overflows are reported on the California Integrated Water Quality System (CIWQS) Online SSO Database. Also, City WWC Staff may report PLSDs depending on the severity and category, even though reporting PLSD's is voluntary. The four different categories of SSOs require different reporting timeframes, reporting information, and agency notification. Morro Bay is unique because the estuary/bay is adjacent to City infrastructure and is used for commercial aquaculture. For this reason City Staff are obligated to contact commercial interests and other parties that may be affected by a SSO that discharges to the estuary/bay. City Staff developed a notification checklist with the required agencies and additional organizations' contact information and required timeframes for SSO categories (see Appendix B, Attachment C for Morro Bay Sanitary Sewer Overflow Notification Checklist).

In order to capture reporting data required by CIWQS, WWC Staff developed a SSO Field Report that Staff complete when at a SSO and/or during SSO follow up (Appendix B, Attachment C).

This section describes procedures for external notifications and reporting to the California Office of Emergency Services (Cal OES), the State Water Board, and other agencies.

Reporting Directly to Cal OES

Category 1 SSO and PLSD 1,000 Gallons or More to Surface Water other than Bay/Estuary and Ocean

For Category 1 SSOs greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it will probably discharge to a surface water, WWC Staff notifies Cal OES as soon as possible but not later than two hours after (A) the WWC Staff becomes aware of the discharge; (B) reporting is possible; and (C) notification can be provided without substantially impeding cleanup or other emergency measures. The Wastewater Division Manager, Collection System Supervisor, Collection Worker III, or Designee conducts these notifications.

Information requested by Cal OES may include:

- Name of person notifying Cal OES and direct return phone number,
- Estimated SSO volume discharged (gallons),
- If ongoing, estimated SSO discharge rate (gallons per minute),
- SSO Incident Description:
 - a. Brief narrative
 - b. On-scene point of contact for additional information (name and cell phone number)
 - c. Date and time the WWC Staff became aware of the SSO
 - d. Name of sanitary sewer system agency causing the SSO

- e. SSO cause (if known)
 - Indication of whether the SSO has been contained,
 - Indication of whether surface water is impacted,
 - Name of surface water impacted by the SSO, if applicable,
 - Indication of whether a drinking water supply is or may be impacted by the SSO,
 - Any other known SSO impacts,
 - SSO incident location (address, city, state, and zip code).

At the end of the conversation with a Cal OES representative, WWC Staff will obtain and record a Cal OES notification control number unique to each SSO,

Following initial notification to Cal OES and until the City certifies a final SSO report in CIWQS Online Database, WWC Staff will update Cal OES if there are substantial change(s) to the previously estimated SSO volumes and known impact(s).

If the CIWQS Online Database is not available, WWC Staff will fax all required information to the San Luis Obispo Regional Water Quality Control Board office at (805) 543-0397 in accordance with the reporting time schedules. When the CIWQS Online database becomes available, WWC staff will enter the required information.

For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, WWC Staff will complete one SSO report in the CIWQS, which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage, or location of the flow condition that caused the SSO, and provide descriptions of the location of all other discharge points associated with the SSO event.

For Category 1 SSO of Any Volume to Bay/Estuary and Ocean

Follow above category 1 SSO reporting procedure and report to agencies and organizations as outlined on the Morro Bay Sanitary Sewer Notification Checklist (See Appendix B, Attachment C).

SSO Reporting to CIWQS SSO Online Database-Timeframes

Category 1 and Category 2 SSOs

WWC Staff will **submit draft reports** to CIWQS SSO Online Database within three (3) business days of becoming aware of the SSO and **certify a final report** for these SSOs within fifteen (15) calendar days of the end date of the SSO.

Category 3 SSO

WWC Staff will report and certify Category 3 SSOs to the CIWQS SSO Online Database within 30 calendar days after the end of the calendar month in which the SSO occurs. For example, a category 3 that occurred in February is entered into the database and certified by the end of March.

No Spill Certification

WWC Staff will certify a no spill certification statement in the CIWQS Online SSO Database within 30 days after the end of each calendar month. This certification states there were no spills for the reporting month. Also, the WWC Staff may certify no spill reports on a quarterly basis.

If there are no SSOs during a calendar month but the enrollee reported a PLSD, the WWC Staff will still certify a ‘No Spill’ certification statement for that month.

Amended SSO Reports

City Staff that are CIWQS registered Legally Responsible Officials may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report on the CIWQS Online SSO Database. After 120 days, City LROs may contact the SSO Program Manager to request to amend an SSO report if the LRO submits justification for why the additional information was not available prior to the end of the 120 days.

SSO Technical Report (50,000 gallons or Greater Spilled to Surface Waters)

City Staff will submit an SSO Technical Report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50, 000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, will include at a minimum, the following:

- i. Causes and Circumstances of the SSO:**
 - a. Complete and detailed explanation of how and when the SSO was discovered.
 - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
 - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
 - d. Detailed description of the cause(s) of the SSO.
 - e. Historical maintenance records for the failure location.

- ii. City’s Response to SSO:**
 - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
 - b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.
 - c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

- iii. Water Quality Monitoring:**
 - a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
 - b. Detailed location map illustrating all water quality sampling points.

- c. WWC Staff and other City Staff plan to develop and implement an SSO Water Quality Monitoring Program. This program will assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, at a minimum, will:
 1. Contain protocols for water quality monitoring.
 2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible, such as safety, access restrictions, etc..
 3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
 4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
 5. Within 48 hours of the WWC Staff becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
 - i. Ammonia
 - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

Record Keeping Requirements

The City and/or WWC Staff will maintain the following records for five (5) years and make available for review by the Water Boards during an onsite inspection or through an information request:

1. General records that document compliance with all provisions of the SSS WDRs and MRP Order No. 2013-0058-EXEC, including any required records generated by the City's sanitary sewer system contractors.
2. SSO records for each SSO event, including but not limited to:
 - i. Complaint records documenting how the City responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not result in SSOs. The following information will be recorded for each complaint:
 - a. Date, time, and method of notification
 - b. Date and time the complainant or informant first noticed the SSO.
 - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
 - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
 - e. Final resolution of the complaint.
 - ii. Records and information documenting steps and/or remedial actions undertaken by City Staff,
 - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.

3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records will be attached to the SSMP.
4. Electronic Monitoring records relied on for documenting SSO events and/or estimating the SSO volume Discharged, including, but not limited to records from:
 - i. Supervisory Control and Data Acquisition (SCADA) systems
 - ii. Alarm system(s)
 - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

The Morro Bay Sanitary Sewer Overflow Notification Checklist (Refer to Appendix B, Attachment C) is posted in the Collection Division office, available the Wastewater Treatment Plant, and part of the SSO packet stowed in WWC service vehicles.

As part of the required notifications for Category 1 SSOs, WWC Staff will contact the Wastewater Division Manager and The City Public Works Director. Then the Public Works Director or Designee will notify City Council by telephone or E-mail.

Overflow Policies and guidelines

As with any wastewater collection system, the possibility exists that SSOs may occur due to unforeseen circumstances. WWC Staff must be prepared to take the necessary steps to safely contain a SSO, correct the source of the SSO, Clean the affected area(s), and comply with all necessary reporting requirements.

The following procedures and information should serve as a guide for the safe and effective response to a SSO. It should be recognized that these are guidelines; they are not a substitute for the ability of the responder(s) to use their knowledge, experience, and good judgment to protect the public, the environment, and comply with current regulatory requirements.

When called to the scene of a SSO, the first concern of any responder shall be the safety of the public, City Staff, and others nearby. Staff shall follow all applicable safety procedures when responding. Close attention should be paid to potential hazards that may exist upon arrival, such as electrical hazards, slip/trip/fall hazards, traffic hazards, and other potential hazards.

Safety concerns always take precedence over the potential time required to mitigate a SSO.

Responder(s) to any SSO should follow applicable safety procedures and assess the site for hazards, establish the best course of action, and call for additional aide as needed and/or conditions change. After establishing a safe work zone, control and containment are the primary concerns, especially in the event of a Category 1 SSO. In the event of a Category 1 SSO, additional staff will be required to assist with the control, containment, correction, reporting, and potential collection and submission of lab samples.

When discussing SSOs with the public or other agencies, do not volunteer or disown liability. Neutral comments should be used, indicating remediation of the SSO is the primary concern. Liability cannot be addressed or assigned until all relevant information has been thoroughly evaluated. If there is a customer complaint regarding liability for a SSO, direct them to the City Risk Manager at City Hall (772-6200).

Upon arrival at a blockage, spill, or SSO on public property or Right of Way:

1. **Assess the SSO** to determine the logical course of action to control, contain, correct, cleanup, and estimate the number of personnel necessary and type of equipment used for eliminating the SSO and restoring collection system flow.
2. **Secure the area** to prevent public exposure and provide a work zone if safe to do so.
3. **Contact needed personnel**, apprise them of the location, situation, course of action, and ask them to pickup additional tools, equipment, reporting paperwork, etc. in order to effectively accomplish the course of action.
4. **Wear appropriate PPE** and replace PPE that no longer protects from exposure.

5. **Contain the overflow** to the greatest extent possible and prevent it from entering any drainage area, the Bay, the Ocean or any waterway. If an overflow has entered any storm drain, block the storm drain outlet and/or use sandbags or waddles to divert the overflow, Control the overflow as close to the source as possible in order to help reduce area affected by the overflow.
6. **Clear the blockage** using the appropriate course of action
7. **Return the overflow** to the collection system by vacuuming or sweeping as much liquid and/or solids as possible. Materials used for containment need to be disposed of in an appropriate manner.
8. **Disinfect affected area** by spraying about a 1:10 solution of household bleach and water to disinfect the area; wait for the solution to dry. Ensure that no liquid leaves the containment area or enters surface water or drainage channel.
9. **Post Sewage Pollutions signs**, near any body of water that is affected by the SSO for 72 hours or until no threat can be demonstrated. (Signs are available in the Collection Division office, in the closet.)
10. **Make appropriate notifications.** Refer to Sanitary Sewer Overflow Notification Checklist & Numbers- (Appendix B, Attachment B).
11. **Sample Creeks and/or Bay** up-stream and down-stream and a remote sample site if appropriate and safe to do so. Use proper sample bottles. Samples must be handled as required by Standard Methods. They must be iced and transported to a certified laboratory, in an ice chest at your earliest possible convenience. A Chain of Custody must be filled out and accompany the samples. At the certified laboratory the party accepting the samples will sign the Chain of Custody and the person delivering the samples will get a copy of the Chain of Custody and name the requested tests (total and fecal coliforms, normally).
12. **Gather information for reports.** Refer to State Waste Discharge Requirements SSO-WDR Reporting Requirements Flow Chart- (Appendix B, Attachment A).
13. **Report to CIWQS** website.

Spills on private property

Current City Policy is as follows:

1. Do not call or recommend any cleaning company.
2. Private property owners/renters must call a cleaning company and submit a claim to the City Risk Manager. The telephone number for the Risk Manager is 772-6200.
3. If clean up is needed on private property, instruct the owners/occupants to avoid contact with contaminated articles and engage professional clean-up companies. If the owner/occupant believes the City is responsible direct them to the City Risk Manager at City Hall, during regular work hours.

Private Property spills to city streets

Collection Division personnel do not clear blockages in private laterals. The property owner is responsible for lateral maintenance/repair and must contact a plumber to clear blockages and restore flow in the lateral. In the event a PLSD overflows to city streets or right of ways and presents a health and safety hazard, WWC Staff may assist in containment and cleanup in the street or right of way.

Traffic and crowd control

In the case that traffic or crowd control is needed, employees from other divisions may be called. If none are available or more traffic and crowd control is needed personnel may call the Morro Bay Police Department, to dispatch officers or volunteers on an as needed basis. The Police Dispatch phone number is 772-6225.

Lift Station Policies

Station By-pass

If a lift station must be by-passed, it may be necessary to contract a pump truck, set up the by-pass pump, or both. If a pump truck is required, one of several local firms should be available.

There are manifolds at Lift Stations 1, 2, and 3 for by-pass pumping. If the by-pass pump is required along with Lift Station work it may be necessary to ask for additional personnel from the Treatment Plant to operate and monitor the pump. Emergency short-term by-pass at all three stations may be accomplished by use of the Hydro-Vac, however, long term by-pass requires a pump truck, because the Hydro-Vac may be called to a plug at any time.

Telemetry and Electrical Problems

For electrical and telemetry problems that cannot be resolved by WWC Staff, call one of several local electrical contracting firms that have a knowledge of our system.

Element VII: FOG Control Program

The City has determined that a FOG control program is necessary per the SSMP requirements. There is an average of between 45 and 55 food service facilities located within the city limits that discharge to the City sewers. Operations staff has also noted the tendency for grease to build-up in specific sewer lines and in certain sections of the City.

The City's FOG control program consists of focused cleaning and maintenance as well as source control. The collection division also maintains a spread-sheet of all spills and blockages to localize areas requiring further attention. The following subsections discuss identification and cleaning of grease prone areas or sewer lines that are prone to grease build-up, legal authority to prohibit grease discharge or require a grease removal device, facility inspection, public outreach, and Best Management Practices (BMPs) that can be instituted at each agency.

SWRCB Requirement

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

- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer service area;
- (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- (d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
- (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the City has sufficient staff to inspect and enforce the FOG ordinance;
- (f) An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and
- (g) Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (f) above.

FOG Control Discussion

Fats, oils and grease (FOG) can have negative impacts on wastewater collection and treatment systems. Most wastewater collection system blockages can be traced to FOG and roots. Blockages in the collection system are serious, causing sewage spills, manhole overflows and can cause back-ups into homes and businesses.

Problems caused by wastes from restaurants and other grease producing establishments are the basis for ordinances and regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste requires the installation of preliminary treatment facilities, commonly known as grease traps or interceptors.

There are two kinds of FOG pollutants common to wastewater systems:

1. Petroleum-based oil and grease (non-polar concentrations) occur at businesses (automotive related normally) using oil and grease. These disperse on the surface of water causing a sheen. These concentrations are regulated by other agencies (local, state and federal), and are not a part of this program.
2. Animal and vegetable based fats, oils and grease (polar concentrations) are more difficult to regulate due to the large number of restaurants in Morro Bay. These do not disperse in water, but instead congeal and regroup into large masses. These concentrations are the basis for this program.

Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution. Grease in a warm liquid may not appear harmful. As the liquid cools, the grease or fat congeals and causes “nauseous mats” on the surface of settling tanks and digesters. FOG can coat the interior of pipes, wet-wells and other surfaces. It can cause the shut-down of wastewater treatment units. It is the cause for enhanced maintenance of specific mainlines throughout the City.

Traps and Interceptors

A trap is a small reservoir built into the wastewater piping a short distance from the grease producing area. Baffles in the reservoir retain the wastewater long enough for the grease to congeal and rise to the surface. The grease can then be removed and disposed of properly.

An interceptor is a vault with a minimum capacity of 500 gallons. It is normally located on the exterior of the building. The vault includes a minimum of two compartments. Flow between each compartment is through a 90-degree fitting designed for grease retention. The capacity of the interceptor provides adequate detention time for wastewater to cool down and allow the grease to congeal and rise to the surface where it accumulates until the interceptor is cleaned.

Maintenance staff, or other employees of the establishment, usually perform grease trap maintenance. Permitted haulers, licensed septic services, or recyclers usually perform interceptor maintenance. The entire volume of the interceptor (liquids and solids) is removed from the interceptor and properly disposed of. When performed properly and at

the appropriate frequency, grease interceptor and trap maintenance can greatly reduce the discharge of FOG into the collection system.

The required maintenance frequency for grease interceptors and traps depends greatly on the amount of FOG a facility generates, as well as any best management practices (BMPs) that the establishment implements to reduce the FOG discharged into its sanitary sewer system.

Any establishment that introduces fats, oils or grease into the sewer system in quantities large enough to cause line blockages, hinder treatment, or in quantities greater than 100 parts per million (Municipal Code 13.12.120 B.) shall install a grease trap or interceptor. Interceptors are the best choice for larger, high volume restaurants, hotels, retirement homes and other larger commercial establishments. Smaller restaurants and take-out restaurants with limited menus, minimum dishwashing and/or minimal seating may find a trap suitable. Medium volume establishments may find that a trap will be too small and opt to install an interceptor.

Any establishment that doesn't install a trap or interceptor and generates or uses FOG in food preparation will eventually encounter a maintenance problem that will be grease related. If the blockage is in the building the establishment has direct responsibility for paying for maintenance. If a blockage or restriction is in the public sewer, the establishment may have to pay to have the city main maintained. If the blockage affects other establishments or homes there may be civil issues and penalties involved.

This section of the SSMP discusses the City of Morro Bay's FOG control measures, including identification of problem areas, focused cleaning and source control. This section is to fulfill the FOG control element of the SWRCB (Element 7) SSMP requirements.

Identification and Sewer Cleaning

The City Collection Staff utilizes records, past practices and operator familiarity to identify and prioritize enhanced maintenance procedures. A list of known areas that are prone to grease build-up and root problems has been established and schedules maintenance on 30, 60, 90, and 180 day rotations. The reason that root lines are included in this list is that grease is prone to accumulate on roots. The City has established a cyclical root control program using chemical root control measures to kill and retard the growth of roots in the sewer system. This program will expand to include areas where roots are noted by operators and CCTV inspections.

- (a) Identification of Grease Problem Areas. The City identifies potential problem areas by tracking locations and causes of blockages and SSOs. A review of the City sewer overflow spread-sheet for instance shows that most SSOs are caused by roots and grease. Additionally, debris type and severity are noted by operations staff during routine and enhanced maintenance. Areas with several restaurants or grease producing facilities are also considered potential grease problem areas.
- (b) Enhanced Maintenance. Included in the enhanced maintenance program are lines cleaned specifically for FOG control, root control, and other lines prone to problems in the past. Cleaning frequency depends on the history of stoppages, as well as areas expected to be prone to grease build-up.

The Wastewater Collection Division maintains records of each manhole to manhole reach scheduled for enhanced maintenance. These records are also used for cleaning logs, on which operator's note the date and time of cleaning, as well as the debris type and severity.

These records include additional lines that are cleaned for reasons other than FOG. Sewer lines not included in the enhanced maintenance program are cleaned on about a two-year cycle.

Two satellite agencies within the service area have restaurants. They are the San Luis Coastal Unified School District and the State Park on the south end of town. They are responsible for FOG generated in their areas.

Legal Authority to Control Sources of FOG

Legal measures available to the City to control sources of FOG include the following:

1. Authority to prohibit specific discharges
2. Authority to require grease removal devices
3. Preliminary treatment facility maintenance
4. Manhole installation
5. Inspection of premises
6. Enforcement measures, as appropriate

Legal authority to prohibit discharges

Chapter 13.12.120 of the City's municipal code prohibits specific discharges, as follows:

Except as provided in this chapter, no person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers.

- A. Any liquid or vapor having a temperature higher than one hundred fifty degrees Fahrenheit;
- B. Any water or waste which may contain more than one hundred parts per million (PPM), by weight, of fat, oil, or grease;
- C. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas;
- D. Any garbage that has not been properly shredded;
- E. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, woods, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works;
- F. Any water or waste having a pH lower than 5.5 or higher than 9.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works
- G. Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans, plants or animals, or create any hazard in the receiving waters of the treatment plant;
- H. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
- I. Any noxious or malodorous gas or substance capable of causing a public nuisance;
- J. Any wastes which will exceed the limitations set forth in federal pretreatment standards;
- K. Any wastes which will interfere with the disposal, reclamation or refuse of the wastewater treatment plant effluent or sludge;
- L. Any wastes which will cause the wastewater treatment plant to violate its NPDES permit;

- M. Any radioactive wastes or isotopes or half-life or concentration which exceed limits established by the water quality control superintendent;
- N. Any wastes which cause a hazard to human life or create a public nuisance.

Authority to install grease, oil and sand interceptors

Chapter 13.12.130 authorizes the installation of grease removal equipment as follows:

Grease, oil, and sand interceptors shall be provided when, in the opinion of the director of public works (Public Services), they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, and other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the director of public works (Public Services), and shall be located as to be readily and easily accessible for cleaning and inspection.

Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight.

Grease, oil and sand interceptors-Maintenance

Chapter 13.12.140 provides the following:

Where installed, all grease, oil, and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times.

Chapter 13.12.160 Preliminary treatment facility maintenance states the following:

Where preliminary treatment facilities are provided for any water or wastes, they shall be maintained continuously in satisfactory and effective operation, by the owner at his expense.

Manhole installation

Chapter 13.12.170 provides for the following:

When required by the director of public works (Public Services), the owner of any property served by a building sewer carrying industrial wastes shall install a suitable control manhole in the building sewer to facilitate observation, sampling and measurements of the wastes. Such manhole, when required, shall be accessible and safely located, and shall be constructed in accordance with plans approved by the director of public works (Public Services). The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.

Inspection of premises

Chapter 13.12.185 provides for inspection as follows:

The director of public works (Public Services), or authorized representative of the city, shall be permitted to enter all properties, without prior notice, for the purpose of inspection, sampling and testing in accordance with the provisions of this chapter.

Enforcement measures where appropriate

Chapter 13.12.310 provides the right to terminate water service as follows:

If any user of the city sewer system fails to meet the requirements set forth in this chapter, the director of public works (Public Services) shall have the authority to terminate water service or use alternate actions to protect the wastewater treatment facilities, employees and surrounding environment from hazardous discharges.

Chapter 13.12.320 provides liability for damages from violation as follows:

Any person violating a provision of this chapter shall be liable for all damages resulting from such violation, or which arise from actions taken in the correction of such violation, which are incurred by the city, including but not limited to attorney's fees, court costs, and fines levied on the city by regulatory agencies.

Facility Inspection

In 2002 the City conducted a survey of grease producing facilities. This included restaurants, retirement homes, markets and liquor stores with delicatessens, hotels and schools, sandwich shops, fast food agencies, and others. Inspections were based on a list of business licenses provided by the City of Morro Bay. A Site Visit Book (SVB) was developed which records the date, name of the business, owner/contact information, inspector, condition of trap and purpose of visit. There is a 'remark' section on which field notes, conditions noted and warnings can be noted. A master list was then made and a record book was instituted.

The SVB has an owner/contact signature line, which is signed at the time of the inspection. The first sheet is then torn off and given to the owner/contact and the second page stays in the book with the inspector. The inspector then uses the SVB to record data in the record book.

Inspections are conducted using the guidelines outlined in EPA publication 831-B-94-001, entitled Industrial User Inspection and Sampling Manual for POTW's. This manual provides guidelines for the conduct of inspections and recording of field notes. Other guidelines and information is gained from a publication entitled Fats, Oil and Grease, Best Management Practices Manual, Information, Pollution Prevention, and Compliance Information for Publicly-Owned Treatment Plants. This manual was produced by Brown and Caldwell, with the notation "*Reproduction with credits encouraged*".

Inspection Guidelines

1. Inspectors will maintain a professional, courteous demeanor at all times.
2. Inspections should be performed at times other than a facility rush hour.
3. The facility owner/contact or representative will open the trap or interceptor.
4. All records and field notes will be kept in ink.

The criteria used for the SVB will be as follows;

Percent of trap filled	Trap Condition
25%	Good
25%-50%	Fair
>50%	Poor

If the trap is in FAIR condition the establishment should be advised to keep an eye on the maintenance schedule. The cleaning frequency may need to be increased.

If the Trap is in POOR condition it should be noted in the 'Remarks' section of the SVB page and the owner/contact should be advised to clean it immediately. The establishment should then be re-inspected in about 30 days. Traps should not be allowed to be habitually kept in POOR condition.

In the field, grease trap inspection is best accomplished by using a manila folder cut into 2” wide strips to test the traps. This is done by using the manila strip as a dipstick. The manila strip should pierce the layer of grease in the trap, giving a good measurement of the depth of the grease and liquid. If it will not pass through the top layer the trap needs to be cleaned immediately. With interceptors a length of ½”- ¾” PVC pipe with tape on the handle works the same way with the same results. Establishments with interceptors shall also keep receipts from the agency contracted for service. These should be checked for frequency of cleaning.

The City has “No Grease-No Grasa” stickers available for sinks in establishments. These should be placed near all sinks as a reminder that it’s best to remove the grease prior to washing and introducing FOG into the system. Removing as much FOG as possible and sending it to landfill will also help keep FOG from filling a trap prematurely, causing more maintenance.

For cleaning frequency, it is best for each establishment to keep a cleaning log. This will be the best way to find and maintain each facility’s cleaning frequency. The Collection division has produced a log sheet that is being made available for businesses to log cleaning frequency. Note: A BMP for establishments with interceptors is for the manager to monitor the agency cleaning the interceptor.

Public Outreach

The City produces a newsletter that discusses each division’s accomplishments and difficulties along with educational information twice per year. The City also produces a flyer entitled, Morro Bay & Cayucos Wastewater Disposal Tips. The Wastewater Collection Division has produced a “No Grease/No Grasa”, sticker that has been made available to restaurants, as well as a cleaning log for grease traps. Work has begun on a brochure to be entitled, Help Stop The Grease. This brochure discusses the importance of keeping Fats, Oils, and Grease (FOG) out of the system, and storm drains.

The division is available to meet with businesses and others to discuss Best Management Practices (BMPs), concerning FOG, and other collection system related issues. Appointments can be made by calling the Public Services office, the Collection Department, the Wastewater Treatment Plant, or the Stormwater Program Manager.

Public Services:	772-6261
Wastewater Collections Department: Collection System Supervisor	772-6277
Wastewater Treatment Plant: WWTP Superintendent	772-6272
Stormwater Program Manager: City Engineer	772-6569
Engineering Technician	772-6265

Element VIII: System Evaluation and Capacity Assurance Plan

This section of the SSMP identifies the City of Morro Bay's plan for system evaluation and capacity assurance. The City completed a comprehensive Sewer Collection System Master Plan Update in May 2006. This Master Plan includes a capacity evaluation and identifies necessary capacity-related future improvement projects. The Master Plan is a separate document from this SSMP; this section of the SSMP summarizes key capacity-related portions of the Master Plan and adopts it by reference. This master planning process is used to fulfill the Evaluation and Capacity Assurance Plan element of the SWRCB (Element 8) SSMP requirements.

SWRCB Requirement

Element 8 Evaluation and Capacity Assurance Plan

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

8a. Evaluation:

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

8b. Design Criteria:

Where design criteria do not exist or are deficient, undertake the evaluation identified in 8a above to establish appropriate design criteria; and

8c. Capacity Enhancement Measures:

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

8d. Schedule:

The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in 8a - 8c above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

8a. System Evaluation

Capacity assessments are completed as part of the City's Sewer Collection System Master Plan update in 2006. The Master Plan capacity analysis is based on hydraulic modeling of the City's collection system under both current and future design flows. The following sub-sections provide a brief summary of the modeled system, flow estimates, and evaluation criteria used for the City's sewer system capacity evaluation.

Note that the City does not have a history of sanitary sewer overflows caused by hydraulic deficiencies in the sewer system. Likewise, modeling of the City's sewer system conducted during the preparation of the 2006 Sewer Collection System Master Plan also shows no likely dry weather overflows due to current hydraulic deficiencies. The Master Plan shows that there are some areas of the collection system that will need to be upsized to handle wet weather flow conditions at build out. The sections in need of upsizing are identified in the Master Plan and are prioritized in the capital improvement project schedule.

As part of the effort to reduce I&I, the City has purchased and will be installing flow monitoring equipment. These devices will allow the City to determine baseline flow conditions and that data will be used to calibrate and check future models.

Hydraulic Model

As a part of the City's Sewer Master Plan, a hydraulic model was developed using a spreadsheet model, based on Manning's Equation, to evaluate existing and ultimate build-out capacity. Nearly all of the City's collectors, ranging in size from 6 to 27 inches in diameter, were included in the model. As discussed in previous sections of this SSMP, the City also receives flow from the Cayucos Sanitary District (CSD). No pipes from outside agencies were included in the model, but the model did include flow inputs from the locations where flow discharges into to the City's system from the CSD.

Flow Estimates

As noted above, flows were considered from within the City, as well as from the CSD.

Existing and ultimate flow demands were estimated based on the City of Morro Bay Planning Department's estimates of the City build-out population. Flows estimates were based on the number, type, and location of connections. During the development of the Master Plan, flow meters were installed at eleven temporary monitoring sites within the City to confirm the projected estimates and to calibrate the model.

Further discussion of the collection system analysis can be found in Chapter 5 of the Master Plan. Current and future average daily base wastewater flows are summarized in Table 8-1. As discussed under Capacity Evaluation Criteria below, peak wet weather flows were projected to be about three times greater than average daily flows. This coordinates with the FMP prepared for the wastewater Treatment Plant Project which used a peaking factor of 4.5.

Existing (2006) Flow	0.833 mgd
Projected Ultimate Build Out Flow	0.99 mgd

*Source: City of Morro Bay Sewer Collection System Master Plan Update

8b. Design Criteria

Since the adoption of the SSMP in 2009, the City of Morro Bay has not experienced any dry weather sanitary sewer overflows due to hydraulic deficiencies in the sewer system. The City’s design criteria account for wet weather flows by reserving additional capacity for those events.

8c. Capacity Enhancement Measures

The City relies on several documents, which plan for future growth, secure needed funding, and prioritize projects based on the service area needs and to design and construct improvements. In general, the Master Plan and Capital Improvement Project Prioritization process consider the needs of the service area as well as capacity or other operational needs.

A Capital Improvement Project Prioritization process consists of ranking a list of projects from the latest Master Plan, operational issues, and modeling results. A project prioritization list is developed and ranked by City staff to identify and prioritize projects to be conducted. Projects are evaluated on an annual basis as part of the City’s budgeting process. This process considers the needs, risks, and funding priorities for the various projects.

The City uses the Master Plan to determine what projects are needed to prevent hydraulic deficiencies from occurring. Projects that are identified and prioritized in the Capital Improvement Project Prioritization process are scheduled and constructed under the direction of the manager of the Engineering Department. It is a goal of the City to update the Master Plan on a regular basis or when projects identified are largely completed; or when a significant change is made to the system (such as the addition of a large new development).

8d. Capital Improvement Schedule

The City of Morro Bay maintains a list of capital improvement projects (CIPs) for the Wastewater Collection System. This list is generated through the Capital Improvement Program Prioritization process and review of the current Master Plan. A complete list of Capital Improvement Projects can be found in Table 7-3 of the Master Plan.

The Morro Bay Public Services Department has an up-to-date list of current CIPs including description, priority, and progress. The City reviews the capital projects, available funding, anticipated staff resources available, and priorities on an annual basis as part of the City’s budgeting process.

Element IX: Monitoring, Measurement, and Program Modification

This section of the SSMP discusses parameters the City tracks to monitor the success of the SSMP and how the City plans to keep the SSMP current. This section fulfills the Monitoring, Measurement, and Program Modifications requirement for the SWRCB (Element 9) SSMP requirements.

SWRCB Requirement

Element 9 Monitoring, Measurement, and Program Modification

The Enrollee shall:

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

9a. Maintain Relevant Information

The City tracks several performance measures through tracking logs and annual reports. The City plans to continue tracking these performance measures. Tracking tools include:

- Monthly and Annual Reports
- Asset Management Software
- SSO Reporting and Tracking
- Staff Training Records
- Flow Monitoring Reports
- System Modeling and Capacity
- SSMP Audits Program
- Video Inspection Results
- Fog Inspection Log

9b. Monitor and Measure the Effectiveness

In order to monitor the effectiveness of each element of the SSMP, the City has selected specific parameters that can be documented and compared on an annual basis in a simple format. These parameters were selected because they are straightforward, quantitative, and focused on results. Although the parameters may not track everything associated with SSMP implementation, changes in these parameters over time will indicate the overall success of the SSMP or, conversely, underlying problems that can then be investigated further.

There are eleven required elements to the SSMP. Our Monitoring, Measurement, and Program Modification efforts for each element are:

Element I: Goals

The goal of the collection system is unlikely to change significantly. As part of the SSMP audit process (Element 10) we will review the goal and make necessary modifications

Element II: Organization

The dynamics of organizations can change dramatically with time. The effectiveness and staffing levels of the current organization will be reviewed and compared to required SSMP efforts to determine when adjustments will need to be made to either organizational or staffing levels.

Element III: Legal Authority

The legal authority by which the City operates and maintains its sewer system lies nested in the Municipal Code which can be changed as necessary through a formed City Council process. Changes to the City's legal authority will most frequently be made to stay in alignment with changes to both State and Federal requirements. Changes to our legal authority will occur on an as needed basis.

Element IV: Operation and Maintenance Program

Collections Operations and Maintenance (O&M) practices have evolved rapidly in the last several years and will continue to evolve as new technologies are developed. Modifications to the collections O&M Program are an ongoing effort. The process of auditing the SSMP every two years as required by element 10 will be used as a systematic evaluation of the effectiveness of our O&M Program. Significant changes made to the O&M practices currently in place will be documented in the audit process and included in the updated SSMP.

Element V: Design and Performance Provisions

Design and performance provisions do not require frequent adjustment. On occasion new products, techniques, or practices are developed that warrant changes or revisions to design and performance standards. More frequently, rules, regulations, and code changes are made that need to be reflected in the City's standards. The authority to make these changes lies with the City Engineer and can be made as frequently as necessary. These changes will be documented in the SSMP which will be posted on the City's website and available at the Public Services Office.

Element VI: Overflow Emergency Response Plan

Each spill from a sanitary sewer system is a unique event with its own set of circumstances. It is likely that as crews respond to events there may be refinements necessary to the adopted Overflow Emergency Response Plan (OERP). The general approach for dealing with SSOs defined in the OERP is not likely to change. Adjustments will be made as necessary and will be documented, reviewed and adopted in the SSMP audit process. The number and type of SSOs within the City are tracked, and this log will be used to determine trends in SSO events with the intent of reducing or eliminating future SSOs.

Element VII: F.O.G. Control Program

The F.O.G. control program in Morro Bay is viewed as the primary element of the Source Control Program. The effectiveness of site visits and other outreach efforts can be directly measured by the impact of F.O.G. on the system. The City has had a fairly mature F.O.G. Control/Source Control program in place for a number of years so major changes are not anticipated. Refinements made to the program will be documented, reviewed and adopted in the SSMP audit process.

Element VIII: System Evaluation and Capacity Assurance Plan

The City of Morro Bay uses the Master Plan process as the Capacity Assurance Plan (CAP). It is a goal of the City to update the Master Plan on a regular basis or when projects identified are largely completed; or when a significant change is made to the system (such as the addition of a large new development).

Element XI: Communication Program

The Utilities and/or Public Services Department sends out a biannual newsletter and posts the information on the City's website. Through these media as well as through the televised Public Works Advisory Board and City Council Meetings the department reaches out to the Public. Collections Division staff is the first line of communication with the public on a daily basis. During their normal business practices they provide information to the public including information on O&M procedures, lateral condition assessment and lateral repair/replacement, information pertaining to SSO's, as well as BMPs during site visits to commercial establishments. The effectiveness of this effort will be audited within the SSMP framework and any necessary changes will be made during the SSMP audit process.

9c. Success of Preventative Maintenance

The City's preventative maintenance program is designed to minimize corrective and emergency maintenance as well as equipment failures. The City will assess the success of the preventative maintenance program by monitoring Operation and Maintenance records, asset inventories, equipment failures, and SSOs. If it is determined that the cause of any SSOs may have been prevented through preventative maintenance, job plans and schedules will be adjusted accordingly to help protect against the reoccurrence of future SSOs.

9d. Update Program Elements

Program elements will be updated or modified based on the review of the monitoring and reporting data through the self audit process as described in Element 10: SSMP Program Audit of this SSMP.

9e. Identify and Illustrate SSO Trends

The City reports all SSO events to the California Integrated Water Quality System (CIWQS) per the WDR and MRP 2013-0058. The frequency, causes, volumes, locations, and other SSO details and trends are tracked and analyzed by the City. The Wastewater Collections Division keeps a historical listing of all SSO events. SSO events are investigated and a report is generated per the WDR and MRP 2013-0058, providing event details and causes of the SSO. SSO causes and actions taken to prevent similar SSO events from occurring will be included in the Element 10: SSMP Program Audit of this SSMP.

Element X: SSMP Program Audits

This section of the SSMP discusses the City’s SSMP auditing program. This section fulfills the SWRCB (Element 10) SSMP Audit requirements.

SWRCB Requirement

Element 10 SSMP Program Audits

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

SSMP Program Audits

The City of Morro Bay will produce internal audits every two years to determine the effectiveness of the SSMP elements and programs. The program audit will include a review of relevant data and trends maintained as part of the SSMP Monitoring and Measurements Program to determine opportunities to improve compliance with the SSMP requirements and system performance. A prioritized list of improvements will be updated as part of the audit program. An overview of SSMP related progress between audits will be included in the program audit.

As part of the audit process, the Wastewater Collections Division will review the SSOs from the previous years and will provide details in the Audit on the causes of the SSOs and what actions were taken to prevent similar SSOs from occurring in the future. If any deficiencies are determined, the appropriate elements of the SSMP will be updated as well as corresponding reference material.

The biennial audit evaluates the effectiveness of the SSMP and includes steps to correct any noted deficiencies. The report will be posted on the City’s website and will be kept on file as an update to the City’s SSMP, and will be included in State of the Sewer Reports to the City Council. When major changes are made to the SSMP the modified elements may be presented to City Council to be readopted.

To date, per the SWRCB requirements, two audits of the SSMP have been performed. The audits were performed in June 2011 and June 2013. Those audits were conducted by Collection Division and Engineering Division staff members and the audits were posted on the City web site.

Element XI: Communication Program

This section of the SSMP discusses the City of Morro Bay's Communication during the development, implementation, and performance of the SSMP. This section also discusses the communication between the City of Morro Bay and systems that are satellite to the City's sanitary sewer system. This section is to fulfill the Communication Program element of the SWRCB (Element 11) SSMP requirements.

SWRCB Requirement

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

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

Communication Program for Development of SSMP

During the development of this SSMP, each element of the SSMP was presented to the Public Services Advisory Board (PWAB) prior to presentation to the Morro Bay City Council for approval and adoption. PWAB and City Council presentations were televised on the local public access television channel 20 and allowed for public review and comment.

The completed SSMP is posted on the City's website along with the biennial audits. This ensures public access to the adopted SSMP.

Communication Program for Implementation of SSMP

The City's Collection Division in conjunction with the Public Services Department and the Wastewater Treatment Plant have a proactive public outreach program designed to provide information regarding best management practices to both commercial and residential customers. The outreach program utilizes utility newsletters, community outreach, the City's web site and individual source control site visits as appropriate to provide information on the SSMP and best management practices. Topics include but are not limited to FOG, proper disposal of unused medications, what not to flush, pet waste disposal, and any newsworthy items from the Collections Division.

Feedback on implementation and performance of the adopted SSMP elements will be recorded and taken into consideration for areas of review for the next revision of the SSMP. The document is required to be audited on a biennial basis, and the results of the audits are posted on the City web site. The current revisions to the SSMP will be adopted via a public process, ensuring continued public involvement and outreach opportunities.

Communication Program with Satellite Systems

There are several agencies that discharge to the City Wastewater Collection System that we consider to be satellite agencies. These are:

1. Morro Bay High School (San Luis Coastal Unified School District)
2. Morro Bay State Park (2 sources)

Regular communication with these satellite agencies will continue, and concerns regarding these satellite agencies will be discussed with the agency as needed.

The City of Morro Bay and the Cayucos Sanitary District operate under a Joint Powers Agreement (JPA) which outlines the joint ownership and operation of the wastewater treatment plant and sewer line. The Cayucos Sanitary District is not considered a satellite agency because they own, operate, and maintain a collection system that is tributary to the wastewater treatment plant they jointly own and operate. Communication with the Cayucos Sanitary District is necessary to operate the jointly owned sewer line that runs along North Main Street into the wastewater treatment plant. JPA meetings are routinely scheduled to discuss issues and make decisions regarding elements of the JPA.

Appendix A

Legal Authority Element Reference Documents

Attachment A: City of Morro Bay Municipal Code Chapter 13.12

Attachment B: City of Morro Bay Standard Specifications: 8. SEWERAGE

Attachment C: City of Morro Bay Engineering Standard Drawings: Sewer Section

Morro Bay, California, Code of Ordinances >> **Title 13 - PUBLIC UTILITIES** >> **Chapter 13.12 SEWERS***
>>

Chapter 13.12 SEWERS* ¹

Sections:

- [13.12.010 Connection permit for annexed territory.](#)
- [13.12.020 Annexed territory connection—Computation of cost.](#)
- [13.12.030 Annexed territory connection—Existing bonds excepted.](#)
- [13.12.040 Main extensions to new customers other than subdivisions.](#)
- [13.12.050 Calculation of sewer main extension charges.](#)
- [13.12.060 Refunds.](#)
- [13.12.070 Main extensions to subdivisions.](#)
- [13.12.080 Refunds to subdividers.](#)
- [13.12.090 Use of existing sewer.](#)
- [13.12.100 Quality of sewer discharge.](#)
- [13.12.110 Discharge of storm water, unpolluted drainage and industrial cooling waters.](#)
- [13.12.120 Prohibited discharge.](#)
- [13.12.125 Federal and state requirements.](#)
- [13.12.130 Grease, oil and sand interceptors—Installation.](#)
- [13.12.140 Grease, oil and sand interceptors—Maintenance.](#)
- [13.12.150 Review and preliminary treatment of waters and wastes.](#)
- [13.12.160 Preliminary treatment facility maintenance.](#)
- [13.12.170 Manhole installation.](#)
- [13.12.180 Analysis of waters and wastes.](#)
- [13.12.185 Inspection of premises.](#)
- [13.12.190 Agreement between city and industry.](#)
- [13.12.200 Sewer charges.](#)
- [13.12.205 Sewer use charges.](#)
- [13.12.210 Collections.](#)
- [13.12.215 Collection of past due accounts.](#)
- [13.12.220 Discharging sewage onto city lands.](#)
- [13.12.230 Discharging sewage from septic tanks.](#)
- [13.12.240 Designated sewage dumping places.](#)
- [13.12.250 Discharge fees.](#)
- [13.12.260 Commercial facilities.](#)
- [13.12.270 Private facility—Construction.](#)
- [13.12.280 Private facility—Operation.](#)
- [13.12.290 Private facility—Permit revocation.](#)
- [13.12.300 Private facility—Appeals.](#)
- [13.12.310 Right to terminate water service.](#)
- [13.12.320 Liability for damages for violation.](#)

13.12.010 Connection permit for annexed territory.

Before a permit shall be issued for a sewer connection in any area now outside the city limits which shall hereafter be annexed to the city, the owner or applicant shall pay to the city for such privilege a sum in accordance with the Master Fee Schedule.

(Ord. 225 § 66, 1982; Ord. 13 § 1 (part), 1965: prior code § 9200)

13.12.020 Annexed territory connection—Computation of cost.

The sum shall be the equivalent of the cost to similar properties then within the city which have paid for the facilities so to be used.

(Ord. 13 § 1 (part), 1965: prior code § 9201)

13.12.030 Annexed territory connection—Existing bonds excepted.

The sum shall not include any amounts for which bonds of the city are then outstanding and to which the property shall become subject upon annexation.

(Ord. 13 § 1 (part) 1965: prior code § 9202)

13.12.040 Main extensions to new customers other than subdivisions.

Mains will be extended to serve new customers under the following terms and conditions:

- A. No main extension will be made by the city except on an approved dedicated street, alley or recorded easement;
- B. Prior to construction of the main, every applicant for sewer service shall enter into a written form agreement for such extension and shall deposit with the department of public works an amount equal to ten percent of the estimated cost of the extension, including engineering and administration. The estimated cost shall be based on the actual size of facilities required to meet the service demands from that extension, except that six inch pipe shall be the minimum size considered for general use. Should the sewer department desire to install facilities greater than are needed to meet said service demands, the cost of the excess size of facilities shall be borne by the city. The engineering department shall then proceed with plans and specifications and shall solicit and open bids for the proposed work. On the basis of the approved bid, plus engineering and administration costs, the department of public works shall inform the applicant as to the cost of the proposed extension. Upon receipt by the city of an amount which, with the original deposit, is equal to the cost of the work, the engineering department shall proceed with the construction of the extension;
- C. In the event that the applicant or applicants fail to deposit the required funds within sixty days after determination of the cost, the extension will not be made and no refund on the ten percent deposit will be made, except that where actual costs are less than the amount of such deposit, the city may refund the unused amount.

(Ord. 13 § 1 (part), 1965: prior code § 9203)

13.12.050 Calculation of sewer main extension charges.

Immediately upon completion of the sewer extension, the city engineer shall prorate the entire cost thereof against all lots or property that may ultimately be benefited by direct connection to said sewer extension in proportion to the frontage thereof, or if the lots be irregular in shape, then

in such manner as may, in the opinion of the city engineer, provide an equitable distribution of costs. In no case shall any applicant pay an amount less than the prorated cost of the extension for the length of his frontage as determined in this section. The sewer main extension charges shall be in addition to the specified service connection charges.

(Ord. 13 § 1 (part), 1965: prior code § 9204)

13.12.060 Refunds.

- A. The original applicant or applicants shall, up to ten years from the date of signing the form agreement, be entitled to a refund for each connection made to the extension, based on the prorated cost as determined in [Section 13.16.060](#) for each lot or parcel. The engineering department may make extensions to the facilities constructed under this subsection without obligation to applicant and refunds will not be made for services connected to said additional extensions.
- B. No interest shall be paid on or accrue on such deposits for sewer main extensions. Refunds of the deposit shall be made only if, as and when sewer main extension charges are collected from other consumers requiring service from this sewer main extension.

(Ord. 13 § 1 (part), 1965: prior code § 9205)

13.12.070 Main extensions to subdivisions.

Where sewer main extensions are required for subdivisions, it will be the responsibility of the owner or subdivider to pay the cost for complete installation of all sewer facilities required within the subdivision and for extension of sewer transmission mains from the subdivision to the nearest existing main of adequate capacity for the area to be served. Such transmission main shall be subject to all the requirements as set forth in standard improvement specifications and drawings of the city, and to any and all modifications and supplements thereto. Upon official acceptance by the city, the city shall assume full ownership, maintenance and control of such mains.

(Ord. 13 § 1 (part), 1965: prior code § 9206)

13.12.080 Refunds to subdividers.

- A. Upon completion of any sewer transmission main to a subdivision as outlined in [Section 13.12.070](#), the subdivider may submit to the city engineer a certified statement showing the actual cost of such extension. If said extension is larger than six inches in diameter, the city engineer shall adjust the actual cost to the equivalent of a six-inch-diameter main. He shall then prorate the cost for a six-inch main against all lots or parcels which in the future may be served by direct connection to said main. Any and all connections to said main shall be subject to the charges specified in [Section 13.12.050](#). The city may make extensions to facilities constructed under this regulation without obligation, and refunds will not be made for services connected to said additional extension.
- B. The subdivider or owner shall, for a period of ten years from the date of official acceptance of the subdivision, be eligible for a refund on each connection made to the main extension, as provided herein.
- C. No interest shall be paid on or accrue on any funds subject to such refund. Refunds shall be made only if, as, and when sewer connection charges are collected by the city.

(Ord. 13 § 1 (part), 1965: prior code § 9207)

13.12.090 Use of existing sewer.

Before a permit is issued for a sewer connection in any areas within the city, which property shall use any then-existing sewerage facilities of the city for which such property shall not have made full payment of its share of the cost thereof, the owner or applicant shall pay a sewer availability charge in accordance with the Master Fee Schedule.

A sewer availability charge is a sum of money required to be paid by any person to buy into the municipal sewer system.

(Ord. 225 § 67, 1982; Ord. 155 § 3, 1977; Ord. 13 § 1 (part), 1965: prior code § 9208)

13.12.100 Quality of sewer discharge.

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, unpolluted industrial cooling or unpolluted industrial process waters to any sanitary sewer.

(Ord. 279 Exh. A (part), 1986: Ord. 13 § 1 (part), 1965: prior code § 9209 (part))

13.12.110 Discharge of storm water, unpolluted drainage and industrial cooling waters.

Stormwater and all unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the director of public works. Unpolluted industrial cooling or unpolluted process waters may be discharged, upon approval of the director of public works, to a storm sewer, combined sewer or natural outlet.

(Ord. 279 Exh. A (part), 1986: Ord. 13 § 1 (part), 1965: prior code § 9209A)

13.12.120 Prohibited discharge.

Except as provided in this chapter, no person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers.

- A. Any liquid or vapor having a temperature higher than one hundred fifty degrees Fahrenheit;
- B. Any water or waste which may contain more than one hundred parts per million, by weight, of fat, oil, or grease;
- C. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas;
- D. Any garbage that has not been properly shredded;
- E. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, woods, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works;
- F. Any water or wastes having a pH lower than 5.5 or higher than 9.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works;
- G.

Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans, plants or animals, or create any hazard in the receiving waters of the sewage treatment plant;

- H. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
- I. Any noxious or malodorous gas or substance capable of creating a public nuisance;
- J. Any wastes which will exceed the limitations set forth in federal pretreatment standards;
- K. Any wastes which will interfere with the disposal, reclamation or reuse of the wastewater treatment plant effluent or sludge;
- L. Any wastes which will cause the wastewater treatment plant to violate its NPDES permit;
- M. Any radioactive wastes or isotopes or half-life or concentration which exceed limits established by the water quality control superintendent;
- N. Any wastes which cause a hazard to human life or create a public nuisance.

(Ord. 279 Exh. A (part), 1986; Ord. 13 § 1 (part), 1965; prior code § 9209B)

13.12.125 Federal and state requirements.

Federal and/or state discharge requirements will apply in any case where they are more stringent than those in this chapter.

(Ord. 279 Exh. A (part), 1986)

13.12.130 Grease, oil and sand interceptors—Installation.

Grease, oil and sand interceptors shall be provided when, in the opinion of the director of public works, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, and other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the director of public works, and shall be located as to be readily and easily accessible for cleaning and inspection.

Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight.

(Ord. 13 § 1 (part), 1965; prior code § 9209C)

13.12.140 Grease, oil and sand interceptors—Maintenance.

Where installed, all grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times.

(Ord. 13 § 1 (part), 1965; prior code § 9209D)

13.12.150 Review and preliminary treatment of waters and wastes.

- A. The admission into the public sewers of any waters or wastes having:
1. A five day biochemical oxygen demand greater than three hundred parts per million by weight; or
 2. Containing more than three hundred fifty parts per million by weight of suspended solids; or
 3. Containing any quantity of substances having the characteristics described in [Section 13.12.120](#); or
 4. Having an average daily flow greater than two percent of the average daily sewage flow of the city, shall be subject to the review and approval of the director of public works.
- B. Where necessary in the opinion of the director of public works, the owner shall provide, at his expense, such preliminary treatment as may be necessary to:
1. Reduce the biochemical oxygen demand to three hundred parts per million and the suspended solids to three hundred fifty parts per million by weight; or
 2. Reduce objectionable characteristics or constituents to within the maximum limits provided for in [Section 13.12.120](#); or
 3. Control the quantities and rates of discharge of such waters or wastes. Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the director of public works and of the Water Pollution Control Board of the state, and no construction of such facilities shall be commenced until said approvals are obtained in writing.

(Ord. 13 § 1 (part), 1965: prior code § 9209E)

13.12.160 Preliminary treatment facility maintenance.

Where preliminary treatment facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation, by the owner at his expense.

(Ord. 13 § 1 (part), 1965: prior code § 9209F)

13.12.170 Manhole installation.

When required by the director of public works, the owner of any property served by a building sewer carrying industrial wastes shall install a suitable control manhole in the building sewer to facilitate observation, sampling and measurements of the wastes. Such manhole, when required, shall be accessible and safely located, and shall be constructed in accordance with plans approved by the director of public works. The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.

(Ord. 13 § 1 (part), 1965: prior code § 9209G)

13.12.180 Analysis of waters and wastes.

All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in Sections [13.12.120](#) and [13.12.150](#) shall be determined in accordance with "Standard Methods for the Examination of Water and Sewage," and shall be determined at the control manhole provided for in [Section 13.12.170](#), or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected.

(Ord. 13 § 1 (part), 1965: prior code § 9209H)

13.12.185 Inspection of premises.

The director of public works, or authorized representative of the city, shall be permitted to enter all properties, without prior notice, for the purposes of inspection, sampling and testing in accordance with the provisions of this chapter.

(Ord. 279 Exh. A (part), 1986)

13.12.190 Agreement between city and industry.

No statement contained in this chapter shall be construed as preventing any special agreement or arrangement between the city and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the city for treatment, subject to payment therefor by the industrial concern.

(Ord. 13 § 1 (part), 1965: prior code § 9209I)

13.12.200 Sewer charges.

All users other than single and multiple family residences, trailer parks, motels, business establishments, schools, churches, fraternal and nonprofit organizations using more than one thousand five hundred cubic feet per month of sewage, shall be charged on the basis of cubic feet of sewage treated for the installation. Such quantities of sewage shall be determined by the city engineer, based upon the flow of sewage through a measuring device. Any occupant so charged who may disagree with the city engineer's determination may, at the occupant's own expense, install private measuring devices in accordance with the specifications approved by the city engineer.

(Ord. 13 § 1 (part), 1965: prior code § 9210)

13.12.205 Sewer use charges.

All sewer users including but not limited to single-family and multiple-family residences; trailer parks; motels; business establishments; schools; churches; public utility and industrial facilities; district, county, state and federal facilities; fraternal and nonprofit organizations shall pay a sewer use charge in order to provide funds to supplement the general taxes in financing construction, maintenance and operation of sewage collection, transport and treatment facilities in and for the city.

(Ord. 155 § 4, 1977)

13.12.210 Collections.

Sewer use charges shall be in addition to the water charges and shall be included in the customer's bimonthly utility bill. Such charges shall be based upon rates in accordance with the Master Fee Schedule.

(Ord. 225 § 68, 1982; Ord. 155 § 5, 1977; Ord. 13 § 1 (part), 1965: prior code § 9211)

13.12.215 Collection of past due accounts.

Nothing contained in this chapter shall limit the right of the city to proceed against any customer for any delinquencies due under [Title 13](#) of this code. Nothing contained in this chapter shall prevent the city from availing itself of any other legal remedy by which the city might collect such charges, fees, or penalties.

(Ord. No. 560, 8-23-10)

13.12.220 Discharging sewage onto city lands.

It is unlawful for any person to dump or discharge raw or chemically treated sewage from any source onto the surface of any lands within the city.

(Ord. 43 § 1 (part), 1966: prior code § 9212.1)

13.12.230 Discharging sewage from septic tanks.

It is unlawful for any person to dump or discharge within the city, septic tank cleanings or any raw or chemically treated sewage from septic tanks.

(Ord. 43 § 1 (part), 1966: prior code § 9212.2)

13.12.240 Designated sewage dumping places.

Raw or chemically treated sewage from chemical toilets and sources other than septic tanks may be discharged or dumped within the city only at the places owned and/or operated by the city and designated by the director of public works or at such privately owned facilities for which a current operating permit has been issued as provided in this chapter.

(Ord. 43 § 1 (part), 1966: prior code § 9212.3)

13.12.250 Discharge fees.

Each person dumping or discharging raw or chemically treated sewage from sources other than septic tanks into the facilities of the city shall pay the following fees:

- A. House trailers or campers — See Master Fee Schedule;
- B. Tank trucks or other commercial carriers — For each vehicle, see Master Fee Schedule for charge for each one thousand gallon capacity or fraction thereof, regardless of the actual amount discharged.

(Ord. 225 §§ 69 and 70, 1982; Ord. 43 § 1 (part), 1966: prior code § 9212.4)

13.12.260 Commercial facilities.

It is unlawful for any person to discharge or dump raw or chemically treated sewage from commercial tank trucks or from other commercial sources into privately owned and/or privately operated facility. Such commercial source shall discharge or dump such sewage only into the facilities owned and/or operated by the city.

(Ord. 43 § 1 (part), 1966: prior code § 9212.5)

13.12.270 Private facility—Construction.

No person shall install or construct any facility for receiving raw or chemically treated sewage from sources other than septic tanks without having first secured a building permit for said installation from the building official in accordance with Sections 14.04.030 through 14.04.050 of this code. All such private facilities shall be installed in strict conformance with the approved plans and specifications of the city.

(Ord. 43 § 1 (part), 1966: prior code § 9212.6)

13.12.280 Private facility—Operation.

No owner or operator of any facility for the reception of raw or chemically treated sewage shall permit any raw or chemically treated sewage to be dumped into such facility until an operating permit for such facility has been obtained from the director of public works as provided for in this chapter and conspicuously posted near such facility. Upon application to the director of public works, the director of public works shall issue, in accordance with the Master Fee Schedule, an operating permit to the owner of any such privately owned facility upon certification to the director of public works by the building official that such facilities have been constructed in conformance with the approved plans and specifications of the city. Such operating permit shall be conditional upon continued operation of such facilities in compliance with the rules, regulations and directives of the director of public works relating to such operation, including maintenance and cleaning of such facilities. The owner or operator of such facilities shall keep a log of discharger's name, driver's license number, vehicle type and license number, date and time of discharge. The owner or operator of the facility shall not permit commercial use of the discharge facility. Any officials of the city shall have the right of entry into buildings or premises regulated by this chapter in accordance with the provisions of [Section 1.08.010](#) of this code.

(Ord. 279 Exh. A (part), 1986: Ord. 225 § 71, 1982; Ord. 115 § 2, 1973; Ord. 114 § 7, 1973; Ord. 43 § 1 (part), 1966: prior code § 9212.7)

13.12.290 Private facility—Permit revocation.

In the event any privately owned facility for the collection of raw or chemically treated sewage from sources other than septic tanks is operated in violation of or contrary to or inconsistent with the rules, regulations and directives of the director of public works or this code, the director of public works, may in his discretion, suspend or revoke the operating permit theretofore issued for such private facility, with or without notice, provided, however, that in the event such suspension or revocation is immediate, notice of such action and the causes therefore shall be promptly sent to the owner of such facility by certified mail, postage prepaid, at the address indicated on the operating permit.

(Ord. 43 § 1 (part), 1966: prior code § 9212.8)

13.12.300 Private facility—Appeals.

The owner or operator of any privately owned facility for the collection of raw or chemically treated sewage from sources other than septic tanks may appeal the decision of the director of public works suspending or revoking the operating permit for such facility, in accordance with Section 14.12.050 of this code; provided, however, that the order of the director of public works which is appealed from shall remain in full force and effect pending the determination of such appeal.

(Ord. 43 § 1 (part), 1966: prior code § 9212.9)

13.12.310 Right to terminate water service.

If any user of the city sewer system fails to meet the requirements set forth in this chapter, the director of public works shall have the authority to terminate water service or use alternate actions to protect the wastewater treatment facilities, employees and surrounding environment from hazardous discharges.

(Ord. 279 Exh. A (part), 1986)

13.12.320 Liability for damages for violation.

Any person violating a provision of this chapter shall be liable for all damages resulting from such violation, or which arise from actions taken in the correction of such violation, which are incurred by the city, including but not limited to attorney's fees, court costs, and fines levied on the city by regulatory agencies.

(Ord. 279 Exh. A (part), 1986)

FOOTNOTE(S):

--- () ---

* For statutory provisions regarding municipal sewer districts, see Health & Saf. Code § 4600 et seq.; for provisions authorizing cities to construct and maintain drains and sewers, see Gov. Code § 38900. ([Back](#))

8. SEWERAGE

8.01 GENERAL

Sanitary sewer lines and appurtenances within City jurisdiction shall be constructed in accordance with the details shown on plans and specifications approved by the Engineer, these Standards and Specifications, and State Specifications where applicable.

8.02 DESIGN FLOW AND GRADIENT

An average flow of 100 gallons per person per day shall be used for hydraulic design purposes, with the peak flow double the average flow. Pipes shall be sized to handle peak flows with pipes flowing three-quarters (3/4) full.

Sanitary sewer grades shall be designed to provide a minimum velocity of 2 feet per second when flowing full. The following table indicates the slopes which will provide that velocity, and these shall be used as the minimum standard for design.

Diameter	Slope in Feet/Foot Min. Acceptable
6"	.0050
8"	.0035
10"	.0025
12"	.0020
15"	.0015
18"	.0012
House Lateral	.02

Whenever a change in the size of the pipe, or an angle of 20 degrees or greater in alignment occurs, the flowline of the pipe flowing into the manhole shall be a minimum of 0.17 foot above the flowline of the pipe flowing from the manhole, or an amount necessary to match the inside crowns of the pipes, whichever is greater.

Design velocities for sanitary sewers shall not exceed 10 feet per second, unless approved by the Engineer. The maximum design discharge shall not exceed the flow at critical slope and velocity. Sanitary sewers should not be designed for flow conditions at critical slope and velocity.

8.03 LOCATION AND ALIGNMENT

All sanitary sewers shall be constructed and installed within City right-of-way. Location of sewer lines in easements shall be kept to a minimum. Width and location of easements are subject to the approval of the Engineer. (See also Section 6.03)

Sewerage systems shall be designed so as to have a minimum curvature both horizontal and vertical. Whenever possible sewer

lines shall be laid out in a straight line between structures.

8.04 DEPTH AND SIZE

The normal design depth of a sanitary sewer system shall be such as to obtain a minimum cover of 36 inches for the house lateral at the property line. Sewer mains and laterals shall be designed so as to be usable by each lot without the need for an ejector pump. Exceptions may be granted by the Engineer on a case-by-case basis.

The minimum sewer main size shall be 6 inches.

8.05 MANHOLES

Manholes shall be installed in accordance with Standard Drawings S-3 and S-4, and these Specifications.

Manholes shall be watertight structures constructed by placing precast concrete sections on a poured concrete base. Eccentric cones shall be used with openings over the upstream side of the manhole. Steps shall not be permitted in manholes.

Whenever the inverts of sewer lines enter a manhole at different elevations, a standard drop manhole shall be constructed.

Normal maximum spacing for manholes shall be 400 feet. The maximum spacing of manholes on trunk sewer lines shall be as follows:

- 12" to 24" diameter - 400 feet
- 24" to 36" diameter - 500 feet.

Cleanouts at the end of a line shall not be further than 400 feet from the nearest manhole. Cleanouts shall be installed in accordance with Standard Drawing S-2.

Brick or block manholes shall not be allowed except under special circumstances where it is not feasible to construct pre-cast manholes.

8.06 HOUSE SERVICE LINES

When a new sewer line is constructed, house service lines from the sewer to the property line or existing house service lines shall be installed at the same time. Whenever house service laterals are installed as a part of the construction of the sewer line, the use of wye or tee saddles shall not be permitted. Laterals shall not enter the main at an angle greater than 45 degrees.

Each house service line shall be referenced to the plan stationing. Location of the service lines shall be marked at the curb with an "S". Where curbs are not present laterals shall be marked with a brass tag stamped "S" on an iron pipe or 2" x 2" hub. The minimum size of any sanitary lateral shall be 4 inches.

For sewer laterals installed after construction of the main line, the main shall be cut and a precast wye installed in accordance with Standard Drawing S-1.

Laterals shall have approved backflow preventers installed wherever the top of the lowest fixture is lower than the rim elevation of the upstream manhole.

Cast iron shall be used for laterals under driveways when there is less than 3'-0" of cover.

Excavation for laterals shall be in accordance with Section 8.09C of these Specifications.

8.07 PIPE

All sanitary sewer lines shall be clay pipe, PVC pipe, or cast iron pipe, or approved by the Engineer. All pipe and pipe fittings shall be marked or stamped with the trade brand name of the manufacturer, and strength or class of pipe. All pipe, fittings, and joints shall conform to ASTM Standards.

Abestos-cement pipe shall not be used for sewers.

Bituminous fiber pipe shall not be permitted for mains or laterals.

PVC pipe may only be used for gravity sewers. However, the Engineer may approve PVC for installation under low head pressure where surge forces are minimal.

8.08 CASTINGS

All castings for manhole rings and covers, flushing branch frames and covers, or other purposes, shall be cast iron meeting the requirements of ASTM Designation A48, Class 25.

8.09 INSTALLATION OF SEWERS

A. Lines and Grade - All lines and grades shall be given by the Consultant and established in the field by the Consultant or Contractor. All stakes and marks shall be protected and preserved. Flow-line elevations shall be established at all changes in grade and at 50 foot intervals.

B. Trench Widths - The maximum width of trench measured at the top of pipe shall be governed by the size of the pipe to be installed in accordance with these Standards and Specifications.

C. Excavation for Sewers - Unless otherwise specified, the excavation for sewer pipe shall be an open trench in accordance with Standard Drawing W-6, excavated to three inches below the outside diameter of the bell. This undercutting shall be refilled with suitable bedding material as specified in the section on backfill, and thoroughly compacted into place.

When the trench is in an existing paved area, the pavement shall be sawcut and broken ahead of the trenching operations. The pavement shall be cut accurately in neat and parallel lines at

the width required for the trench, except when in the opinion of the Engineer the remaining pavement has been damaged.

Trenches shall not be left open farther than 100 feet in advance of pipe laying operations or 50 feet to the rear thereof, unless approved by the Engineer. No trenches shall be left open overnight.

When water is encountered, the trench shall be kept dewatered until the laying and jointing of the pipe, and placing of the bedding material has been completed, inspected, and approved. The Contractor shall place not less than 6 inches of 2-1/2 inch maximum size rock below the required bedding material, or otherwise de-water the trench in a manner which has been approved by the Engineer.

All safety orders, rules, or recommendations of the Occupational Safety and Health Administration (OSHA) and the Division of Industrial Safety of the Department of Industrial Relations of the State of California applicable to this work shall be obeyed and enforced.

D. Bracing and Shoring - As required by the "Trench Construction Safety Orders" of the California State Industrial Accident Commission, sufficient bracing and shoring shall be installed in trenches to insure the safety of workmen, and to protect and facilitate the work. Where practicable all such bracing and shoring shall be removed from the trench as the backfilling proceeds.

E. Tunneling shall not be permitted unless approved by the Engineer. If approved, tunneling shall be in accordance with Section 71-1.03 of the State Specifications.

F. Laying Sewer Pipe - The pipe shall be laid in conformity to the prescribed line and grade, and each pipe length checked to the grade line. Three consecutive points shown on the same rate of slope shall be used in common, in order to detect any variation from a straight grade. In case any such discrepancy exists, the work shall be stopped and the discrepancy directly reported to the Engineer. In addition, a string line or laser shall be used in the bottom of the trench to insure proper alignment and grade.

Pipe shall be laid continuously upgrade, with the bell of the pipe forward. Each length of pipe shall be laid on a firm bed and shall have a true bearing for the entire length. No wedging or blocking up of the pipe shall be permitted.

Connections to existing manholes shall be made by carefully breaking an opening in the wall of the manhole, inserting the end of the pipe through the opening flush with the inside wall, and packing the opening around the pipe with a stiff mix of cement mortar, thoroughly compacted to form a watertight connection. The mortar shall be trowelled smooth and flush with the inside wall of the manhole. Channeling of the flow through the manhole shall conform to the details shown on the Standard Drawings for new manholes. The contractor shall notify the Engineer 24 hours in advance before his connection is made to existing structures. The work shall be scheduled so that the interruption of flow is kept

to a minimum.

When the pipe is to be laid through a new manhole the top half of the pipe shall be sawcut and removed after the base is poured. Pipe elbows or bends shall be used when there is a change in direction.

Both bell and spigot shall be clean before the joint is made, and care shall be taken that nothing but the joint-making material enters joints. Cement joints, hot pour joints, and rubber rings shall not be permitted. Rubber coupler joints such as "Band Seal" may be used.

When for any reason pipe laying is discontinued for an hour or more the open end of each line shall be closed with a close-fitting stop.

G. Trench Backfill shall be per Section 6.06 of these specifications.

H. Testing of Sewer Lines - Prior to final approval, all sewer lines shall be tested for leakage by standard hydrostatic or low pressure air test as specified by the Engineer. Manholes shall be tested for watertight integrity either jointly with testing of sewer line or as separate units. All laterals shall be considered as part of the sewer for testing purposes.

PVC lines shall also be mandrel tested for roundness after completion of backfill.

I. CLEANING - Prior to the acceptance of any sewer line the Contractor shall clean all lines with a sewer cleaning ball under hydrostatic pressure. Any stoppage, dirt, or foreign matter shall be removed from the lines. All cleaning and testing of sewer lines shall take place after all construction is completed, up to but not including the final paving. The system will be inspected after final paving is completed and any damage to the system during final paving and cleanup will be corrected before approval.

B.10 SPECIAL CONSTRUCTION

Special construction in areas of conflict between water and sewer lines shall be in accordance with the State of California Department of Health Services, Sanitary Engineering Branch, "Criteria for the Separation of Water Mains and Sanitary Sewers" dated April 5, 1983.

B.11 REPLACEMENT OF ROAD SURFACES

Permanent paving replacement, in accordance with Standard Drawing W-6, shall not take place until other requirements have been met, but no less than 10 days after backfill has taken place. The replacement of all pavement and shoulder surfaces shall be in accordance with the Standard Drawings. Maintenance of permanent paving which may be required during a one-year period

after completion shall be provided by the Contractor at no expense to the City, including the complete restoration of all damaged property.

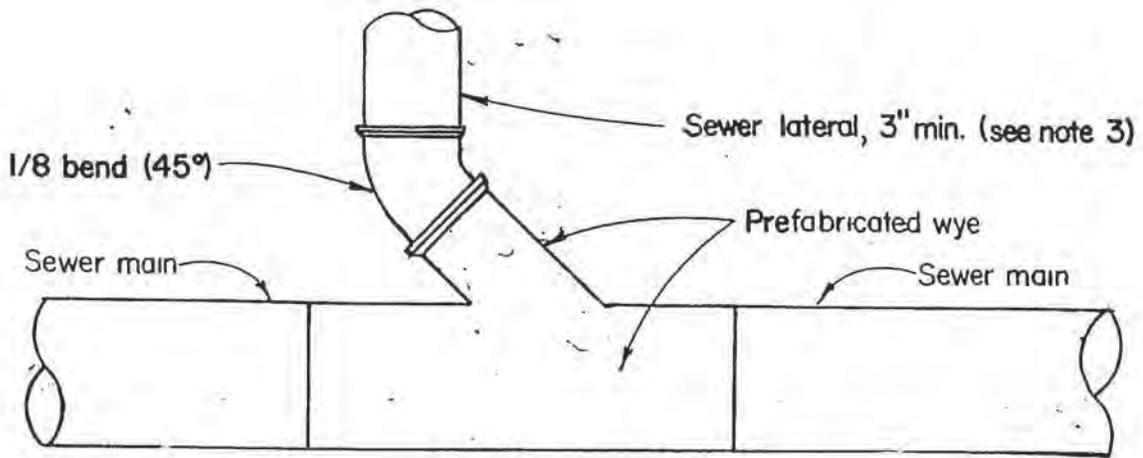
8.12 TEMPORARY PAVEMENT

In any case a trench is cut across a thoroughfare a temporary coldpatch shall be placed immediately after backfill has been completed, and removed just prior to placing the permanent base and surfacing material. The temporary pavement shall be maintained smooth under traffic at all times.

8.13 CLEAN UP

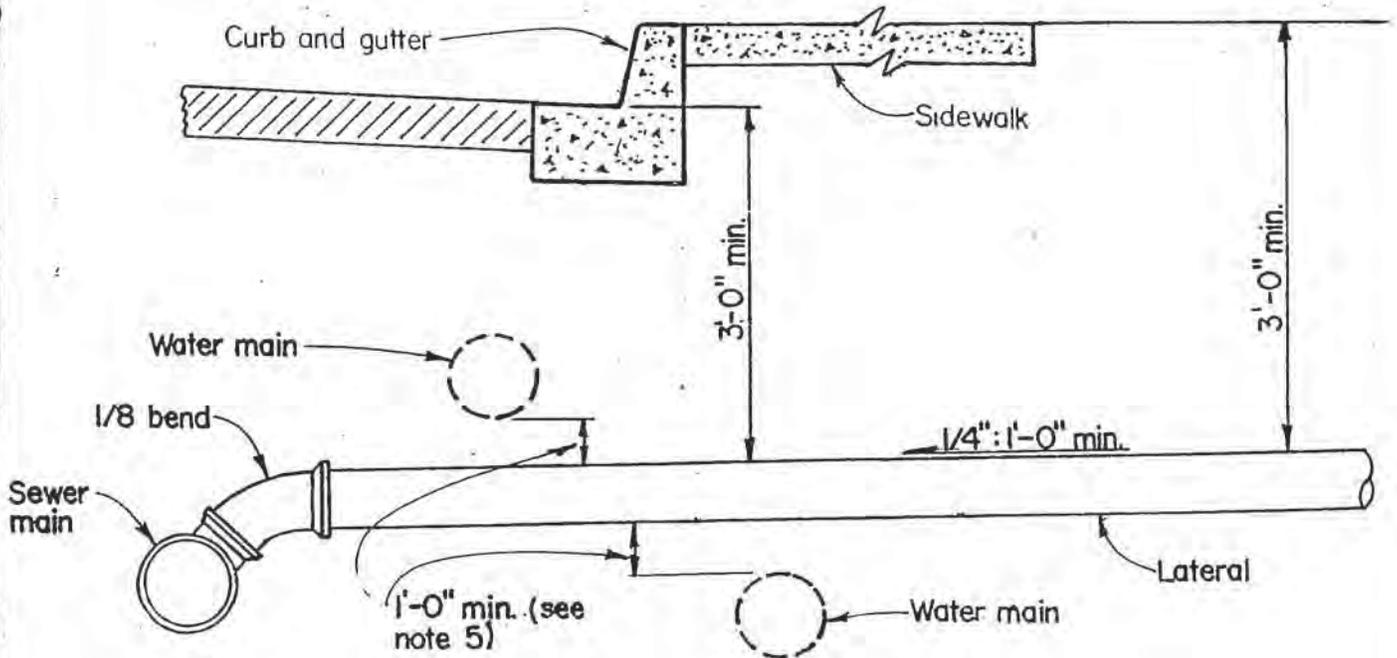
During the progress of the work, the Contractor shall keep the entire job site in a clean and orderly condition. Excess or unsuitable backfill material, broken pipe, or other waste material shall be removed from the job site. All gutters and roadside ditches shall be kept clean and free from obstructions.

Before final acceptance of the work, the Contractor shall carefully clean up the work and premises, remove all temporary structures built by or for him, remove all surplus construction materials and rubbish of all kinds from the grounds which he has occupied and leave them in a neat condition.

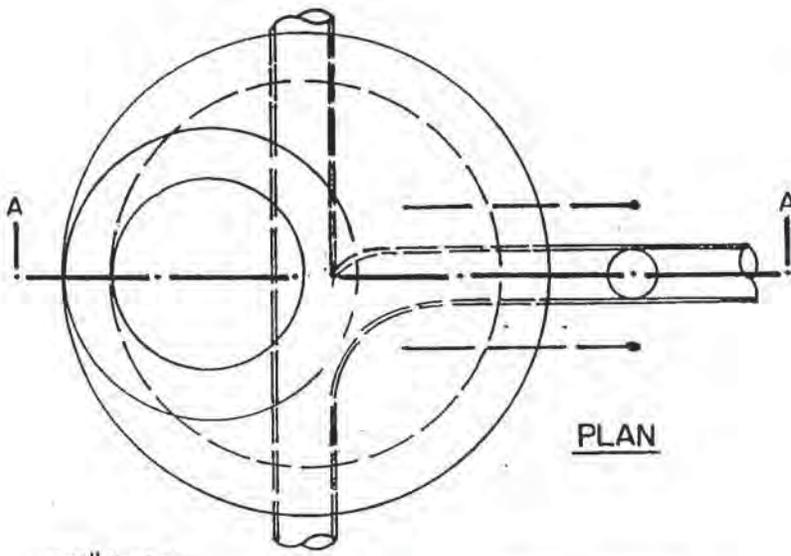


NOTES:

1. Sewer main shall be cut, and prefabricated wye installed; no saddle taps.
2. Lateral may be cast iron, ductile iron, V.C., PVC, or ABS sched. 40 pipe. Cast iron shall be used when cover over lateral is less than 36".
3. Lateral sizes to be determined by Community Development Department.
4. Sewer lateral and water service connection shall not be in same trench unless provisions of Section 1108 of the Uniform Plumbing Code are adhered to.
5. If minimum clearance of 1'-0" from water main cannot be obtained, Public Works Dept. shall determine joint spacing and lateral material. In the event a sewer lateral passes over a water main said main shall be exposed to determine clearance.
6. Trench backfill shall be select sand or sandy loam as approved by City Engineer.



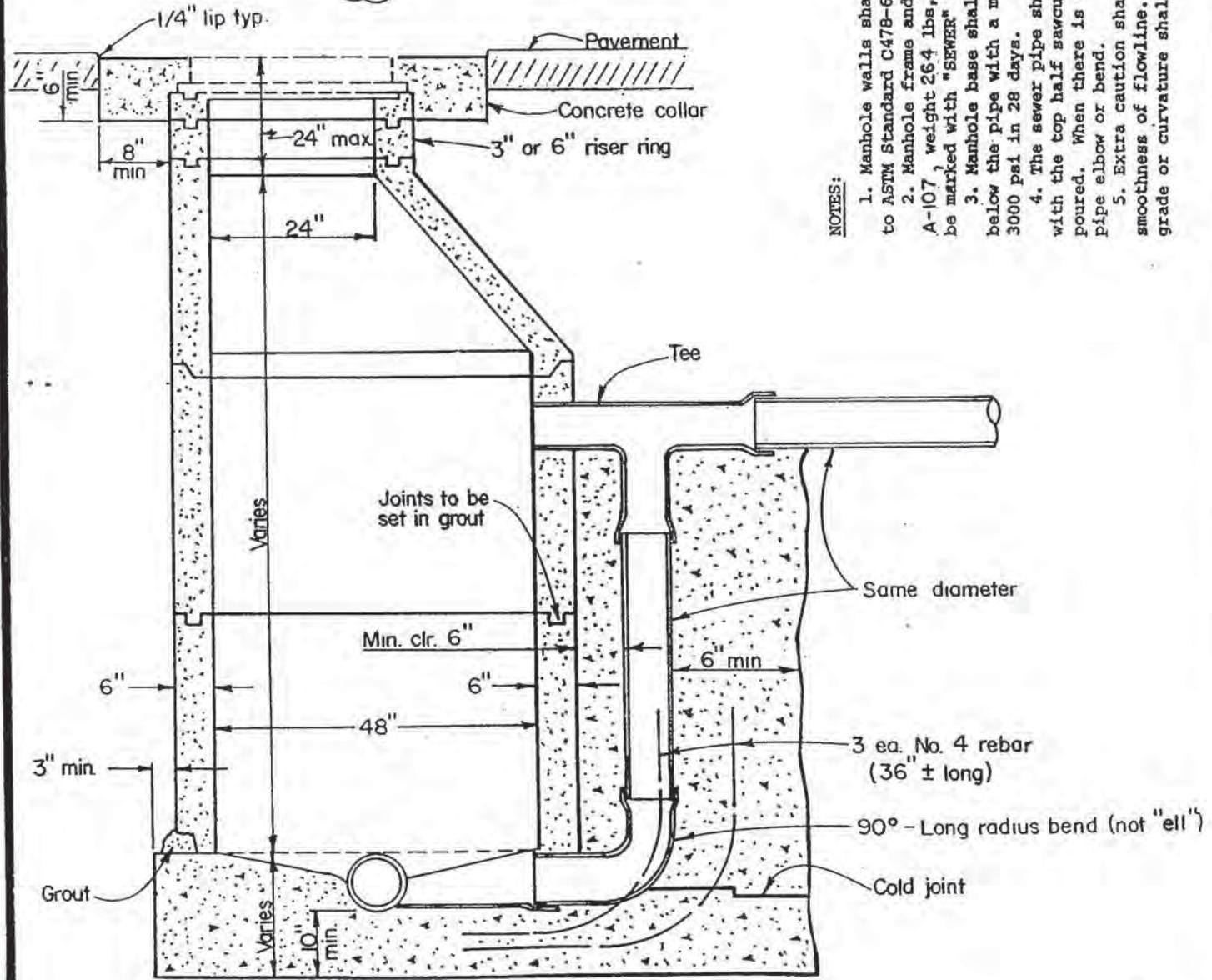
APPROVED - CITY ENGINEER		DATE	CITY OF MORRO BAY		SEWER MAIN CONNECTION	
		10-5-87	DEPARTMENT OF PUBLIC WORKS		SCALE: NONE	
REVISIONS	BY	APP	DATE	S-1		



PLAN

NOTES:

1. Manhole walls shall be precast type conforming to ASTM Standard C478-61T for Class 2 reinforced pipe.
2. Manhole frame and cover shall be Pinkerton No. A-107, weight 264 lbs, or approved equal. Cover shall be marked with "SEWER" in the center.
3. Manhole base shall be a minimum of 10" thick below the pipe with a minimum compressive strength of 3000 psi in 28 days.
4. The sewer pipe shall be laid through the manhole with the top half sawcut and removed after the base is poured. When there is a change in direction, use a pipe elbow or bend.
5. Extra caution shall be taken to insure smoothness of flowline. Roughness or abrupt changes in grade or curvature shall not be permitted.



SECTION A-A

APPROVED-CITY ENGINEER		DATE	
<i>[Signature]</i>		10-5-87	
REVISIONS	BY	APP	DATE

CITY OF MORRO BAY
DEPARTMENT OF PUBLIC WORKS

PRECAST CONCRETE DROP MANHOLE
SCALE: NONE **S-4**

Appendix B

Overflow Emergency Response Plan Element Reference Documents

Attachment A: State Waste Discharge Requirements (2006-0003) and Revised Monitoring and Reporting Program (2013-0058)

Attachment B: Sanitary Sewer Overflow Notification Checklist & Numbers

Attachment C: SSO Field Report

**STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2006-0003-DWQ**

**STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
SANITARY SEWER SYSTEMS**

The State Water Resources Control Board, hereinafter referred to as "State Water Board", finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as "Enrollees".
2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.
3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.
4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

SEWER SYSTEM MANAGEMENT PLANS

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.
6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.
7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.
8. It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.
9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).
10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.
11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more

prescriptive WDRs for sanitary sewer systems. Upon issuance or reissuance of a Regional Water Board's WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

REGULATORY CONSIDERATIONS

12. California Water Code section 13263 provides that the State Water Board may prescribe general WDRs for a category of discharges if the State Water Board finds or determines that:

- The discharges are produced by the same or similar operations;
- The discharges involve the same or similar types of waste;
- The discharges require the same or similar treatment standards; and
- The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

This Order establishes requirements for a class of operations, facilities, and discharges that are similar throughout the state.

13. The issuance of general WDRs to the Enrollees will:

- a) Reduce the administrative burden of issuing individual WDRs to each Enrollee;
- b) Provide for a unified statewide approach for the reporting and database tracking of SSOs;
- c) Establish consistent and uniform requirements for SSMP development and implementation;
- d) Provide statewide consistency in reporting; and
- e) Facilitate consistent enforcement for violations.

14. The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to, aquatic life, drinking water supply, body contact and non-contact recreation, and aesthetics. The beneficial uses of ground water that can be impaired include, but are not limited to, drinking water and agricultural supply. Surface and ground waters throughout the state support these uses to varying degrees.

15. The implementation of requirements set forth in this Order will ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each region and take into account the environmental characteristics of hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect

water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.
17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.
18. California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
 - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
 - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
 - c. Occurs during, or as a result of, the treatment or disposal of wastes.
19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.
20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt

this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute “existing facilities” as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.
22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.
23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

IT IS HEREBY ORDERED, that pursuant to California Water Code section 13263, the Enrollees, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

A. DEFINITIONS

1. **Sanitary sewer overflow (SSO)** - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:
 - (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
 - (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
 - (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.
2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.
4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is <http://ciwqs.waterboards.ca.gov>. This online database is maintained on a secure site and is controlled by unique usernames and passwords.
5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.
6. **Satellite collection system** – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.
7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
 - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
 - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
 - c. Occurs during, or as a result of, the treatment or disposal of wastes.

B. APPLICATION REQUIREMENTS

1. **Deadlines for Application** – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.
2. **Applications under the general WDRs** – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the general WDRs, State Water Board staff will send specific instructions on how to

apply for coverage under the general WDRs to all known public agencies that own sanitary sewer systems. Agencies that do not receive notice may obtain applications and instructions online on the Water Board's website.

3. Coverage under the general WDRs – Permit coverage will be in effect once a complete application package has been submitted and approved by the State Water Board's Division of Water Quality.

C. PROHIBITIONS

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

D. PROVISIONS

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

flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. All SSOs must be reported in accordance with Section G of the general WDRs.
6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:
 - (i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;
 - (ii) The Enrollee can identify the cause or likely cause of the discharge event;
 - (iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.
 - (iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;
 - (v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
 - Proper management, operation and maintenance;
 - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
 - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
 - Installation of adequate backup equipment; and
 - Inflow and infiltration prevention and control to the extent practicable.
 - (vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.

- (vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.
7. When a sanitary sewer overflow occurs, the Enrollee shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

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

- (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
 - (ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
 - (iii) Cleanup of debris at the overflow site;
 - (iv) System modifications to prevent another SSO at the same location;
 - (v) Adequate sampling to determine the nature and impact of the release; and
 - (vi) Adequate public notification to protect the public from exposure to the SSO.
8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.
10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.
11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.
13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

Sewer System Management Plan (SSMP)

- (i) **Goal:** The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.
- (ii) **Organization:** The SSMP must identify:
- (a) The name of the responsible or authorized representative as described in Section J of this Order.
 - (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and
 - (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).
- (iii) **Legal Authority:** Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:
- (a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);

- (b) Require that sewers and connections be properly designed and constructed;
 - (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
 - (d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
 - (e) Enforce any violation of its sewer ordinances.
- (iv) **Operation and Maintenance Program.** The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:
- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
 - (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
 - (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
 - (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and

(e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

(v) **Design and Performance Provisions:**

(a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

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

(vi) **Overflow Emergency Response Plan** - Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

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

(b) A program to ensure an appropriate response to all overflows;

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

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

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

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

- (vii) **FOG Control Program:** Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:
- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
 - (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
 - (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
 - (d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
 - (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
 - (f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
 - (g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.
- (viii) **System Evaluation and Capacity Assurance Plan:** The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:
- (a) **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs

that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

- (b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
 - (c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
 - (d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.
- (ix) **Monitoring, Measurement, and Program Modifications:** The Enrollee shall:
- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
 - (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
 - (c) Assess the success of the preventative maintenance program;
 - (d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
 - (e) Identify and illustrate SSO trends, including: frequency, location, and volume.
- (x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the

Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

- (xi) **Communication Program** – The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

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

14. Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15, below.

In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
P.O. Box 100
Sacramento, CA 95812

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

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.

Sewer System Management Plan Time Schedule

<u>Task and Associated Section</u>	Completion Date			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage Section C	6 months after WDRs Adoption			
Reporting Program Section G	6 months after WDRs Adoption ¹			
SSMP Development Plan and Schedule No specific Section	9 months after WDRs Adoption ²	12 months after WDRs Adoption ²	15 months after WDRs Adoption ²	18 months after WDRs Adoption ²
Goals and Organization Structure Section D 13 (i) & (ii)	12 months after WDRs Adoption ²		18 months after WDRs Adoption ²	
Overflow Emergency Response Program Section D 13 (vi)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Legal Authority Section D 13 (iii)				
Operation and Maintenance Program Section D 13 (iv)				
Grease Control Program Section D 13 (vii)	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
Design and Performance Section D 13 (v)				
System Evaluation and Capacity Assurance Plan Section D 13 (viii)				
Final SSMP, incorporating all of the SSMP requirements Section D 13				

1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

Reporting Program Section G	
Regional Boards 4, 8, and 9	8 months after WDRs Adoption
Regional Boards 1, 2, and 3	12 months after WDRs Adoption
Regional Boards 5, 6, and 7	16 months after WDRs Adoption

If this MOU is not executed by July 1, 2006, the reporting program time schedule will remain six (6) months for all regions and agency size categories.

2. In the event that the Executive Director executes the MOA identified in note 1 by July 1, 2006, then the deadline for this task shall be extended by six (6) months. The time schedule identified in the MOA must be consistent with the extended time schedule provided by this note. If the MOA is not executed by July 1, 2006, the six (6) month time extension will not be granted.

E. WDRs and SSMP AVAILABILITY

1. A copy of the general WDRs and the certified SSMP shall be maintained at appropriate locations (such as the Enrollee’s offices, facilities, and/or Internet homepage) and shall be available to sanitary sewer system operating and maintenance personnel at all times.

F. ENTRY AND INSPECTION

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the Enrollee’s premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

G. GENERAL MONITORING AND REPORTING REQUIREMENTS

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.
2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.
3. All Enrollees must obtain SSO Database accounts and receive a "Username" and "Password" by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the "Collection System Questionnaire", which collects pertinent information regarding a Enrollee's collection system. The "Collection System Questionnaire" must be updated at least every 12 months.
4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

Any SSO greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the Office of Emergency Services pursuant to California Water Code section 13271.

H. CHANGE IN OWNERSHIP

1. This Order is not transferable to any person or party, except after notice to the Executive Director. The Enrollee shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Enrollee containing a specific date for the transfer of this Order's responsibility and coverage between the existing Enrollee and the new Enrollee. This agreement shall include an acknowledgement that the existing Enrollee is liable for violations up to the transfer date and that the new Enrollee is liable from the transfer date forward.

I. INCOMPLETE REPORTS

1. If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

J. REPORT DECLARATION

1. All applications, reports, or information shall be signed and certified as follows:
 - (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)
 - (ii) An individual is a duly authorized representative only if:
 - (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and
 - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.
2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or

falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

L. SEVERABILITY

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

CERTIFICATION

The undersigned Clerk to the State Water Board does hereby certify that the foregoing is a full, true, and correct copy of general WDRs duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 2, 2006.

AYE: Tam M. Doduc
Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None



Song Her
Clerk to the Board

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).
2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.
3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.
4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"¹ (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.
5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.
6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.
7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information² to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

¹ Available for download at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

² Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.nsf>

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS³ Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.
9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.
10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program⁴ objectives, assess compliance, and enforce the requirements of the SSS WDRs.

IT IS HEREBY ORDERED THAT:

Pursuant to the authority delegated by Water Code section 13267(f), Resolution 2002-0104, and Order 2006-0003-DWQ, the MRP for the SSS WDRs (Order 2006-0003-DWQ) is hereby amended as shown in Attachment A and shall be effective on September 9, 2013.

8/6/13

Date



Thomas Howard
Executive Director

³ California Integrated Water Quality System (CIWQS) publicly available at <http://www.waterboards.ca.gov/ciwqs/publicreports.shtml>

⁴ Statewide Sanitary Sewer Overflow Reduction Program information is available at: http://www.waterboards.ca.gov/water_issues/programs/ssor/

ATTACHMENT A

STATE WATER RESOURCES CONTROL BOARD ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order 2006-0003-DWQ, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. The Executive Director may make revisions to this MRP at any time. These revisions may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and this MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with this MRP may subject an enrollee to civil liabilities of up to \$5,000 a day per violation pursuant to Water Code section 13350; up to \$1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board (State Water Board) reserves the right to take any further enforcement action authorized by law.

A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none">• Reach surface water and/or reach a drainage channel tributary to a surface water; or• Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
CATEGORY 2	Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION (see section B of MRP)	<ul style="list-style-type: none"> • Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number. 	Call Cal OES at: (800) 852-7550
REPORTING (see section C of MRP)	<ul style="list-style-type: none"> • Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • “No Spill” Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: Update and certify every 12 months. 	Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee’s Legally Responsible Official(s).
WATER QUALITY MONITORING (see section D of MRP)	<ul style="list-style-type: none"> • Conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. 	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING (see section E of MRP)	<ul style="list-style-type: none"> • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume. 	Self-maintained records shall be available during inspections or upon request.

B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.
2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
 - i. Name of person notifying Cal OES and direct return phone number.
 - ii. Estimated SSO volume discharged (gallons).
 - iii. If ongoing, estimated SSO discharge rate (gallons per minute).
 - iv. SSO Incident Description:
 - a. Brief narrative.
 - b. On-scene point of contact for additional information (name and cell phone number).
 - c. Date and time enrollee became aware of the SSO.
 - d. Name of sanitary sewer system agency causing the SSO.
 - e. SSO cause (if known).
 - v. Indication of whether the SSO has been contained.
 - vi. Indication of whether surface water is impacted.
 - vii. Name of surface water impacted by the SSO, if applicable.
 - viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
 - ix. Any other known SSO impacts.
 - x. SSO incident location (address, city, state, and zip code).
3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).
4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

C. **REPORTING REQUIREMENTS**

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.
2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.
3. **SSO Categories**
 - i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:
 - a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
 - b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
 - ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.
 - iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.
4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**
 - i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
 - a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
 - b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

- ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.
- iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.

If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.
- iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. **SSO Technical Report**

The enrollee shall submit an SSO Technical Report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

- i. **Causes and Circumstances of the SSO:**
 - a. Complete and detailed explanation of how and when the SSO was discovered.
 - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
 - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
 - d. Detailed description of the cause(s) of the SSO.
 - e. Copies of original field crew records used to document the SSO.
 - f. Historical maintenance records for the failure location.
- ii. **Enrollee’s Response to SSO:**
 - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
 - b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.

- c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**

- a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
- b. Detailed location map illustrating all water quality sampling points.

6. **PLSDs**

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

- i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.
- ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

In the event that the CIWQS Online SSO Database is not available, the enrollee must fax or e-mail all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in CIWQS Online SSO Reporting**

All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS Online SSO Database. Additionally, within thirty (30) days of initial enrollment and prior to recording SSOs into the CIWQS Online SSO Database, all enrollees must complete a Collection System Questionnaire (Questionnaire). The Questionnaire shall be updated at least once every 12 months.

i. **SSO Reports**

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

- a. **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:
1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
 2. SSO Location Name.
 3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
 4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
 5. Whether or not the SSO reached a municipal separate storm drain system.
 6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
 7. Estimate of the SSO volume, inclusive of all discharge point(s).
 8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
 9. Estimate of the SSO volume recovered (if applicable).
 10. Number of SSO appearance point(s).
 11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
 12. SSO start date and time.
 13. Date and time the enrollee was notified of, or self-discovered, the SSO.
 14. Estimated operator arrival time.
 15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
 16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.
- b. **Certified Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :
1. Description of SSO destination(s).
 2. SSO end date and time.
 3. SSO causes (mainline blockage, roots, etc.).
 4. SSO failure point (main, lateral, etc.).
 5. Whether or not the spill was associated with a storm event.
 6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
 7. Description of spill response activities.
 8. Spill response completion date.
 9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
 11. Whether or not health warnings were posted as a result of the SSO.
 12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
 13. Name of surface water(s) impacted.
 14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
 15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
 16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
 17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

ii. **Reporting SSOs to Other Regulatory Agencies**

These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

iii. **Collection System Questionnaire**

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee's sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

- a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

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

D. WATER QUALITY MONITORING REQUIREMENTS:

To comply with subsection D.7(v) of the SSS WDRs, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
 - i. Ammonia
 - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

E. RECORD KEEPING REQUIREMENTS:

The following records shall be maintained by the enrollee for a minimum of five (5) years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).
2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
 - i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not

result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
 - b. Date and time the complainant or informant first noticed the SSO.
 - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
 - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
 - e. Final resolution of the complaint.
- ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.
 - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
 4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
 - i. Supervisory Control and Data Acquisition (SCADA) systems
 - ii. Alarm system(s)
 - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

F. CERTIFICATION

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.
2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.
3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.
4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

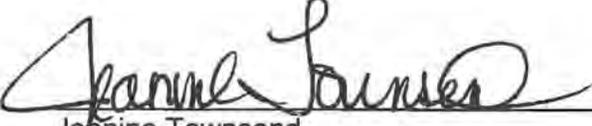
5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order amended by the Executive Director of the State Water Resources Control Board.

7/30/13

Date



Jeanine Townsend
Clerk to the Board

MORRO BAY SANITARY SEWER OVERFLOW NOTIFICATION CHECKLIST

SSO Appearance Point(s): _____ SSO Date: _____

Contact Organization and timeframe requirements for SSO Category

CAT 1*			CAT 2**	CAT 3	PLSD		ORGANIZATION	PHONE NUMBER	FAX NUMBER	DATE	TIME	NAME OF CONTACT	CONTACTED BY	COMMENTS
Any volume that reaches surface water	SSO to Ocean	SSO to the Bay	>= 1000 gallons and doesn't reach a drainage channel or surface water, unless the entire SSO discharged to storm drain is fully recovered	other discharges from enrollee system	Reportable when >= 1000 gallons that result or may result in a discharge to surface water									
ASAP and then certified within 15 days	←	←	X	X	Report CAT 1 SSO's	1.	CIWQS Website <small>(www.ciwqs.waterboards.ca.gov/ciwqs/index.jsp)</small>							
<2 hrs	←	←				2.	Cal OES	(800) 852-7550	(916) 845-8910					
						3.	SLO County Department of Environmental Health	781-5544	781-4211			Curtis Batson	} If CIWQS not working fax report, otherwise notified by Cal OES	
						4.	Central Coast RWQCB (Regional Water Quality Control Board)	Sheila (549-3592) Katie (542-4638) General 549-3147	543-0397			Sheila Soderberg and/or Katie DiSimone		
X	X	X				5.	California Department of Public Health (CDPH) A. Joe Christen (Morro Bay Contact) B. Gregg Langlois C. Vanessa Zubkousky D. Sam Rankin	(510) 412-4638 (510) 412-4635 (510) 412-4631 (510) 412-4633	(510) 412-4637					
X	X	X				6.	County Board of Supervisors **24-Hour Message Number** (Administration)	781-5450 781-5011	781-1350					
	X	X				7.	California Fish and Game (Dispatch, Monterey) Jason Chance, Warden (Terrestrial)	(831) 649-2817 Cell: 610-3915	466-2361					
		X				8.	Morro Bay Oyster Company A. Neal Maloney (owner) B. Dwight Maloney	234-7102 (925) 980-3008						
		X				9.	Grassy Bar Oyster Company George Trevelyan (Abolone Farm, Cayucos)	471-9683						
		X				10.	Giovanni's Fish Market (Giovanni or Manager)	772-1276	772-7111			Richard Castillo		
	X	X				11.	Harbor Patrol	772-6254	772-6258					
	X	X				12.	Coast Guard	772-2167	772-9100					
		X				13.	Morro Bay Commercial Fisherman's Organization Pam Daniels (Manager)	234-7466						
		X				14.	Tognazzini's Dockside	772-8100	772-8811			BonnieTognazzini		
		X				15.	Morro Bay Fish Company A. Chris Battle	772-3100 Cell:835-2736				Chris Battle		
		X				16.	Bayshore Seafood Stelle Spangler	464-9452						

***Category 1 SSO:**

All discharges of sewage resulting from a failure in the sewer system that:

- A) result in a discharge to a drainage channel and/or surface water; or
- B) Discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.

**** Category 2 SSO:**

A) >=1000 gallons that do not reach surface water, a drainage channel, or a MS4 unless the SSO discharged to the MS4 is fully recovered

Category 3 SSO

All other discharges of sewage resulting from a failure of the sanitary sewer system.

PLSD:

Discharges of wastewater resulting from blockages or other problems Within a privately owned sewer lateral. Enrollee may voluntarily report to CIWQS, and is encouraged to notify Cal OES and CIWQS of discharges of >=1000 gallons or discharge to surface water

* Notify City Council if Cat 1 SSO to ocean or bay

* Cat. 1 Notify Rob Livick (805) 772-6569 and Bruce Keogh - cell (805) 704-3647

Important: Once Staff starts making phone calls do not stop until all parties are contacted

* Per MRP amendment WQ 2013-0058 EXEC, effective 9/9/2013, Cal OES to notify following agencies, SLO county department of environmental health, Central Coast RWQCB

SSO Field Report

Morro Bay Collection System

SSO

PLSD

Document with Photographs and/or Video

Reporting party name and contact information

Date/Time Notified/Discovered the Spill

Estimated Arrival Date/Time

Estimated Spill Start Date/Time

Estimated Spill End Date/Time

SSO Location Details

Address, Location Description, and/or MH#

Cross Street

Spill Details

Number of Spill Appearance Points 1 to 10

Appearance Point(s) (Circle One or More)

Force Main	Lateral Clean Out (Public)	Other Sewer System Structure
Gravity Main	Lower Lateral (Private)	Pump Station
Inside Building or Structure	Lower Lateral (Public)	Upper Lateral (Private)
Lateral Clean Out (Private)	Manhole	Upper Lateral (Public)

Describe location(s) if other or multiple appearance points selected

Final Spill Destination (Choose all areas the wastewater flowed through and ultimately reached)

Beach	Other (specify below)	Street/Curb and Gutter
Building or Structure	Paved Surface	Surface Water
Drainage Channel	Separate Storm Drain	Unpaved Surface

Explain Final Spill Destination if Other Circled

Spill Cause (Circle One or More)

Air Relief Valve /Blow-Off Valve Failure	Grease Deposition (FOG)
Construction Diversion Failure	Inappropriate Discharge to CS
CS Maintenance Caused Spill/Damage	Natural Disaster
Damage by Others Not Related to CS	Non-Dispersibles
Construction/Maintenance (Specify Below)	Operator Error
Debris from Construction	Other (Specify below)
Debris from Lateral	Pipe Structural Problem/Failure
Debris – General	Pipe Structural Problem/Failure – Installation
Debris – Rags	Pump Station Failure – Controls
Flow Exceeded Capacity	Pump Station Failure – Mechanical

Describe Spill Cause

Where Did Failure Occur (Circle One or More)

Air Relief Valve/Blow-Off Valve	Manhole	Pump Station – Power
Force Main	Other (Specify below)	Siphon
Gravity Mainline	Pump Station – Controls	Upper Lateral (Public)
Lower Lateral (Public)	Pump Station – Mechanicals	

Describe Where Failure Occurred if Other

Was This Spill Associated with a Storm Event? Yes No
Pipe Diameter at Blockage or Failure? _____
Pipe Material at Blockage or Failure? _____
Estimated Age of Sewer Asset at Blockage or Failure? _____

Spill Response Activities (Circle One or More)

- | | |
|-----------------------------------|------------------------------------|
| Cleaned Up | Returned All Spill to Sewer |
| Mitigated Effects of Spill | Returned Portion of Spill to Sewer |
| Contained All or Portion of Spill | Property Owner Notified |
| Other (Specify below) | Other Enforcement Agency Notified |
| Restored Flow | |

Describe Response Activities if Other _____

Spill Response Completion Date/Time _____

Spill Corrective Action Taken

- | | |
|---|--|
| •Adjust Schedule/Method of Preventative Maintenance | •Other (Specify below) |
| •Enforcement Action Against FOG Source | •Plan Rehabilitation or Replacement of Sewer |
| •Inspected Sewer Using CCTV to determine Cause | •Repaired Facilities or Replaced Defect |

Describe Corrective Action Taken if Other _____

Is There an Ongoing Investigation? Yes No
Reason for Ongoing Investigation _____

Visual Inspection Results from Impacted Water
(Describe observations and **take Photographs**) _____

Health Warnings Posted? Yes No
Did the Spill Result in a Beach Closure? Yes No
If Yes, Name of Closed Beach(es) _____

Name of Impacted Surface Water(s) _____

Water Quality Samples Analyzed for (Circle One or More)

- Dissolved Oxygen
- Other Chemical Indicators – Specify below
- Biological Indicators – Specify below
- No Water Quality Samples Taken
- Not Applicable to this Spill
- Other – Specify below

Water Quality Samples Analyzed for _____

Water Quality Samples Reported to (Circle One or More)

County Health Agency

Regional Water Quality Control Board

Other (Specify Below)

No Water Quality Samples Taken

Not Applicable to This Spill

If Other, Enter Agencies Reported to

Cal OES Control Number _____

Cal OES Called Date/Time _____

SSO Contact Information (Person Who can Answer Specific Questions about the Spill)

Name and Title _____

Phone Number _____

Estimated Spill Volume that reached a separate storm drain that flows to a surface water body?

 Gallons

Estimated Spill Volume recovered from a separate storm drain that flows to a surface water body?

 Gallons

Estimated spill volume that reached a drainage channel that flows to a surface water body?

 Gallons

Estimated spill volume recovered from a drainage channel that flows to a surface water body?

 Gallons

Estimated spill volume discharged directly to a surface water body?

 Gallons

Estimated spill volume recovered from a drainage channel or surface water body?

 Gallons

Estimated spill volume discharged to land?

 Gallons

Estimated spill volume recovered from the discharge to land?

 Gallons

Volume Estimation Methods Used

A Separate Note Sheet may include Drawings, Calculations, and other details that determine Spill Volume

PLSD Name and Contact Information _____

Reported By/Date: _____

Appendix C

FOG Control Program Element Reference Documents

Attachment A: September 2013 Newsletter

Attachment B: Sample “No Grease/No Grasa” Sticker

Attachment C: Sample Maintenance Log

Attachment D: Fats, Oils, and Grease Brochure / Best Management Practices

Attachment E: Sample Site Visit/Trap Inspection Page

Current Utility Projects

Schedule of Utility Improvement Projects \$ Your Dollars at Work \$

Water Department

- * 2012 City Water Treatment (Desalination) Plant Improvements: Current
- * Citywide Water Valve Replacement Project: On-going 2013-2014
- * New 1.2 MG Water Tank: Planning/Design Stage
- * Water Main Upgrades along Olive St., Kennedy Way: Preliminary Design
- * Contract (Alexander's) meter reading will begin in September 2013.

Wastewater Collections Department

- * Citywide Manhole Rehabilitation Project: October 2013
- * Section 11 (Embarcadero Rd.) Sewer Repairs: November 2014
- * Lift Station #1 Rehabilitation Project: December 2013
- * Section 3 (Elena to Sequoia St.) Sewer Repairs: January 2014

State Water Shut Down

Every year around the first of November, State Water shuts down for maintenance and repair for approximately 2 to 3 weeks. During this time, our customers should not see or smell any changes in the quality of the water. Please continue water conservation efforts. The exact dates will be published on the city's website, once known.

Water Use Calculator

Use this simple calculator to find your average annual water use and learn ways to save at:

<http://www.saveourh2o.org/water-use-calculator>

Flushable Does Not Always Mean Flushable

Your toilet is not a trash can. Many items marked as disposable and/or flushable do not degrade like toilet paper, and they wind up clogging pipes, tangling pumps, and causing messy sewer problems. For example, wipes that are advertised as flushable do not degrade and cause sewer issues. **What can YOU do?** Only flush human waste and toilet paper. **Think Before You Flush.**



Coastal Cleanup Day September 21st 9am - Noon

North Morro Stand
Beach
(Yerba Buena and
Beachcomber)
Contact Damaris
772-6265 or
dhanson@morro-
bay.ca.us for info



Water Reclamation Facility Project Update

The City is soliciting your input on the development of a NEW Water Reclamation Facility (WRF). In order for the City Council to make the best planning decisions for siting and developing a new WRF, the City has and will be soliciting citizen input on this important project. The team of John Rickenbach, Debbie Rudd, Kevin Merk, and Mike Nunley has been hired to assist the City in project planning based on community values for the planning, design, and construction of a new WRF at an alternative location. The team has conducted stakeholder interviews and moderated a workshop on August 15 to solicit public input on the project. Also, the City has set up a page on the project website to take in additional information. Additional workshops are scheduled for September and October to educate and gather input from the local community. This charts a path of site selection and other important community decisions that are needed to see the WRF project move forward with success. The Council's goal is to make these decisions by the end of 2013. Information on the new WRF is updated regularly on the City web site (<http://www.morro-bay.ca.us/newwrf>); sign up on the Notify Me list on the City's web site to receive information regarding upcoming activities related to the development of the new WRF.

Utility Newsletter Update

Who to Call

Ever wondered who to ask for at Public Services to get your Water and Wastewater questions answered? Here's your guide to the Public Services Department Utility Management Staff.
Phone: 772-6261
Fax: 772-6268

Public Services Director

Rob Livick, PE/PLS

Engineering/Capital Projects

Rick Sauerwein
Barry Rands
Jarrod Whelan
Damaris Hanson
Kay Merrill

Water System

Jamie James

Wastewater Collections

Dave Zevely

Wastewater Treatment

Bruce Keogh

Water Billing

Amy Watterworth
Phone: 772-6222



Pet Waste



Cleaning



Medication



Paper Towels

Are there **FROGS** in your sewer line? Fats, Roots, Oils, Grease and Swiffers

“FROGS” is an easy way to remember five things that can block your private sewer lines and must be avoided, namely: Fats, Roots, Oils, Grease and Swiffers

Roots from trees and shrubs are a major cause of obstructions in private sewer lines in our City. Root obstructions can cause sewage to back up into homes and businesses, flow onto private property and/or overflow from manholes into the street.

Fats, Oils and Grease are another major cause of blockages in private sewer lines and can cause similar blockage.

Swiffers, or disposable cleaning cloths, add to causes for sewer overflows and create additional sewer lift station maintenance because pumps tend to “rag up” with these products. Swiffers are not flushable, even though the product packaging may say they are disposable. These products should be thrown in the trash, not the toilet.

The maintenance and repair of the private sewer line that attaches your building to the city main is the responsibility of the property owner, so please keep FROGS out of your sewer line and you may prevent a sewage spill that can cause damage to your property, that is expensive to repair, and highly inconvenient to everyone. In addition, a spill may cause public

**THE CITY SEWERS ARE DESIGNED TO DISPOSE OF TWO AND ONLY TWO VERY SPECIFIC THINGS:
HUMAN WASTE AND TOILET PAPER
“FLUSHABLE” does not always mean flushable!**



Oil / Grease



Dental Floss



Wipes



Cotton Swabs

POSTAL CUSTOMER

PRRST STD
U.S. POSTAGE
PAID
San Luis Obispo, CA
Permit No. 7



City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442

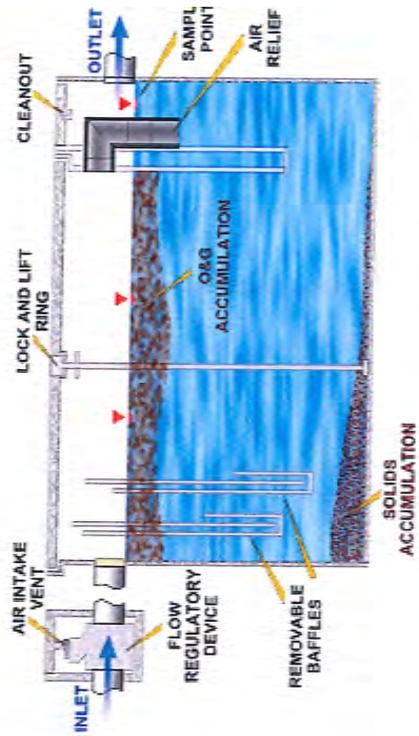
NO GREASE



NO GRASA

GREASE TRAP CLEANING PROCEDURE

- 1 Dip the grease out of the trap and deposit it in a watertight container.
- 2 Remove baffles if possible.
- 3 Bail out water in the trap to facilitate cleaning. (Discharge water to the sewer.)
- 4 Scrape the interior parts of the trap with a putty knife and place the grease into the watertight container.
- 5 Replace the baffle and lid.
- 6 Contact a grease hauler to pick up the grease.
- 7 Complete the maintenance log.



Grease trap illustration & procedure by Brown & Caldwell



Morro Bay Harborwalk

For more information about the Pretreatment Program or the City's Municipal Storm Water Program, please call Jim Hayes, Wastewater Collections Supervisor or Rob Livick, City Engineer at (805) 772-6261.



City of Morro Bay
Public Services
Department

Fats, Oils and Grease degrade water quality in our creeks, estuary and bay when discharged to a storm drain. These materials can enter the storm drain system by washing off outdoor surfaces and cleaning grease-laden equipment outside.

REMEMBER: Anything that enters a storm drain ends up in our creeks, estuary, and bay then eventually flows untreated into the ocean. Although you may think the impact of one business is insignificant, the combined pollution of an entire city can be monumental.

The City's sewer collection system is experiencing problems with Fats, Oil and Grease (FOG). Excessive FOG coats the pipelines and can cause blockages in both private sewer laterals and in the City's sewer mains causing Sanitary Sewer Overflows (SSOs) which can flow to the creeks or Bay. Additionally, the water quality of our creeks, estuary and bay can be adversely affected by outdoor housekeeping practices.

Food establishments are the largest non-domestic contributors of FOG to the City's collection system. Although the City Municipal Code can require grease removal devices to be installed to capture the grease, the installation of these devices alone is not enough to prevent FOG from entering sewer laterals and City mains.

A City sewer main coated with grease.



THE CITY NEEDS YOUR HELP to prevent FOG from entering our sewers and storm drains. The City is asking food establishments to implement a training program for all employees that include Best Management Practices (BMPs) to reduce FOG from entering the city's collection system, creeks, estuary and bay. This brochure contains a list of common BMPs that should be reviewed with all current employees on a regular basis and any new hires. The BMPs are easy to

implement and will help to reduce the amount of FOG from passing through the grease removal device to the sewer lateral and City main.



City crew members cleaning a sewer main using the Vac-con truck.

Also included is the procedure for cleaning a grease trap for those establishments that perform the maintenance themselves.

BENEFITS: Both restaurant owners and the City will benefit from proper maintenance of grease removal devices combined with BMPs. Owners will reduce the possibility of sewer blockages and SSOs frequently caused by FOG that can require costly repairs and possible temporary closure of the business.

Additionally, less preventative maintenance and fewer SSOs caused by FOG will allow the Utilities Department to perform other required infrastructure work.

Special Thanks to:



BMPs	Reason	Benefits
General Best Management Practices (BMPs)		
Train all staff on BMPs.	Staff will be more willing to support an effort if they understand its basis.	Trained staff will be more likely to implement BMPs and work to reduce grease discharges to the sewer.
Post "No Grease" signs above sinks.	Signs serve as a constant reminder to staff of proper grease disposal practices.	Reduction of grease entering the drain and reduces the cleaning frequency of the grease removal device.
"Dry wipe" pot, pans and kitchen equipment before cleaning.	"Dry wiping" will reduce the amount of grease going into the grease removal devices and the sewer.	This will reduce the cleaning frequency and maintenance costs for grease removal devices and reduce the amount of grease entering the drain.
Use absorbents such as paper towels to pick up oil and grease spills prior to mopping.	Decreases the amount of grease that will be put down the drain.	This reduces the amount of grease entering the drain and protects sewers from grease blockages and overflows.
Dispose of food waste as solid waste.	Dispose of food waste to the trash.	Solid waste disposal of food waste will reduce the frequency and cost of grease removal device cleaning.
Use screens in sinks and floor drains to capture food waste and dispose of properly into the trash.	Food waste can cause sewer lateral blockages.	Proper disposal of food waste will protect laterals and sewer mains from blockages and overflows.
Collect and recycle waste cooking oil.	Excess oil is prevented from entering the grease removal device and the sewer.	Reduction in the cleaning frequency of the grease removal device and less grease being passed to the sewer.
Grease Trap/Interceptor Maintenance BMPs		
Complete grease trap or interceptor maintenance log to document cleaning intervals.	Maintenance log can help your facility determine if cleaning frequency of the grease removal device is sufficient.	A proper cleaning frequency will result in less grease accumulating in the lateral, fewer blockages and less pass through to the sewer lines.
Clean grease traps at a frequency that will prevent the accumulation of grease or pass through to the sewer.	Routine cleaning of the grease removal device ensures efficient operations.	Routine cleaning will prevent grease from passing through to the sewer lateral and from accumulating in the sewer mains.
Use water temperatures less than 140° F in all sinks, especially in the pre-rinse sink.	Temperatures above 140° F will dissolve grease, which will re-solidify in the sewer lines.	Reduces costs for the energy to heat the water. Sewer lateral remains free of grease.
Have a manager present during grease trap/interceptor cleaning to ensure the unit is properly serviced.	The manager can ensure that the grease removal device is properly cleaned and no shortcuts are taken.	Proper cleaning ensures that the grease removal device will function properly and efficiently.
Do not store anything on or around the grease removal device that will block access.	Proper maintenance is easier to complete if access to the grease removal device is not blocked.	Routine maintenance is more likely to be performed if the grease removal device is easily accessible.
Outdoor Housekeeping/Storm Water BMPs		
Clean floor mats and exhaust filters and other equipment inside.	Cleaning greasy equipment outside is one of the most common sources of FOG in our storm drains.	Grease and food waste will be properly disposed of and will not enter the storm drain where it will de-grade creek water quality.
Sweep or mop outdoor surfaces.	Sweeping and mopping outdoor surfaces will reduce non-storm water runoff and will save water.	Elimination of non-storm water discharges that degrade water quality.
Any water used to clean outside surfaces by contractors must be vacuumed up and disposed of properly.	The City Municipal Code prohibits discharging or dumping any sewage, garbage, rubbish or otherwise polluted water to any storm drain or natural outlet.	Improved water quality in our creeks and compliance with the City code.
Keep the area around the dumpster/trash storage clear of trash, debris, and grease.	Debris, trash, and grease can be washed into the storm drain during the rainy season.	Loose debris and trash will not enter the storm drain causing blockages and will not enter the waterways.



City of Morro Bay

595 Harbor Street
Morro Bay, CA 93442

Ph: (805) 772-6277
Fax: (805) 771-1804
E-mail: jhayes@morro-bay.ca.us

Nº 2076

DATE

SITE VISIT / TRAP INSPECTION

NAME OF BUSINESS	PURPOSE OF VISIT SITE VISIT <input type="checkbox"/> SAMPLE <input type="checkbox"/> GREASE TRAP <input type="checkbox"/>
OWNER/CONTACT	
STREET	CONDITION OF TRAP GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR <input type="checkbox"/>
TELEPHONE	
FAX	INSPECTOR

REMARKS

OWNER / CONTACT

Appendix D

SSMP Modifications

Attachment A: Working list of modifications to the SSMP



AGENDA NO: C-4

MEETING DATE: April 17, 2014

Staff Report

TO: Public Works Advisory Board **DATE: April 12, 2014**

FROM: Rob Livick, PE/PLS – Public Services Director/City Engineer

SUBJECT: Review of List from Morro Bay Citizens Bike Committee List of “Unmet Bicycle Needs”

RECOMMENDATION

That the Public Works Advisory Board review and rank the list of “unmet bicycle needs” for presentation to the City Council at their May 13, 2014 meeting.

FISCAL IMPACT

As a part of the funding from the State the City receives approximately \$10,000 per year of funding for bicycle facilities. This money is generally used for either maintenance of bicycle lane striping and markings or other projects such as the Morro Creek Bridge and Multi Use Trail. The cost of the unmet bicycle needs generally exceeds the amount of money received and must be supplemented through other sources. These sources include: Grants, “Measure Q”, and the General Fund.

DISCUSSION

Each year, the San Luis Obispo County of Governments (SLOCOG) requests from the public a list of a list of unmet bicycle transportation needs within the communities, this list is then evaluated for reasonableness to meet and the SLOCOG Board

	Issue	Priority (H, M, L)	Ease of Implementation/Issues (1=Easy, 5=Very Difficult)
1	Re-engineer the intersection of Quintana with Main Street in Morro Bay to provide safe crossing for northbound cyclists from Main to the bike trail.	M	3, Bike Box and installation of detectors at signal
2	Replace fixed metal bollards that are placed in the center of Class I bike paths with flexible delineator posts (see examples below).	H	1, Maintenance
3	Provide more bike parking facilities at popular destinations. We would like the City to explore the idea that bike parking does not belong on sidewalks, that sidewalks are for pedestrians and that there are innovative alternatives such as bike corrals.	L	2, Cost of Bike Racks and Loss of Automobile Parking
4	Designate Safe Routes to School thoroughfares north and south of Del Mar Elementary School.	M	3, Cost of Providing improvements after Designation, ie Sidewalk and Bike Lanes
5	Safety improvements to the Main Street/Radcliffe intersection in anticipation of the bike park installation.	L	2, Will be condition for Bike Park Developer

Prepared By: RL Dept Review: RL

6	Address the tree root encroachment underneath the Class I multi-use trail from Main Street to the Cloisters. Existing pavement is becoming bumpy and wavy and will eventually be unsuitable for bike travel.	M	3, Cost of Repairs
7	Raise the Class I multi-use trail beside PG&E property above the flood line.	L	4, Permitting issues, cost and property acquisition
8	Widen Toro Creek Bridge across Highway 1 north of Morro Bay to add a bike lane on the northbound side.	L	4, CalTrans R/W and Cayucos Connector Project
9	Extend the Harborwalk south along the Embarcadero to Tidelands Park, up the bluff to Morro Bay State Park and through the park to South Bay.	L	5, insufficient rights of way
10	Extend the Harborwalk north from Morro Creek to the south end of the Morro Bay-Cayucos Connector.	M	1, ongoing, through a series of Class 2 and 3 improvements
11	Refresh bike lane painting as needed throughout the city.	H	1, ongoing included in the paving program

ATTACHMENTS

1. Letter from Morro Bay Citizens Bike Committee dated January 31, 2014.

Morro Bay Citizens Bike Committee



2961 Sandalwood Avenue
Morro Bay CA 93442
(805) 772-0874

Mission Statement: Dedicated to the advocacy and creation of an efficient interconnected network of safe, scenic bikeways and community paths in the Morro Bay area.

January 14, 2014

Dear Mayor Irons and Council,
San Luis Obispo Council of Governments has called for a current list of Unmet Bike Needs to be presented at their meeting February 5, 2014. Citizens Bike Committee submits the following list for consideration.

1. Re-engineer the intersection of Quintana with Main Street in Morro Bay to provide safe crossing for northbound cyclists from Main to the bike trail.
2. Replace fixed metal bollards that are placed in the center of Class I bike paths with flexible delineator posts (see examples below).
3. Provide more bike parking facilities at popular destinations. We would like the City to explore the idea that bike parking does not belong on sidewalks, that sidewalks are for pedestrians and that there are innovative alternatives such as bike corrals.
4. Designate Safe Routes to School thoroughfares north and south of Del Mar Elementary School.
5. Safety improvements to the Main Street/Radcliffe intersection in anticipation of the bike park installation.
6. Address the tree root encroachment underneath the Class I multi-use trail from Main Street to the Cloisters. Existing pavement is becoming bumpy and wavy and will eventually be unsuitable for bike travel.
7. Raise the Class I multi-use trail beside PG&E property above the flood line.
8. Widen Toro Creek Bridge across Highway 1 north of Morro Bay to add a bike lane on the northbound side.
9. Extend the Harborwalk south along the Embarcadero to Tidelands Park, up the bluff to Morro Bay State Park and through the park to South Bay.
10. Extend the Harborwalk north from Morro Creek to the south end of the Morro Bay-Cayucos Connector.
11. Refresh bike lane painting as needed throughout the city.

We thank Council and SLOCOG for supporting and installing many important new bike facilities this past year, including an extension of the Harborwalk across Morro Creek, installing bike lanes on San Jacinto from Main Street to Ironwood,

installing crosswalks on Atascadero Road near the high school to connect the north-south bike path, designating Beachcomber and Sandalwood as a Class III bikeway and developing a City Bike Map.

Very truly yours,

Robert Fuller Davis, Committee Chair

Surface Mounted Delineator Posts

- Highly visible during day and night, clearly delineating driving lanes with bright colors and reflective sheeting
 - Posts may also be used at critical points along roadways where safety hazards exist
 - Superior impact resistance for lower maintenance
 - Conforms to MUTCD and NCHRP 350 standards
 - Damaged posts are easily replaced in seconds
 - Withstands extreme hot and cold temperatures
 - True fluorescent colors for increased visibility
 - Greater reflectivity than simple round tubes
 - No metal pins in bases to rust and seize
 - Available in many heights and colors
 - Easy installation on any roadway
- Bases are reusable, 6 types available





AGENDA NO: C-5

MEETING DATE: April 17, 2014

Staff Report

TO: Public Works Advisory Board **DATE:** April 14, 2014

FROM: Rob Livick, PE/PLS – Public Services Director/City Engineer
Joe Woods – Recreation and Parks Director

SUBJECT: Streets Summit: A Review of the 2013/14 Activities and Recommendations for Future Work

RECOMMENDATION

That the Public Works Advisory Board receive an update, take public testimony and provide recommendations to City Council for the upcoming Goal Setting and Budget Process.

FISCAL IMPACT

No direct fiscal impact at this time as staff time only is being expended. The recommendations made by the Board if adopted by City Council may require additional appropriations for street rehabilitation and maintenance activities.

SUMMARY

The City's Streets Program continues to progress commensurate with the availability of funding. The 2013/14 Streets Rehabilitation Program consisted of two construction contracts, Morro Bay Projects MB2013-S01 and MB2013-S04, which were completed at a total cost of \$682,709. This project rehabilitated 33 street segments, which represents 7.4 miles of pavement, almost 14% of the City's total transportation network. In the past year, maintenance activities were closely coordinated between the Street Crew and the Engineering staff. This allowed staff to leverage more than \$100,000 of maintenance funds into the Pavement Rehabilitation Digout project which was completed in late Fall 2013. Although the FY2014 Budget provided additional resources from Measure Q, our City streets continue to deteriorate at a rapid pace. In order to address several serious pavement failures due to runoff intrusion into a waterline trench, staff will recommend that \$150,000 be allocated from the Water Fund to preserve both the waterline and the pavement on six hillside streets.

BACKGROUND

Federal and state gas tax revenues continue to be a wildcard due to Congressional inaction regarding the reauthorization of the Highway Trust Fund. Fortunately, we were able to obtain a \$275,000 funding authorization from SLOCOG for pavement rehabilitation of South Bay Boulevard. Design of this project is currently underway. Another bright spot in the otherwise dismal street funding forecast is the Active Transportation Program (ATP), established by the California legislature. The ATP consolidates

Prepared By: RS Dept Review: RL

various federal and state transportation programs, including the Transportation Alternatives Program, Bicycle Transportation Account, and State Safe Routes to School, into a single program with a focus to make California a national leader in active transportation. Staff will attend a briefing at the Caltrans District 5 office next week to learn more about how this program may be used to fulfill several of our PMP shortfalls. Finally, the City has awarded a multi-year, indefinite delivery, indefinite quantity contract to improve the ADA Accessibility for pedestrians by filling gaps in our existing sidewalk network. We currently have \$175,000 available from multiple CDBG grant awards. Over \$90,000 of sidewalk construction is already in progress and the contract will allow new work to be awarded as soon as additional funds are allocated. This is very important because new Federal Highway Administration requirements take effect in July 2014 mandating that missing or substandard curb ramps be installed whenever new road resurfacing is planned. This new requirement will effectively reduce the amount of funding that can be used directly on pavement rehabilitation. Since 2007, Measure Q has steadily grown in importance and is now our primary source of revenue to improve street conditions. Unfortunately in spite of the City's recent increased investment in our street infrastructure, our backlog of street maintenance and repair continues grow. A list of completed pavement rehabilitation is provided in Attachment 1.

DISCUSSION

In 2009 the Engineering Division of the Public Services Department conducted its first formal pavement condition inventory to prioritize maintenance investments. This survey revealed that the City has an average Pavement Condition Index (PCI) of 63. The PCI is a nationally accepted best management practice that rates roadway conditions on several factors and assigns a quantitative rating from 0 to 100. The established goal for Morro Bay's Pavement Management Plan (PMP) is to raise our average PCI from 63 to 70 by using a variety of road maintenance techniques, including: Reconstruction, Overlay, Slurry Seal, Cape Seal and Triple Layer. Streets routinely deteriorate over time typically losing approximately 1 or 2 points a year for the first 15 years after which a much more rapid deterioration increases over time. So a sound PMP invests the majority of available funding into streets of fair condition to prevent this rapid deterioration cycle from starting.

The general emphasis of the PMP is pavement preservation, which is the most effective use of the City's limited funding. For example cost to totally reconstruct one mile of typical residential street in North Morro Bay with the poor soil conditions is approximately \$1.5 million, while the cost to perform a chip or slurry seal on a street in fair condition to preserve that pavement ranges from \$120,000 to \$300,000 per mile. A schedule for future street rehabilitations and their estimated costs are included in Attachment 2. Since it has been 5 years since the first PMP, the City is in the progress of transitioning from the original MicoPaver software to a new, more user friendly system call StreetSaver. This work is expected to be completed by the end of this year and should provide a fresh assessment of the City's future funding needs to keep pace with our rapidly deteriorating pavement.

Financing Pavement Management

Pavement management is financed from a number of sources, including General Funds, Measure Q, Regional Transportation funds, and various grants as they become available. The total cost to repair or replace all city streets is currently estimated at \$14 million. Annual maintenance costs are projected to be \$500,000 annually to maintain the current condition. Greater or smaller annual expenses will result in a corresponding change in street condition. This year the City is fortunate to have an extra funding

allocation from SLOCOG to address the regional need to rehabilitate South Bay Blvd but our PMP continues to suffer from the lack of a dedicated funding source that is sufficient to keep pace with present and future pavement rehabilitation needs.

CONCLUSION

Streets and associated appurtenances are vital to the economic wellbeing of our community and are sorely in need of additional resources to maintain them in a condition that is acceptable to the citizens and visitors of our city. Continued allocation of dwindling State gas & vehicle tax revenues, grant funding, Measure Q sales taxes and future development impact fees are essential to keep our roads from deteriorating further. Implementation of the State Streets and Highway Codes provisions regarding street tree and sidewalk maintenance could provide a small measure of relief but the only sure solution is a new, revenue stream dedicated solely for streets and roads.

ATTACHMENTS

ATTACHMENT 1: Schedule of Completed Street Rehabilitation, 2012-2014

ATTACHMENT 2: Schedule of Future Street Rehabilitation Projects

Attachment 1

**CITY OF MORRO BAY
SCHEDULE OF FIVE-YEAR PAVEMENT MANAGEMENT PLAN
AS OF JUNE 30, 2014**

Five Year Plan @ \$250,000 in 2013/14 - 2017/18

2014-15		2015-16		2016-17		2017-18		2018-19	
Street	Cost	Street	Cost	Street	Cost	Street	Cost	Street	Cost
Beachcomber2	\$ 27,720	Acacia1	9,065	Clarabelle1	\$ 17,255	Barlow1	10,680	Bay1	\$ 3,242
Blanca1	9,100	Bayshore1	9,716	Driftwood1	9,485	Beach1	22,724	Bolton	81,000
Bonita	26,600	BellaVist1	8,166	Pacific1	50,125	Butte1	\$ 14,050	Bradley1	10,345
Hatteras	9,500	Driftwood2	18,700	Napa1	84,960	Capri1	7,805	Carmel1	12,963
Java2	2,835	Dunes1	20,997	Shasta1	72,770	Downing1	12,900	Embarcadr3	54,910
Quintana Pl	2,775	Dunes2	24,468	SurfAlley1	4,556	Fairview1	13,171	Formosa1	7,200
Quintana4	19,440	Main8	126,000	Prescott	43,200	Luzon1&2	135,000	Main9	12,465
Radcliffe1&2	33,600	Monterey1	9,600			Luista1	6,915	Main12	7,000
Sandalwood1	3,920	Monterey2	10,893			Madera1	11,420	Main13	30,449
Sandalwood2	16,800	Monterey3	14,950			Main10	31,078	Olive2	9,255
San Jacinto1	22,400	Monterey4	10,530			Morro1	6,045	Palm1	2,345
San Joaquin1&2	65,028	Scott2	3,840			Morro5	25,850	Toro1	7,525
Sicily1	12,100	Vista1	3,882			PineyLn1	3,240		
Trinidad1&2	11,000	Walnut1	4,320						
	\$ 262,818		\$ 275,127		\$ 282,351		\$ 267,474		\$ 238,699
S. Bay (RSTP)	275,000	Greenwood (SRTS)	561,600	Ironwood (SRTS)	635,250	Safe Route to School (SRTS) Projects are dependent on separate ATP grant funding			
Trench Repairs (Water)	150,000								
Additional (as funding allows)									
Harbor1	83,790	Avalon1	\$ 33,150	Little Morro Crk	156,200	PMP Street priorities for FY 2017-2019 are being reevaluated to utilize Triple Layer Rehab when appropriate			
Ironwood 1	32,395	Avalon2	6,630	Hill	84,000				
Panorama2	138,320	Kings (Pac-Quin)	27,500	Seaview	33,000				
Market	36,800	Piney 1&2	323,680		273,200				
Panorama3(SRTS)	33,000		390,960					High Priority	
Whidbey1	2,700							Med Priority	
Subtotal	327,005								
Total	\$ 589,823		666,087		555,551				

Attachment 2

COMPLETED PROJECTS BY FISCAL YEAR

COMPLETED IN 2011/12		COMPLETED IN 2012/13		COMPLETED IN 2013/14	
STREET	COST	STREET	COST	STREET	COST
Bernardo1	\$ 196,000	Kern1	\$ 45,253	Alder Avenue	\$
Main8	163,800	Beach1	16,291	Andros Street	
Kern1	129,500	Marina1	110,375	Beachcomber Avenue	
Oak1	3,060	Pacific1	44,548	Bonita Street	
Olive3	39,115	Harbor1	16,185	Cedar Avenue	
Estero1	26,070	Mimosa1	17,921	Dawson Avenue	
Quintana3	70,865	"PD Alley"	-	Dogwood Avenue	
Pecho1	15,420			Elm Avenue	
Ridgeway1	37,490			Fir Avenue	
Center1	5,945			Gilbert Street	
Marengo1	6,591			Greenwood Avenue	
Dana1	4,105			Hatteras Street	
Fresno1	20,440			Hemlock Avenue	
Marina2	15,300			Island Street	
Scott1	11,870			Java Street	
South2	4,620			Kings Street	
Alta1	4,810			Kodiak Street	
Tide1 ¹	-			Nassau Street	
Embarcadero1	40,275			Nevis Street	
Balboa1	23,421			Norwich Street	
LasTunas	23,615			Oahu Street	
Morro2	11,675			Panay Street	
				Quintana Road	
				Sequoia Street	
				Whidbey Way	
				Yerba Buena Street	
Total completed in 2011/12	\$ <u>853,987</u>	Total completed in 2012/13	\$ <u>250,573</u>	Total completed in 2013/14	\$ <u>-</u>

NOTES:

¹ Work done without charge as compensation for contractor delays; value of work = \$61k