

Chapter 1: MUNICIPAL OPERATIONS PROGRAM

Please note that several additional activities, not specified in the SWMP, were implemented this year in the Municipal Operations Program. These additional activities are listed and described under their respective BMPs and are delineated as follows: ***ADDITIONAL ACTIVITY**.

BMP #MO-1: Sweep City Streets By Mechanical Sweepers

Measurable Goals (MG):

1. Sweep primary streets in downtown and main beach areas twice per week
2. Sweep primary streets in other commercial areas once per week
3. Sweep 75% of residential streets twice per month
4. Sweep streets upon special request

Year 4 Summary:

1. There are 40 curb miles of commercial streets including downtown, Soquel Ave, Mission Street & the beach area. The goal is to sweep twice each week or 320 miles per month. All sweeping requirements (#1-4) equal 1,038 curb miles per month. From July 2012 through June 2013, there was a total of 13,495 curb miles swept (or an average of 1,124 curb miles swept per month). Total tonnage collected was 926 tons or an average of 77 tons per month. March and June 2013 both fell short of our monthly goal (796 and 876 respectively) monthly goal (1,038 cm) due to temporary personnel and equipment shortfalls. The monthly performance data is kept on file.

2. There are 68 curb miles of secondary streets, primarily with bike lanes in other commercial areas and including West Cliff Drive and Beach Street. The goal is to sweep once per week or 295 miles per month. Please see above for sweeping accomplishments.

3. There are 212 curb miles of residential streets. The Refuse Division strives to sweep all residential twice per month or 424 curb miles per month. During permit year, 100% residential streets were swept twice per month except during March and June 2012, when residential street sweeping fell to once per month in some areas due to reduced personnel and equipment downtime as mentioned above.

4. Approximately 900 extra curb miles swept upon special request, or because of additional needs such as weather or special events. This includes the addition of weekly sweeping of the San Lorenzo River levee.

5. *ADDITIONAL ACTIVITY: During Permit Year One, the Parks and Recreation Department purchased a new mechanical sweeper and began sweeping the Wharf on approximately a daily basis. Wharf sweeping was continued in Permit Years Two, Three and Four. From July 2012 through July 2013, the Wharf sweeper operated a total of 338.15 hours and collected approximately 69.25 cubic yards of material.

Effectiveness: all goals met except MG#3 was partially met. This was because there were unforeseen temporary personnel shortages and equipment downtime.

Proposed Modifications: Requested modification of the Measurable Goals #1-3 so that the words “provided sufficient staff are available” to each one because unforeseen staff shortages, such as those due to a temporary leave of absence or medical/family leaves, do occur from time to time. Also, please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-2: Take Measures to Control Litter

Measurable Goals:

1. Maintain litter and recycling receptacles in the downtown and Wharf areas, and in City parks, on a daily basis. This goal was broken into sub-categories for both clarity and tracking purposes as follows:

1a. Maintain litter and recycling receptacles in the downtown on a daily basis (evening collection)

1b. Additional: Maintain litter and recycling receptacles in the downtown area Monday-Saturdays (morning collection)

1c. Maintain litter and recycling receptacles in the Wharf, Cowell Beach, and part of Main Beach (from Wharf to near Coconut Grove by the Westlake ramp) on a daily basis

1d. Maintain litter and recycling receptacles in 35 City parks on a daily basis

2. Receptacles in other areas emptied as needed

Year 4 Summary:

1a. Parking Maintenance services approximately 61 receptacles in the Downtown area on a daily basis, which generally occurs in the evenings. Parking Maintenance also services receptacles in the parking lots and garages in the downtown district. During the year, approximately 76.5 tons were collected.

1b. In addition, there are 26 containers on Pacific Avenue (Downtown) that are collected six days a week (Mon-Sat) by the City Sanitation Division in the mornings. Approximately 7 tons were collected during the year (each container weighs @ 45 lbs). Sanitation staff collects in the mornings and Parking Maintenance collects in the evenings.

1c. Wharf: The 96 32-gallon trash containers are serviced daily averaging 4 cu ft. collected per day. There are 35 recycle containers which are also serviced daily with an average of 1.5 cu ft. collected per day. The Wharf Public Area containers yielded over 5,000 loose yards of trash and 700 yards of loose recycle.

1d. Trash receptacles in the 35 City Parks were maintained/emptied daily.

1e. *ADDITIONAL ACTIVITY: During the permit year, Parking Maintenance staff cleaned the sidewalks in Downtown district with a “driveable” Tenant Scrubber weekly Monday through Friday. The cleaning cycle takes approximately two weeks to complete. This unit is used by the

City because the scrubbing wash water is collected by the Scrubber unit so that there is no discharge. The large scrubber water waste tank has approximately 75 gallons of waste water and debris, and the smaller waste tank has approximately 25 gallons of waste water and debris after each use and small scrubber water waste tank has approximately 25 gallons of waste water and debris after each use.

During the Permit Year, the scrubber was operated approximately 160 hours per month.

2. Trash receptacles along East Cliff Drive and West Cliff Drive are checked daily and emptied if needed. The trash receptacles along both streets are typically emptied three to seven times per week during the summer months and a minimum of three times per week or more during the winter months.

Effectiveness: all goals met and exceeded w/ additional item mentioned above

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-3- Sweep Public Parking Lots and Municipal Garages Regularly

The City cleans the public parking lots (Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 20, 23), Locust Garage and Soquel/Front Garages with a mechanical vacuum sweeper 6 days per week in lieu of wet cleaning. Lots 12, 18, 24 and 25 are mechanically swept once per week.

Measurable Goals:

Clean lots w/a mechanical sweeper either twice per week or six times per week depending upon which location

Year 4 Summary: Public Works Parking Division staff cleaned 25 City lots either two times or six times per week, depending upon the location, with a mechanical sweeper. Over 450 yards of debris were collected. This includes four parking garages with fourteen levels altogether.

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-4: Inspection, Cleaning and Repair of Catch Basins and Inlets

Measurable Goals:

1. Clean 90% of catch basins and inlets located in the Downtown, Beach Flats, and lower Ocean Street areas annually in the Fall
2. Clean and repair 100% of storm drains or catch basins identified as clogged or non-functional annually in the fall or as soon as possible
3. After large storm events during the wet season, inspect 90% of catch basins in the Downtown, Beach Flats, and lower Ocean Street areas and re-clean them as needed.
4. Inspect 50% of the catch basins in the outlying areas of the City annually and clean as needed

Year 4 Summary:

1. Wastewater Mains staff cleaned 90% of catch basins and inlets in the Downtown, Beach Flats, and lower Ocean Street areas in the fall. Approximately 31 cubic yards of debris were collected from both the catch basins and storm drain lines. Division staff made extensive efforts to accomplish this because almost all drainage from these areas goes to the San Lorenzo River pump stations.
2. Citywide, 100% of storm drains or catch basins identified as clogged or non-functional were cleaned and repaired. Priority and response is placed on any report from the public regarding non-functioning or plugged drains.
3. 90% catch basins located in the Downtown, Beach Flats, and lower Ocean Street areas were inspected after large storm events and re-cleaned if needed. Catch basins in these areas are also inspected and cleaned as necessary during rain events. Priority inspection and cleaning occurs at both the gravity outlets and San Lorenzo River pumping stations that receive flow from these areas.
4. Inspections of all catch basins were completed in the Eastside/Prospect Heights zone by the Streets Division between September 1, 2012 and February 15, 2013. In this zone, approximately 195 catch basins were cleaned and 7.0 cubic yards of debris were removed.

There are a total of seven outlying zones in the City: Eastside, Upper SLR-east, Upper SLR-west, Arana Gulch, Neary Lagoon, West Cliff, and Westside. (There are three other zones, Downtown, Main Beach/Beach Flats, and lower Ocean Street, which are detailed in MG #1 above). There are over 1,400 catch basins in the City.

Effectiveness: goals met for MG #1-3. Goal partially met for MG #4.

Proposed Modifications: The City requested a modification of Measurable Goal #4 due to the large number of catch basins citywide. It is more feasible for staff to inspect one “zone” in the outlying areas of the City annually and clean as needed. As mentioned in the Permit Year Two Annual Report, in the Eastside Zone alone there are 270 catch basins. In the Westside zone, there are 410 catch basins. Thus, the City is requesting that Measurable Goal #4 be modified to read “Inspect all of the catch basins in one outlying zone/area of the City annually and clean as needed.” Also, please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-5: Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed

Branciforte Creek is listed on the Section 303(d) list for impaired water bodies for sedimentation/siltation. The potential sources stated are non-point source, road construction, and silviculture. In addition, the RWQCB has adopted a TMDL for Fecal Indicator Bacteria for Branciforte Creek. The potential sources are urban runoff, septage disposal, non-point sources, and natural sources. Thus, targeting the sources of these pollutants to Branciforte Creek is a high priority.

As part of the Team Clean Program, the Wastewater Mains Division inspects and schedules as needed removal of all large trash and debris items (i.e. shopping carts, tires, etc.) in the conveyance channel from the Market Street Bridge to the Ocean Street/Dakota street Bridge prior to the onset of the rainy season.

Measurable Goals:

1. Annual inspection
2. Removal of 100% of large trash and debris items

Year 4 Summary:

1. Branciforte channel is inspected weekly throughout the year. This includes all drainage ditches and adjacent toe ditches that feed the channel. Extensive effort is placed on weed abatement and trash removal of surrounding toe ditches. Extensive weed abatement and toe ditch cleaning was conducted in June 2013.

2. Branciforte channel is inspected weekly and large debris is removed promptly. For example, during Permit Year 1, five shopping carts and one washing machine were removed. In Permit Years 2-4, only minor trash and debris was found. Increased patrol by the Police Department and Park Rangers has helped in this effort. Also this year, crews installed two large trash receptacles along the channel, which has helped to also minimize trash entering the channel.

Effectiveness: All goals met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

***ADDITIONAL ACTIVITY:**

BMP #MO-5-1: Inspection of San Lorenzo River and Trash Removal As Needed

The San Lorenzo River is inspected weekly throughout the year. This includes all gravity outlets and adjacent toe ditches that feed the channel. Any large debris is removed promptly. During rain events, gravity outlets are inspected daily and skimmed for all floatable trash and debris.

Homeless encampments continue to be the most significant cause of debris. Extra effort has been taken by both PW crews and Parks Rangers to remove and clean these camps. Parks Rangers track hours and CY of debris removed.

The installation of tide flex check valves on the river's west side have also restricted the amount of trash that enters the river. The City is also conducting a more aggressive cleaning of gravity outlets to remove trash and debris. Tide flex check valves were also recently installed on the river's eastside. This project was completed in June 2011.

BMP #MO-6: Clean Pump Stations Along the San Lorenzo River

There are five storm water pump stations located along the San Lorenzo River. These pump stations are cleaned twice per year, prior to the onset of the rainy season and during the spring.

Spring cleaning of the pump stations is the most important due to debris from winter runoff/storms. Additional cleanings are also conducted during the wet season after large storm events if needed. The lines to the pump stations in the downtown and Beach Flats areas are also flushed and cleaned annually as needed each fall because these tend to carry the greatest amount of debris.

Measurable Goals:

Clean twice per year (Spring and Fall)

Additional cleanings, if needed, during wet season after large storm events

Year 4 Summary: Fall cleaning was completed by 10/30/12. Spring cleaning was completed on 5/29/13. Pump Station 1B (Beach Flats) was cleaned three times during the wet weather season. Each station is inspected daily during wet weather and any floating trash is removed. In general, of the two seasonal cleaning events, spring cleaning of the pump stations is the most important due to debris from winter runoff/storms.

Photos showing some of the San Lorenzo River pump station cleaning activities, that were done by City staff in Spring 2011, are included below:

Pump Station 1:



Pump Station 2:



Pump Station 1B:



Effectiveness: goal met, very effective

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-7: CDS Unit Maintenance

The City has agreed to maintain a CDS unit, installed by the County of Santa Cruz, located at Soquel Avenue and Capitola Road. This CDS unit was installed to treat runoff that drains into Arana Gulch from Soquel Avenue. The CDS unit should improve the water quality of the urban runoff flowing through this site by removing gross pollutants such as cigarette butts, plastic, and other debris. During the spring season, there is constant water flow through the area since it is also fed by a spring.

Measurable Goals:

1. Clean twice per year in Fall and Spring
2. Inspect and clean, if necessary, monthly during the wet season

Year 4 Summary:

1. The Capitola Road CDS unit was cleaned multiple times during the year including the Fall and Spring. Cleaning was performed on the following dates: 8/1/12, 10/23/12, 1/10/13, and 4/9/13. The Capitola Road CDS unit requires extensive traffic control to clean. Also, it has constant water flow in it in the spring since a creek runs through it. The Laurel Ext. CDS unit is a very small unit that is cleaned during spring and fall months. Additional cleanings occur during wet weather as needed. If a stoppage occurs at either CDS unit, they are cleaned sooner.

2. The Capitola Road CDS unit was inspected and cleaned during the wet season, as mentioned above. Cleaning dates were: 8/1/12, 10/23/12, 1/10/13, and 4/9/13. Staff finds that additional cleanings other than spring and fall of this CDS unit are typically not needed. Staff continues to focus on higher priority BMPs which have a greater impact on water quality such SLR pump stations cleaning.

Staff hours are prioritized for cleaning the areas that have a greater impact on water quality such as the pump stations and the higher density living areas of the city. All CDS units are in the CMMS maintenance system (database) for 90 day inspection and cleaning if necessary.

***ADDITIONAL ACTIVITY:** A Laurel Extension CDS unit was added. Please refer to the above items which include information regarding its maintenance.

Effectiveness: goals partially met

Proposed Modifications: Requested modification to Measurable Goals # 2 because City staff finds that additional cleanings other than spring and fall of the CDS unit are not needed. City staff would prefer to focus on higher priority BMPs which have a greater impact on water quality (such as river pump station cleaning). City requested modification of Measurable Goal #2 to “Inspect and clean as needed during the wet season.” Also, please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-8: Conduct Inspections of Storm Drain Lines

The City conducts TV camera inspections of the storm drain system annually on an as-needed basis. In addition, TV camera inspections may be used on a particular line when an illegal connection is suspected.

Measurable Goals:

TV or visual inspect the inside of an average of 1,000 feet of pipeline each year over a 5 year period

Year 4 Summary: A total of 2,000 feet of storm drain pipeline was TV'd in FY 2012-2013. The storm drain line locations were along the following roads: Bay Street, West Cliff Drive, and Pacific Avenue. The visual inspection tapes are reviewed by Public Works Engineering.

In Permit Year 3, 100 feet on Park Way and 160 feet along the River levee were video inspected. In Permit Year 2, 290 feet of storm drain pipeline was video inspected. In Permit Year 1, 13,732 feet was inspected.

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-9: Clean Sanitary Sewer Main Lines

Measurable Goals:

1. Clean all sanitary sewer main lines every 18 months.
2. A follow-up TV inspection will be done of 100% of the lines where a problem is discovered during the cleaning process.

Year 4 Summary:

1. In total, 119 miles of sanitary sewer pipe were cleaned between July 1, 2011-June 30, 2012. This represents over 70% of our system. All line segment cleaning and condition notes are logged in the CMMS system. In Permit Year 3, 15 miles of sanitary sewer pipe were cleaned and in Permit Year 2, 165 miles of sanitary sewer pipe were cleaned.

2. In total, 2.6 miles of sanitary sewer lines were televised when a problem condition or discrepancy were noted between 7/1/12-6/30/13. As a result, 13 spot repairs were made to the sanitary sewer system based on TV reports.

Effectiveness: goal met/modify

Proposed Modifications: The City requested modification of this Measurable Goal because tracking every sewer line cleaning on an 18 month basis is unwieldy as budgets and scheduling are done on a fiscal year basis (as well as the SWMP report). Thus, the City requested that this goal be modified to read "Clean 67 % of the sanitary sewer main lines each year." Also, please see the attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-10: Replace or Rehabilitate Sanitary Sewer Main Lines

Measurable Goals:

Replace or rehabilitate an average of 3,000 feet of sewer main pipeline per year over the 5 year permit period.

Year 4 Summary: The City replaced or rehabilitated 5,000 feet of sewer main pipeline this year at the following locations: Ocean Street (3100'), Blaine Street (700'), Pryce Street (700'), Felker Street (600'), Hubbard Street (400'), Easement near Fredrick Street (100')..

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-11: Development and Implementation of a Lateral Inspection Program

Scheduled for Years 3 & 5

Measurable Goals:

1. Outline of Program Details-Year 3
2. Implementation of Program-Year 5

Year 4 Summary: In Permit Year 3, PW Engineering staff developed a tentative plan/outline with milestone dates regarding development of a Sewer Lateral Inspection Program and a supporting ordinance which would require a property to video its sewer lateral at the time of sale to assess its condition. The tentative plan includes the following components: development of

program details and a draft ordinance, a public review and comment period, outreach to realtors and public, and City Council meetings and approval. The Sewer Lateral Inspection Program would mostly likely apply to commercial, industrial, and residential properties. Below are the identified actions items necessary to accomplish program implementation:

- Tentative Plan and Milestone Dates
- Draft ordinance bullets and program talking points
- FYI to City Council and Public Works Commission
- Draft ordinance and program plan
- Six months of public discussion and meetings; bring draft ordinance to PW Commission
- Finalize Draft Ordinance, prepare CC Staff Report
- Bring Ordinance to City Council for approval
- Second City Council Reading at City Council meeting
- Implementation begins

This year, PW Eng staff continued to research and fine tune the plan to develop an ordinance requiring a property to video its sewer lateral at the time of sale to assess its condition. Implementation of this program is addressed in the City Guidance Document submitted per the new State Storm Water General Permit.

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-12: Conduct Repairs and Rehabilitation of Storm Drain Lines

Measurable Goals:

Repair or rehabilitate an average of 100 feet of pipeline per year over the 5 year permit period

Year 4 Summary: In Permit Year 4, 140 feet of a 36 inch diameter storm drain line was rehabilitated along Park Way.

In Permit Year 3, 160 feet of storm drain lines were replaced or rehabilitated on the River levee near Gravity Outlets 10 and 11 (160 feet). In Permit Year 2, 250 feet of storm drain lines were replaced or rehabilitated at: the “Fun Spot” at Beach Street and the Wharf, next to new NOAA structure, (200 feet) and on Water Street (50 feet). In Permit Year 1, 30 feet of storm drain lines replaced or rehabilitated at: Gault Street (15 feet) and Laurel Street (15 feet).

Effectiveness: yes/part of 5 year average

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-13: Dry Weather Diversion of Storm Water from SLR Pump Stations 1, 2, and 1A to the Wastewater Treatment Facility

Each year, the City will conduct dry weather diversion of storm water from San Lorenzo River pump stations 1, 2, and 1A to the Wastewater Treatment Facility (WWTF). Although storm water and urban runoff flows around the clock into the pump stations and is thus diverted daily from the River, the actual pump downs of water to the WWTF is done on a weekly basis. During the dry season, water is diverted to the treatment plant until the River shoals, which is typically by August 1st. Once the river shoals, the diversions are temporarily ceased in order to avoid pumping groundwater to the WWTF. Testing of the pump down water is done prior to discharge to the WWTF.

Measurable Goals:

Divert SLR pump station water to WWTF 90 days per year

Year 4 Summary: The total number of gallons diverted per pump station to the Wastewater Treatment Facility (WWTF) from July 1, 2012 to June 30, 2013 is:

San Lorenzo River Pump Station	Volume Diverted
Pump Station 1A	29,400 gallons
Pump Station 1	453,500 gallons
Pump Station 2	224,700 gallons

Please note that diversions are not possible once the river shoals. Water in the pump stations/wet wells are tested by the City Environmental Compliance Division (and must meet WWTF requirements) prior to discharging the water into the sanitary sewer in order to protect the treatment plant from toxic chemicals. During the diversions, the pumps are run until the wet well is actually dry. None of the main pumps are operated during dry weather unless the river mouth closes and pumps are needed to relieve ground pressure.

Effectiveness: goal partially met

Proposed Modifications: The City requested modification of the Measurable Goal because diversions are not possible once the river shoals, which is typically by August 1st every summer. Thus, in many years, it is not possible to divert for 90 days. Since the number of diversion days is variable dependent upon when river shoals, the City requested modifying this goal to read “Divert the SLR pump station water to the WWTF during the dry season until the SLR shoals. Provide the total number of gallons diverted for each pump station.” Also, please see the attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-14: After CBI Grant Project Completion, Dry Weather Diversion of Storm Water from SLR Pump Stations 1B and 3 to the Wastewater Treatment Facility

As mentioned in the previous annual report, the City completed the storm drain lining work and the diversion pumps were installed at Pump Stations #1b and #3. The dry weather diversion work now enables the City to divert urban runoff collected in all five river pump stations to the City’s wastewater treatment plant during the dry season (and when the river is not shoaled) for treatment prior to discharge to the Pacific Ocean. This work was done primarily to improve water quality in the San Lorenzo River (SLR) and the San Lorenzo River lagoon, and also to reduce the bacterial levels at the river mouth and the downstream Main and Cowell’s Beaches.

The City also installed customized rubber duck bill Tideflex valves on storm drain gravity outlets in the San Lorenzo River, in order to replace the worn out river flap gates, as part of the diversion work. The goal was to reduce river flow back into the pump stations to eliminate unnecessary flow to the WWTF through the diversions. As with the CBI Grant #1 work above, this work should be effective at reducing the bacteria levels in the SLR and the San Lorenzo River Lagoon, which are listed as impaired for pathogens and covered under the RWQCB adopted *TMDL for Pathogens in the San Lorenzo River Watershed Waters*.

Thus, each year, the City will conduct dry weather diversion of storm water from San Lorenzo River pump stations 1b and 3 to the Wastewater Treatment Facility (WWTF). As with the other three river pump stations mentioned above, although storm water and urban runoff flows around the clock into the pump stations and is thus diverted daily from the River, the actual pump downs of water to the WWTF is done on a weekly basis. During the dry season, water is diverted to the treatment plant until the River shoals, which is typically by August 1st. Once the river shoals, the diversions are temporarily ceased in order to avoid pumping groundwater to the WWTF. Testing of the pump down water is done prior to discharge to the WWTF.

Measurable Goals:

Divert SLR pump station water diverted to WWTF 90 days per year once project work is completed

Year 4 Summary: The total number of gallons diverted per pump station to the Wastewater Treatment Facility (WWTF) from June 30, 2012 to June 30, 2013 is:

San Lorenzo River Pump Station	Volume Diverted
Pump Station 1B	235,200 gallons
Pump Station 3	1,500 gallons

As mentioned above, diversions are not possible once the river shoals. Spring/summer diversion stations are tested by the City Environmental Compliance Division and must meet WWTF requirements prior to discharge into the sanitary sewer in order to protect the treatment plant from toxic chemicals. During the diversions, the pumps are run until the wet well is actually dry. None of the main pumps are operated during dry weather unless the river mouth closes and pumps are needed to relieve ground pressure.

Additional information:

As previously reported, during Permit Year Two, the San Lorenzo River (SLR) Pump Station & Gravity Outlet Work continued under federal ARRA grant funding, which was previously obtained through the two Clean Beaches Initiatives grants as mentioned above. With the grant funding, the City continued replacement of the worn out river flap gates with customized Tideflex valves. Other project work done under the ARRA grant is also beneficial to reducing the sediment and pathogen loadings to the SLR, and these are briefly described below:

1. San Lorenzo River Gravity Outlet Cleaning: The City completed the cleaning of four gravity outlets, # 9, 10, 11, 12, and their associated piping. The outlets and piping were filled with sediment from both the storm drain system and sand from the river which seeped in due to aging river flap gates. The cleaning efforts preceded the flap gates replacement work described below. In total, 50 cubic yards of sediment were removed from gravity outlets # 9, 10, 11, 12.

2. Replacement of River Flap Gates: As part of the project, the City replaced old and worn out river flap gates with customized Tideflex valves. In Permit Year 2, valve replacements were completed at gravity outlet locations, # 9, #10, # 11 and #12. (Gravity outlets # 3, # 4, #5, # 6, # 7, and #15 were done in previous years).

This project will prevent river backflow into the gravity outfalls and subsequently the pump stations, thus facilitating the dry weather diversions mentioned above. Replacement of the worn flap gates will also prevent sand from the river, particularly during summer months when the river is shoaled, from getting into the gravity outfalls.

3. San Lorenzo River Gravity Outlet #3 Repair: In Permit Year 1 and early Permit Year 2, Gravity Outlet #3 underwent significant repairs and cleaning. There are two parallel, 54 inch diameter, forty foot long storm drain pipes at this location which were both found to have separated joints, which allowed infiltrating groundwater to carry dirt and sand into the pipelines which outlet into the San Lorenzo River. Thus, the repairs, which were completed in August 2010, will prevent sediment from infiltrating into these pipes and being flushed out into the river. In addition to the joint repairs, the project work also included cleaning of the two pipelines and removal of 1,270 cubic feet of accumulated sediment.

Effectiveness: goal partially met

Proposed Modifications: The City requested modification of the Measurable Goal because diversions are not possible once the river shoals, which is typically by August 1st every summer. Thus, in many years, it is not possible to divert for 90 days. Since the number of diversion days is variable dependent upon when river shoals, the City requested modifying this goal to read “Divert the SLR pump station water to the WWTF during the dry season until the SLR shoals. Provide the total number of gallons diverted for each pump station.” Also, please see the attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP # 15: Conduct Cleaning at Main and Cowell Beaches

Staff manually cleans both Main and Cowell Beaches daily throughout the year. During the summer, in addition to the manual cleaning, a sand sifting machine is also used to remove and

clean smaller particles. Parks and Recreation staff also conducts an annual spring cleaning at these beaches, typically in late March or April after the last big rainstorm and before the start of the tourist season and “spring break.” During this annual spring cleaning, crews spend approximately 2 weeks cleaning the beaches both by hand and using a tractor to remove the larger debris. In addition to litter left by the public, winter storms can also cause significant amounts of debris to be deposited on the beaches. Much of it comes from the debris that is flushed into the San Lorenzo River during storm events.

Measurable Goals:

1. Daily maintenance cleaning
2. Annual spring cleaning to remove debris following winter storms

Year 4 Summary:

1. Parks and Recreation staff conducts the following daily cleaning tasks at Main and Cowell beaches:

- 1) Hand picking loose trash.
- 2) Mechanically sifting sand for fine debris.
- 3) Emptying and sorting trash, recycling, and cigarette butt containers.
- 4) Storm debris collecting, sorting, hauling and disposal/recycle.
- 5) Kelp management.
- 6) Maintaining, sanitizing and stocking Beach and Cowell restrooms.
- 7) Maintaining and repairing beach vehicle and pedestrian access ramps.
- 8) Sweeping Cowell Beach parking lot and beach area walkways.
- 9) Scheduling, supervising and providing equipment for organized beach cleanups by NGOs.

2. The annual spring cleanup is typically done prior to “spring break” at the end of March and/or early April. Again this year, due to a lighter than normal winter, the annual cleanup was not done during a specific week but rather over the course of the spring months. In addition, the City is currently participating in a Source Investigation Study (SIP) at Cowell Beach in conjunction with Stanford University, the CA Coastal Commission, and the SWRCB. Thus, as part of the SIP project, many more tons of kelp were removed in summer 2012 in keeping with the goals of the water quality study which is assessing the potential effects of beach kelp on bacterial concentrations found in the receiving water. The SIP study is being conducted for a 3 year period, with kelp being left on the beach during the study's 1st and 3rd years, and kelp being removed from the beach during the study's 2nd year (Summer 2012).

Thus, this Permit Year (7/12 - 7/13), approximately 17,000 lbs of kelp, 495.6 loose yards of trash, and 105.15 loose yards of recycle were removed from the beach. The majority of the non-kelp removed material is generally woody debris, but also includes trash, litter, and miscellaneous objects.

Effectiveness: goals met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP # 16: Implement Illegal Campsite Clean-Up Program In City Parks and Open Spaces

The Parks and Recreation Department manages the City’s parks and open spaces. In addition to basic litter control measures as discussed above, the Department takes additional measures to keep these areas clean and free of debris. In particular, efforts are undertaken to address the trash and debris resulting from illegal campsites that spring up in the City’s parks and open spaces. Areas that tend to have these illegal campsites include DeLaveaga Park, Pogonip Open Space and Pogonip Creek, Arana Gulch, and Moore Creek and the San Lorenzo River corridor between the Jesse Street Marsh and Paradise Park.

Parks and Recreation currently implements an Illegal Campsite Clean-Up Program in order to keep these areas clean and prevent environmental degradation resulting from illegal campsites. As part of the Illegal Campsite Clean-Up Program, Park Rangers and City Police work together to contact illegal campers and gain compliance. Rangers and Police walk through the areas that tend to have illegal campsites on an annual basis or more as needed. After the illegal campers have been evicted, Parks Crews remove the remains of the illegal campsites and any trash or debris. After the clean-up efforts, Parks crews will also take measures to restore areas that have been degraded or eroded by the illegal camping.

Measurable Goals:

Cleanup of illegal campsites at the appropriate locations on an annual basis

Year 4 Summary: This year, illegal campsite cleanups were conducted every two weeks until May 15, 2013. Approximately one 10 yard dumpster of trash/material is removed each time. After May 15, 2013, a team was hired to address illegal campsites and dumpsites on a daily basis. A separate dumpster was used specifically for this task. Area restoration is done as needed to restore vegetation and control erosion.

Parks and Recreation staff focuses the illegal campsite cleanup work in the following areas:

ILLEGAL CAMPSITE CLEANUP LOCATIONS	ADDITIONAL INFORMATION
San Lorenzo River (from the Tate Street intake to the River mouth)	Cleanup occurs in the river, on banks/slopes, and along the river levee
Branciforte Creek	
Arana Creek	
Specific parks & open spaces	Pogonip, Neary Lagoon, DeLaveaga Park, Arana Gulch, and Moore Creek Preserve

The City spends approximately \$40,000 or more per year on this program.

Effectiveness: goals met, very effective

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-17: Dry Weather Diversion from Neary Lagoon to Wastewater Treatment Facility

During the dry season, the lagoon’s discharge is diverted to the WWTF via a 12-inch bypass line so that this water may be treated prior to discharge into the Pacific Ocean. The bypass line runs only if the water level is high enough in the lagoon. The City may divert lagoon water to the WWTF during the “wet weather season” if the treatment plant has adequate capacity, including both hydraulic and organic loading, at that time. This is done upon occasion to maintain consistent lagoon levels, and to minimize pump operation and discharges to the beach, in addition to treating the water prior to discharge.

The dry weather diversion to the WWTF is important for the receiving water quality because during the spring and summer months the bacteria levels in Neary Lagoon tend to increase primarily due to the reduced freshwater flows into the lagoon and the presence of the many birds that utilize the lagoon. Thus, this water is diverted to the treatment plant for treatment prior to discharge to the Pacific Ocean in lieu of being discharged to Cowell Beach,

Measurable Goals:

Divert lagoon water 108 days per year

Year 4 Summary: During the permit year, Neary Lagoon water was diverted to the Wastewater Treatment Facility (WWTF) year round until rains forced the gravity outlet opening. Lagoon water was diverted to the WWTF on the following dates: 6/30/12 to 11/30/12 and 4/18/13 to 6/30/13. Thus, during the permit year, the water was diverted 210 days.

Effectiveness: goals met and exceeded.

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-18: Clean Neary Lagoon Storm Drain Lines and Discharge Bacteria Laden Water to the Sanitary Sewer System

The City typically cleans these lines and discharges the water to the sewer system for several weeks each year during the Fall Season. An accounting of the pumping, including the duration and amount of water discharged to the sanitary sewer system, will be provided to the RWQCB as part of the City’s storm water annual report.

Measurable Goals:

Clean storm drain lines and discharge the water to the sewer system for approximately 3 weeks each year during the Fall Season.

Year 4 Summary: This year, cleaning of the 66" force main and 66" gravity line consisted of dewatering with bypass pump from 10/1/12 to 10/11/12 and again from 10/15/12 to 11/1/12. A total of 5,577,000 gallons was diverted to the sanitary sewer/treatment plant for treatment during this time period. A summary of the Neary Lagoon pumping during the rainy season, including copies of the Neary Lagoon Discharge Reporting Forms, is included in the Attachments.

City Environmental Compliance (EC) staff collect the “Before Line Flushing” samples on September 17, 2012 prior to the Wastewater Mains Division’s annual cleaning/flushing of the Neary storm drain outlet pipes to Cowell Beach. EC staff then collected the “After Line Flushing” samples on November 27, 2012. These sampling results are included in the Attachments with the pumping discharge information for Neary Lagoon.

The City also attempted to conduct receiving water monitoring for the first discharge of the rainy season that necessitated operation of the flood control pumps which was on November 30, 2012. However, due to the unpredictability of the storm and a miscommunication with the laboratory staff, monitoring staff was not able to collect the samples as planned. During a later rain event on March 6, 2013, Environmental Compliance (EC) and WWTF laboratory staff attempted to collect another round of samples (in lieu of the first event) as WW Mains staff prepared to turn on the pumps. Just before EC and Lab staff arrived at the Cowell Beach outlet to collect samples, the gravity line breached itself and lagoon water flowed out onto Cowell Beach. Staff collected samples of this discharge anyway and also took a video of the flow. Samples were again collected the next day on March 7, 2013. The sampling results are included in the Attachments with the pumping discharge information for Neary Lagoon.

As discussed with RWQCB staff during the year, the City requested amending the requirement to conduct receiving water monitoring *within one hour before and 24 hours after* the first discharge of the wet weather season that requires operation of the flood control pumps. The City requested that the timing of the monitoring be modified to read “*within 24 hours before and after* the first discharge of the wet weather season that requires operation of the flood control pumps,” or some other wording to this effect. The City also requests an allowance or exception for events that fall on weekends or holidays. This is because the unpredictability of winter storms and flooding potential can make it difficult to schedule sampling staff. In addition, because City WW Mains attempts to turn on the flood control pumps during the evening or early morning hours whenever possible to minimize impacts on beachgoers, the timing is often during the night or off-hours when sampling staff is not readily available. Thus, we requested modification of timing of sampling during the 1st pumping event of the wet weather season due to unpredictability and benefits of minimizing impact on beach goers.

Currently, a project to install a slide gate over the gravity outlet is planned. This improvement will allow for better maintenance and removal of solids from both 66" gravity and force main pipelines.

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP # MO-19: Revise Municipal Operations BMPs If Necessary and Republish BMP Brochure

Measurable Goals:

Distribute revised BMPs to applicable City Department Supervisors

Year 4 Summary: The BMPs for Municipal Operations brochure was revised in April 2010. The BMP brochure was sent or given to all applicable supervisors in the various City departments, and it was also posted on the City's in-house "Intranet" site for easy access for the supervisors and staff. The brochure was also posted on the City website at:

<http://www.cityofsantacruz.com/Modules/ShowDocument.aspx?documentid=4490>

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP # MO-20- Develop A Storm Water BMP Training Piece

Not in Year 1 or 2 (scheduled for Year 3)

Measurable Goals:

Training brochure, power point presentation, or other effective method

Year 4 Summary: Staff developed and finalized a storm water BMP training PowerPoint presentation, entitled "Best Management Practices to Prevent Storm Water Pollution," and circulated it to all field crew supervisors in May 2012. The PowerPoint presentation is based on the City's BMPs for Municipal Operations. The presentation consists of 30 slides with both text and photos. A copy of the presentation is available upon request. During the permit year, this PPT presentation was used by a variety of City departments and divisions to train staff.

Effectiveness: goal met

Proposed Modifications: none

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-21: Train and Educate Appropriate City Field Crews

Measurable Goals:

1. Train 100% of appropriate staff annually.
2. Train new staff within 3 months of the beginning of employment.

Year 4 Summary:

This year, 100% of City field crew staff were trained on storm water related topics. Staff was trained, predominantly by each Supervisor, using a variety of methods including the new

PowerPoint training presentation recently created by PW Storm Water staff. In addition to field crew personnel, other staff was also trained including engineers and others. In total: 75 Public Works staff, 57 Parks & Recreation staff, and 32 Water Department staff were trained as detailed in the table below:

IDepartment	Field Crew Staff*	Percent Trained
Public Works	75	100%
Parks & Rec	57	100%
Water	32	100%
TOTAL	164 staff	100%

In addition to the field crews, PW Engineering and Planning and Building staff were trained as well as described in Chapters 5 and 6. * In some instances, other non-field crew staff people were also educated.

2. All new permanent employees are trained by their Supervisor. However, few permanent staff people were hired in PW and Parks & Recreation Departments due to City work furlough and budget constraints. All new Water Department staff is trained using BMPs, SOPs, & training videos.

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-22: City-wide Watershed Issues Team Meetings to Discuss Watershed Issues Re TMDLs and Other Related Topics

The City created a Watershed Issues Team several years ago with staff from each of the various departments in order to address and discuss watershed issues such as TMDLs, local and state plan revisions, etc. This team is comprised of staff from the various departments, such as Public Works, Planning, Water, Parks and Recreations, and the City’s Manager’s office. This city-wide participation helps ensure that all departments are kept informed on relevant watershed issues and involved/coordinated in any City actions or measures.

Measurable Goals:

Meet semi-annually or more as needed

Year 4 Summary: Five meetings, including two phone meetings, were held on the following dates: 1) July 12, 2012; 2) October 30, 2012; 3) February 21, 2013; 4) June 11, 2013; and 5) June 26, 2013

The participating staff members and discussion topics were as follows:

1. July 12, 2012: Meeting with PW Engineering (2) & PW Env. Compliance staff (1), PW WW Mains re TMDL issues in the lower San Lorenzo River. Staff discussed beginning a project to conduct upstream tracking and sampling for bacteria and bacteriodes at 2 river pump stations, Bixby and Uhden. This work is planned as a follow up on the pump down sampling results, from samples collected by the County and funded by the City, which indicated the presence of human bacteriodes at these pump stations. Staff also discussed potential sources of bacterial contributions at Main and Cowell Beaches and potential projects for upcoming CBI grant.
2. October 30, 2012: Meeting with PW Engineering (3 staff), PW Wastewater Mains (1), PW Env. Compliance and WW Lab and PW Director. Staff discussed potential sources of bacteria in the Neary Lagoon gravity line to Cowell's Beach and bacteria levels at the beach. Also discussed storm drains and sewer lines in the area and Neary Lagoon piping and pump station. Discussed items/lines to further investigate and possibly TV.
3. February 21, 2013: Meeting with PW Eng (3 Staff), 1 City Planner, and 1 CA Coastal Commission staff re the new RWQCB PCR requirements and the City's LCP/General Plan, etc.
4. June 11, 2013: Phone meeting with PW Eng (2) and Water Dept staff (3) re the City SWMP and Guidance Document per the new State Storm Water Small MS4 General Permit.
5. June 26, 2013: Phone meeting with PW Eng and Water Dept staff re TMDLs for the San Lorenzo River. Discussion included TMDL implementation actions and Wasteload Allocation Attainment Program reports.

Effectiveness: goal met

Proposed Modifications: Please see attached City of Santa Cruz Guidance Document

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document

BMP #MO-23: Develop Boilerplate Contract Language Requiring City Contractors to Abide by the Applicable Mandatory Storm Water BMPs
(Scheduled for Year 2)

Measurable Goals:

Inclusion of boilerplate language for bid masters and/or the City contract master.

Year 4 Summary: Boilerplate language for bid masters and/or the City contract master was included in these masters during Permit Year Two. Wording requiring contractors to abide by City Storm Water BMPs was placed in our Informal, Formal, and RFP masters on 12/1/10. In addition, on 12/13/10, the City PO Terms and Conditions were also revised and posted on the Internet and City "Intranet." Text on the Finance Department's webpage also refers those interested in doing business with the City to a link to the City's storm water BMPs.

Effectiveness: goal met

Proposed Modifications: none

Planned FY 2013-2014 Activities: Please see attached City of Santa Cruz Guidance Document