

**ANNUAL REPORT-TMDL BMP IMPLEMENTATION EFFECTIVENESS ASSESSMENT SUMMARY<sup>28</sup>**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	Level of Implementation (None, Partial, Full)	BMP Implementation Information	Effectiveness (Low, Med, High)	CASQA Outcome Level (1-6)	Target Priority Pollutant(s)	Evaluation Method	Proposed Modification
<b>E.15 TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS</b>											
	E.15	TMDL 1	Develop Additional BMPs as Necessary in Conjunction With The TMDL For Sediment	Target=Sediment - Additional BMPs and measures	FULL	Completed SWMP Task. Per the RWQCB, the WAAP revisions were due June 30, 2015, which the City complied in a county-wide WAAP submittal prepared jointly by the City of Santa Cruz, the County of Santa Cruz, and the cities of Capitola, Scotts Valley, and Watsonville. The City currently reviews Building Permit plans for erosion and sediment control BMPs including for small residential projects.	N/A	1	Sediment	N/A	
	E.15	TMDL 2	Develop Additional BMPs as Necessary in Conjunction With The TMDL For Pathogens	Target=Bacteria - Additional BMPs and measures	FULL	Completed SWMP Task. Per the RWQCB, the WAAP revisions were due June 30, 2015, which the City complied in a county-wide WAAP submittal prepared jointly by the City of Santa Cruz, the County of Santa Cruz, and the cities of Capitola, Scotts Valley, and Watsonville. In addition, again this year, the City collaborated with the San Lorenzo River Alliance, including the Water Quality Working Group (WQWG), to continue to assess sources of bacterial inputs, evaluate current BMPs, and develop new BMPs and strategies to reduce controllable loadings. This permit year, the City and Coastal Watershed Council are partnering on a pet waste campaign with the goal of educating pet owners to pick up pet waste in order to reduce bacteria loadings to the SLR and tributaries. From the SLRA WQWG findings, CWC also began conducting a campaign to reduce urban "drool" which was identified as a potential source of bacteria.	N/A	1	Pathogens	N/A	
	E.15	TMDL 3	Develop, Submit, and Implement a Wasteload Allocation Attainment Program(s) (WAAP) to Address Controllable Sources Associated with the Storm Water System for Each Impairing Pollutant/TMDLs within the City's Jurisdiction.	Implement WAAPs for pathogens and sediment	FULL	Completed SWMP Task. As required, a WAAP for Pathogens was submitted to the CCRWQCB in 2012 and revised/ resubmitted in June 2013. Also, a WAAP for Sediment was submitted in June 2013. The City had its first consultation with RWQCB staff on effectiveness assessment and monitoring on May 27, 2014, and a subsequent telephone meeting, including a discussion on TMDL monitoring and a revised WAAP, on September 2, 2014. The City, along with the County of Santa Cruz, and the cities of Capitola, Scotts Valley, and Watsonville, prepared and submitted a joint WAAP for both pathogens and sediment, including effectiveness assessment, to the RWQCB in June 30, 2015.	N/A	1	Sediment, Pathogens	N/A	
✓	E.15	NEW BMP	Comply with the effectiveness assessment schedule and process included in WAAP		FULL	The City, along with the County of Santa Cruz, and the cities of Capitola, Scotts Valley, and Watsonville, prepared and submitted a joint WAAP, including effectiveness assessment, to the RWQCB in June 30, 2015. Again this year, the City collaborated with the San Lorenzo River Alliance, including the Water Quality Working Group (WQWG), to continue to assess sources of bacterial inputs, evaluate current BMPs, and develop new BMPs and strategies to reduce controllable loadings.	N/A	1	Sediment, Pathogens	N/A	

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<b>BMPs per City of Santa Cruz WAAP for Pathogens (Showing only BMPs not already identified in previous sections)</b>											
✓	E.11.f, E.15	NEW BMP	Develop procedures to prioritize storm drain system maintenance		FULL	The City prioritizes efforts to maintain and clean storm drains/catch basins in areas with direct impact to the ocean or the San Lorenzo River. Thus, maintenance of the San Lorenzo River pump stations is also a high priority. Areas with the highest vehicle and pedestrians traffic are also prioritized. Thus, the highest priority areas are the Beach, Downtown, and lower Ocean Street areas. Staff also reviews the areas which needed attention during the previous year and adds these areas to the priority list.	N/A	1	Sediment, Trash, Pathogens	Documentation	
✓	E.11.g, E.15	NEW BMP	Begin maintenance of all high priority storm drains on an on-going schedule according to procedures & priorities developed per E.11.f		FULL	The City continues to maintain all high priority storm drains on an on-going schedule. The Division's CMMS database provides an on-going maintenance schedule, provides notices when maintenance is due, and tracks completed maintenance & repairs.	High	5	Sediment, Trash, Pathogens	Land-use-load estimation (TELRL)	
	E.11.g, E.15	MO-4	Inspection, Cleaning, and Repair of City Catch Basins and Inlets	1. Clean 90% of catch basins and inlets located in the Downtown, Beach Flats, and lower Ocean Street areas annually in the Fall	FULL	In FY2016-17, 90% of catch basins and inlets were cleaned in Downtown, B. Flats, and lower Ocean Street areas in Fall 2015. Almost all drainage from these areas goes to the San Lorenzo River pump stations. A total of 9 cubic yards of debris was collected from both catch basins and storm drain lines during the Fall cleaning. Wastewater Collection Division staff made extensive efforts to accomplish this.	High	5	Sediment, Trash	Direct load measurement, land use load estimation (TELRL)	
				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	FULL	In FY2016-17, 100% of clogged or non-functional storm drains and catch basins were cleaned and repaired citywide. Priority and response is placed on any report from the public for non-functioning or plugged drains.	High	4	Sediment, Trash	Documentation	
				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	FULL	In FY2016-17, 100% of clogged or non-functional storm drains and catch basins were cleaned and repaired citywide. Priority and response is placed on any report from the public for non-functioning or plugged drains.	High	5	Sediment, Trash	Direct load measurement, land use load estimation (TELRL)	
				4. Inspect 50% of the catch basins in the outlying areas of the City annually and clean as needed	Partial	There are at least 1,400 catch basins in the City. As mentioned above, City efforts focused on the high priority areas including the Beach, Downtown, and lower Ocean Street areas. The Downtown and Ocean Street areas flow, via the City storm drain system, to the San Lorenzo River. Thus, due to the focus on higher priority areas, approximately 20% of the catch basins in outlying areas were inspected and then cleaned if necessary.	Medium	5	Sediment, Trash	Direct load measurement, land use load estimation (TELRL)	
	E.15	MO-6	Clean Pump Stations Along the San Lorenzo River	Target=Sediment & Bacteria Clean Twice Per Year ( Spring & Fall) Additional cleanings if needed during wet season and after large storm events	FULL	Fall cleaning was conducted on 11/4/16 and again on 1/12/17 due to heavy winter storms. Spring cleaning was completed by 4/5/17 with 9 yards of debris removed. 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. Of the two seasonal cleaning events, spring cleaning of the pump stations is the most important due to debris from winter runoff/storms.	High	5	Sediment, Trash	Direct load measurement, land use load estimation (TELRL)	

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	E.15	MO-8 (same as ID-4)	Conduct Inspections of Storm Drain Lines	Target=Bacteria & Sediments TV or visual inspect the inside of an average of 1000 feet of pipeline each year over a 5 year period	FULL	During the permit year, approximately 23,536 feet of storm drain lines were cleaned by WW Collection/Flood Control staff. In addition, a total of 600 feet of storm drain pipe were TV'd in FY2016-2017 at various locations including Harbor Drive and Market St. The total number of feet of storm drain pipe TV'd in previous years was: 4,000 feet in FY2015-2016; 3,000 feet in FY2014-2015; 200 feet in FY2013-2014; 2,000 feet in FY2012-2013; 260 feet in FY2011-2012; 290 feet in FY2010-2011; and 13,732 feet in FY2009-2010.	N/A	1	Sediment, pathogens, trash	Documentation	
	E.15	MO-10	Replace or Rehabilitate Sanitary Sewer Main Lines	Target=Bacteria & Sediments Replace or rehabilitate sewer main pipeline as needed each year	FULL	In 2016-17 the City rehabilitated by CIPP liner 9,000 feet of sewer pipeline through the City. Also replaced was 7,500 of 6-inch sewers in the Prospect Heights area with new 8-inch pipe. The City also replace 35 laterals during that project. During the permit year, approximately 567,042 feet of sewer pipeline were cleaned.		4	Pathogens	Tabulation (# sewer overflows)	
	E.15	MO-11	Development and Implementation of a Lateral Inspection Program	Implementation of Program starting 2016	Partial	The City's Sewer Lateral Ordinance is in the final stage of public presentation and adoption. The ordinance was presented to the Public Works/Transportation Commission on September 18, 2017. At that meeting, the Commission recommended the ordinance be adopted by the City Council. The ordinance is scheduled to be presented to the Santa Cruz City Council on November 28, 2017 with a final adoption on December 4, 2017.	N/A	4	Pathogens	Tabulation (# lateral repairs, # lateral overflows)	
	E.15	MO-13	CBI Grant #1: Dry Weather Diversion of Storm Water from SLR Pump Stations 1, 2, and 1A to the Wastewater Treatment Facility (WWTF)	Divert the SLR pump station water to the WWTF during the dry season until the SLR shoals	FULL	During the dry season, water is diverted to the treatment plant until the River shoals, which is typically by August 1st. Water accumulates daily in the pump stations and is pumped out weekly to the treatment plant after testing. Total gallons diverted per pump station from July 1, 2016 to June 30, 2017: Pump Station 1A= 33,726 gallons; Pump Station 1= 773,850 gallons; and Pump Station 2= 155,400 gallons. *Diversions not possible once river shoals. Summer diversion stations are tested by City Environmental Compliance Division and must meet WWTF requirements prior to discharge into sanitary sewer. All summer diversion pumps are run until the wet well is dry. None of the main pumps are operated during dry weather unless river mouth closes and pumps are needed to relieve ground pressure.	High	4	Sediment, pathogens, trash	Direct load /volume measurement	

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	E.15	MO-14	CBI Grant #2: After CBI Grant Project Completion, Dry Weather Diversion of Storm Water from SLR Pump Stations 1B & 3 to the WWTF	Divert the SLR pump station water to the WWTF during the dry season until the SLR shoals	FULL	During the dry season, water is diverted to the treatment plant until the River shoals, which is typically by August 1st. Water accumulates daily in the pump stations and is pumped out weekly to the treatment plant after testing. Total gallons diverted per pump station from June 30, 2016 to June 30, 2017: Pump Station 1B=163,800 gallons and Pump Station 3=1,500 gallons. *Diversions not possible once river shoals. The diversion work (re equipment & piping) was completed at Pump Station # 1B by January 2008 and at Pump Station # 3 on May 27, 2008. Summer diversion stations are tested by City Environmental Compliance Division and must meet WWTF requirements prior to discharge into sanitary sewer. All summer diversion pumps are run until the wet well is dry. None of the main pumps are operated during dry weather unless river mouth closes and pumps are needed to relieve ground pressure.	High	4	Sediment, pathogens, trash	Direct load /volume measurement	
	E.15	MO-16	Implement Illegal Campsite Clean-Up Program In City Parks and Open Spaces	Cleanup of illegal campsites at the appropriate locations on an annual basis	FULL	The diversion work (re equipment & piping) was completed at Pump Station # 1B by January 2008 and at Pump Station # 3 on May 27, 2008. Summer diversion stations are tested by City Environmental Compliance Div. and must meet WWTF requirements prior to discharge into sanitary sewer. All summer diversion pumps are run until wet well is dry. None of the main pumps are operated during dry weather unless river mouth closes and pumps are needed to relieve ground pressure.	Not assessed	4	Pathogens, trash	Direct trash load measurement	
	E.9.d, E.15	ID-2	Conduct Spill and Illegal Discharge Response	Target=Sediment & Bacteria Respond to 100% complaints and reports of illegal discharges	FULL	Below are the three Environmental Compliance Inspector's spill and illegal discharge response summaries for the permit year: <i>Inspector #1:</i> Responded to 12 sanitary sewer overflows, 6 restaurant storm water complaints, 1 hotel complaint, 10 constructions sites, 2 Industrial Users, 2 vehicle service facilities and 6 general inquiries and complaints. All issues were resolved. <i>Inspector #2:</i> Responded to 19 sanitary sewer overflows (18 residential, 1 commercial), and to 7 stormwater violations ( 6 commercial, 1 residential). Also conducted 1 other commercial storm water investigation. All issues were resolved. <i>Inspector #3:</i> Responded to 7 sanitary sewer overflows (5 residential, 1 commercial site and 1 grade school). Also responded to six stormwater complaints that were all investigated. All issues were resolved.	High	4	Trash, Pathogens	Inspection	
	E.7.a, E.11.g, E.15	PE-1	Replace Worn Stencils or Apply New Stencils to Storm Drain Inlets	24 stencils replaced or newly applied annually	FULL	In addition, there were approximately 22 sanitary sewer overflows responded to by Wastewater Collection/Flood Control. All issues were resolved.	Medium	2	Trash	Public Awareness Survey	

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	E.8.c, E.15	Added BMP	Sponsor river and/or creek cleanups	Programs e.g.: Adopt-A-Levee (in partnership with Save Our Shores), River & Creek Cleanups (Save Our Shores)	FULL	This year, the City continued funding or contributed support for several river levee volunteer cleanup programs as follows: 1) San Lorenzo River Adopt-A-Levee Program-this is a volunteer group river levee cleanup program funded by the City and implemented by Save Our Shores. Each adopting group is asked to commit to doing 3 or more cleanups per year. This year, there were 3 AAL groups with a combined total of more than 70 volunteers who removed greater than 310 pounds of trash and 77 pounds of recycling from the SLR levee. 2) San Lorenzo River Community Volunteer River cleanups-this is a citizen volunteer river levee cleanup program funded by the City and implemented by Save Our Shores. This year, there were four seasonal river cleanups with a combined total of 131 volunteers who removed 486 pounds of trash and 55 pounds of recycling. The City also provides funding support for Annual Coastal Cleanup Day which includes several river levee sites.	High	4	Pathogens, trash	Direct trash load measurement	
	E.13.b, E.15	Added BMP	Bacteria Monitoring Pilot Program	Bacteria monitoring in San Lorenzo River, Branciforte Creek, and Carbonera Creek, per specs in WAAP	FULL	The City continues to conduct a monitoring program for bacteria in the San Lorenzo River, Branciforte Creek, and Carbonera Creek re the TMDL for Pathogens. Sampling is done by Environmental Compliance staff & analyzed by the City Environmental Laboratory. Please see attached monitoring report for details on the monitoring program and sampling results. In addition, the City contributed funding to the San Lorenzo River Alliance (SLRA) Water Quality Working Group monitoring study for bacteria in the San Lorenzo River. The City is an active partner in the SLRA Working Group efforts led by Coastal Watershed Council (CWC). The City has since developed better quality data that enable us to identify probable control points for bacteria associated with anthropomorphic signatures within City limits. These signatures include: caffeine; molecular markers (HF183 and/or HumM2) associated with high levels of fecal indicator bacteria.	N/A	6	N/A	N/A	

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✓	E.13.b, E.15	NEW BMP	TMDL Monitoring	Comply with the monitoring requirements included in WAAP and/or consult w/ RWQCB to determine monitoring study design and monitoring implementation schedule	FULL	The City conducts a monitoring program for bacteria in the San Lorenzo River, Branciforte Creek, and Carbonera Creek re the TMDL for Pathogens. The program is associated with a comprehensive data driven effort to identify controllable sources of bacteria in the river while the bacteria levels remain higher than the REC-1 limits. The associated analytical work done with the bacteria sampling include molecular markers - HF183 and HumM2-; caffeine and where appropriate Fecal sterol ratios. Sampling is done by Environmental Compliance staff & analyzed by the City Environmental Laboratory. Please see attached monitoring report for monitoring program details and sampling results. In addition, the City contributed funding to the San Lorenzo River Alliance (SLRA) Water Quality Working Group monitoring study for bacteria in the San Lorenzo River. The City is an active partner in the SLRA Working Group efforts led by Coastal Watershed Council (CWC). The City has since developed better quality data that enable us to identify probable control points for bacteria associated with anthropomorphic signatures within City limits. These signatures include: caffeine; molecular markers (HF183 and/or HumM2) associated with high levels of fecal indicator bacteria. Results tracked in db and on spreadsheet.	N/A	6	N/A	N/A	
<b>BMPs per City of Santa Cruz WAAP for Sediment</b>											
	E.11, E.15	MO-1	Sweep City Streets By Mechanical Sweepers	1. Sweep primary streets in downtown & main beach areas once to twice per week	FULL	All sweeping requirements (#1-4) to meet our minimum goals equal 773 curb miles per month. In July 2016 through June 2017, there was a total of 26,224 curb miles swept (or an average of 2,185 curb miles swept per month). Total tonnage collected was 1,063 tons or an average of 89 tons per month. There are 40 curb miles of commercial streets including downtown, Soquel Ave, Mission & Beach area. This commercial area is our first priority and the minimum goal is to sweep twice each week or 320 miles per month. This year we exceeded our goal.	High	5	Sediment, trash	Direct load measurement, land use load estimation (TELRL)	
				2. Sweep primary streets in other commercial areas weekly to twice per month	FULL	All sweeping requirements (#1-4) to meet our minimum goals equal 773 curb miles per month. In July 2016 through June 2017, there was a total of 26,224 curb miles swept (or an average of 2,185 curb miles swept per month). Total tonnage collected was 1,063 tons or an average of 89 tons per month. There are 40 curb miles of commercial streets including downtown, Soquel Ave, Mission & Beach area. This commercial area is our first priority and the minimum goal is to sweep twice each week or 320 miles per month. This year we exceeded our goal.	High	5	Sediment, trash	Direct load measurement, land use load estimation (TELRL)	

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				3. Sweep 75% of residential streets once to twice per month	FULL	All sweeping requirements (#1-4) to meet our minimum goals equal 773 curb miles per month. In July 2016 through June 2017, there was a total of 26,224 curb miles swept (or an average of 2,185 curb miles swept per month). Total tonnage collected was 1,063 tons or an average of 89 tons per month. Residential streets are swept twice per month or more frequently upon request or based on necessity. This year we exceeded our goal.	High	5	Sediment, trash	Direct load measurement, land use load estimation (TELRL)	
	E.11, E.15	MO-3	Sweep Public Parking Lots and Parking Garages Regularly	Target=Sediment & Bacteria. Clean lots w/a mechanical sweeper 2 or more times per week depending upon which location	FULL	PW staff cleans 25 municipal parking lots 6x per week w/a mechanical sweeper. This includes four parking garages with 14 levels total. This permit year, over 7,488 yards of debris were collected.	High	5	Sediment, trash	Direct load measurement, land use load estimation (TELRL)	
✓	E.10.a	NEW BMP	Maintain an inventory of all projects subject to the local construction site SW runoff control ordinance, incl. location of project with respect to waterbodies, threat to WQ, construction phase, required inspection frequency, date of erosion control plan approval		FULL	The City inventories all new discretionary approval applications and ministerial permits via its TRAKiT online database. TRAKiT keeps record of the permit type, location, application status, inspections, and LID requirements. All new permit applications that trigger a grading or building permit are subject to stormwater runoff control requirements. TRAKiT is queried to develop a report of all new permit applications subject to stormwater runoff control and the results are categorized by project type (commercial or residential), status (applied, approved, permit issued, finalized), and whether LID is required. The results are mapped using GIS to identify projects located within TMDL watersheds. Commercial/multifamily projects that create or replace over 5,000 sf of impervious surface are considered higher potential threat and are further tracked in an excel spreadsheet maintained by the PW Department - those projects are inspected by both Building and PW to ensure compliance with storm water BMPs. The PW tracking spreadsheet includes additional information, including: project area, SWPPP threat level as applicable, if it is adjacent to a creek, if it is in a TMDL watershed, project description and status, and PW inspections.	N/A	1	Sediment	Documentation	N/A

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✓	E.10.b	NEW BMP	Develop/revise procedures to review and approve relevant construction plan documents.	Require operator of construction activity to prepare and submit erosion and sediment control plan for review.	FULL	In the City, all projects that increase the square footage or volume of a building (including single-family dwellings) are required to meet CalGreen requirements, including providing an erosion and sediment control plan for review. Projects that do not include a building but disturb over 50 cy of soil are required to obtain a grading permit. The City revised Chapter 18.45, Excavation and Grading Regulations, of the Municipal Code to require that all projects subject to the grading permit provide a site plan showing the general vicinity of the proposed project, dimensions of grading cut and fill, the location of surrounding buildings or structures, and the location of construction Best Management Practices (BMPs) as required by the City's mandatory Storm Water BMP manual, as published by the City Public Works Department. The ordinance revision was approved by City Council on July 22, 2014 and published August 22, 2014. Additionally, Public Works revised its mandatory BMPS for Construction Projects to incorporate minimum requirements for the preparation of Erosion Control Plans. The revised mandatory construction BMPs were published on June 30, 2014. All construction projects that trigger a grading or building permit are required to abide by the mandatory construction BMPs.	Not assessed	2	Sediment	Documentation	N/A
				Require rationale for BMPs used	FULL	All proposed projects that trigger a grading or building permit must abide by the mandatory construction BMPs published by Public Works. The BMPs require that grading or construction activities be implemented in accordance with an approved erosion control plan. Erosion control plans shall include at a minimum: site topography, nearby watercourses, proposed grading contours, location of utilities, location of proposed erosion control measures, location of proposed sediment control measures, location of construction waste control measures, stockpile and equipment staging areas, total area of disturbance, and list of other required permits associated with grading. The BMPs also list minimum requirements for erosion and sediment control. This guidance ensures that appropriate BMPs are used to control erosion and sediment. Additionally, for projects disturbing over 5,000 cy of soil, the City requires the submittal of an engineering soils report and engineering geology report. The soils engineering report shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures, and design criteria for corrective measures, when necessary, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading as affected by soils engineering factors, including the stability of slopes. Recommendations included in the soils engineering report and/or the engineering geology report shall be incorporated in the grading plans or specifications.	Not assessed	3	Sediment	Documentation	N/A



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				Require that erosion/sed control plan list applicable permits associated w/ grading activity (CGP, 401, 404, 1600 agreement)	FULL	All proposed projects that trigger a grading or building permit must abide by the mandatory construction BMPs published by Public Works and updated in June 2014. The BMPs include guidance on information that shall be included in erosion control plans. At a minimum, erosion control plans must include: site topography, nearby watercourses, proposed grading contours, location of utilities, location of proposed erosion control measures, location of proposed sediment control measures, location of construction waste control measures, stockpile and equipment staging areas, total area of disturbance, and a list of other required permits associated with grading such as State Construction General Permit, U.S. Army Corps of Engineers 404 permit, State Water Board 401 Water Quality Certification, California Department of Fish and Wildlife 1600 Agreement, as applicable.	N/A	1	N/A	Documentation	N/A
				Document review using a checklist	FULL	The Public Works Department uses a checklist based on the revised construction BMPs for review of erosion control plans for projects that create or replace over 5,000 sf of impervious surface area. The Green Building Program in the Building Department has its own Green Building Checklist it uses to document review of project plans.	Not assessed	2	Sediment	Documentation	N/A
				SWPPP may substitute for erosion control plan where a SWPPP is developed	FULL	Typically, projects that are required to create a SWPPP first submit an erosion control plan for plan review purposes and then develop the SWPPP once most plan approvals are received. Once the project is approved, Public Works coordinates with the QSP to conduct a pre-construction meeting to go over the SWPPP, erosion control measures, and inspections.	N/A	1	Sediment	Documentation	N/A

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✓	E.10.c	NEW BMP	Use legal authority to implement procedures for inspecting public and private construction projects and conduct enforcement if necessary.		FULL	The Building Department conducts BMP inspections at residential and commercial sites per CalGreen requirements. Inspections are conducted at active construction sites prior to forecasted major rain events and at 50% or more sites after rain events. Additionally, the Public Works Department provides additional oversight for medium-sized commercial projects and large projects. The Public Works Environmental Projects Analyst conducts a pre-construction meeting with the contractor on erosion control BMPs, as well as periodic inspections before, after, and/or during rain events to identify problem sites and BMP deficiencies. Additional inspections are conducted at sites with erosion control issues. The Public Works Environmental Projects Analyst also conducts a final inspection at the completion of construction projects to ensure that all disturbed areas have been stabilized. At least two large/medium sites were issued a verbal warning by the Building Inspector and one residential project was issued a stop work order. PW Storm Water and Env. Compliance staff also respond to complaints re both commercial residential projects, and verbal and written warnings or Notices of Violation may be issued by PW staff as well. One high priority site was issued a warning letter. All sites were promptly brought into compliance. Results indicate that regular inspections are critical to maintain site compliance with erosion control BMP requirements.	Medium	3	Sediment	Inspection (# sites fully implementing BMPs at 1st visit, 2nd visit, 3rd visit, addtl visits, observation of sediment leaving site)	
	E.10.c.	CON-1	Planning/Building Inspectors Will Inspect All Construction Sites Requiring a Grading Permit. Inspections Will Also Be Conducted Prior to Well-Forecasted Rain Events at High Priority Construction Projects. Inspectors Will Also Inspect 50% or More of the Open Sites After Major Rain Events or Storms.	1. During the grading process, 100% of small sites will be inspected 2 times and 100% of large sites will be inspected 3 times (Small sites are defined as generally less than 1/2 acre. Large sites are greater than 1/2 acre.)	FULL	This permit year, all small and large sites were inspected as required. Inspections were done prior to and also after rain events. In total, there were 56 Building permits for residential ADUs, garages, single family homes, and duplexes. There were numerous types of Building permits for commercial projects including 2 for hotels/motels, 3 for multi-residential, 8 for amuse/rec, and 3 for businesses. Public Works Storm Water staff inspected all sites that triggered special grading/erosion control inspections. In addition, there was 1 Grading Permit issued for a residential site and 3 Grading Permits issued for commercial sites. Sites are inspected multiple times particularly if they are medium to large sites, or adjacent to sensitive waterbodies, or need followup after a detected problem or complaint. This permit year, 2 sites received written notices of violation. Results indicate that regular inspections are critical to reminding sites to maintain compliance with erosion control BMP requirements.	Medium	3	Sediment	Inspection (# sites fully implementing BMPs at 1st visit, 2nd visit, 3rd visit, addtl visits)	

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				2. Inspect 100% of high priority sites prior to forecasted rain events	FULL	All sites were inspected multiple times by Building Inspectors during the rainy season including prior to forecasted rain events. Medium-sized commercial sites and large sites received additional inspections by PW Environmental Projects Analyst prior to, during and/or after 1 or more storms to identify problem sites and ensure BMPs were functioning properly. Also, 37 sites that had active construction were notified by emailed letter on September 30, 2016. Letters were re: site preparedness and Winter Grading Rules prior to the onset of the rainy season and included the City's mandatory Construction BMPs. Letters are sent to both the property owner and general contractor. There were 4 sites > 1 acre that were active during the rainy season and were periodically monitored by PW. All 4 sites were inspected 1x or more prior to the rainy season or a forecasted rain event, and during the rainy season by PW as follows: 1) a care facility inspected at least 2x during the wet season, 2) a hotel inspected 4 times during the wet season, 3) another hotel inspected 3x during and after rain events, and 4) a business parking lot inspected 1x during the wet season. One of the sites had inadequate BMPs or BMP failures that were rectified as a result of inspection. Results indicate that regular inspections are critical to maintain site compliance with erosion control BMP requirements. Results also indicate that rates of compliance were variable across projects, regardless of project size, and anecdotal information indicates that contractor experience and attitude about local water resources was significant in determining compliance with erosion control BMPs.	Medium	4	Sediment	Inspection (# sites w/ wet weather BMPs fully in place at 1st visit, # sites receiving warning or NOV), photo doc	
				3. After major rain events, 50% or more of "open" sites will be inspected	FULL	All open sites were inspected by Building Inspectors after major rain events. In addition, during the permit year, Building Inspectors conducted at least 16 BMP inspections at commercial sites and 15 BMP inspections at residential sites, and they also conducted many more foundation inspections which also check for BMP implementation especially during the wet season. Also, the PW Environmental Projects Analyst conducted inspections during and/or after major rain events at large sites and/or sites with BMP implementation failures. BMP failures were identified at 1 high priority site and 1 medium size site. BMP failures were rectified as a result of inspection.	Medium	4	Sediment	Inspection (# sites w/ indication of BMP failure)	

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	E.10.c, E.15	CON-2	PW Staff Will Inspect Installation of Post-construction Treatment Systems and Storm Water Retention Devices at Development Sites Greater Than or Equal to One Acre	Inspect systems and devices at 100% of development sites greater than or equal to one acre	FULL	The PW Senior Environmental Projects Analyst reviewed and inspected all projects that trigger Tier 2 or higher of the PCRs. During the permit year, projects equal to or greater than 1 acre were inspected as follows: 1) Delaware Avenue: Commercial development project where construction was halted in Spring 2014. The site was inspected once re the CDS unit and water flow/vegetation in the adjacent creek. 2) Jewell Street: Commercial development project that was initiated in January 2015. The site was inspected at least 3 times during the permit year. 3) Mission Street: Commercial development project including a parking lot that was inspected at least 6 times during the permit year. 4) Riverside: Commercial development project. The site was inspected 6 times during the permit year. In addition, other high priority sites were inspected as follows: 1) Beach Street- Commercial development project. This site was inspected at least 3 times during the permit year. 2) Broadway: Commercial development project. This site was inspected at least 5 times during the permit year.	High	5	Sediment, Pathogens, Trash	Inspection, Land-use-load estimation (RAM/TELRL)	
	E.12.k, E.15	PC-5	<b>Develop &amp; Enact A Strategy for Implementing LID &amp; Hydromodification Control For New and Redevelopment Projects</b>	Develop, advertise and make available LID BMP Design Guidance suitable for all stakeholders; Specific guidance on how to achieve and demonstrate compliance with the hydromodification control criteria and LID requirements made available to new and redevelopment project applicants	FULL	Completed in Permit Year 1	Not assessed	2	Sediment, Pathogens, Trash	Documentation, tabulation (page hits), public awareness survey	
	E.12.j	PC-10	<i>Develop and/or Modify Enforceable Mechanisms That Will Effectively Implement Hydromodification Controls and LID. Enforceable Mechanisms May Include Municipal Codes, Regulations, Standards, and Specifications.</i>	Approved new and/or modified enforceable mechanisms that effectively resolve regulatory conflicts and implement hydromodification controls and LID in new and redevelopment projects	FULL	There were no significant gaps. Staff worked on minor revisions to the parking ordinance to help facilitate LID implementation during the previous permit year. Additionally, the assessment found that the City's mandatory "Storm Water BMPs for Development and Remodel Projects," which are codified by the Municipal Code/Storm Water Ordinance, are currently the best method to implement the new requirements. All development projects were routed through one Public Works development project plan reviewer that ensures that proposed projects meet the revised mandatory BMPs. Beginning in March 2017, 2 outside engineering consulting firms with QSD certified staff were hired to review project plans for PCR compliance.	N/A	1	No	Documentation	

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	E.12.j	PC-10	<i>Develop and/or Modify Enforceable Mechanisms That Will Effectively Implement Hydromodification Controls and LID. Enforceable Mechanisms May Include Municipal Codes, Regulations, Standards, and Specifications.</i>	Apply new and/or modified enforceable mechanisms to all applicable new and redevelopment projects.	FULL	The City began enforcing the new Post-Construction Requirements on March 6, 2014. The City has mandatory BMPs for Development and Remodeling Projects which include the PCR requirements. This year, there were 2 commercial projects subject to the PCRs that were finalized for occupancy and both were subject to Tier 2 requirements. This year, in total, there were 8 commercial projects with building permit applications, with 7 of them subject to the PCRs and 1 project whose design permit was approved prior to the PCRs. Of the 7 PCR regulated projects, 5 were Tier 2 and 2 were Tier 4. Also, the City requires LID site design on all residential development and remodeling projects, including projects below the Tier 1 threshold. This year, there were 30 residential building permit applications that triggered LID requirements review. 25 residential projects were below the PCR trigger and 5 residential projects triggered Tier 1. There were no residential projects subject to the PCRs that received certificates of occupancy (“finalized”).	N/A	3	No	Documentation	
	E.12.k, E.15	PC-8	<b>Implement Program to Ensure Long-term BMP Inspection and Maintenance. Spot Inspections Will Be Conducted.</b>	Enforce the proof of annual BMP inspection and maintenance requirement at 100% of sites	FULL	The City requires that a BMP Maintenance Agreement be signed by the property owner/developer for all applicable projects with structural control measures per the City’s mandatory BMPs for Public and Private Development Projects (Chapter 6B). The maintenance agreements are recorded into the City’s permitting database (TRAKiT). Currently, the City has 57 signed maintenance agreements. In order to ensure that maintenance is conducted, the City sends reminder letters to all the parties responsible for BMP maintenance during the Fall. A Reminder Letter was sent to these sites on September 20, 2016 although some sites were still under construction or in the final permit process. All completed projects signed and returned their logs by January 2016. Spot inspections were conducted at 12 of these sites. Again this year, staff spent significant time educating the appropriate people at a number of the sites as the managers, contacts, or the facilities staff change with time and the new personnel is unfamiliar with the requirements.	High	5	Sediment, Pathogens, Trash	Documentation, Land-use-load estimation (RAM/TELRL)	
				Implement a spot inspection program at 10% of sites annually	FULL	This permit year, storm water staff conducted spot inspections at 12 sites (> 10%). At most of these sites, the BMPs were clean and functioning properly. A few minor improvements were required by storm water staff, which were addressed by property owners.	Medim	5	Sediment, Pathogens, Trash	Inspection, Land-use-load estimation (RAM/TELRL)	

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✓	E.13.b, E.15	NEW BMP	TMDL Monitoring	Comply with the monitoring requirements included in WAAP and/or consult w/ RWQCB to determine monitoring study design and monitoring implementation schedule	FULL	The City, along with the County of Santa Cruz, and the cities of Capitola, Scotts Valley, and Watsonville, prepared and submitted a joint WAAP to the RWQCB in June 30, 2015. This joint WAAP serves as a revision to the WAAPs previously submitted by the City. During the permit year, the City continued to implement its pilot monitoring program for bacteria and sediment in the San Lorenzo River, and Branciforte and Carbonera Creeks, and proposed a data driven cooperative monitoring program with the County, based upon the need to conserve resources; avoid duplicative efforts and to standardize on matrix appropriate methodologies for monitoring. The draft proposals are still being reviewed and are expected to be finalized for implementation in 2018. Meanwhile sampling for all relevant indices is done by Environmental Compliance staff & samples are all analyzed by the City Environmental Laboratory. Please see attached monitoring report for details on the monitoring program and sampling results. The City also conducted dry weather outfall monitoring again this permit year, which included sampling and analyses for turbidity at flowing Branciforte Creek outfalls. SLR outfalls were not sampled as they were either under water or fitted with tideflex valves.	N/A	6	N/A	N/A	