



Public Works Department

809 Center Street, Room 201 Santa Cruz, CA 95060, 831-420-5160, FAX 831-420-5161

October 9, 2017

## **PROGRAM EFFECTIVENESS ASSESSMENT IMPLEMENTATION ANNUAL REPORT**

The City of Santa Cruz Storm Water Program Effectiveness Assessment and Improvement Plan is a comprehensive effort involving both individual BMP assessment and overall program evaluation. The attached BMP implementation and effectiveness assessment matrix provides a summary of the results of individual BMP evaluation activities conducted during the permit year. The BMP matrix includes the following information:

- 1) BMP implementation rating, from “None” if the BMP has not been implemented at all to “Full” if the BMP was fully implemented and achieved its measurable goal. A BMP is classified as “Partial” if it was implemented but not fully achieving its measurable goal.
- 2) BMP implementation summary, providing information on activities conducted during the permit year and associated results.
- 3) For priority BMPs, as listed in the City’s Program Effectiveness Assessment and Improvement Plan, BMP effectiveness ranking, from “Low” if the BMP was marginally effective based on the assessment results to “High” if the BMP was very effective.
- 4) For BMPs with “low” effectiveness rating, proposed modifications as appropriate.

Additionally, to support overall program evaluation the City has been involved in a collaborative effort with other municipalities of the Central Coast, the Low Impact Development Initiative (LIDI), 2NDNATURE LLC, and the Central Coast Regional Water Quality Control Board (RWQCB) to develop a land-use load estimation model. The model will help estimate pollutant loading from various catchments in the City and load reductions achieved by program elements that can be quantified using land-use load estimates.

As reported last permit year, the City completed the following tasks to support model development: delineation of drainage catchments and associated attributes within City limits, and completion of a detailed existing land use map. These elements were included in the Technical Report No.1 uploaded by the City in SMARTS on August 4, 2016, in response to the RWQCB *Water Code Section 13267 Technical Report Order* to Phase II Municipal Storm Water Permittees dated June 13, 2016.

Beginning in July 2016, the City began inventorying existing structural BMPs using the 2NDNATURE Software BMP RAM tool. City catchment and land use mapping required as a base for the model were completed and submitted to the RWQCB on August 4, 2016. In addition, this permit year, the City completed an inventory of structural BMPs and pollutant load model for baseline condition using the 2NDNATURE Software BMP RAM tool.



Public Works Department

809 Center Street, Room 201 Santa Cruz, CA 95060, 831-420-5160, FAX 831-420-5161

As required, a Report #2, dated June 27, 2017, was submitted to the RWQCB by June 30, 2017. This report indicated the City's choice of BMP Inventory Option 1 per the RWQCB's *Water Code Section 13267 Technical Report Order*.

The City currently is an "All-In 2NForm suite" subscriber to the 2NDNATURE suite of tools including the BMP RAM assessment tool, TELR catchment modeling, and Parcel RAM. As required per the RWQCB's *Water Code Section 13267 Technical Report Order*, the City submitted Report #2, dated June 27, 2017, to the RWQCB indicating that BMP Inventory Option 1 was chosen and that a contract was in place with 2NDNATURE Software. Thus the mapped inventories of the centralized BMPs and the City-owned decentralized BMPs, the ranking based on storm water volume and pollutant loading estimates under unmitigated conditions are available to the RWQCB via a link provided by 2NDNATURE. As new projects are completed or information is obtained, the City will update the inventory per the 2NForm BMP RAM Module.

The City's schedule to complete the following elements of model development and program evaluation are as follows, as required in the CCRWQCB Code Section 13267 Order:

- June 30, 2017: Inventory of structural BMPs and pollutant load model for baseline condition (no BMPs)- **DONE**
- June 30, 2018: Comprehensive BMP assessment and pollutant load model including load reductions associated with BMP implementation.
- October 15, 2018: Proposed Storm Water Program modifications.

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.6 PROGRAM MANAGEMENT ELEMENT</b>													
<b>E.6.a Legal Authority (update or create ordinance)</b>					Public Works	Engineering							
<b>E.6.b Certification</b>					Public Works	Engineering							
	E.6.a, b	N/A	Permittee shall review and revise relevant ordinances or adopt new ordinances to obtain adequate legal authority, and provide certification by its Principal Executive Officer		Public Works	Engineering	FULL	Done in Permit Year 2.	N/A	1	N/A	Documentation	
<b>E.6.c Enforcement Response Plan</b>													
✓	E.6.c	NEW BMP	Develop and implement an Enforcement Response Plan.		Public Works	Environmental Compliance, Engineering	FULL	The City has had an Enforcement Response Plan in place since 2008. In November 2015, the City initiated an update to the ERP to incorporate Storm Water ERP elements required by the Permit, revise Wastewater ERP procedures, and add new ERP procedures in support of the City's upcoming sewer lateral ordinance. The revised ERP was adopted in September 2016. An electronic copy of the updated and finalized ERP was sent to the Water Board.	N/A	1	N/A	Documentation	
<b>E.7 EDUCATION AND OUTREACH PROGRAM</b>													
<b>E.7.a Public Outreach and Education</b>													
✓	E.7.a	NEW BMP	Select a Public Outreach & Education option		Public Works	Engineering	FULL	The City's public outreach & education program is a combination of options E.7.a. items 2-3. The City participates in multiple regional outreach and educational efforts including the Regional Media Campaign and the Monterey Bay Green Business Program. Copies of the Regional Media Campaign billing and the Green Business Program MOU were submitted with the Permit Year 1 Annual Report. The City also contributes funding to regional efforts by local non-profit organizations such as: Save Our Shores: Annual Coastal Cleanup Day; Ecology Action: Our Water Our World & Green Gardner/Monterey Bay Friendly Landscaping Programs; Coastal Watershed Council: Snapshot Day volunteer monitoring event and the San Lorenzo River Alliance; and the Santa Cruz Water Conservation Coalition. The City also conducts a significant amount of outreach within city limits including school education programs; water quality, pollution prevention & riparian education; and river levee cleanups.	N/A	1	N/A	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.7	PE-17	Assess Community-Based Social Marketing Strategies and Incorporate Them Where Appropriate	Develop pilot CBSM project	Public Works	Engineering	FULL	In FY13-14, the City hired a firm to conduct a public education survey doing one-on-one interviews with residents using an IPAD. The survey questions including asking people how they received their news and information. The survey was conducted in coordination with the County and other neighboring cities. In FY14-17, the City funded a plastic bag reduction project for the smaller vegetable/fruit plastic bags conducted by Save Our Shores (SOS). This project includes CBSM measures requested by the City such as pledges and photos/videos which were then posted on the SOS Facebook page. Last year, the project was extended to several San Lorenzo River volunteer cleanup events where an alternative reusable produce bags was given out to volunteers who also took the pledge. CBSM methods, such as posting on Facebook and Twitter, were also used in conjunction with other programs such as river cleanups, etc. This year, the City is also doing a Pet Waste Campaign, in partnership with Coastal Watershed Council (CWC) to educate pet owners with the goal of reducing bacteria loadings to the SLR and other waterways. The Campaign is planning to use volunteers to help conduct outreach to dog owners and also to conduct before and after surveys. This permit year, City and CWC staff did initial research, planned the campaign and CWC ordered the doggie waste bags that will be given out to dog owners. The campaign will continue in FY18.	Medium	3	Pathogens, trash	Behavior Survey	
✓	E.7.a (ii)	NEW BMP	Develop and implement a comprehensive storm water public education and outreach program	Develop and Implement a public education strategy that establishes education tasks, based on WQ problems, target audiences, and anticipated task effectiveness	Public Works	Engineering	FULL	The City has a comprehensive and extensive storm water public education & outreach program, which has been in place for many years. Please see the above items for additional information. Last year and this year as well, the program strategy was re-evaluated as required with regard to education tasks, WQ problems, target audiences, and estimated task effectiveness.	N/A	1	N/A	Documentation	
	E.7.a (b)	PE-18*	Conduct Surveys to Assess the Effectiveness of the Education Efforts. Conduct a Baseline Evaluation Survey in Year 4 and Conduct an Evaluation Survey Every 5 Years Thereafter.	Survey results that provide feedback on Program effectiveness and indicate areas that need improvement or change	Public Works	Engineering	FULL	The City, in coordination with the County of Santa Cruz and the Cities of Scotts Valley, Capitola, and Watsonville, jointly hired a firm to conduct a public education survey during the spring 2014. The survey was comprised of 50 questions and was conducted by interviewing people at various locations using an IPAD. The results were compiled both into a report specifically for the City and also into a report summarizing the results for the entire County. A copy of the survey summary report is available upon request. The survey will be repeated w/in 5 years of this original survey which will be FY2017-2018, and staff has already begun discussing and updating survey questions.	N/A	2	N/A	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.7.a (c,f,h)	PE-3*	<b>Distribute Informational Brochures for Residents</b>	Distribute educational brochures at Public Works counter, City Public Library, and one or more special events.	Public Works	Engineering, Environmental Compliance	FULL	Brochures were distributed to the public via a variety of methods including the PW Public Counter, the Public Library and at special events such as Earth Day. The focus is now on distributing the revised <i>Monterey Bay Begins On Your Street</i> brochures (in English & Spanish) in lieu of the individual Pollution Prevention Tips brochures, and a combined total of all these brochures distributed equaled 361 brochures. Additionally, <i>Gardening with CA Native Plants</i> & Sharp Solutions (Sharps and Meds Disposal) brochures were given out at special events. These brochures are also available on the city website. Lastly, brochures on sewer lateral safety were also handed out to 18 residents on the city's Eastside during the year.	Low	2	Sediment, pathogens, trash	Public Awareness Survey	
	E.7.a (c,d,f,h)	PE-5*	<b>Distribute BMP Brochures for Businesses</b>	Distribute BMP brochures at 100% of new food and vehicle service facilities during the initial site visit by the Environmental Compliance Inspector and once during permit period to existing food and vehicle service facilities	Public Works	Environmental Compliance	FULL	Staff distributed the BMPs at all new FSF and VSFs. There were approximately 7 new FSFs and 1 new VSF during the permit year. These BMPs were revised in 2010. BMPS are distributed by inspectors during visits to businesses and at public events. The BMPS are also posted at the City website.	Not assessed	2	Pathogens, trash	Documentation	
	E.7.a (c,d,f,h)	PE-6* (same as CF-3, CF-5)	<b>Implement the Clean Ocean Business Program</b>	1. Annual inspections of 100% of food and vehicle service facilities, 2. Annual recognition for 100% of Clean Ocean Businesses	Public Works	Environmental Compliance	FULL	Of the 96 Vehicle Service Facilities (VSFs), 72 businesses qualified for the 2017 recognition, which equals 75% of the VSFs. Of the 295 Food Service Facilities (FSFs), 211 businesses qualified for the 2017 recognition, which equals 72% of the FSFs. Recognition letters were sent to COBs on May 1, 2017. The City ran COB recognition ads in 2 local newspapers during the week of May 7, 2017. An online banner ad ran on one local newspaper's website from May 7-21, 2017.	High	3	Pathogens, trash	Inspection	
	E.7.a (c,d,f)	PE-7*	<b>Partner and Co-sponsor of the Monterey Bay Area Green Business Program</b>	Initiate the Green Business certification (audit) process for 20 business applicants or re-certifications per year	Public Works, Water	Engineering, Refuse & Recycling, Water Cons.	FULL	The City's participation in the Monterey Bay Green Business (MBAGBP) program includes staff time for program coordination and business audits, and financial support for the Green Business promotional work. The promotional efforts vary slightly from year to year but typically include newspaper ads and web/social media advertising. In FY 2016-2017, 40 businesses became either certified or recertified (required every 3 years). There are currently 155 certified businesses in the City. An additional 50 businesses are "in process" which means they have applied to become certified or recertified "Green" and are working on achieving program requirements. A list of all the certified businesses within the City and in the Monterey Bay area, plus program details, may be viewed on the GBP website at: <a href="http://www.montereybaygreenbusiness.org/">http://www.montereybaygreenbusiness.org/</a> . The certification process includes audits by four auditors (water conservation, wastewater and storm water, energy, and waste reduction) and completing all the required measures. Program metrics are tracked in the Green Business Database and indicate that the certified businesses in the City account for 506 gals of hazardous waste reduction, 37,836 gals of grease recycled and 4.4 million gals of water saved.	High	4	Sediment, Pathogens, Trash	Inspection, load reduction estimate (metric tracking by the program)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.7.a (d,f) E.7.b.2.b E.8. (d)	PE-16*	Maintain Environmental Programs and Environmental Compliance Web Pages, and post the City's Draft and Final Storm Water Management Program (SWMP) on the City's Website	1. Environmental Compliance Web Pages, 2. Environmental Programs Web pages 3. SWMP Posted on City Website	Public Works	Environmental Compliance	FULL	Staff continually evaluates and updates the City website and Environmental webpages with current info. During the previous permit year, the Storm Water page was updated re the following items: the revised Municipal Operations Best Management Practices"; the revised Residential Pollution Prevention Tips Brochure (Gardens, Landscaping, and Pools & Spas). In addition, miscellaneous text was updated, as well as the Spills and Illegal Dumping phone numbers. New "friendly" URLs were also added for the stormwater pages (www.cityofsantacruz.com/stormwater and www.cityofsantacruz.com/bmps) for ease of communication. The storm water annual reports are also posted annually upon submittal.	High	2	Sediment, Trash	Tabulation (tracking page views), public awareness survey	
	E.7.a (d)	PE-1*	Replace Worn Stencils or Apply New Stencils to Storm Drain Inlets	24 stencils replaced or newly applied annually	Public Works	Engineering, Streets	FULL	Again this year, the City funded Save Our Shores (SOS) to assess storm drain catch basins and apply new "No Dumping" markers to unmarked catch basins or those with worn stencils. In total, SOS applied markers to 94 catch basins, check 174 drains inlets in total, and posted photos of the storm drain marking project on social media, for example posting on Instagram resulted in 78 "likes." SOS also used social media as a platform for residents to report damaged or missing storm drain decals in their neighborhood.	Medium	2	Trash	Public Awareness Survey	
	E.7.a (d)	Added BMP*	Regional Media Campaign	Participate in Regional Media Campaign annually when implemented by the storm water agencies in the Monterey region	Public Works	Engineering	FULL	The Regional Municipal SW group (including the City of Santa Cruz and 13 other municipal entities located w/in the counties of Monterey and Santa Cruz) again collaborated on and jointly funded a storm water ed media campaign, which was coordinated by a hired consultant. Storm water educational PSAs were run on local TV stations during the permit year. The TV stations were: FOX-KCBA, CBS-KION, KMUV (Spanish) and CW-NION. The ads were on the following topics: marine debris, pet waste, storm drains, and "fowl" water (ad shows urban runoff sources). A total of 677 ads aired on four stations. Of those ads, 230 were bonus ads donated by the stations for the campaign. In addition, KION546.com added a digital display for 5 months with 25,000 impressions per month. This yielded a total of 125,000 impressions. KMUV (Telemundo-Spanish station) aired 209 ads, and the three English language stations aired a combined total of 468 ads.	Not assessed	2	N/A	Documentation	
	E.7.a (e )	PP-1, PE-15*	Hold Public Meetings for SWMP Related Issues	Hold Public Meetings as needed for SWMP Related Issues and update City Council and Public Works Commission as needed.	Public Works	Engineering	FULL	A City Council meeting and a Transportation and Public Works Commission meeting, which are both public meetings, were held on the new State Trash Provisions on July 17, 2017 and August 8, 2017 respectively. At both meetings there was an opportunity for public comment. Also, staff gave a presentation to the Clean River, Beaches, and Ocean fund committee regard the City's storm water program and expenses on May 8, 2017. The presentation included budget and highlights of the City storm water program accomplishments during the past year. Also presented were upcoming storm water permit requirements and new planned projects or campaigns.	Not assessed	2	N/A	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.7.a (f)	PE-2*	Participate in Public Events	Participate in at least 1 Public Event annually	Public Works	Engineering, Environmental Compliance	FULL	Staff participated in multiple events throughout the year including: 1) <i>Earth Day Santa Cruz</i> on April 22, 2017 where approx. 2,500 people attended the all day event; 2) <i>State of the San Lorenzo River Symposium</i> on March 4, 2017; and 3) <i>City Hall to You</i> neighborhood outreach meetings on August 31, 2016, December 7, 2016 and May 4, 2017. Environmental Compliance staff also participated in the September 2016 <i>CWEA Pollution Prevention event</i> at Dream Inn.	Not assessed	2	N/A	Documentation	
	E.7.a (g)	Added BMP*	LID & Water Efficient Landscaping Outreach & Education for Residents	Water efficient and storm water friendly landscape outreach via for example: RCD, Green Gardner, similar programs, events, advertising, City website, brochures, and/or rebates.	Public Works	Engineering	FULL	The City provided funding for, or implements programs and outreach re, water efficient and storm water friendly landscape programs. These programs include: 1) the Green Gardner Program, run by Ecology Action, which educates landscapers and the public on water conserving irrigation techniques, mulching, herbicide/pesticide use, etc. Typically this outreach is thru an Adult Ed class series. 2) the Monterey Bay Friendly Landscape incentive program run by Ecology Action which provides recognition for local gardens meeting the program standards. 3) Staff disseminates the Resource Conservation District "Slow it, Spread it, Sink it!" Guide for residents re home retrofits, including LID bmps, at the PW public counter, upon request, special events, and on the city website. 4) City Water Dept. implements rebate programs for rain barrels and lawn removal. 5) SW staff developed and distributes a "Garden, Pool, and Spa Maintenance" Pollution Prevention Tips brochure at the PW public counter, the Main Library, at special events, and on the City website. 6) City Water Conservation and Storm Water Programs participate in the Santa Cruz County Water Conservation Coalition. One of the outreach programs includes a video contest for local high school and college students. Videos were on water conservation or pollution prevention topics. Winning videos were shown on a local TV station, KION, during summer 2017. The Coalition also sponsored 2 Spring 2017 Water Conservation classes at the local junior college, Cabrillo College. The two classes were on Rain Water Harvesting and Greywater Use.	Not assessed	2	N/A	Documentation	
	E.7.a (i)	PE-9*	Partner and Co-sponsor the Regional Pesticide Management Education Program-Our Water Our World Program or similar	Pesticide/herbicide/fertilizer outreach via Our Water Our World, Green Gardener, or similar program using 1 or more of the following methods: brochures or flyers, contractor or employee training, tabling or classes, advertising, PSAs.	PW	Engineering	FULL	The City continues to participate in the Our Water Our World (OWOW) program, which is a herbicide/pesticide education program, run by Ecology Action in the city and area-wide. OWOW fact sheets/flyers ("shelftalkers") are provided at the two local nurseries/garden retail stores in the city. Of the shelftalkers, the <i>Ants</i> , <i>Healthy Lawns</i> , and <i>Aphids</i> fact sheets are the most popular. The City also participates in the area-wide Green Gardner Program run by Ecology Action and Monterey Bay Friendly Landscaping Program, which Ecology Action developed with a Prop 84 Planning Grant. This later countywide program is a residential sustainable landscape incentive and recognition program.	Not assessed	2	N/A	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.7.a (j)	PE-8*	Support for O'Neill Sea Odyssey Education Program	Annual support for 10 school classes or 300 students per year	Public Works	Engineering	FULL	The City provides funding for two O'Neill Sea Odyssey (OSO) Education Program programs: 1) <i>Storm Water Runs to It Program</i> -This program includes 3 Fourth grade classes and 2 Fifth grade classes with a total of 131 students educated this year. The program includes both a boat field trip on the OSO catamaran with on-board ocean & watershed education, and a classroom presentation at the OSO office; and 2) <i>Ocean Protectors Program</i> -This program includes 7 classes, primarily Fourth and Fifth graders, with a total of 170 students educated this year. The program has various components including a OSO boat field trip with on-board ocean & watershed education and a classroom presentation at the OSO offices. In addition, a subcontractor, Save Our Shores (SOS), conducted classroom presentations, including interactive marine debris activities, at the respective schools. SOS also led beach cleanups with these classes as part of the program and, in total, the students removed 49 pounds of waste during cleanups at Twin Lakes and Seabright Beach.	High	2	Trash	Survey	
	E.7.a (j)	Added BMP*	Conduct education in local schools (e.g. classroom visits, assemblies, field trips)		Public Works	Engineering	FULL	The City funds a variety of school education programs such as the O'Neill Sea Odyssey programs, Save the Whales marine species/ecological/water pollution prevention presentations, Save Our Shores marine debris presentations, and Musical Assemblies in local elementary schools. 1) The O'Neill Sea Odyssey (OSO) programs are focused on 4th grade classes and include both a boat field trip on the OSO catamaran with on-board ocean & watershed education, and a classroom presentation at the OSO office. These programs are described in more detail in above line item. 2) Save the Whales gave presentations to local elementary, middle, and high school classes on ecology, marine debris, and the effects of pollution. Presentations are offered on: Sea Otters; Marine Mammals; and Sea Turtles. During the permit year, a total of 36 elementary and 17 middle/high school class presentations were conducted with 682 and 331 students educated respectively. 3) Save Our Shore (OSO) conducted 21 school presentations at local middle and high schools on storm water pollution, pathways of pollution and marine debris, with a total of 460 students educated. 4) Musical Assemblies focusing on storm water ed & outreach messages are also offered to local elementary schools. This permit year, a musical ensemble named <i>ZumZum</i> conducted musical assemblies at three local schools with a total of 1,130 students educated during the 5 musical assemblies. Another benefit of the program is indirect outreach to the parents. Another musical ensemble, The Banana Slugs, conducted a musical assembly at Monarch School including several other schools.	High	3	Trash	Survey	
	E.7.a.(ii) (k)	CF-1*	Revise the BMPs for Vehicle Service Facilities, Food Service Facilities, and Retail and Commercial Businesses As Needed	Revise all 3 brochures per sidewalk cleaning regulations and other additional topics if any	Public Works	Engineering, Environmental Compliance	FULL	The BMP brochures are revised as needed and the revisions posted immediately on the City website. All three BMPS, Vehicle Service Facilities, Food Service Facilities, and Commercial Facilities, were revised in June 2010. The City's Municipal Operations BMPs were revised in January 2016 and uploaded to the City website. Also, the Residential Pollution Prevention Brochure: Garden, Pool and Spa was revised in June 2016 and uploaded to the City website, and Monterey Bay Begins At Your Front Door was revised in 2016-2017 and re-uploaded to the website as well.	N/A	1	N/A	Documentation	



**ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.7.a (k)	NEW BMP		Develop and convey messages specific to reducing discharges from organized car washes, mobile cleaning/pressure washing operations	Public Works	Engineering	FULL	Again this permit year, storm water messages regarding car wash fundraising events and mobile/pressure washing activities were incorporated in letters sent to City schools and outreach/invitation cards sent to local mobile/pressure washers. The letter to local schools re car wash fundraising events was sent on April 20, 2017. The outreach/ invitation card was sent to local mobile/pressure washers in early April 2017 and invited them to a Mobile Cleaners Workshop on April 11, 2017. The workshop was jointly sponsored by the City of Capitola, City of Santa Cruz, City of Scotts Valley, and the County of Santa Cruz, and a free lunch was provided. Four local pressure washing and mobile cleaning businesses attended as well as five Public Works staff from local municipalities.	Not assessed	2	N/A	Documentation	
✓	E.7.a (l)	NEW BMP		Conduct stormwater-friendly education to organized car wash participants	Public Works	Engineering	FULL	Again this permit year, in April 2017, a letter was sent out to the City schools (elementary, middle, and high schools) to let them know that water from car wash fund raising events cannot be discharged to the street or storm drain system. The letter also let the schools know that they could borrow the City's special car wash kits to protect storm drains.	Not assessed	2	N/A	Documentation	
✓	E.7.a (m)	NEW BMP		Develop and convey messages specific to mobile cleaning and pressure wash businesses	Public Works	Engineering	FULL	During the permit year, an outreach/ invitation card was sent to over 100 local mobile/pressure washers in early April 2017. The card invited them to a Mobile Cleaners Workshop on April 11, 2017. The workshop was jointly sponsored by the City of Capitola, City of Santa Cruz, City of Scotts Valley, and the County of Santa Cruz and provided a free lunch for attendees. Also, this permit year, the City continued it's partnership with other local municipalities and Environmental Innovations (EI) re the newly developed website for Monterey Bay area mobile washers. The website is: <a href="http://mbaymobilecleaners.org">http://mbaymobilecleaners.org</a> . The website also includes a training video and a pledge.	Not assessed	2	N/A	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
E.7.b.	<b>Staff and Site Operator Training</b>												
E.7.b.1	<b>Illicit Discharge Detection and Elimination Training</b>												
	E.7.b.1	MO-20	<b>Develop A Storm Water BMP Training Piece</b>	Training brochure, PowerPoint presentation, or other effective method	Public Works, Parks & Rec, Water, Planning	Engineering	FULL	Staff developed and finalized a storm water BMP training PowerPoint presentation, entitled "Best Management Practices to Prevent Storm Water Pollution," in May 2012 and circulated it to all field crew supervisors. The PowerPoint presentation is based on the City's BMPs for Municipal Operations. The presentation consisted of many slides with both text and photos. Updates to the text and new photos are added as needed each year. Also, the presentation is updated annually with information on current "hot spot" areas or areas where illegal discharges had occurred within the city. This is based primarily on information from the Environmental Compliance Inspectors and storm water staff. The presentation is used by many crew supervisors when conducting annual storm water training for their staff. Storm Water staff also uses this presentation when conducting staff training for various City departments. A copy of the presentation is available upon request.	NA	1	Pathogens, sediment, trash	Documentation	
	E.7.b.1	MO-21	<b>Train and Educate Appropriate Field Crews</b>	1. Train 100% of appropriate staff biennially-City TOTAL	Public Works, Parks & Rec, Water, Planning	Engineering, Refuse, Streets, Traffic/Parking, Parks & Rec-Downtown & Central Zone, Parks & Rec-East Zone, Parks & Rec-Nearby Lagoon & West Zone, Parks & Rec-Wharf, Water Distribution, Water Production, Building	FULL	All field crews and other staff were trained on pollution prevention and good housekeeping measures. Most divisions used the PowerPoint training presentation developed by SW staff based on the City BMPs for Municipal Operations. The Water Dept. also uses department specific SOPs to supplement the training. The storm water training presentation includes information re illicit discharges and is updated annually with "hot spot" areas each permit year prior to the spring training sessions. A "pre" and "post" training survey is completed by each staff person. This year, storm water staff conducted the Parks & Rec training session and at the end, once the post-survey was completed, went over the survey questions to further clarify any questions. Approximate numbers of field crews and other staff working outdoors that were trained include: PW Fleet Maintenance (8), PW Streets & Traffic (10), PW Solid Waste (40), PW Construction Specialists (2), PW WW Collection/Flood Control (12), Fire Dept., Police Dept., Parks & Recreation Dept. (64), and Water, Dept. (36). Also, City Planners (7) and Building staff (8) were trained this year using a presentation tailored to include their work specific highlights.	High	2	Pathogens, trash	Pre- and post- training survey	
				2. Train new staff within 6 months of the beginning of employment-all depts.	Public Works, Parks & Rec, Water, Planning		FULL	New Solid Waste, Streets/Traffic, Parking, and WW Collection staff are trained by their Supervisor upon hiring and/or at staff safety/tailgate meetings. All new Water Dept. staff trained by each Supervisor using BMPs, SOPs, & training videos. Parks staff are either trained by their Supervisor upon hiring or attend the annual storm water training conducted in the spring as many new Parks staff are temps that are hired in the spring for the summer season. Storm Water staff sends periodic email reminders to all appropriate supervisors with field crews to ensure that new staff are trained within 6 months of hiring.	High	2	Pathogens, trash	Pre- and post- training survey	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.7.b.1 (d)	NEW BMP	Develop and conduct annual assessment of trained staff's knowledge of illicit discharge response and refresher training as needed		PW, P&R, Water, Planning		FULL	In FY16 and again this permit year, specific illicit discharge slides were added to the field crew training presentation, as well as an illicit discharge training question on the pre- and post-training test. Last FY, a new powerpoint presentation was also created for illicit discharge identification for Fire and Police Department staff.	N/A	2	N/A	Documentation	
✓	E.7.b.1 (f)	NEW BMP	Contact information, including procedures for reporting illicit discharges, shall be included in each of the Permittee's fleet vehicles that are used by field staff		PW, P&R, Water, Planning		FULL	Last FY, storm water staff created a contact postcard for illicit discharge reporting phone numbers and distributed copies of the post-card to all departments for placement in field vehicles. It was also provided to admin staff that receive department phone calls from the public. This permit year, storm water staff again circulated copies of the contact postcard either by inter-office mail or distributed them at staff training sessions.	N/A	1	Pathogens, trash	Documentation	
✓	E.7.b.1 (g)	NEW BMP	Focused education on identified illicit discharges and associated illicit discharge locations		PW, P&R, Water, Planning		FULL	Slides on identified illicit discharges in various areas of the City were included in the field crew, fire, and police training presentations. Each year, storm water staff contacts the Environmental Compliance Inspectors regarding hotspot locations during the past year so that staff presentations can be updated accordingly.	High	2	Pathogens, trash	Pre- and post- training survey	
<b>E.7.b.2 Construction Outreach and Education</b>													
✓	E.7.b.2.a	NEW BMP	Plan reviewers and permitting staff - QSD training (at least one person on staff providing supervision)	At least one designated person on staff with QSD credential	PW, Planning		FULL	The PW Storm Water Program Analyst in charge of construction and post-construction plan reviews, erosion control and post-construction inspections, training of Planning and Building staff, and coordination with Building Department was QSD certified. Upon their departure in March 2017, projects plans are sent to two outside consulting firms for review by a QSD certified staff person.	Not assessed	2	Sediment	Documentation	
	E.7.b.2.a (a)	CON-7	Provide Training to Planning/ Building Inspectors, Public Works Inspectors, and Planning and Public Works Plan Reviewers on Construction Site BMP Requirements	1.a.Train 100% of Planning/ Building Inspectors, Public Works Inspectors, and Planning and Public Works Plan Reviewers every two years	Public Works, Planning	Public Works	FULL	Last permit year, PW Storm Water staff conducted training with all the Building Inspectors and the Green Building plan reviewer on 3/22/16. This permit year, eight Building staff and four Public Works staff were trained at a construction training workshop on 10/19/2017 entitled "Wet Weather 101" which was sponsored by Santa Cruz municipalities, including the City. The workshop was for both contractors and municipal staff. Storm Water staff conducted a training presentation for 5 Planners on 2/21/17. The remaining 2 Planners were trained using the PowerPoint presentation for a total of all 7 Planners trained.	High	2	Sediment	Pre- and post- training survey	
				2. Train new Inspectors and Plan Reviewers within 6 months of the beginning of employment-Planning	Planning, PW	Planning	FULL	As detailed above, eight Building staff were trained at a construction training workshop on 10/19/2017 entitled "Wet Weather 101" which was sponsored by Santa Cruz municipalities, including the City.	High	2	Sediment	Pre- and post- training survey	
				3. Additional training on new or changed BMPs as needed	Planning/Public Works	Planning/Public Works	FULL	As detailed above, eight Building and four Public Works staff were trained at a construction training workshop on 10/19/2017 entitled "Wet Weather 101" which was sponsored by Santa Cruz municipalities, including the City. The workshop was for both contractors and municipal staff.	Not assessed	2	Sediment	Pre- and post- training survey	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.7.b.2.a (b)	NEW BMP	Erosion/sediment control/storm water inspectors - QSP or QSD training (at least one person on staff providing supervision)	At least one designated person on staff with QSP credential	PW, Planning	Building	FULL	The City's PW Storm Water Program analyst in charge of construction and post-construction plan reviews, commercial project erosion control and post-construction inspections, training of Planning and Building staff, and coordination with Building Department is QSD certified. Since staff departure in March 2017, Erosion Control Plans are sent to two outside consulting firms for review by a QSD certified staff person. City staff also reviews erosion control plans in addition to the QSD review.	Not assessed	2	Sediment	Documentation	
✓	E.7.b.2.a (c)	NEW BMP	Third-party plan reviewers must have QSD training		PW, Planning	Engineering	FULL	The City's QSD certified staff conducted erosion control plan review until March 2017. Since then, ECP reviews are conducted by two outside consulting engineering firms by QSD certified staff.	Not assessed	2	Sediment	Documentation	
✓	E.7.b.2.c	NEW BMP	Distribute appropriate outreach materials to all construction operators who will be disturbing land within the MS4 boundary. The Permittee's contact information and website shall be included in these materials		Planning	Building	FULL	Municipalities of the Monterey Bay region partnered to distribute information and provide 2 training events on wet weather and erosion control BMPs for contractors in October 2016. The workshop was entitled "Wet Weather 101: How to Keep Your Site Operational This Coming Rainy Season" and lunch was provided. The training locations were in Aptos and Seaside on 10/19/16 and 10/12/16 respectively. The training flyer was sent to contractors via email and by posting on municipal facebook pages and websites. 30 people attended the Aptos workshop.	Not assessed	2	Sediment	Documentation	
	E.7.b.2.b	CON-8	Distribute Construction BMP Brochure	1. Available At the Planning Department counter	Planning	Building	FULL	The BMPs are continually available on a display turnstile at the Planning Dept. public counter and restocked as needed. The BMPs are also available at the Public Works public counter and on the City website. Additionally, a link to the Construction BMPs is included in the wet weather letters emailed out on 9/30/16 by the Building Dept to all open construction sites in the City.	Not assessed	2	Sediment	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.7.b.2.c			Require all new development and remodel projects disturbing soil to include construction notes in plans noting locations of runoff retention basins and/or runoff barriers and construction BMPs.	Planning	Building	FULL	The City requires all projects subject to the Grading Ordinance to submit an Erosion Control Plan. Providing sediment and erosion control details on project plans is also a requirement for projects subject to CalGreen (projects that increase the volume or area of buildings). The Green Building plan reviewer checks all proposed residential project plans subject to CalGreen requirements to ensure that erosion and sediment control details are included in plans. Larger projects subject to numerical Post-Construction requirements (multi-family and commercial projects with >5,000SF of new or replaced impervious area) are reviewed by the Public Works Storm Water Program analyst for compliance with the Construction, Post-construction, and SWPPP requirements (as applicable). Finally, Building and PW staff hold a preconstruction conference w/builder or developer for all large sites or sites in sensitive areas. These meetings always include a review of the construction and grading BMPs applicable to the project.	Not assessed	2	Sediment	Documentation	
	E.7.b.2.b	CON-10	Attach BMP Permit Conditions for Public Works Over-the-Counter Street Opening and Concrete Permits	100% Street Opening and Concrete Permits	Public Works	Engineering	FULL	All permits are issued w/storm water BMPs printed on back (this feature was programmed into the computerized permit issuance system).	Not assessed	2	Sediment	Documentation	
	E.7.a (d,f) E.7.b.2.b E.8. (d)	PE-16	Maintain Environmental Programs and Environmental Compliance Web Pages, and post the City's Draft and Final Storm Water Management Program (SWMP) on the City's Website	1. Environmental Compliance Web Pages, 2. Environmental Programs Web pages 3. SWMP Posted on City Website	Public Works	Environmental Compliance	FULL	Staff continually updates the City website Environmental Programs, Storm Water and Environmental Compliance web pages with current info as needed. The City SWMP and approved Guidance Document are posted on the website, as well as the Storm Water Annual Report upon submission to the Water Board. Other items, such as updated BMPs, are posted. This permit year, updates to environmental pages included: uploading of the revised Vehicle Repair and Washing Pollution Prevention Brochure. In addition, in November 2016, the flyer for the 12/15/16 Prop 84 LID Grant storm water projects tour, which included City parking lot #9 and was led by the Resource Conservation District, was uploaded to City PW LID webpage.	Medium	2	Sediment, Pathogens, Trash	Documentation, Tabulation (page hits), public awareness survey	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.7.b.3 Pollution Prevention and Good Housekeeping Staff Training</b>													
	E.7.b.3 (a)	MO-21	Train and Educate Appropriate Field Crews	1. Train 100% of appropriate staff biennially-City TOTAL	Public Works, Parks & Rec, Water, Planning	Engineering, Refuse-Solid Waste, Streets & Traffic, Parking, Parks & Rec-Downtown & Central Zone, Parks & Rec-East Zone, Parks & Rec-Nearby Lagoon & West Zone, Parks & Rec-Wharf, Water Distribution, Water Production, Building	FULL	All field crews and other staff were trained on pollution prevention and good housekeeping measures. Most divisions used the PowerPoint training presentation developed by SW staff based on the City BMPs for Municipal Operations. The Water Dept. also uses department specific SOPs to supplement the training. The storm water training presentation includes information re illicit discharges and is updated annually with "hot spot" areas each permit year prior to the spring training sessions. A "pre" and "post" training survey is completed by each staff person. This year, storm water staff conducted the Parks & Rec training session and at the end, once the post-survey was completed, went over the survey questions to further clarify any questions. Approximate numbers of field crews and other staff working outdoors that were trained include: PW Fleet Maintenance (8), PW Streets & Traffic (10), PW Solid Waste (40), PW Construction Specialists (2), PW WW Collection/Flood Control (12), Fire Dept., Police Dept., Parks & Recreation Dept. (64), and Water, Dept. (36). Also, City Planners (7) and Building staff (8) were trained this year using a presentation tailored to include their work specific highlights.	High	2	Sediment, Trash	Pre- and post- training survey	
				2. Train new staff within 6 months of the beginning of employment-all depts.	Public Works, Parks & Rec, Water, Planning		FULL	New Solid Waste, Streets/Traffic, Parking, and WW Collection staff are trained by their Supervisor upon hiring and/or at staff safety/tailgate meetings. All new Water Dept. staff trained by each Supervisor using BMPs, SOPs, & training videos. Parks staff are either trained by their Supervisor upon hiring or attend the annual storm water training conducted in the spring as many new Parks staff are temps that are hired in the spring for the summer season. Storm Water staff sends periodic email reminders to all appropriate supervisors with field crews to ensure that new staff are trained within 6 months of hiring.	High	2	Sediment, Trash	Pre- and post- training survey	
✓	E.7.b.3 (b)	NEW BMP	Develop and conduct annual assessment of trained staff's knowledge of pollution prevention and good housekeeping, and revise training as needed		PW, P&R, Water,		FULL	This permit year, during storm water training events and presentations, all field crew staff were asked to complete a "before" and "after" survey to assess staff's knowledge and effectiveness of the training. Almost all staff improved knowledge after the training. In addition, this permit year storm water staff went over the survey questions upon completion during the training sessions as many staff still had questions and want to confirm or clarify the answers. This in-place review appeared to be a helpful component of taking the surveys. This in-place review also helped storm water staff to immediately revise the presentations in order to clarify slides/text due to questions that came up while discussing the survey questions and answers.	N/A	N/A	N/A	Documentation	
	E.7.b.3 (c)	MO-23	Develop Boilerplate Contract Language Requiring City Contractors to Abide by the Applicable Mandatory Storm Water BMPs	Inclusion of boilerplate language for bid masters and/or the City contract master	Public Works, Purchasing	Engineering	FULL	Wording requiring contractors to abide by City Storm Water BMPs has been included on our Informal, Formal, and RFP masters since 12/1/10. On 12/13/10, the City's PO Terms and Conditions were also revised and posted on the Internet and City "Intranet." Text on the Finance Dept. webpage also refers those interested in doing business with the City to a link to the City's storm water BMPs.	N/A	1	Sediment, Trash	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.7.b.3 (d)	NEW BMP	Provide oversight of contractors hired by the permittee to ensure contractors are following BMPs, good housekeeping practices, and following SOPs.		PW, Water, P&R		FULL	Each department is responsible for ensuring that all hired contractors abide by City BMPs, good housekeeping practices, SOPs, etc. Staff are reminded of this requirement during the annual storm water trainings.	N/A	3	Sediment, Trash	Inspections tracked in Year 4 (photo documentation)	
<b>E.8 PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM</b>													
✓	E.8. (a)	NEW BMP	Develop a public participation strategy that establishes who is responsible for specific tasks and goals		PW, Water, P&R	Engineering	FULL	The City is maintaining its current strategy. Storm water staff is responsible for planning, coordinating, implementing and tracking storm water related public involvement and participation activities.	N/A	1	N/A	Documentation	
✓	E.8. (b)	NEW BMP	Consider development of a Citizen Advisory Group consisting of balanced representation of stakeholders		Public Works	Engineering	FULL	The City already has an appointed citizen oversight committee for storm water program expenditures. An annual presentation on program highlights and fund expenditures is given to the Clean River, Beaches and Ocean committee. Potential projects and needs for the next fiscal year are also discussed.	N/A	1	N/A	Documentation	
✓	E.8. (c)	NEW BMP	Create opportunities for citizens to participate in the implementation of BMPs through sponsoring activities - monitoring		Public Works	Engineering	FULL	The City currently co-sponsors or contributes funds for activities including citizens participation including volunteer cleanups and water quality monitoring events. As described in other report items, these activities include: 1) Annual Coastal Cleanup Day: The event is run by Save Our Shores (SOS) in Santa Cruz and includes beach and river levee cleanups. 2) Holiday Outreach and Beach cleanups: These are run by SOS and includes outreach & ed on Memorial Day, July 4th and Labor Day weekends at 2-4 local beaches. 3) Adopt-A-Levee Program: The program is a partnership between the City and SOS, and funded by the City. SOS organizes 4-5 community groups to adopt and clean their section of the San Lorenzo River levee a minimum of 3x/year. 4) Community River Cleanups: The program is a partnership between the City and SOS and funded by the City. SOS organizes volunteers to clean a predetermined section of the San Lorenzo River levee typically one event per season. Advertising is done to recruit volunteers & educate the public. 5) Snapshot Day: The City contributes funding to this annual countywide program organized by Coastal Watershed Council (CWC). Local waterbodies are sampled by volunteers in this family friendly event occurring each spring. 6) Pet Waste Campaign: The City is partnering with CWC to conduct a pet waste campaign to help reduce bacteria loadings to the SLR and other waterways. The Campaign will use volunteers to help conduct outreach to dog owners and to conduct before & after surveys. This year, City and CWC staff did the initial research, planned the campaign and CWC ordered the doggie waste bags that will be given out to dog owners. CWC staff also began outreach to local vets, pet shampoo services, and local pet shelters. The campaign will continue in FY18.	Not assessed	3	N/A	Documentation	

**ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.8. (c)	PP-3, PE-13 /ID-5*	Sponsorship of First Flush	Sponsorship of one volunteer monitoring effort in the City	Public Works	Engineering	FULL	The Coastal Watershed Council discontinued running First Flush in the City in order to focus their efforts on the San Lorenzo River Alliance (SLRA) which includes monthly volunteer monitoring at selected sample sites along the river. Thus, instead, the City provided funding support for the SLRA and joined as a partner organization. In addition, the City provided funding support for Snapshot Day, which is an annual volunteer monitoring event organized by the Coastal Watershed Council (CWC) and held each year in May. The City has contributed funding for this event annually since Spring 2009. This year, Snapshot Day was held on May 16, 2017. The event included 17 water bodies/sampling sites within the City with 22 volunteers participating at these sites. In total 43 sites were monitored in SC County.	Not assessed	3	N/A	Documentation	
	E.8. (c)	PE-10*	Co-Sponsor Coastal Clean-Up Day	Sponsorship of the event in the City at level equivalent to \$1,000 or more	Public Works	Engineering	FULL	This permit year, the City provided funding support for Annual Coastal Cleanup Day, which was held on Sept. 17, 2016. The state-wide event is organized and run locally by Save Our Shores. The event included 10 cleanup sites w/in the City including at beaches, along the river levee, and near Carbonera Creek. Of the 10 sites, 5 were at beaches, 4 were along the SLR levee, and 1 was near Carbonera Creek. In the City, there were 377 volunteers who removed a total of 572 pounds of trash and 274 pounds of recycling.	High	4	Trash	Direct load measurement, tabulation (participation numbers), participant survey	
	E.8. (c)	Added BMP*	Sponsor volunteer monitoring efforts (e.g. Snapshot Day)	Sponsorship of one volunteer monitoring effort in the City	Public Works	Engineering	FULL	1) This permit year, the City provided funding support for Snapshot Day, which is an annual volunteer monitoring event organized by the Coastal Watershed Council (CWC) and held each year in May. The City has contributed funding for this event annually since Spring 2009. This year, Snapshot Day was held on May 16, 2017. The event included 17 water bodies/sampling sites within the City with 22 volunteers participating at these sites. In total 45 sites were monitored in Santa Cruz County. 2) As previously described, last year the First Flush monitoring event was discontinued in the City by CWC. However, the City joined and contributed funding to the San Lorenzo River Alliance efforts, organized by CWC, which includes monthly volunteer monitoring of the river.	Not assessed	3	N/A	Documentation	



ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.8. (c)	Added BMP*	Support for river, creek and/or beach volunteer cleanups (e.g. Adopt-A-Levee Program, community river cleanups, Save Our Shores July 4 & 5th Poll Prev. Outreach and Star Spangled Beach Cleanup)		Public Works	Engineering	FULL	This year, the City continued funding or contributed support for several river and beach 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. 3) Holiday Clean Beaches-This year, the July 4 & 5th Pollution Prevention Outreach and Star Spangled Beach Cleanup effort, which is a countywide program developed and run by Save Our Shores (SOS), was expanded in the City to include outreach for Labor and Memorial Day weekends. Typically, the July 4th outreach efforts include 4 beaches in the City and volunteer beach cleanups at Cowell and Main Beaches are done on July 5th. SOS tracks the number of trash bags distributed on July 4th, and the amount of trash and recycling collected on July 5th, and the number of cleanup volunteers. The City also provides funding support for Annual Coastal Cleanup Day (see above).	High	4	Trash	Direct load measurement, tabulation (participation numbers), participant survey	
	E.8. (d)	PE-11	Ensure the public can easily find information about the Permittee's storm water program	Co-Sponsor & Participate in Public Event Annually (e.g. Earth Day Santa Cruz)	Public Works	Engineering	FULL	The City co-sponsored the annual Earth Day Santa Cruz event on April 22, 2017. Approximately 2,500 people attended the all day event. Multiple City staff tabled at the event and distributed storm water pollution prevention, Low Impact Development, waste reduction & recycling, sharps & pharms disposal, and Green Business program information.	N/A	1	N/A	Documentation	
		PE-15		Continue Development of the SWMP List of Interested Parties and Use It for Notification of SWMP Developments and Public Meetings	Public Works	Engineering	FULL	Staff created lists of interested parties' email addresses and contact info during the SWMP approval process. New interested parties are added to list upon request or as identified, and the list is updated as needed due to NGO, business or agency staff changes.	N/A	1	N/A	Documentation	
		PE-16		Maintain Environmental Programs and Environmental Compliance Web Pages, and post the City's Draft and Final Storm Water Management Program (SWMP) on the City's Website	Public Works	Engineering, Environmental Compliance	FULL	Staff continually updates the City website Environmental Programs, Storm Water and Environmental Compliance web pages with current info as needed. The City SWMP and approved Guidance Document are posted on the website, as well as the Storm Water Annual Report upon submission to the Water Board. Other items, such as updated BMPs, are posted. This permit year, updates to environmental pages included: uploading of the revised <i>Vehicle Repair and Washing</i> Pollution Prevention Brochure. In addition, in November 2016, the flyer for the 12/15/16 Prop 84 LID Grant storm water projects tour, which included City parking lot #9 and was led by the Resource Conservation District, was uploaded to City PW LID webpage.	Medium	2	Sediment, Pathogens, Trash	Documentation, Tabulation (page hits)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.8. (e)	NEW BMP	Actively engage in the IRWMP or other watershed-level planning effort		Public Works	Engineering	FULL	This year and in previous years, City departments continue to participate in and co-fund the Santa Cruz IRWM group including attending meetings and submitting projects for inclusion in the IRWM list of priority projects. Both last year and this permit, a subset of the IRWM group worked on preparing a countywide Storm Water Resource Plan as required by the current round of Prop 1 grant funding. In June 2017, SWRCB issued a concurrence letter for the SWRP.	N/A	1	No	Documentation	
<b>E.9 ILLICIT DISCHARGE DETECTION AND ELIMINATION</b>													
<b>E.9.a Outfall Mapping</b>													
✓	E.9.a	NEW BMP	Create and maintain an up-to-date and accurate outfall map		IT, PW	Engineering	FULL	The City's storm drain GIS map is updated several times per year as needed. Additionally, once a year, information is requested from environmental compliance inspectors on emerging areas of concern for illicit discharge and this information is used to update and re-evaluate the City's priority area map.	N/A	1	N/A	Documentation	N/A
<b>E.9.b Illicit Discharge Source/Facility Inventory</b>													
✓	E.9.b	NEW BMP	Maintain (update annually) an inventory of all industrial/commercial facilities/sources within the Permittee's jurisdiction that could discharge pollutants to the MS4. Use the inventory to ID facilities for inspection of potential illicit discharges		IT, PW	Environmental Compliance	FULL	The City maintains a database of all commercial and industrial facilities located within City limits, including vehicle service and food service operations. The database includes the following information for each facility: name, address, business type, location of nearest gutter or storm drain inlet (if onsite), receiving water.	N/A	1	N/A	Documentation	N/A

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.9.b	IF-2	Identify and Verify That Regulated Facilities Have Filed a NOI, Notify RWQCB of Discrepancies	1. Annual review of list of regulated industries that have filed a NOI with the RWQCB and comparison to the City's list of permitted industrial facilities	Public Works	Engineering, Environmental Compliance	FULL	This year, the following actions were conducted to identify industrial facilities potentially subject to the State IGP: - Staff reviewed the list of facilities covered under the State IGP to identify discrepancies with the City's IU list; - Staff searched the City's business license database for facilities with listed SIC codes matching one of the codes in the industrial permit. Last permit year, 8 facilities with matching SIC codes were identified and staff conducted aerial photo review and inspections to identify which, if any, had outdoor operations that might be exposed to storm water and/or cause a potential for storm water impact. It was determined that 6 businesses, mostly manufacturing, needed a site visit assessment. -During summer & fall 2016, site inspections indicated that 3 of the 6 businesses conducted their operations indoors and did not have the potential to impact storm water. However, there were 3 businesses with outdoor activities and the City followed up with them during the year to move their operations indoors. As a result, two of the businesses did move their operations indoors. The third business has moved out of the city. Follow-up inspections were conducted at the two businesses again in October 2017 and no storm water violations were noted. -Staff conducted an additional search of the City's business license database in June 2017 and approximately 200 businesses were listed. Of these, approximately 100 have already been reviewed and determined to be either duplicates, closed, home residences, etc. Staff will research the remaining businesses on the list and will inspect any sites that may be a potential IGP facility.	N/A	1	N/A	Documentation	N/A
✓	E.9.c	NEW BMP	During outfall inventory, sample any outfalls that are flowing or ponding more than 72 hours after the last rain event; also conduct dry weather sampling of outfalls annually identified as priority areas		Public Works	Engineering, Environmental Compliance, Wastewater Collection/Flood Control	FULL	This year, Environmental Compliance Inspectors sampled 11 outfalls identified as flowing priority outfalls. Of these, 1 outfall continued to show evidence of illicit industrial discharge and appropriate enforcement actions were taken against the Industrial User. Subsequent analytical results showed improvement. All outfalls were analyzed for FIB (Fecal Indicator Bacteria); NTU (Turbidity); Color; Surfactants; TOC; Ammonia; Caffeine; Conductivity; Hardness; pH and Potassium. All indices were below action levels.	Low	5	Pathogens	Monitoring results	Done FY2016-2017- Add FIB and caffeine to dry weather outfall sampling suite to provide data re: bacteria entering City waterways from flowing outfalls, useful for TMDL investigation.

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.9.d Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions</b>													
	E.9.d	ID-7	Implement Corrective Measures and Enforcement Procedures in Accordance with the Storm Water Ordinance	Eliminate 100% of identified illicit discharges	Public Works	Environmental Compliance	FULL	Environmental Compliance staff received complaints re illegal discharges/dumping. All were investigated and responded to with appropriate enforcement action.	High	4	Trash, Pathogens	Inspection	
	E.9.d (d) (e)	ID-2	Conduct Spill and Illegal Discharge Response	Respond to 100% complaints and reports of illegal discharges	Public Works	Environmental Compliance, Wastewater Collection/Flood Control	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 construction 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. In addition, there were approximately 22 sanitary sewer overflows responded to by Wastewater Collection/Flood Control. All issues were resolved.	High	4	Trash, Pathogens	Inspection	
<b>E.9.e Spill Response Plan</b>													
✓	E.9.e	NEW BMP	Develop and implement a spill response plan		Public Works	Environmental Compliance, Engineering	FULL	Completed in Year 1	N/A	1	Pathogens	Documentation	N/A
<b>E.9 Existing BMPs Not Required By the Permit</b>													
	N/A	MO-17	Dry Weather Diversion from Neary Lagoon to Wastewater Treatment Facility	Divert lagoon water 108 days per year	Public Works	Wastewater Collection/Flood Control Mains	FULL	Lagoon water was diverted to the Wastewater Treatment Facility (WWTF) on the following dates: 7/1/16 to 10/11/16; 12/22/16-1/25/17; and from 5/11/17 to 6/30/17. Thus, during the permit year, the water was diverted approx. 186 days. Lagoon water is diverted to the WWTF year round until rains force the gravity outlet opening.	High	4	Pathogens	Monitoring	
	N/A	MO-18	Clean Neary Lagoon Storm Drain Lines and Discharge Bacteria Laden Water to the Sanitary Sewer System	Clean storm drain lines and discharge the water to the sewer system annually	Public Works	Wastewater Collection/Flood Control Mains	FULL	In preparation for the rainy season, WWCcollection staff flushed the Neary storm drain lines to the sanitary sewer system on 9/28/16-10/3/16. The flushing process discharged approximately 100,000 gallons of water to the sanitary sewer.	High	4	Pathogens	Monitoring, science-based estimate (TELRL)	

**ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	N/A	In SWMP text, Chpt 1- Municipal Operations	Neary Lagoon - Dry Weather Season: Lagoon Water Sampling	Please see Attachment 1	Public Works	Environmental Compliance, Wastewater Collection/Flood Control Mains	Partial	This permit year, Env. Compliance/Lab staff collected "Dry Weather" samples after the Neary Lagoon storm drain lines were cleaned on 10/5/12. Due to a miscommunication, staff did not collect the "before" samples. Thus staff collected two more additional samples on 10/11 and 10/12/16. The Neary storm drain line flushing was conducted Sept. 28-October 3, 2016.	N/A	6	Pathogens	Documentation	N/A

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	N/A	In SWMP text, Chpt 1- Municipal Operations	Neary Lagoon - Wet Weather Season: Receiving Water Monitoring	Please see Attachment 1	Public Works	Environmental Compliance, Wastewater Collection/Flood Control Mains	FULL	In Feb. 2015, our Guidance Document was approved by the RWQCB. This approval included replacement of the requirement to sample receiving water "before" and "after" the first pumping discharge (from the Neary Lagoon Pump Station to Cowell Beach) of the wet season with a requirement to post signage on Cowell Beach during the first pumping discharge of the wet signage. Signage included posting a notice near the concrete stairs leading to Cowell Beach and placing signage near the storm water flow from the Neary Beach Outlet Vault to Cowell Beach/Monterey Bay. PW and Parks Wharf staff both ensured that signage was placed near the stairs and on the beach as required, and actually kept the signage posted for longer than the required 48 hours due to the continued winter rains and the resulting flows on the beach from Neary Lagoon. This permit year, the first day of the wet season that the Neary pumps were operated was October 27, 2016.	N/A	6	Pathogens	Documentation	N/A
<b>E.10 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM</b>													
<b>E.10.a Construction Site Inventory</b>													
✓	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		PW, Planning	Engineering, Building	FULL	The City of Santa Cruz 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 Public Works Department - those projects are inspected by both the Building Dept and Public Works to ensure compliance with stormwater BMPs. The Public Works 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

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.10.b Construction Plan Review and Approval Procedures</b>													
✓	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.	PW, Planning	Engineering, Building	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 (BMP's) 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	PW, Planning	Engineering, Building	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

**ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
				Require that erosion/sed control plan list applicable permits associated w/ grading activity (CGP, 401, 404, 1600 agreement)	PW, Planning	Engineering, Building	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	PW, Planning	Engineering, Building	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. Staff also sent QSD consultants reviewing ECPs the checklist. 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	PW, Planning	Engineering, Building	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



ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.10.c Construction Site Inspection and Enforcement</b>													
✓	E.10.c	NEW BMP	Use legal authority to implement procedures for inspecting public and private construction projects and conduct enforcement if necessary		Planning	Building	FULL	The Building Dept. 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. The Public Works Dept. provides additional oversight for medium-sized and large commercial projects. The 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 Environmental Projects Analyst also conducted a final inspection at a project's completion to ensure that all disturbed areas are 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.)	Planning	Building	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)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
				2. Inspect 100% of high priority sites prior to forecasted rain events	Planning	Building	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	Planning	Building	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)	
<b>E.10</b>	<b>Existing BMPs Not Required By the Permit</b>												
	E.10.c.	CON-6	Report Violations of the Construction General Permit to the RWQCB	Report violations identified by the City during building and public works inspections	Planning	Building	FULL	Staff did not encounter violations of State Construction Permit beyond those identified by PW staff.	N/A	1	No	Documentation	N/A
					Public Works	Engineering	FULL	Wet weather site inspections by Public Works staff revealed 1 site, per the CGP, that had a BMP failure that caused the release of sediment to the storm drain. This site was issued a verbal warning and then a Warning Letter and ordered to improve BMP implementation. The City confirmed that BMP issues were addressed in a follow-up inspection.	N/A	1	No	Documentation	N/A

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.11 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS PROGRAM</b>													
<b>E.11.a Inventory of Permittee-Owned &amp; Operated Facilities</b>													
✓	E.11.a	NEW BMP	Develop and maintain an inventory of City-owned or operated facilities that are a threat to WQ		PW, Parks & Rec, Facilities, Econ Devt, Water, IT		FULL	Based on existing BMPs implemented and City properties' potential to have a release to the storm drain or a creek, the City developed an inventory and map of City-owned facilities that have a potential to impact storm water. Nine City properties that didn't already have a separate NPDES permit were identified: the Municipal Corporation Yard, the Municipal Wharf, Harvey West Park including the Parks maintenance yard, Pogonip Open Space, DeLaveaga Park and Golf Course, Arana Gulch Open Space, the Santa Cruz Water Department's Water Treatment Facility, San Lorenzo Pump Station, and Bay Street Reservoir. All 9 sites were inspected during the permit year, and housekeeping, potential to impact storm water, and on-site BMPs were evaluated.	N/A	1	No	Documentation	N/A
<b>E.11.b Map of Permittee-Owned or Operated Facilities</b>													
✓	E.11.b	NEW BMP	Submit a map of the area within the permit boundary and identify where City-owned/operated facilities are located		PW, IT		FULL	Completed in Permit Year 2	N/A	1	No	Documentation	N/A
<b>E.11.c Facility Assessment</b>													
✓	E.11.c	NEW BMP	For all inventoried facilities, conduct comprehensive inspection / assessment of pollutant discharge potential and identification of pollutant hotspots		Public Works	Engineering, Environmental Compliance	FULL	Environmental Compliance inspectors conducted comprehensive inspections using the CWP Site Reconnaissance checklist at the 9 City properties identified during the property inventory completed in Year 2. Based on the inspection results, one City property, the Municipal Corporation Yard, was identified as a pollutant hotspot due to housekeeping and materials management issues. Immediate measures were taken as a result of the inspection, including removing materials that did not have covers, pre-rain BMP implementation, installation of a top-hat filter in a primary catch basin of the yard, and developing engineering design to improve the materials bays. This permit year, the City hired a consultant to develop a SWPPP for the Corporation Yard. The consultant also conducted and will continue to conduct staff training, and evaluation and implementation of additional BMPs at this facility. The other 8 of the City facilities mentioned above were inspected and evaluated again this year but none were determined to be a pollutant hot spot.	High	3	Sediment, Trash	Inspection (BMP installation)	
<b>E.11.d Stormwater Pollution Prevention Plans</b>													
✓	E.11.d	NEW BMP	Develop and implement SWPPPs for pollutant hotspots (OK if already have Spill Prevention Plan)		PW, Parks & Rec, Facilities, Water		FULL	This permit year, a SWPPP was developed, by a consultant, for the Corporation Yard. The consultant also conducted and will continue to conduct staff training, and evaluation and implementation of additional BMPs at this facility. The other 8 of the 9 City facilities mentioned above were inspected and evaluated again this year but none of these were determined to be a pollutant hot spot.	N/A	4	Sediment, Trash	Documentation	N/A

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.11.e Inspections, Visual Monitoring and Remedial Action</b>													
✓	E.11.e	NEW BMP	Conduct regular inspections of City-owned/operated facilities: quarterly visual hotspot inspections, annual comprehensive hotspot inspection, quarterly visual observation of hotspot SW discharges, non-hotspot inspection once per permit term		PW, Parks & Rec, Facilities, Water		N/A	Year 5 requirement	N/A	3	Pathogens	Inspection (BMP installation)	N/A
<b>E.11.f Storm Drain System Assessment and Prioritization</b>													
✓	E.11.f	NEW BMP	Develop procedures to prioritize storm drain system maintenance		Public Works	Engineering, WW Collection/ Flood Control	FULL	Staff prioritizes efforts to maintain and clean storm drains/catch basins in areas with direct impact to the ocean or the San Lorenzo River. Staff also reviews the areas during the previous year which needed attention and adds these areas to the priority list.	N/A	1	Sediment, Trash, Pathogens	Documentation	N/A
	E.11.f	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	Public Works	WW Collection/ Flood Control	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.					
	E.11.f	MO-4	Inspection, Cleaning, and Repair of City Catch Basins and Inlets	. 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	Public Works	WW Collection/ Flood Control	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.					
	E.11.f	MO-4	Inspection, Cleaning, and Repair of City Catch Basins and Inlets	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.	Public Works	WW Collection/ Flood Control	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)	
	E.11.f	MO-4	Inspection, Cleaning, and Repair of City Catch Basins and Inlets	4. Inspect 50% of the catch basins in the outlying areas of the City annually and clean as needed.	Public Works	WW Collection/ Flood Control	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.11.f	MO-5	Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed	1. Annual inspection	Public Works	WW Collection/ Flood Control	FULL	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 July 2017.	Not assessed	4	Trash	Load measurement	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.11.g Maintenance of Storm Drain System</b>													
✓	E.11.g	NEW BMP	Begin Maintenance of all high priority storm drains on an on-going schedule according to procedures & priorities developed per E.11.f		Public Works	WW Collection/ Flood Control	FULL	PW WWCollection/Flood Control Division prioritizes efforts to maintain and clean storm drains/catch basins in areas with direct impact to the ocean or the San Lorenzo River. Maintenance of the San Lorenzo River pump stations is also considered a high priority. The Division's CMMS database provides an on-going maintenance schedule, provides notices when maintenance is due, and tracks completed maintenance & repairs. Staff also reviews the areas which needed attention during the previous year and adds these areas to the priority list.	High	4	Sediment, Trash	Land use load estimation (TELRL)	
	E.11.g	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	Public Works	WW Collection/ Flood Control	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)	
	E.11.g	MO-4		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	Public Works	WW Collection/ Flood Control	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.	Not assessed	4	Sediment, Trash	Documentation	
	E.11.g	MO-5	Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed	1. Annual inspection	Public Works	WW Collection/ Flood Control	FULL	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 July 2017.					
	E.11.g	MO-5		2. Removal of 100% of large trash and debris items	Public Works	WW Collection/ Flood Control	FULL	Branciforte Channel is inspected weekly. Any large debris is removed promptly. Only minor trash and debris was reported by staff. Increased patrol by PD and Parks Rangers has helped in this effort. Crews installed new large trash receptacles, both last year and this permit year, along the channel which has also helped to minimize trash entering the channel.	Not assessed	4	Trash	Direct trash load measurement	
	E.11.g	PE-1	Replace Worn Stencils or Apply New Stencils to Storm Drain Inlets		Public Works	Engineering, Streets	FULL	The City funded Save Our Shores (SOS) to assess storm drain catch basins and apply new "No Dumping" markers to unmarked catch basins or those with worn stencils. In total, SOS applied markers to 94 catch basins out of the 174 checked, and posted photos of the storm drain marking project on social media including Instagram which received 74 "likes."	Medium	2	Trash	Public Awareness Survey	
	E.11.g	MO-6	Clean Pump Stations Along the San Lorenzo River	Clean twice per year (Spring and Fall) Additional cleanings, if needed, during wet season after large storm events	Public Works	WW Collection/ Flood Control	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)	

**ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.11.g	MO-7	CDS Unit Maintenance	1. Clean twice per year in Fall and Spring	Public Works	WW Collection/ Flood Control	FULL	The Capitola Road CDS unit's Fall 2016 and Spring 2017 cleaning were performed on: 10/20/16 & 3/29/17. Cleaning of the Capitola Road Extension CDS unit requires extensive traffic control. Also, during spring, it has constant water flow in it since a creek runs thru 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. A total of 1.5 CY of trash and debris were removed this year from both units, with the vast majority of collected trash/debris coming from the Capitola Road CDS unit.	Medium	5	Sediment, Trash	Direct load measurement, land use load estimation (TELRL)	
	E.11.g	MO-7		2. Inspect and clean, if necessary, monthly during rainy season	Public Works	WW Collection/ Flood Control	FULL	The Capitola Road CDS unit was inspected and cleaned on 10/20/16 and 3/29/17. Staff finds that additional cleanings other than spring and fall of this CDS unit are not needed. Staff continues to focus time/hours on higher priority BMPs which have a greater impact on water quality such as SLR pump stations cleaning and efforts in the higher density areas of the city. All CDS units are in the CMMS maintenance system database for 90 day inspection and cleaning if necessary. As detailed above, a total of 1.5 CY of trash and debris were removed this year from both CDS units, with the vast majority of this amount coming from the Capitola Road CDS unit.	Medium	5	Sediment, Trash	Direct load measurement, land use load estimation (TELRL)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.11.h Permittee Operations and Maintenance Activities</b>													
✓	E.11.h	NEW BMP	Develop a program to assess O&M activities and develop applicable BMPs, including: road/parking lot maintenance, bridge maintenance, ROW maintenance, water system flushing and repairs, etc.		PW-Traffic, PW-Eng, Water, Parks,		FULL	The City first developed BMPs for municipal operations in 2003. The municipal operation BMPs are updated as needed to include new or revised information. The BMPs were updated in January 2016 to include minor revisions re bridge maintenance operations. Also, BMPs in the City's Special Events Permit template were revised per GP Section E.11.h. Additionally, the City initiated a quarterly O&M assessment program for its road maintenance, median maintenance, and graffiti removal operations. Storm Water staff send quarterly reminders to maintenance crew managers or supervisors who are responsible for the quarterly assessment using a BMP checklist.	N/A	1	No	Documentation	
✓	E.11.h	NEW BMP	Evaluate municipal operations BMPs quarterly		PW-Traffic, PW-Eng, Water, Parks,		FULL	The City's quarterly O&M assessment program was initiated in June 2016 and is conducted quarterly. Due to a lack of graffiti program manager, the first graffiti O&M assessment was postponed to October 2016 but has continued since then. PW Streets and Parks staff also complete quarterly O&M assessments.	Not assessed	3	No	Documentation	
✓	E.11.i	NEW BMP	Develop and implement WQ and habitat enhancement features in the design of all new and rehabilitated flood mgmt projects		Public Works	Engineering	FULL	The City developed a 4-step procedure to incorporate water quality and habitat enhancement features in flood management projects. These steps include: 1) identification of new and rehabilitated flood management projects, 2) determination of existing regulatory requirements associated with these projects that would require the incorporation of water quality and/or habitat enhancement features, 3) determination of any additional requirements to meet Section E.11.i, and 4) incorporation of features in the design of those projects. Annually, Storm Water Program staff reviews the City's proposed Capital Improvement Project (CIP) List to identify new flood management projects. Any potential flood management projects identified will be logged in a flood management project table and reviewed with the City Engineer and/or assigned project managers to determine what regulatory requirements those projects are subject to and what habitat/water quality features are proposed. Storm Water Program staff works with the project manager to include standard language in the project RFP and/or bid documentation to ensure that water quality and habitat enhancement features are included in the project.	N/A	1	No	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.11.j	NEW BMP	Implement a landscape design and maintenance program to reduce amount of water, pesticides, herbicides, and fertilizers used during permittee operations		Parks & Rec, Water		FULL	The City has an integrated pest management (IPM) policy (since 1998) governing the use of pesticides and herbicides at parks, the municipal golf course, and other landscaped areas. The IPM policy requires City departments to consider non-pesticide alternatives first when purchasing products to control pests and plant diseases. Eliminating pesticide use near watercourses and riparian areas is a priority. The policy's goal is also to eliminate the use of Toxicity Category I and II pesticides. Fertilizers are applied only as needed and the minimum amount necessary for the job is used. As part of the IPM policy, City departments that conduct pest management are required to conduct staff training, maintain an IPM Implementation Plan and ensure that contractors abide by the policy. The municipal golf course uses an evaporation-based irrigation scheduler with rain and moisture sensors. In FY15, the Water Dept. conducted a water evaporation evaluation for all City parks, which established water allocations as part of the City's drought response. In addition, the Parks & Rec Dept. combines biological, mechanical, cultural, physical and chemical control strategies to minimize economic, health and environmental risks. The Dept. selects plants that are tolerant to insects & pathogens, promote planting diversity & avoid monocrops in landscapes, and use mulching and site specific irrigation for weed suppression.	Not assessed	4	No	Documentation	
<b>E.11 Existing BMPs Not Required By the Permit</b>													
	E.11	MO-15	Conduct Cleaning at Main and Cowell Beaches	1. Daily maintenance cleaning	Parks & Rec	Wharf, Parks	FULL	Cleaning tasks: 1) Hand pick loose trash. 2) Mechanically sift sand for fine debris. 3) Empty and sort trash, recycle and cigarette butt containers. 4) Storm debris collecting, sorting, hauling and disposal/recycle. 5) Kelp management. 6) Maintain, sanitize and stock Cowell Beach restrooms. 7) Maintain and repair beach vehicle and pedestrian access ramps. 8) Sweep Cowell parking lot & beach area walkways. 9) Schedule, supervise and provide equipment for organized volunteer beach cleanups by NGOs.	Not assessed	4	Trash	Direct load measurement	
		MO-15		2. Spring cleaning as needed to remove trash following winter storms	Parks & Rec	Wharf, Parks	FULL	This year, heavy El Nino rains contributed to flood and near flood conditions on the San Lorenzo River through much of the winter, the high water deposited massive amounts of woody debris on Main and Cowell Beaches. A comprehensive cleanup involving City and volunteer staff occurring over 11 weeks removed 1,100 tons of woody debris to the City Landfill. Summer swell events were minor this year, and the band of dry sand where kelp removal is permitted by the City's Beach Management Plan (CDP # 3-11-027) was much narrower, resulting in and far less kelp (appx. 7.5 tons) removed to the City landfill. Trash and recycle amounts are comparable to previous years with approximately 1,584 yds. of loose trash and 54.5 yards of recyclable materials removed from Cowell and Main Beaches.	High	4	Trash	Direct trash load measurement	



ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.11	MO-2	Take Measures to Control Litter	Maintain litter and recycling receptacles in the downtown on a daily basis	Public Works	Parking Maintenance, Refuse	FULL	There are 25 refuse/recycling containers on Pacific Ave, Front St. and Cedar St. (downtown). Refuse & recycling are collected from these containers 1x/day on Mon-Sat in the mornings by Sanitation/Refuse Collection, and 1x/day on Mon-Sun in the evenings and 1x/day on Sundays mornings by Parking Maintenance. Sanitation collected approx. 36 tons for the year (each container weights @ 10 lbs). Also, there are 11 solar compactors that are collected 3x/week for approx. 34 tons collected during the year. Parking Maint. also collects refuse from an additional 70 downtown refuse containers, which are emptied on a daily basis. Parking Maint. collected approx. 69.6 tons of material collected this year by the trash compactor truck.	High	4	Trash	Direct trash load measurement	
				Maintain litter and recycling receptacles in the Wharf, Cowell Beach, and part of Main Beach (from Wharf to near Coconut Grove (Westlake ramp)) a minimum average of 5 days/week	Parks & Rec	Wharf, Parks	FULL	Wharf staff maintained a total of 62 (32-gallon) trash containers, 56 of which are recycle combination containers, which averaged 4.5 cu. ft. of trash and 1 cu. ft. of recycle per day each. Maintenance of containers in the Wharf Public Area yielded approximately 3,500 loose yards of trash and 700 yards of loose recycling	High	4	Trash	Direct trash load measurement	
				Maintain litter and recycling receptacles in 35 City parks a minimum average of 5 days/week	Parks & Rec	Wharf, Parks	FULL	The trash receptacles in the 35 City Parks are maintained/emptied daily.	Not assessed	4	Trash	Direct trash load measurement	
	E.11, E.15	MO-1	Sweep City Streets By Mechanical Sweepers	Sweep primary streets in downtown & main beach areas once to twice per week	Public Works	Refuse	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)	
				Sweep primary streets in other commercial areas twice per month	Public Works	Refuse	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)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
				Sweep 75% of residential streets once per month	Public Works	Refuse	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	Clean lots w/a mechanical sweeper 2 or more times per week depending upon which location	Public Works	Traffic/Parking Prog	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.11	MO-5	Inspection of Branciforte Storm Water Conveyance Channel and Trash Removal As Needed	1. Annual inspection	Public Works	WW Collection/ Flood Control	FULL	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 July 2017.	Not assessed	5	Trash	Direct load measurement	
		MO-5		2. Removal of 100% of large trash and debris items	Public Works	WW Collection/ Flood Control	FULL	Branciforte Channel is inspected weekly. Any large debris is removed promptly. Only minor trash and debris was reported by staff. Increased patrol by PD and Parks Rangers has helped in this effort. Crews installed new large trash receptacles along the channel in the previous two years which has also helped to minimize trash entering the channel.	Not assessed	5	Trash	Direct load measurement	
<b>E.12 POST CONSTRUCTION STORMWATER MANAGEMENT PROGRAM</b>													
<b>E.12.a Post-Construction Measures</b>													
✓	E.12.a	NEW BMP	Regulate development to comply with the following sections, E.12.b through E.12.1		Public Works, Planning	Engineering	FULL	The RWQCB adopted Post-Construction Requirements (PCRs) for Development Projects in the Central Coast Region on July 12, 2013 (Resolution No. 2013-0032). The adopted Resolution directed municipalities in the Central Coast Region to update their development review standards and protocols to be able to implement the PCRs on all applicable projects by March 6, 2014. The City has been enforcing the PCR requirements on all new project applications since March 6, 2014.	N/A	1	No	Documentation	
✓	E.12.d.	NEW BMP	Source Control Measures - Regulated Projects shall implement source control measures	E.12.d Source Control Measures included in mandatory development BMPs	Public Works	Engineering	FULL	The City's pre-existing Storm Water Management Program included mandatory source control BMPs for the following facilities and their associated activities: food service facilities, industrial facilities, retail and commercial businesses, vehicle service facilities, construction work, development and remodeling projects, and BMPs for residential properties including garden, pool & spa maintenance, home maintenance, painting and repair, and vehicle repair and washing. In February 2014, the City revised its mandatory BMPs for Development and Redevelopment Projects and incorporated minor edits to source control measures, including new requirements for pools, spas, and other water features (based on the CASQA Stormwater Quality Handbook), and guidance on design of interior floor drains.	Not assessed	3	No	Documentation	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.12.j Planning and Development Review Process</b>													
	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>	3. Apply new and/or modified enforceable mechanisms to all applicable new and redevelopment projects.	Public Works, Planning	Engineering	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 finaled 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 ("finaled").	N/A	3	No	Documentation	
<b>E.12.k Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes</b>													
✓	E.12.k	NEW BMP	<b>Post Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes</b>	Implement the RWQCB's Post-Construction Requirements for all new regulated development and redevelopment projects	Public Works	Engineering	FULL	The City began enforcing the new Post-Construction Requirements on March 6, 2014. All projects subject to the PCRs were reviewed by QSD staff to ensure compliance with the PCRs. Training of other planning and plan review staff on the PCRs helps ensure that applicants are aware of the requirements early. All projects were inspected by the PW Storm Water staff and met the PCRs. This year, there was a total of 38 projects either under review (10), issued (22), or finaled (3) that implemented storm water BMPs & LID. 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. This year, there were 30 residential building permit applications that triggered LID requirements review. Twenty-five (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 ("finaled").	High	5	Sediment, Pathogens, Trash	Land-use-load estimation (RAM/TELRL)	

**ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX**

**CITY OF SANTA CRUZ STORM WATER PROGRAM**

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	E.12.k	PC-8	<b>Implement Program to Ensure Long-term BMP Inspection and Maintenance. Spot Inspections Will Be Conducted</b>	1. Develop an electronic database or spreadsheet to better track & assess sites over time	Public Works	Engineering	FULL	The City maintains a spreadsheet to track LID projects requiring maintenance agreements, track annual LID maintenance log submittals, property ownership and contacts, and site inspections. The spreadsheet includes which PCR Tier projects are subject to. The spreadsheet also identifies structural control measures incorporated into each project. The City collaborates with other municipalities of the Central Coast Region, the Regional Board, Central Coast LIDI, and 2ndNature re a BMP tracking and assessment tool. The City is an "All-In" subscriber to the 2ndNature suite of tools, including BMP RAM, TELR, & Parcel RAM.	N/A	1	Sediment, Pathogens, Trash	Documentation	
				2. Enforce the proof of annual BMP inspection and maintenance requirement at 100% of sites	Public Works	Engineering	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/TELR)	
				3. Implement a spot inspection program at 10% of sites annually	Public Works	Engineering	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.	Medium	5	Sediment, Pathogens, Trash	Inspection, Land-use-load estimation (RAM/TELR)	
	E.12.k	PC-9	<b>Implement Corrective Measures and Enforcement Procedures As Needed in Accordance with the Municipal Code</b>	Implement corrective actions, as appropriate, for 100% of sites where a violation is detected	Public Works	Engineering	FULL	There were no Post-Construction related violations during the permit year.	Not assessed	3	Sediment, Pathogens, Trash	Documentation, tabulation (# follow-up emails, #NOVs)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.12 Existing BMPs Not Required By the Permit</b>													
		PC-12	Hold Educational Workshops on LID and Hydromodification Control Requirements	1. One educational workshop after the hydromodification control criteria have been developed	Public Works, Planning	Engineering	FULL	Completed FY2015. This permit year, the City also participated in the 12/15/16 "Calming the Storm" LID Project Tour led by the Resource Conservation District per a countywide Prop 84 LID grant. The City's parking lot #9 was a component of the grant project and one of the site visits in the tour. The workshop was highly successful with over 2 busloads of municipal staff, consultants and members of the public attending the all day event.	Not assessed	2	Sediment, Pathogens, Trash	Documentation, Survey	
		PC-14	Provide Training to Appropriate Planning & Public Works Staff	3. Additional training on new or changed BMPs as needed	Public Works, Planning	Engineering	FULL	PW storm water staff attended an all day regional training workshop in Salinas by 2ndNature on 3/30/17 entitled "Inventory Your BMP using BMP RAM."	Not assessed	2	Sediment, Pathogens, Trash	Documentation, Survey	
		PC-7, 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	Public Works	Engineering	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)	Inspection results indicated that inspection during construction is important to ensure projects meet the PCRs and to engage contractors so they can better understand the purpose and mode of operation of PCR BMPs and to identify potential design issues.

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.13 WATER QUALITY MONITORING</b>													
	4)												
✓	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	Public Works	Environmental Compliance	FULL	The City is working with the County of Santa Cruz to develop and implement an integrated, efficient and effective regional monitoring program with standardized analytical processes and different sampling sites along the San Lorenzo River. In the meantime, the City has resumed sampling within City limits and during the permit year the City implemented digital QPCR analyses in the river to further refine the possible sources of bacteria amenable to control. The initial data indicate four identifiable locations where anthropomorphic inputs associated with fecal indicator bacteria can be controlled within City limits. All sampling is done by Environmental Compliance staff & all analyses are performed 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). Please see attached San Lorenzo River Alliance Water Quality Working Group Fiscal Year 2016-17 Progress Report for a summary of the SLRA monitoring program. The City has concluded that the levels of anthropomorphic inputs measured indicate the need for similar efforts along the upper reaches of the river before it enters the city limits, hence the additional driver to implement a data driven regional monitoring effort with the County.	N/A	6	N/A	N/A	
	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	Public Works	Environmental Compliance	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). Please see attached San Lorenzo River Alliance Water Quality Working Group Fiscal Year 2016-17 Progress Report for a summary of the SLRA monitoring program and working group efforts. The City is studying more critically the initial findings upon which the SLRA study is based, and will be providing additional data from this work.	N/A	6	N/A	N/A	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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.14 PROGRAM EFFECTIVENESS ASSESSMENT</b>													
✓	E.14.a	NEW BMP	Develop and implement a Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program	Develop the Effectiveness Assessment and Improvement Plan	Public Works	Engineering	FULL	The PEaip was completed in Permit Year 2. In addition, the City participated in the development of the BMP RAM assessment tool and TELR catchment modeling effort initiated by the RWQCB in 2015. Beginning in July 2016, the City began inventorying existing structural BMPs using BMP RAM. City catchment and land use mapping required as a base for the model were completed and submitted to the RWQCB on August 4, 2016. The City currently is an "All-In 2NForm suite" subscriber to the 2NDNature suite of tools including the BMP RAM assessment tool, TELR catchment modeling, and Parcel RAM. As required, on June 27, 2017 the City submitted Report #2 to the RWQCB indicating that BMP Inventory Option 1 was chosen and that a contract was in place with 2NDNATURE Software. Thus the mapped inventories of the centralized BMPs and the City-owned decentralized BMPs, the ranking based on storm water volume and pollutant loading estimates under unmitigated conditions are available to the RWQCB via a link provided by 2NDNature. As new projects are completed or information is obtained, the City will update the inventory per the 2NForm BMP RAM Module.	N/A		N/A	N/A	
				Describe implementation of the Plan, summarize data obtained through effectiveness assessment measures, and provide an analysis of the data to improve effectiveness	Public Works	Engineering	FULL	Priority BMPs are included in this combined annual report and Program Effectiveness Assessment table, and the PEaip completed in Permit Year 2. The City tracks data on priority BMPs and this data is summarized in the BMP implementation information of each priority BMP. For each BMP the table also provides BMP effectiveness, evaluation method and any proposed modifications. In addition, the City participated in the RWQCB's efforts to develop geographic modeling of pollutant loads and BMP effectiveness. Beginning in July 2016, the City began inventorying existing structural BMPs using BMP RAM. City catchment and land use mapping required as a base for the model were completed and submitted to the Regional Board on August 4, 2016. The City currently is an "All-In 2NForm suite" subscriber to the 2ndNature suite of tools including the BMP RAM assessment tool, TELR catchment modeling, and Parcel RAM. As required, on June 27, 2017 the City submitted Report #2 to the CCRWQCB indicating that BMP Inventory Option 1 was chosen and that a contract was in place with 2NDNATURE Software. Thus the mapped inventories of the centralized BMPs and the City-owned decentralized BMPs, the ranking based on storm water volume and pollutant loading estimates under unmitigated conditions are available to the RWQCB via a link provided by 2NDNature. As new projects are completed or information is obtained, the City will update the inventory per the 2NForm BMP RAM Module.	N/A		N/A	N/A	
✓	E.14.b	NEW BMP	Modify BMPs and/or the program as a whole to improve compliance with permit conditions and improve program effectiveness at reducing pollutant loads, achieving the MEP standard, and protecting water quality				N/A	Year 5 Requirement.	N/A		N/A	N/A	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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	Public Works	Engineering	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	Public Works	Engineering	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	Public Works	Engineering	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		Public Works	Engineering	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	



ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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>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		Public Works	Wastewater Collection/Flood Control	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		Public Works	Wastewater Collection/Flood Control	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	Public Works	Wastewater Collection/Flood Control	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	Public Works	Wastewater Collection/Flood Control	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	Public Works	Wastewater Collection/Flood Control	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	Public Works	Wastewater Collection/Flood Control	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	Public Works	Wastewater Collection/Flood Control	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)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	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	Public Works	Engineering, Wastewater Collection/Flood Control	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	Public Works	Engineering, Wastewater Mains	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	Public Works	Engineering	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	Public Works	Engineering, Wastewater Collection/Flood Control	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. *Diversion 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	
	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	Public Works	Engineering, Wastewater Collection/Flood Control	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. *Diversion 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	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	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	Public Works	Parks-Rangers	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	Public Works	Environmental Compliance	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 comercial), and to 7 stormwater violations ( 6 commercial, 1 residential). Also conducted 1 other commerical 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	Public Works	Engineering	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	
	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)	Public Works	Engineering	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	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	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	Public Works	Environmental Compliance	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	
✓	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	PW	Environmental Compliance	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	Public Works	Streets	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	Public Works	Refuse	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)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
				3. Sweep 75% of residential streets once to twice per month	Public Works	Refuse	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	Public Works	Traffic/Parking Prog	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		Public Works	Engineering	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
✓	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.	PW, Planning	Engineering	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

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
				Require rationale for BMPs used	PW, Planning	Engineering	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
				Require that erosion/sed control plan list applicable permits associated w/ grading activity (CGP, 401, 404, 1600 agreement)	PW, Planning	Engineering	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	PW, Planning	Engineering	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	PW, Planning	Engineering	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

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	E.10.c	NEW BMP	Use legal authority to implement procedures for inspecting public and private construction projects and conduct enforcement if necessary.		Planning	Building	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.)	Planning	Building	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)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
				2. Inspect 100% of high priority sites prior to forecasted rain events	Planning	Building	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	Planning	Building	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)	



ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	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	Public Works	Engineering	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	Public Works Planning	Engineering	FULL	Completed in Permit Year 1	Not assessed	2	Sediment, Pathogens, Trash	Documentation, tabulation (page hits), public awareness survey	
	E.12.j	PC-10	<b>Develop and/or Modify Enforceable Mechanisms That Will Effectively Implement Hydromodification Controls and LID. Enforceable Mechanisms May Include Municipal Codes, Regulations, Standards, and Specifications.</b>	Approved new and/or modified enforceable mechanisms that effectively resolve regulatory conflicts and implement hydromodification controls and LID in new and redevelopment projects	Public Works, Planning	Engineering	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	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
	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.	Public Works, Planning	Engineering	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	Public Works	Engineering	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	Public Works	Engineering	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)	

ANNUAL REPORT PROGRAM EFFECTIVENESS ASSESSMENT MATRIX

CITY OF SANTA CRUZ STORM WATER PROGRAM

Due October 15, 2017

New BMP (✓)	Permit Section	New or Existing BMP #	BMPs	MEASURABLE GOALS	DPT	DIV.	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
✓	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	Public Works	Environmental Compliance	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	
<b>E.16 ANNUAL REPORTING PROGRAM</b>													
✓	E.16.a	NEW BMP	Use SMARTS to report and certify		Public Works	Engineering	FULL	The Annual Report will be entered into SMARTS by October 15th annually	N/A	1	N/A	N/A	N/A
	E.16.b		Complete and retain annual reports and make available to RWQCB during working hours		Public Works	Engineering	FULL	Annual reports are available for download on the City website and will be provided to the RWQCB upon request	N/A	1	N/A	N/A	N/A
✓	E.16.c	NEW BMP	Submit detailed written or oral report to RWQCB if directed.		Public Works	Engineering	FULL	The City will submit reports to the RWQCB as directed	N/A	1	N/A	N/A	N/A
✓	E.16.d	NEW BMP	May coordinate reporting if regional programs		Public Works	Engineering	N/A	N/A	N/A	1	N/A	N/A	N/A