

- (2) Dates of all visual monitoring and inspection events;
  - (3) Verification that the Permittee removed all trash and debris found within 14 working days of each inspection;
  - (4) A summary of the results of visual inspection and cleaning events, including the amount of material removed on an Urban Subwatershed basis; and
  - (5) Identification of areas containing significant deposits of trash.
- b) In the Year 1 Annual Report, the Permittee shall include:
    - i) A list of BMPs designated to control trash and litter from sites and sources identified in Section N.2.a (Municipally Owned or Operated Areas);
    - ii) Verification that the Permittee visually inspected all open channels and other surface drainage structures for trash and other debris, and removed all trash and other debris within 14 working days of inspection except as required in Section P.3.b (Monitoring, Effectiveness Assessment, and Program Improvement: Trash Action Level); and
    - iii) Identification of priority problem areas identified according to Section N.2.b (Inspection and Cleaning of Surface Drainage Structures) that the Permittee will visually inspect three times each year.
  - c) In the Year 2 Annual Report, the Permittee shall include:
    - i) A description of surface drainage structures found to contain significant deposits of trash, a description of the process used to identify potential sources of the trash, and identification of the potential sources;
    - ii) A description of the process used to evaluate the effectiveness of BMPs targeting identified sources, including a list of BMP modifications identified and the schedule for implementing the modifications;
    - iii) A description of the Permittee's enforcement mechanisms;
    - iv) A description of High Priority Trash Areas, including a discussion of the rationale used to identify High Priority Trash Areas; and
    - v) The Trash Reduction Plan.
  - d) In the Year 2 Annual Report and each subsequent Annual Report, the Permittee shall include:
    - i) A summary of the Permittee's progress implementing BMP modifications identified according to Section N.2.c (Source Identification and Abatement), according to identified implementation schedules;
    - ii) A description of the Permittee's implementation of the Trash Reduction Plan, including verification that activities identified in the Plan were implemented in accordance with the Plan; and
    - iii) Quantification of trash removed from the MS4 each year.
  - e) In the Year 4 Annual Report, the Permittee shall include:
    - i) Verification that the Permittee has implemented BMP modifications targeting identified sources of trash, according to the identified schedule.
  - f) In the Year 4 Annual Report, the Permittee shall include:
    - i) The Trash Reduction Tracking Methodology.

#### O. Total Maximum Daily Loads

- 1) For each Total Maximum Daily Load (TMDL) that assigns the Permittee a wasteload allocation due to its MS4 discharges, the Permittee shall achieve its assigned wasteload allocation according to the schedule specified in the TMDL.

- a) Lower Salinas River Watershed Fecal Coliform TMDL - The Permittee shall implement BMPs capable of achieving its Lower Salinas River Watershed Fecal Coliform TMDL wasteload allocation by December 20, 2024. The Permittee's Lower Salinas River Watershed Fecal Coliform TMDL wasteload allocation is:  
Lower Salinas River Watershed Fecal Coliform TMDL – Wasteload Allocation for the City of Salinas

Waterbody	Receiving Water Fecal Coliform (MPN/100mL)
Gabilan Creek, Santa Rita Creek, Reclamation Ditch, Natividad Creek, and Lower Salinas River	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN/100mL, nor shall more than ten percent of total samples during any 30-day period exceed 400 MPN/100mL.

- 2) Within one year of TMDL approval by the Office of Administrative Law, the Permittee shall submit a plan for meeting its wasteload allocation to the Central Coast Water Board, for every TMDL that assigns the Permittee a wasteload allocation due to its MS4 discharges. Within 60 days of submitting the plan to the Central Coast Water Board, the Permittee shall start implementing the plan. The Permittee shall incorporate new BMPs (structural, non-structural, and/or other measures to attain the required source control) and other stormwater management program modifications identified in the Wasteload Allocation Attainment Plan(s) into the Permittee's stormwater management program. The Wasteload Allocation Attainment Plan(s) shall include, at a minimum, each of the principle components listed below, unless the Permittee provides justification for why specific components are in conflict with specific TMDL provisions.
- a) A detailed description of the Permittee's strategy for BMP selection, assessment, and implementation, to ensure that implemented BMPs will effectively abate pollutant sources, reduce pollutant discharges, and achieve wasteload allocations according to TMDL schedule.
  - b) Identification of sources of the impairment within the Permit coverage area, including specific information on various source locations and their magnitude within the Permit coverage area.
  - c) Prioritization of sources within the Permit coverage area, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.
  - d) Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.
  - e) Prioritization of BMPs, based on expected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.
  - f) A detailed BMP implementation schedule. For each BMP, identify milestones the Permittee will use for tracking implementation, measurable goals the Permittee will use to assess implementation efforts, and measures the Permittee will use to assess BMP effectiveness. The Permittee shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.
  - g) A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on published BMP pollutant removal performance estimates, best professional judgment, and other available tools, the Permittee's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely necessitate modeling efforts. The Permittee shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the Permittee has water quality data from the TMDL monitoring

program per Section O.2.h; the Permittee shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.

- h) A detailed description, including a schedule, of the monitoring program the Permittee plans to implement or use to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the Permittee's wasteload allocation. The monitoring program shall be consistent with any monitoring program information included in the TMDL documentation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate interim target and wasteload allocation attainment. If the approved TMDL does not explicitly include interim targets, the Permittee shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measure of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The Permittee shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Plan. If the Permittee does not achieve its interim target by the date specified, the Permittee shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.
- i) A detailed description of how the Permittee will assess BMP and plan effectiveness. The description shall incorporate assessment methods described in the CASQA Municipal Stormwater Program Effectiveness Assessment Guide and this Order.
- j) A description of how the Permittee will modify the plan to improve upon BMPs that the effectiveness assessment highlights as ineffective.
- k) A detailed description of information the Permittee will include in Annual Reports to illustrate progress towards meeting wasteload allocations according to TMDL schedule.
- l) A detailed description of how the Permittee will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Plan.
- m) Any other items identified by TMDL Project Reports or Resolutions or currently being implemented to address TMDL provisions.

### 3) Reporting

- a) Within one year of TMDL approval by the Office of Administrative Law, the Permittee shall submit a plan for meeting its wasteload allocations, pursuant to the requirements of this Section, for every TMDL where the Permittee is assigned a wasteload allocation due to its MS4 discharges.
- b) In each Annual Report after the Permittee has submitted at least one Wasteload Allocation Attainment Plan, the Permittee shall provide a summary of Wasteload Allocation Attainment Plan implementation pursuant to Section O.2.k. The Annual Report shall describe all activities implemented by the Permittee to attain its wasteload allocation. The Annual Report shall provide all monitoring data results and include an analysis of the data to determine progress towards attaining the Permittee's interim targets and its wasteload allocation.

## P. Monitoring, Effectiveness Assessment, and Program Improvement

- 1) BMP Effectiveness Assessment
  - a) General BMP Effectiveness Assessment

- i) The Permittee shall assess the effectiveness of BMPs specified in this Order and developed by the Permittee in compliance with this Order, except for those BMPs where Focused Assessment measures are identified in this Section. For BMPs where Focused Assessment measures are identified in this Section, the Permittee shall conduct effectiveness assessments according to Section P.1.b (Focused BMP Effectiveness Assessment).
- ii) **Public Education and Municipal Staff Training**
  - (1) By the end of Year 2, the Permittee shall develop a plan for assessing the effectiveness of public education and municipal staff training BMPs specified in this Order and developed by the Permittee in compliance with this Order. The plan shall include assessment measures capable of providing quantitative information about the following:
    - (a) Changes in knowledge about the impacts of stormwater discharges and steps that can be taken to reduce pollutants in stormwater runoff, for specific target audiences;
    - (b) Changes in behavior of specific target audiences; and
    - (c) The proficiency of the Permittee's municipal staff at performing stormwater-related responsibilities in compliance with this Order.
  - (2) Quantitative assessment measures used by the Permittee may include, but need not be limited to, surveys, interviews, inspections, and tests taken before and after training events.
  - (3) By the end of Year 3, the Permittee shall evaluate the effectiveness of public education and municipal staff training efforts using the plan developed according to Section P.1.a.ii (Public Education and Municipal Staff Training). The Permittee shall use the results of this evaluation to identify modifications to public education and municipal staff training efforts that achieve increasing changes in knowledge and behavior of specific target audiences. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified improvements.
  - (4) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall conduct a follow-up assessment of the effectiveness of the Permittee's public education and municipal staff training efforts using quantitative assessment measures developed according to Section P.1.a.ii (Public Education and Municipal Staff Training).
- b) **Focused BMP Effectiveness Assessment** –The Permittee shall conduct Focused BMP Effectiveness Assessment according to the requirements of this Section. The Permittee may propose alternative assessment measures and methods that are equivalent or better for approval by the Central Coast Water Board Executive Officer.
  - i) **Inspections** – The Permittee shall analyze inspection results collected for High Priority Municipal Facilities, Operations, and Events; Commercial and Industrial Facilities; Fast Food Restaurants and Commercial Retail Centers; and High Priority Construction Sites (collectively, "Sites") according to Section E.8.c (Municipal Maintenance: Quarterly Inspections for High Priority Municipal Facilities, Maintenance Operations, and Events), Section F.4 (Commercial and Industrial: Inspection of Facilities and Operations), Section K.6.d (Construction Site Management: High Priority Construction Sites), and Attachment G – Inspection Ratings. The Permittee shall use the results of this analysis to determine the effectiveness of the Permittee's efforts at designating effective BMPs for controlling pollutant sources and removing pollutants from stormwater; educating applicable target audiences in the effective implementation, installation, and maintenance of

required BMPs; educating applicable municipal staff in the effective inspection of required BMPs; achieving compliance with requirements of this Order; and improving compliance at low-performing sites through follow-up activities. The Permittee shall apply the following assessment measures and track the results of assessments separately for High Priority Municipal Facilities, Operations, and Events; Commercial and Industrial Facilities; Fast Food Restaurants and Commercial Retail Centers; and High Priority Construction Sites.

- (1) Beginning in Year 3, the Permittee shall analyze Inspection Ratings determined during inspections each year for Sites in each Site category, and evaluate the effectiveness of the Permittee's efforts at achieving an Inspection Rating of "B" or higher at each inspection of each Site.
- (2) Beginning in Year 3, the Permittee shall analyze improvements in Inspection Ratings achieved through reinspection of low-performing Sites each year, and evaluate the effectiveness of the Permittee's follow-up efforts at achieving demonstrable improvements in Inspection Ratings at low-performing Sites in each Site category. The Permittee is not required to conduct this analysis for High Priority Construction Sites or High Priority Municipal Events.
- (3) Beginning in Year 4, the Permittee shall compare Inspection Ratings with Inspection Ratings determined in previous years for Sites in the same Site category, and shall evaluate the effectiveness of the Permittee's efforts at improving Inspection Ratings over time for Sites within each Site category.
  - (a) The Permittee shall use the results of this evaluation to identify and implement BMP modifications related to each Site category that achieve increasing Inspection Ratings over time for Sites within each Site category. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.
  - (b) If the average of all Inspection Ratings determined each year is "B" or higher, determined according to Attachment G.3, the Permittee shall continue to implement actions designed to improve Inspection Ratings, but is not required to achieve further increases in annual average Inspection Rating.
- (4) Beginning in Year 4, the Permittee shall calculate the average increase in Inspection Rating achieved each year through reinspection of low-performing Sites in each Site category, and shall compare the result with the average increase in Inspection Rating achieved in previous years. The Permittee shall use the results of this comparison to identify and implement BMP modifications related to each Site category that achieve an increasing trend over time in the degree of improvement achieved through reinspection of low-performing sites in each Site category. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications. The Permittee is not required to conduct this analysis for High Priority Construction Sites or High Priority Municipal Events.
- (5) Beginning in Year 4, the Permittee shall compare the percentage of High Priority Construction Sites that were ready for each rain event each year with the percentage of High Priority Construction Sites that were ready for each rain event in previous years. The Permittee shall evaluate the effectiveness of construction site management BMPs at increasing, over time, the percentage of High Priority Construction Sites ready for each rain event.

- (a) The Permittee shall use the results of this evaluation to identify and implement modifications to construction site management BMPs that will achieve an increasing trend over time in the percentage of High Priority Construction Sites ready for each rain event. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.
  - (b) If the number of High Priority Construction Sites ready for a rain event exceeds 90 percent each year, the Permittee shall continue to implement actions designed to attain 100 percent readiness for each rain event, but is not required to achieve further increases in the number of High Priority Construction Sites ready for a rain event.
- ii) **Municipal Maintenance Program**
  - (1) **Catch Basin Cleaning**
    - (a) By the end of Year 3, the Permittee shall compare sediment and debris depth data and the total volume of sediment removed from all catch basins each year with data collected in previous years. The Permittee shall use the results of this comparison to evaluate whether the catch basin inspection and cleaning program is achieving optimal removal of sediment and debris. The Permittee shall use the results of this evaluation to identify and implement modifications as necessary to achieve optimal removal of sediment and debris. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.
    - (b) At the end of Year 4, the Permittee shall determine the volume of solids removed in Years 1 through 4 from catch basins in each Urban Subwatershed. The Permittee shall identify the two Urban Subwatersheds with the most solids removed.
    - (c) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall analyze and identify potential sources of sediment discharges to the MS4 in the two Urban Subwatersheds identified according to Section P.1.b.ii.1 (Catch Basin Cleaning). The Permittee shall incorporate the results of this analysis into the determination of Program Effectiveness Ratings according to Section P.6 (Program Effectiveness Rating). In addition, the Permittee shall evaluate the effectiveness of BMPs at controlling sediment discharges to the MS4 in the two identified Urban Subwatersheds, and shall identify and implement BMP modifications, including identification of additional BMPs, as necessary, to control sediment discharges to the MS4 from the two identified Urban Subwatersheds. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.
  - (2) **Structural BMPs** – Beginning in Year 2, the Permittee shall analyze the structural BMP inspection and maintenance records each year to ensure that all structural BMPs were inspected and maintained according to the methodology developed in Section E.7 (Municipal Maintenance: Maintenance of Structural BMP Verification). The Permittee shall evaluate the effectiveness of the structural BMP inspection and maintenance at ensuring that all structural BMPs are maintained at the required level. The Permittee shall modify the structural BMP inspection and maintenance procedures, as necessary, to ensure that all

structural BMPs are maintained at the required level. For modifications requiring more than 12 months to complete, the Permittee shall develop and adhere to a schedule for implementing identified improvements.

(3) Street Sweeping and Cleaning

(a) Beginning in Year 3, the Permittee shall compare the total volume of solids collected each dry season for the 24 routes identified in Section E.6.c with the total volume of solids collected in Year 1 and Year 2. The Permittee shall determine whether the street sweeping frequency modifications made in accordance with Section E.6.c have achieved an increase in the total volume of solids collected for these routes over the total volume of solids collected for these routes in Year 1.

(b) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall analyze the information collected according to Section E.6.b in preceding years. The Permittee shall use the results of this analysis to identify modifications to the sweeping schedule for all routes that optimizes the total volume of solids collected during the dry season for all routes for the same total number of route miles.

(4) Pesticide, Herbicide, and Fertilizer Use

(a) Beginning in Year 1, the Permittee shall use information collected according to Section E.10.d.v (Municipal Maintenance: Inspections of High Priority Municipal Facilities, Operations, and Events) each year to determine the total amount and primary chemical constituent of each type of pesticide, herbicide, and fertilizer applied by the Permittee within 7 days prior to all rain events that produced runoff.

(b) Beginning in Year 2, the Permittee shall compare the amount of pesticide, herbicide, and fertilizer used each year determined according to Section P.1.b.ii.4 (Pesticide, Herbicide, and Fertilizer Use) to the amount of pesticide, herbicide, and fertilizer used in previous years. The Permittee shall evaluate the effectiveness of efforts to reduce the amount of pesticide, herbicide, and fertilizer applied within seven days prior to rain events. The Permittee shall use the results of this evaluation to identify and implement modifications to pesticide, herbicide, and fertilizer application activities that achieve a decreasing trend over time in the amount of pesticide, herbicide, and fertilizer applied within seven days prior to rain events. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.

iii) **Industrial Facilities**

(1) By the end of Year 2, the Permittee shall analyze stormwater discharge parameter results obtained according to Section F.5 (Commercial and Industrial: Facility Monitoring Data Reported under the General Industrial Permit) for Years 1 and 2 to identify the pollutant having the greatest number of reported exceedances, using the following procedure.

(a) The Permittee shall identify exceedances by comparing the stormwater discharge parameter results for each parameter with the exceedance limits established by the General Industrial Permit;

(b) The Permittee shall determine the total number of reported exceedances for each reported pollutant for Years 1 and 2.

(c) The Permittee shall identify the pollutant with the greatest number of reported exceedances as the Target Pollutant.

- (d) The Permittee shall determine the annual average number of exceedances of the Target Pollutant by dividing the total number of exceedances of the Target Pollutant by the total number of annual reports submitted through the Stormwater Multiple Application and Report Tracking System (SMARTS) for Years 1 and 2.
- (2) By the end of Year 3, the Permittee shall evaluate the effectiveness of the Permittee's efforts to reduce discharges of the Target Pollutant. The Permittee's evaluation shall include, at minimum, an assessment of the adequacy of BMPs designated according to Section F.2 (Commercial and Industrial: Minimum BMPs), educational efforts, and the Permittee's inspection and follow-up procedures. The Permittee shall use the results of the evaluation to identify and implement modifications and/or additions to the Commercial and Industrial Program designed to reduce exceedances of the Targeted Pollutant in stormwater discharges from industrial facilities. The Permittee shall consider both short-term and long-term modifications. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.
- (3) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall divide the number of exceedances of the Target Pollutant reported in the General Industrial Permit reporting period immediately prior to the submittal of the Permittee's Report of Waste Discharge by the number of annual reports submitted through SMARTS in the reporting period. The Permittee shall compare this result with the annual average number of exceedances of the Target Pollutant determined in Year 2 according to Section P.1.b.iii (Industrial Facilities). The Permittee shall use the results of this comparison to evaluate the effectiveness of modifications and/or additions made to the Commercial and Industrial Program at reducing exceedances of the Target Pollutant. At a minimum, the evaluation shall analyze of the objective of each modification, the effectiveness of each modification at achieving its intended objective, and the reasons each modification was (or was not) able to achieve its intended objective.
- iv) **Riparian Protection** – Beginning in Year 1, the Permittee shall record and track all exceptions, exemptions, and variances from the Riparian Protection Policies and Requirements contained in Section L.1.d (Development Planning and Stormwater Retrofits: Riparian Protection Policies and Requirements) allowed each year for development activities.
- (1) The Permittee shall record the following information for each exception, exemption, or variance:
- The location of the development activity awarded the exception or variance, including site location and identification of the Urban Subwatershed;
  - The justification for allowing the exception, exemption, or variance;
  - The size of the permitted encroachment into riparian buffers established by this Order;
  - A quantitative and qualitative description of riparian area lost or damaged due to the permitted encroachment;
  - A quantitative and qualitative description of riparian area created, restored, or enhanced as mitigation for the permitted encroachments; and
  - A description of measures established to protect riparian areas created, restored, or enhanced as mitigation for the permitted encroachments.
- (2) Beginning in Year 1, the Permittee shall also determine the following each year:



- (a) The total area of encroachment permitted into riparian buffers established by this Order, for the Permit coverage area as a whole and for each Urban Subwatershed; and
  - (b) The total amount of riparian area created, restored, or enhanced as mitigation for the permitted encroachments, for the Permit coverage area as a whole and for each Urban Subwatershed.
- (3) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall review the exceptions, exemptions, and variances from the Riparian Protection Policies and Requirements contained in Section L.1.d (Development Planning and Stormwater Retrofits: Riparian Protection Policies and Requirements) allowed during the term of this Order up to that time.
- (a) The Permittee shall determine the total area of encroachment permitted into riparian buffers established by this Order, for the Permit coverage area as a whole and for each Urban Subwatershed.
  - (b) The Permittee shall determine the total amount of riparian area created, restored, or enhanced as mitigation for the permitted encroachments, for the Permit coverage area as a whole and for each Urban Subwatershed.
  - (c) The Permittee shall inspect each riparian area created, enhanced, or restored as mitigation for permitted encroachments. The Permittee shall evaluate the size and quality of each mitigation area compared with the original mitigation requirements and the value of the riparian area lost or damaged by the permitted encroachment, and shall assess whether each mitigation area complies with the original mitigation requirements and whether it successfully replaces the riparian values lost or damaged.
  - (d) The Permittee shall evaluate the effectiveness of its development planning and review process at protecting riparian areas within the Permit coverage area. The evaluation shall include analysis of the number and scope of exceptions, exemptions, and variances permitted, the amount of riparian area lost or reduced in quality, potential impacts to water quality and beneficial uses from the encroachments, and size and quality of mitigation areas.
- c) Programmatic BMP Improvement – Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall identify modifications to program BMPs needed to achieve measurable goals for improving targeted watershed processes according to Section P.7 (Program Improvement Needs).
- 2) **Pollutant Load and Water Quality Stressor Quantification**
- a) **Pollutant Load Quantification**
    - i) Within 12 months of adoption of this Order, the Permittee shall quantify annual Urban Subwatershed pollutant loads using the following procedure. The Permittee may propose an alternative method for quantifying annual Urban Subwatershed pollutant loads that is equivalent or better for approval by the Central Coast Water Board Executive Officer.
      - (1) The Permittee shall use the CWP Watershed Treatment Model,<sup>14</sup> or an equivalent method approved by the Central Coast Water Board Executive Officer, to estimate annual pollutant loads and pollutant load reductions on the basis of annual average rainfall. The Permittee shall also quantify any reductions associated with BMPs and other program elements. The Permittee shall use pollution concentration and BMP removal efficiency data from the National

<sup>14</sup> The Stormwater Manager's Resource Center. *The Watershed Treatment Model, Version 3.1*. Web. 18 August 2011 <<http://www.stormwatercenter.net>>.

Stormwater Quality Database, local monitoring data, and/or other centralized databases (e.g., the American Society of Civil Engineers International Stormwater BMP Database). In estimating pollutant load reductions from BMPs, the Permittee shall count pollutant load reductions only for structural BMPs that are designed to achieve a quantitative stormwater management objective and are maintained at least to an “acceptable” level, or equivalent, using the methodology developed according to Section E.7.e (Municipal Maintenance: Structural BMP Rapid Assessment). In estimating pollutant load reductions from such BMPs, the Permittee shall assume that the BMP is achieving its design quantitative stormwater objective. The Permittee shall justify all assumptions used to model BMP pollutant reductions on the basis of appropriate data.

- (2) At a minimum, the Permittee shall quantify annual loads for the following pollutants:
  - (a) Sediment;
  - (b) Fecal coliform bacteria;
  - (c) Total nitrogen;
  - (d) Copper;
  - (e) Lead;
  - (f) Zinc; and
  - (g) Additional pollutants as identified by the Permittee in consultation with the Central Coast Water Board.
- (3) The Permittee shall quantify annual pollutant loads and pollutant load reductions for the entire Permit coverage area and for each Urban Subwatershed identified in Section Q.2 (Watershed Characterization: Watershed Delineation).
- ii) Prior to the submittal of the Permittee’s Report of Waste Discharge, the Permittee shall repeat the procedure developed according to Section P.2.a (Pollutant Load Quantification). The Permittee shall use Stormwater Discharge Trend Monitoring data, and other data collected according to this Section, to modify the assumptions used to model pollutant loads and BMP pollutant reductions. The Permittee shall apply information obtained through the modeling exercise in developing Urban Subwatershed Program Effectiveness Ratings according to Section P.6.a.i (Risk of Impact to Watershed Processes and Beneficial Uses).

**b) Trash Quantification**

- i) Baseline Trash Load (BTL) – By the end of Year 4, the Permittee shall determine the BTL in stormwater discharges from the MS4 to establish the basis for assessing the effectiveness of trash reduction efforts. The Permittee shall determine the BTL using the following formula, or an equivalent method approved by the Central Coast Water Board Executive Officer:

$$BTL = \sum [(area \text{ by land use}) \times (TGR \text{ for the land use})]$$

- (1) Area by Land Use – The Permittee shall determine the total land area tributary to the MS4 occupied by each land use, in acres. The Permittee shall use the actual existing land use for developed parcels using aerial photography, development records, direct observation, or other means. In the case of undeveloped parcels, the Permittee shall use the zoned land use.
- (2) Trash Generation Rate (TGR) – The Permittee shall determine the (TGR) for each land use using one of the following methods, or an equivalent method approved by the Central Coast Water Board Executive Officer:

- (a) The Permittee may use the TGRs shown in Table P.1. Street acreage is considered to have a TGR equivalent to that of the adjacent land use.

Table P.1. Trash Generation Rates (TGR)<sup>15</sup>

Land Use	TGR (lbs/acre/year)
Commercial <sup>16</sup>	16.90
Industrial <sup>17</sup>	13.45
High Density Residential <sup>18</sup>	5.98
Low Density Residential <sup>19</sup>	3.52
Open Space/Parks <sup>20</sup>	5.27

OR

- (b) The Permittee may determine TGRs per unit area by land use type through a baseline monitoring program similar to that employed by Los Angeles County for its trash baseline monitoring study.<sup>21</sup>
- (3) In the determination of applicable areas that generate trash loads for inclusion in the BTL, the Permittee may propose, with supporting documentation, areas for exclusion which do not discharge rubbish, refuse, bark, sawdust, or other solid wastes into surface waters, into the MS4, or at any place where they could eventually be conveyed to the MS4 or surface waters, including floodplain areas.
- (4) The Permittee shall determine the BTL for the entire Permit coverage area and for each Urban Subwatershed identified in Section Q.2 (Watershed Characterization: Watershed Delineation).
- ii) Trash Load Reduction – By the end of Year 4, the Permittee shall determine the annual Trash Load Reduction achieved by Trash Load Reduction activities, using the Trash Reduction Tracking Methodology developed in accordance with Section N

<sup>15</sup> TGRs used in Table P.1 were determined according to Attachment C - Trash Generation Rates by Land Use.

<sup>16</sup> Commercial includes retail stores, shopping centers and districts, restaurants, hotels, personal services, business services, financial services, movie theaters, building materials sales, and wholesale stores open to the public.

<sup>17</sup> Industrial includes automobile dealerships and repair shops, light manufacturing, distribution, warehousing, large wholesale stores not open to the public, public facilities, medical care facilities, libraries, large religious facilities, museums, community centers, public auditoriums, observatories, live indoor and outdoor theaters, convention centers, communication facilities, utility facilities (electrical, solid waste, liquid waste, water storage and water transfer, natural gas, and petroleum), educational facilities, preschools and daycare centers, trade schools (including police and fire training academies), transportation facilities (airports, railroads, freeways and major roads, park and ride lots, bus terminals and yards, truck terminals, mixed transportation, and mixed transportation and utility), mixed urban (mixed commercial, industrial, and/or residential), business parks, offices (professional, legal, medical, financial, administrative, research and development, corporate, and general business).

<sup>18</sup> High Density Residential includes all residential uses having 2 or more units per acre.

<sup>19</sup> Low Density Residential includes all residential uses having less than 2 units per acre.

<sup>20</sup> Open Space/Parks includes golf courses, local and regional parks and recreation facilities, cemeteries, wildlife preserves and sanctuaries, designated open space, botanical gardens, agriculture, and animal intensive operations.

<sup>21</sup> *Trash Baseline Monitoring Results Los Angeles River and Ballona Creek Watersheds*. County of Los Angeles Department of Public Works, Watershed Management Division, 17 February 2004. Web. 18 August 2011 <<http://dpw.lacounty.gov/wmd/TrashBaseline/links.cfm>>.

- (Trash Load Reduction: Trash Load Reduction). The Permittee shall determine the Trash Load Reduction for the entire Permit coverage area and for each Urban Subwatershed identified in Section Q.2 (Watershed Characterization: Watershed Delineation). The Permittee shall compare the Trash Load Reduction amount to the Baseline Trash Load for each Urban Subwatershed and identify Urban Subwatersheds that are significant sources of trash.
- iii) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall evaluate the effectiveness of the Trash Load Reduction Program at reducing trash discharges.
- (1) The Permittee shall identify and implement modifications to the Trash Load Reduction program that achieve increasing trash load reductions over time, and shall identify short-term and long-term quantitative objectives for Trash Load Reduction that the Permittee shall achieve, emphasizing Urban Subwatersheds identified as significant sources of trash. For modifications requiring more than 12 months for completion, the Permittee shall develop and adhere to a schedule for implementing the identified modifications.
  - (2) The Permittee shall apply information about trash conditions in each Urban Subwatershed in developing Urban Subwatershed Program Effectiveness Ratings according to Section P.6.a.i (Risk of Impact to Watershed Processes and Beneficial Uses).
- c) Runoff Volume Quantification – The Permittee shall quantify average annual runoff volume for the entire Permit coverage area and for each Urban Subwatershed identified in Section Q.2 (Watershed Characterization: Watershed Delineation). The Permittee shall use the CWP Watershed Treatment Model, the Rational Method, or equivalent simplified spreadsheet method approved by the Central Coast Water Board Executive Officer, to calculate annual runoff volume on the basis of average annual rainfall. The Permittee shall justify all assumptions used to model runoff volume and runoff volume reductions on the basis of appropriate data.
- i) Pre-developed Runoff Volume – Within 12 months of adoption of this Order, the Permittee shall quantify the average annual runoff volume for the entire Permit coverage area and for each Urban Subwatershed using Pre-developed land conditions.
  - ii) Developed Runoff Volume – Within 12 months of adoption of this Order, the Permittee shall quantify the average annual runoff volume for the entire Permit coverage area and for each Urban Subwatershed using land conditions currently existing within the Permit coverage area. The Permittee shall also quantify any runoff volume reductions associated with BMPs and other program elements. The Permittee shall justify all assumptions used to model runoff volume and BMP runoff volume reductions on the basis of appropriate data.
    - (1) Within 12 months of adoption of this Order, the Permittee shall subtract the Developed Runoff Volume from the Pre-developed Runoff Volume in each Urban Subwatershed to determine the runoff volume attributed to development in each Urban Subwatershed. The Permittee shall calculate the percent change in runoff volume in each Urban Subwatershed using the following formula:

$$\text{Percent Change in Runoff Volume} = \frac{\text{Runoff Volume Attributed to Development}}{\text{Pre-developed Runoff Volume}}$$

- (2) Within 12 months of adoption of this Order, the Permittee shall prioritize Urban Subwatersheds for runoff volume reduction improvements on the basis of the Percent Change in Runoff Volume in each Urban Subwatershed. The Permittee

shall apply this prioritization in the identification of candidate retrofit projects according to Section L.2 (Development Planning and Stormwater Retrofits: Retrofit Existing Development).

- iii) Runoff from the 24-Hour, 85<sup>th</sup> Percentile Storm Event – Within 12 months of adoption of this Order, the Permittee shall quantify the average annual runoff volume from the 24-Hour, 85<sup>th</sup> Percentile Storm Event, for the entire Permit coverage area and for each Urban Subwatershed, using land conditions currently existing within the Permit coverage area. The runoff volume determined shall take into account runoff volume reductions associated with BMPs and other program elements. The Permittee shall justify all assumptions used to model runoff volume and BMP runoff volume reductions on the basis of appropriate data.
- iv) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall recalculate the Developed Runoff Volume, the Percent Change in Runoff Volume, and the runoff from the 24-hour, 85<sup>th</sup> percentile storm event for each Urban Subwatershed using land conditions existing in the Permit coverage area at that time. The Permittee shall recalibrate the model by modifying the assumptions used to model runoff volume and BMP runoff volume reductions on the basis of data collected, runoff volume reducing retrofits, and/or other stormwater management activities. The Permittee shall justify all assumptions used to model runoff volume and BMP runoff volume reductions on the basis of appropriate data.
  - (1) The Permittee shall compare the Developed Runoff Volume determined prior to the submittal of the Permittee's Report of Waste Discharge with the Developed Runoff Volume determined in Year 1, for the Permit coverage area as a whole and for each Urban Subwatershed.
  - (2) The Permittee shall compare the runoff volume from the 24-hour, 85<sup>th</sup> percentile storm event determined prior to the submittal of the Permittee's Report of Waste Discharge with the runoff volume from the 24-hour, 85<sup>th</sup> percentile storm event determined in Year 1, for the Permit coverage area as a whole and for each Urban Subwatershed.
  - (3) The Permittee shall apply this information in developing Urban Subwatershed Program Effectiveness Ratings according to Section P.6.a.i (Risk of Impact to Watershed Processes and Beneficial Uses).

### 3) Action Levels

#### a) Urban Catchment Action Level Pilot Projects

- i) The Permittee shall conduct Urban Catchment Action Level Pilot Projects in four urban catchments within the Permit coverage area, in accordance with this Section and Attachment D - Monitoring and Reporting Program. The purpose of Urban Catchment Action Level Pilot Projects is to assess the water quality of discharges from representative urban catchments in relation to Stormwater Discharge Action Levels identified in this Order.
- ii) The Permittee shall analyze the results of samples collected and tested each year to determine the number of exceedances of any Stormwater Discharge Action Level identified in Table P.2.

Table P.2. Stormwater Discharge Action Levels

<b>Pollutant (unit)</b>	<b>Action Level <sup>22</sup></b>
Turbidity (NTUs)	126
Orthophosphate (mg/L)	0.44
Copper total (ug/L)	129
Zinc total (ug/L)	982
Fecal Coliform (MPN/100 ml)	13,000

- iii) Beginning in Year 3, the Permittee shall implement required actions each year in response to the second exceedance within the coverage period of this Order of any Stormwater Discharge Action Level in any Urban Catchment Action Level Pilot Project catchment. If the second exceedance of any Stormwater Discharge Action Level of any constituent occurs before Year 3, the Permittee shall implement required actions in Year 3. The Permittee shall implement the following required actions in an iterative manner to reduce discharges of pollutant(s) in exceedance of Stormwater Discharge Action Levels to the MEP.
- (1) Identify potential sources of the pollutant(s) in the sampled urban catchment(s) where exceedances occurred, and evaluate the sources to determine whether they are unique to the urban catchment(s) in which the exceedances occurred or are likely to be present in other urban catchment(s) within the Permit coverage area on the basis of similar land uses, pollutant sources, and other factors.
  - (2) Prioritize potential pollutant sources for corrective action in the urban catchment(s) where the sources are likely to be present. The Permittee shall assign highest priority to sources with the greatest potential for contributing the relevant pollutant(s) to stormwater discharges.
  - (3) Evaluate the implementation and effectiveness of existing BMPs targeting the potential pollutant sources, and identify and implement, in the urban catchment(s) where the sources are likely to be present, improvements to existing BMPs that reduce the discharge of pollutant(s) from priority pollutant sources to the MEP.
  - (4) Identify and implement additional BMPs, as necessary, in all applicable urban catchment(s) where the sources are likely to be present, that reduce the discharge of pollutant(s) from priority pollutant sources to the MEP.
- iv) Absence of a detected exceedance of a Stormwater Discharge Action Level for any pollutant or condition, as described in this Section, does not indicate the absence of a water quality problem or relieve the Permittee from implementing all other required elements of this Order.
- v) This Order does not regulate natural sources and conveyances of constituents listed in Table P.2. To be relieved of the required actions for exceedances, the Permittee shall demonstrate that the likely and expected cause of the Stormwater Discharge Action Level exceedance is not anthropogenic in nature.
- b) Trash Action Level
- i) Beginning in Year 2, the Permittee shall conduct Trash Assessments each year at four sites using the most current version of the Rapid Trash Assessment Methodology (RTAM) developed by the San Francisco Bay Regional Water Quality

<sup>22</sup> Action levels for turbidity, orthophosphate, copper, zinc, and fecal coliform bacteria are derived from the 90<sup>th</sup> percentile of data contained in the National Stormwater Quality Database (see Table Fact Sheet P.2: Source Data for Stormwater Discharge Action Levels). For the purposes of this Section, the Permittee shall consider MPN/100 ml to be equivalent to colonies/100 ml.

Control Board,<sup>23</sup> or as approved by the Central Coast Water Board Executive Officer. The purpose of Trash Assessments is to assess the level of trash in the Permittee's water bodies, particularly in relation to the Trash Action Level. An additional purpose is to reduce the amount of trash in surface waterways. The Permittee shall identify a Trash Assessment Site within each location described in Table P.3 in accordance with RTAM and use the same sites for all subsequent Trash Assessments.

Table P.3. Trash Assessment Sites and Locations

Site	Location
1	Reclamation Ditch between Market St. and its confluence with Natividad Creek
2	Reclamation Ditch between Victor St and N. Davis Rd.
3	Gabilan Creek between Constitution Blvd. and E. Laurel Dr.
4	Natividad Creek between Garner Ave. and E. Laurel Dr.

- (1) Dry Weather Assessment – The Permittee shall assess and collect trash at each site listed in Table P.3 each year between August 1 and September 30, beginning within 12 months of adoption of this Order.
- (2) Rainy Season Assessment – The Permittee shall, in addition to dry season assessment and collection, assess and collect trash at each site listed in Table P.3 each year between February 1 and March 30, beginning within 12 months of adoption of this Order.
- ii) The Trash Action Level at all sites is defined as a RTAM Trash Assessment Score of 79 points, or equivalent.
- iii) Beginning in Year 3, the Permittee shall implement required actions each year in response to any Trash Assessment at any Trash Assessment Site that results in a Trash Assessment Score below the Trash Action Level. The Permittee shall implement the following required actions in an iterative manner to reduce discharges of trash to the MEP.
  - (1) Identify potential sources of trash in the Urban Subwatersheds tributary to the Trash Assessment Site where the Trash Assessment Score fell below the Trash Action Level, and evaluate the sources to determine whether they are unique to the Urban Subwatersheds tributary to the assessment site or are likely to be present in other Urban Subwatersheds within the Permit coverage area on the basis of similar land uses, pollutant sources, and other factors.
  - (2) Prioritize potential trash sources for corrective action in the Urban Subwatersheds where the sources are likely to be present. The Permittee shall assign highest priority to sources with the greatest potential for contributing trash to stormwater discharges.
  - (3) Evaluate the implementation and effectiveness of existing BMPs targeting trash, and identify and implement, in the Urban Subwatersheds where the sources are likely to be present, improvements to existing BMPs that reduce trash in stormwater discharges to the MEP.
  - (4) Identify and implement additional BMPs, as necessary, in all applicable Urban Subwatersheds where the sources are likely to be present, that reduce trash in stormwater discharges to the MEP.

<sup>23</sup> *Rapid Trash Assessment Protocol, Version 8*. San Francisco Bay Regional Water Quality Control Board; Surface Water Ambient Monitoring Program, 15 November 2004. Web. 17 August 2011.

- iv) The Permittee shall collect all visible trash detected in the Trash Assessment Site during each assessment.
- v) Throughout the duration of this Order, the Permittee shall not conduct any trash collection activities within the boundaries of any of the locations, defined in Table P.3, except for trash collection within the Trash Assessment Site associated with Trash Assessments required in this Section.
- vi) Absence of a Trash Assessment Score below the Trash Action Level at any Trash Assessment Site, as described in this Section, does not indicate the absence of a water quality problem or relieve the Permittee from implementing all other required elements of this Order.
- vii) The Permittee shall obtain authorization from the Monterey County Water Resources Agency to conduct Trash Assessments in locations in the Reclamation Ditch. As an alternative to obtaining authorization, or if the Permittee is not able to obtain authorization in order to conduct Year 2 Trash Assessments, the Permittee shall annually remove from the MS4, or from areas likely to discharge to the MS4, the amount of trash and litter equivalent to that generated by 20% of the commercial and industrial land area in the Permit coverage area.
  - (1) For the purposes of this requirement, trash and litter shall be defined as any improperly discarded waste material, in accordance with California Government Code Section 68055.1(g).
  - (2) The Permittee shall use the methodology developed according to Section P.2.b (Trash Quantification) to determine the amount of trash that is equivalent to that generated by 20% of the commercial and industrial land area in the Permit coverage area.
  - (3) The Permittee may use any lawful means for trash and litter removal, including structural and non-structural mechanisms, except that the Permittee shall not count trash and litter collected by means of street sweeping or catch basin cleaning activities toward achievement of the trash and litter removal objective.<sup>24</sup> Trash and litter shall be removed from the MS4 and disposed of properly to count toward compliance with this trash capture requirement.
  - (4) The Permittee shall achieve the required trash load reduction each year beginning in Year 5.
  - (5) The Permittee shall remove captured trash from the MS4 and dispose of it properly.
  - (6) The Permittee shall develop a tracking methodology, similar to that developed in accordance with Section N.4 (Trash Reduction Tracking Methodology) that is capable of demonstrating compliance with this trash load reduction requirement. The Permittee shall count only trash that is removed from the MS4 and disposed of properly toward compliance with this trash load reduction requirement. The tracking methodology shall clearly state and/or describe the trash and litter removal activities the Permittee shall count toward compliance.
  - (7) The Permittee shall continue to conduct Trash Assessments in Gabilan Creek and Natividad Creek in accordance with Section P.3.b.

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<sup>24</sup> Consistent with the definition contained in California Government Code Section 68055.1(g), only removal of "improperly discarded waste material" shall be counted toward compliance with the trash load reduction requirement. Trash placed in residential garbage cans and commercial garbage bins and removed as part of regular waste management activities shall not qualify as improperly discarded waste material. However, trash and litter placed in receptacles installed by the Permittee during the term of this Order for the purpose of preventing litter (e.g., trash receptacles on downtown commercial and/or business district sidewalks) may be counted.



#### 4) Stormwater Discharge Quality Monitoring

- a) The Permittee shall conduct stormwater discharge quality monitoring according to the requirements of this Section. The Permittee may propose an alternative stormwater discharge quality monitoring program that is equivalent or better for approval by the Central Coast Water Board Executive Officer.
- b) Urban Catchment Action Level Pilot Projects Monitoring – The Permittee shall conduct Urban Catchment Action Level Pilot Projects Monitoring in accordance with Attachment D - Monitoring and Reporting Program.
- c) Stormwater Discharge Trend Monitoring
  - i) The Permittee shall conduct Stormwater Discharge Trend Monitoring in accordance with Attachment D - Monitoring and Reporting Program.
  - ii) The Permittee shall determine event mean average concentrations and total loads of measured pollutants for each parameter listed in Table Attachment D.3 (Stormwater Discharge Trend Monitoring Parameters) for each sampling event.
    - (1) The Permittee shall use Stormwater Discharge Trend Monitoring results to modify the assumptions used to model pollutant loads and BMP pollutant reductions according to Section P.2.a (Pollutant Load Quantification).
- d) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall analyze Stormwater Discharge Quality Monitoring data for stormwater discharge quality trends. The Permittee's analysis shall include the following elements, at a minimum:
  - (1) Assessment of water quality trends, using nonparametric approaches such as the Mann-Kendall test, multiple regression models including exogenous variables (e.g., precipitation, flow), or other applicable statistical approaches, for each parameter listed in Table Attachment D.3 (Stormwater Discharge Trend Monitoring Parameters), where supported by the data;
  - (2) Evaluation of stormwater discharge water quality pollutant loads, concentrations, and trends generated through Urban Catchment Action Level Pilot Projects Monitoring and Stormwater Discharge Trend Monitoring, relative to upstream land uses, population, sources, and stormwater management activities, using tools such as multiple linear regression, correlation analysis, and/or other applicable univariate and multivariate statistical approaches;
  - (3) Assessment of the time-based relationship between precipitation (rainfall hyetograph) and discharge (runoff hydrograph);
  - (4) Extrapolation of the results of analysis of Stormwater Discharge Trend Monitoring data to other Urban Subwatersheds, as appropriate; and
  - (5) Conclusions.
- e) The Permittee shall apply the results of analysis of Stormwater Discharge Trend Monitoring data in developing Urban Subwatershed Program Effectiveness Ratings according to Section P.6.a.i (Risk of Impact to Watershed Processes and Beneficial Uses).

#### 5) Receiving Water Monitoring and Background Receiving Water Monitoring

- a) The Permittee shall conduct Receiving Water Monitoring and Background Receiving Water Monitoring in accordance with Attachment D - Monitoring and Reporting Program. The Permittee may propose an alternative receiving water monitoring program that is equivalent or better for approval by the Central Coast Water Board Executive Officer.
- b) The Permittee shall determine event mean average concentrations and total loads of measured pollutants at each Receiving Water Monitoring site and each Background Receiving Water Monitoring site for each sampling event. The Permittee shall also determine the change in pollutant load between the Background Receiving Water

Monitoring sites and the Receiving Water Monitoring site for each sampling event for each of the following parameters: nitrate plus nitrite (as N), orthophosphate, zinc (total), copper (total), and fecal coliform.

- c) Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall analyze Receiving Water Monitoring and Background Receiving Water Monitoring data for receiving water quality trends. The Permittee's analysis shall include the following elements, at a minimum:
  - i) An analysis of Receiving Water Monitoring results over the term of this Order, including identification and discussion of short-term patterns and long-term trends in receiving water quality and beneficial use protection;
  - ii) Assessment of trends in the change in pollutant load between the Background Receiving Water Monitoring sites and the Receiving Water Monitoring site for the identified parameters;
  - iii) An evaluation of all pesticide and toxicity analyses results;
  - iv) An evaluation of all bioassessment results;
  - v) Extrapolation of the results of analysis to other receiving waters, as appropriate; and
  - vi) Conclusions.
- d) The Permittee shall apply the results of analysis of Receiving Water Monitoring data in developing Urban Subwatershed Program Effectiveness Ratings according to Section P.6.a.i (Risk of Impact to Watershed Processes and Beneficial Uses).

**6) Program Effectiveness Rating** – Prior to the submittal of the Permittee's Report of Waste Discharge, the Permittee shall rate the overall effectiveness of the Stormwater Management Program in protecting, maintaining, and/or restoring beneficial uses and watershed processes affected by urban runoff.

- a) For each Urban Subwatershed delineated per Section Q.2 (Watershed Characterization: Watershed Delineation), the Permittee shall evaluate the full array of information collected, compiled, and managed per this Order to establish an Urban Subwatershed Program Effectiveness Rating. The Urban Subwatershed Program Effectiveness Ratings shall be based on risk of impact to, and degree of alteration of, watershed processes and beneficial uses in each Urban Subwatershed.
  - i) Risk of Impact to Watershed Processes and Beneficial Uses – The Permittee shall evaluate risk of impact to dominant watershed processes (identified through the Central Coast Joint Effort for Hydromodification Criteria) and beneficial uses for each of the Permittee's Urban Subwatersheds. The Permittee shall establish a single gradient of risk from low to high, based on information collected and developed on an Urban Subwatershed basis per this Order. The Permittee shall identify where each Urban Subwatershed is located on the gradient of risk in relation to all other Urban Subwatersheds, based on a combined evaluation of the following attributes and characteristics:
    - (1) Stormwater Pollutant Source-Generating Land Uses and Sites – The Permittee shall quantitatively evaluate information developed and tracked for each Urban Subwatershed per this Order, including the following:
      - (a) Municipally Owned and/or Operated High Priority Facilities, Operations, and Events;
      - (b) IDDE Priority Areas;
      - (c) Commercial and Industrial Facilities and Operations (including: Food Facilities; fast food restaurants and commercial retail center trash level scores; and Other Commercial and Industrial Facilities and Operations;
      - (d) Industrial Sites/Sources, including sites/sources and the number of reported exceedances reported each year at industrial facilities; and

- (e) High Priority Construction Sites.
- (2) Pollutant Load Quantification. The Permittee shall:
  - (a) Evaluate Urban Subwatershed pollutant loads developed according to Sections P.2.a (Pollutant Load Quantification), P.2.b (Trash Quantification), P.4.c (Stormwater Discharge Trend Monitoring), and P.4.d.2;
  - (b) Use Action Level exceedance data, developed according to Section P.3.a (Urban Catchment Action Level Pilot Projects), to attempt to extrapolate target pollutants and loading characteristics from Pilot Project Urban Subwatersheds to other Urban Subwatersheds;
  - (c) Use extrapolation of Stormwater Discharge Trend Monitoring data, developed according to Sections P.4.c (Stormwater Discharge Trend Monitoring) and P.4.d, to estimate target pollutants and loading characteristics to other Urban Subwatersheds; and
  - (d) Identify Urban Subwatersheds that are significant sources of trash.
- (3) Exposure of Receiving Waters to Pollutant Delivery – The Permittee shall evaluate exposure, including:
  - (a) Urban Subwatershed runoff volume attributed to development;
  - (b) Distribution and number of outfalls and channels conveying stormwater, plugs and diversions, and related attributes of the MS4 that indicate exposure; and
  - (c) Receiving Water and Background Receiving Water Monitoring data.
- (4) Zones of Hydrologic Continuity between Surface and Groundwater – The Permittee shall consider the location and condition of undeveloped, pervious land, groundwater recharge areas, floodplains and other areas that provide direct routes for surface runoff to enter groundwater basins.
- (5) Development Potential – The Permittee shall quantify the number of acres of undeveloped parcels zoned for developed (non-open space) uses.
- ii) Extent and Degree of Alteration of Watershed Processes and Beneficial Uses – The Permittee shall evaluate the extent and degree of alteration of dominant watershed processes (identified through the Central Coast Joint Effort for Hydromodification Criteria) and beneficial uses for each of the Permittee’s Urban Subwatersheds. The Permittee shall establish a single gradient of alteration from low to high, based on information collected and developed on an Urban Subwatershed basis per this Order. The Permittee shall identify where each Urban Subwatershed is located on the gradient of alteration in relation to all other Urban Subwatersheds, based on a combined evaluation of the following attributes and characteristics:
  - (1) Imperviousness – The Permittee shall evaluate imperviousness, as determined per this Order, in terms of both total area, and percentage of total Urban Subwatershed area;
  - (2) Existing and Potential Extent of Riparian Habitat and Vegetation – The Permittee shall evaluate areal extent and condition of existing riparian habitat and vegetation, relative to potential riparian habitat and vegetation associated with all first and second order streams developed per this Order; and
  - (3) Stream Condition – The Permittee shall evaluate, on an Urban Subwatershed basis, totals of stream area and/or length in various conditions as determined by the assessment of stream condition required per this Order.
- b) The Permittee shall develop and apply the Urban Subwatershed Program Effectiveness Rating by integrating, combining, or otherwise synthesizing the data and information developed according to Section P.6 (Program Effectiveness Rating) on Urban Subwatershed status in a consistent manner.

- i) Based on where each Urban Subwatershed is located on the gradients of risk of impact to, and degree of alteration of, watershed processes and beneficial uses, the Permittee shall group each Urban Subwatershed into one of four categories:
  - (1) Low Risk/Low Alteration;
  - (2) Low Risk/High Alteration;
  - (3) High Risk/Low Alteration; and
  - (4) High Risk/High Alteration.
- ii) These categories will be the Urban Subwatershed Program Effectiveness Ratings, unless the Permittee develops an alternative rating system and receives approval from the Central Coast Water Board Executive Officer to use it.

**7) Program Improvement Needs** – In the preparation of the Permittee’s Report of Waste Discharge, the Permittee shall use the Urban Subwatershed Program Effectiveness Rating as the basis for identifying and reporting on Stormwater Management Program improvements needed to effectively manage the effects of urban stormwater on beneficial uses and watershed processes. For each Urban Subwatershed, the Permittee shall:

- a) Identify specific watershed processes targeted for improvement.
- b) Demonstrate that proposed program improvements are adequately targeting Urban Subwatersheds with effectiveness ratings that combine higher risk of alteration and lower degrees of alteration of watershed processes.
- c) Establish measureable goals for improving targeted watershed processes. For dominant watershed processes, the Permittee shall establish appropriate measurable goals derived from the following:
  - i) Surface Runoff – Maintain runoff volume, rate, duration, and surface storage at pre-development levels;<sup>25</sup>
  - ii) Groundwater Recharge and Discharge – Maintain infiltration to support baseflow and interflow to wetlands and surface waters, and deep vertical infiltration to groundwater at pre-development levels;
  - iii) Sediment Processes – Maintain hillslope (e.g., rilling, gullying, sheetwash, creep, and other mass movements); riparian (e.g., bank erosion); and channel (e.g., fluvial transport and deposition) processes within natural ranges;
  - iv) Chemical Processes – Maintain capacity of watershed to attenuate the effect of water quality constituents on beneficial uses in receiving waters at pre-development levels; and
  - v) Evapotranspiration – Maintain evapotranspiration volume and rate at pre-development levels.
- d) Identify improvements in the following program areas necessary to achieve measurable goals:
  - i) Municipal Maintenance;
  - ii) Commercial and Industrial;
  - iii) Residential;
  - iv) Illicit Discharge Detection and Elimination;
  - v) Parcel-Scale Development;
  - vi) Construction Site Management;
  - vii) Development Planning and Stormwater Retrofits;
  - viii) Public Education and Public Involvement; and
  - ix) Trash Load Reduction.

<sup>25</sup> Numeric criteria shall identify the point in hydrologic history (i.e., pre-development, pre-project, or somewhere in between) for which the applicant shall design the site, if the pre-development condition is not realistic.

## 8) Reporting

- a) In each Annual Report, the Permittee shall include the following:
  - i) The total amount of pesticide, herbicide, and fertilizer applied within 7 days prior to all rain events that produce runoff, as well as the total amount of each product or primary chemical constituent of each type;
  - ii) A tabular summary of all information recorded and tracked according Section P.1.b.iv (Riparian Protection);
  - iii) Monitoring
    - (1) A tabular summary of event mean average concentrations and total loads of measured pollutants determined for Stormwater Discharge Trend Monitoring for each sampling event;
    - (2) A tabular summary of event mean average concentrations and total loads of measured pollutants at each Receiving Water Monitoring site and each Background Receiving Water Monitoring site for each sampling event; and
    - (3) A tabular summary changes in pollutant load between the Background Receiving Water Monitoring sites and the Receiving Water Monitoring site for each sampling event for the identified parameters.
- b) In the Year 1 Annual Report, the Permittee shall include the following:
  - i) Pollutant Load Quantification
    - (1) A description of the model used for Pollutant Load Quantification, including a discussion of all assumptions used to quantify pollutant loads and pollutant load reductions;
    - (2) A summary of the results of Pollutant Load Quantification, including annual loads calculated for each pollutant for the entire Permit coverage area and for each Urban Subwatershed;
  - ii) Runoff Volume Quantification
    - (1) A description of the model used to quantify Pre-developed and Developed Runoff Volume, including a discussion of all assumptions used to quantify runoff volume and runoff volume reductions;
    - (2) The Pre-developed Runoff, Developed Runoff before subtracting runoff volume reductions, and Developed Runoff after subtracting runoff volume reductions for the Permit coverage area as a whole and for each Urban Subwatershed;
    - (3) The Percent Change in Runoff Volume for each Urban Subwatershed, including identification of Urban Watersheds that are high priority for runoff volume reduction improvements; and
    - (4) The runoff from the 24-hour, 85<sup>th</sup> percentile storm event, determined according to Section P.2.c.iii (Runoff from the 24-Hour, 85<sup>th</sup> Percentile Storm Event), for the Permit coverage area as a whole and for each Urban Subwatershed.
- c) In the Year 2 Annual Report, the Permittee shall include the following:
  - i) A description of the Permittee's plan for assessing the effectiveness of public education and municipal staff training efforts, including identification of quantitative assessment measures the Permittee will use;
  - ii) The number of exceedances reported for industrial facilities through SMARTS for Years 1 and 2 per annual report submitted through SMARTS in Years 1 and 2, and identification of the Target Pollutant;
  - iii) Trash Action Level
    - (1) A detailed description of each Trash Assessment Site, including a description of how the Permittee marked each site to ensure that subsequent Trash Assessments are conducted on the same site; and

- (2) A description of steps the Permittee took during Year 1, and will take throughout the coverage period of this Order, to prevent the Trash Assessment Locations from being subject to any trash collection activities except for trash collection associated with Trash Assessments.
- d) In the Year 2 Annual Report and each subsequent Annual Report, the Permittee shall include the following:
  - i) Structural BMPs
    - (1) Verification that all structural BMPs were found to have a BMP RAM score of at least the required minimum, or have been maintained as necessary to achieve at least the minimum score;
    - (2) A description of the process used to evaluate the effectiveness of structural BMP maintenance efforts at maintaining all structural BMPs at the required level, and the results of this evaluation;
    - (3) A description of program modifications made to ensure that all structural BMPs are maintained at the required level;
  - ii) Pesticide, Herbicide, and Fertilizer Use
    - (1) The change from year to year in the total amount of pesticide, herbicide, and fertilizer applied within 7 days prior to rain events that produce runoff, as well as the total amount applied of each product or primary chemical constituent of each type;
    - (2) A description of the process used to evaluate the effectiveness of efforts to reduce the amount of pesticide, herbicide, and fertilizer applied within seven days prior to rain events, the results of the evaluation, a description of program modifications the Permittee will implement to achieve such decreasing trends, and the schedule the Permittee will follow to implement the modifications;
  - iii) The number of industrial facilities that reported data through SMARTS, the total number of exceedances of each reported pollutant, and the average number of exceedances per industrial facility reporting;
  - iv) Urban Catchment Action Level Pilot Projects
    - (1) A tabular summary of monitoring results from each monitored urban catchment for each monitoring event;
    - (2) A tabular summary of Stormwater Discharge Action Level exceedances, including the number of exceedances of each Stormwater Discharge Action Level detected at each monitored urban catchment over the coverage period of this Order, and identification of each Stormwater Discharge Action Level exceeded at least twice at any monitored urban catchment;
  - v) Trash Action Level
    - (1) A summary of Trash Assessment results, including Trash Assessment Scores for each assessment conducted at each site and identification of scores that fall below the Trash Action Level;
    - (2) Verification that the Permittee removed all visible trash during each assessment at each Trash Assessment Site; and
    - (3) Verification that the Permittee did not remove any trash from within the boundaries of any Trash Assessment Location except for trash collection within the Trash Assessment Site associated with required Trash Assessments.
- e) In the Year 3 Annual Report, the Permittee shall include the following:
  - i) A description of the process used to evaluate the effectiveness of public education and municipal staff training BMPs, including a description of BMPs evaluated, the results of the evaluation, a description of BMP modifications identified by the Permittee to achieve increasing changes in knowledge and behavior of specific

- target audiences, and the schedule the Permittee will follow to implement the modifications; and
- ii) A description of the process used to evaluate the effectiveness of the Permittee's efforts to reduce discharges of the Target Pollutant, including a summary of the assessment of adequacy of existing BMPs, identification of BMP modifications and/or additions the Permittee will implement to exceedances of the Target Pollutant, the specific objective of each BMP modification and/or addition, and the schedule the Permittee will follow to implement the modifications.
- f) In the Year 3 Annual Report and each subsequent Annual Report, the Permittee shall include the following:
- i) Inspections
    - (1) A description of the process used to analyze Inspection Ratings determined during inspections of High Priority Municipal Facilities, Operations, and Events and to evaluate the effectiveness of Permittee's efforts at achieving an Inspection Rating of "B" or higher at each inspection of each High Priority Municipal Facility, Operation, and Event, including the results of the evaluation;
    - (2) A description of the process used to analyze Inspection Ratings determined during inspections of Commercial and Industrial Facilities and Operations and to evaluate the effectiveness of Permittee's efforts at achieving an Inspection Rating of "B" or higher at each inspection of each Commercial and Industrial Facility and Operation, including the results of the evaluation;
    - (3) A description of the process used to analyze Inspection Ratings determined during inspections of fast food restaurants and commercial retail centers and to evaluate the effectiveness of Permittee's efforts at achieving an Inspection Rating of "B" or higher at each inspection of each fast food restaurant and commercial retail center, including the results of the evaluation;
    - (4) A description of the process used to analyze Inspection Ratings determined during inspections of High Priority Construction Sites and to evaluate the effectiveness of Permittee's efforts at achieving an Inspection Rating of "B" or higher at each inspection of each High Priority Construction Site, including the results of the evaluation;
    - (5) A description of the process used to analyze improvements in Inspection Ratings achieved through reinspection of Low Performing High Priority Municipal Facilities and Operations each year and to evaluate the effectiveness of follow-up efforts at achieving demonstrable improvements in Inspection Ratings at Low Performing High Priority Municipal Facilities, Operations, and Events, including the results of the evaluation;
    - (6) A description of the process used to analyze improvements in Inspection Ratings achieved through reinspection of Low Performing Commercial and Industrial Facilities and Operations each year and to evaluate the effectiveness of follow-up efforts at achieving demonstrable improvements in Inspection Ratings at Low Performing Commercial and Industrial Facilities and Operations, including the results of the evaluation;
    - (7) A description of the process used to analyze improvements in Inspection Ratings achieved through reinspection of low performing fast food restaurants and commercial retail centers each year and to evaluate the effectiveness of follow-up efforts at achieving demonstrable improvements in Inspection Ratings at low performing fast food restaurants and commercial retail centers, including the results of the evaluation;
  - ii) A description of the process used to evaluate whether the catch basin inspection and cleaning program is achieving optimal removal of sediment and debris, including the

- method used to evaluate the effectiveness of the program, the results of the evaluation, and a description of any BMP modifications identified by the Permittee;
- iii) The results of the comparison of the total volume of solids collected each dry season for the 24 routes identified in Section E.6.c with the total volume of solids collected in Year 1 and Year 2;
  - iv) A description of progress made implementing modifications to BMPs related to municipal pesticide, herbicide, and fertilizer use according to the schedule developed according to Section P.1.b.ii.4 (Pesticide, Herbicide, and Fertilizer Use);
  - v) Urban Catchment Action Level Pilot Projects -- A description of all actions taken in response to the second exceedance of any Stormwater Discharge Action Level, including the following:
    - (1) A description of known and potential sources of the relevant pollutant in the urban catchment(s) where the exceedances occurred;
    - (2) Identification of all urban catchment(s) where sources are likely to be present, and in which the Permittee will be taking required actions, including a discussion of the reasons for so identifying each urban catchment;
    - (3) The prioritized list of actions proposed by the Permittee to address identified sources;
    - (4) A description of steps taken to evaluate the implementation and effectiveness of existing BMPs in urban catchment(s) where sources are likely to be present;
    - (5) A description of improvements to existing BMPs the Permittee identified and will implement to reduce the pollutant(s) in stormwater discharges to the MEP standard;
    - (6) A description of additional BMPs the Permittee considered to improve program effectiveness and reduce the discharge of the pollutant(s) in stormwater discharges to the MEP standard, and a list of additional BMPs, if any, selected by the Permittee for implementation; and
    - (7) Demonstration that the BMP modifications and/or additions will be effective at reducing the discharge of the pollutant(s) to the MEP standard;
  - vi) Trash Action Level – A description of all actions taken in response to Trash Assessment Scores that fall below the Trash Action Level at any site, including the following:
    - (1) A description of known and potential sources of trash in the Urban Subwatersheds tributary to the receiving water reach in which the Trash Assessment Score fell below the Trash Action Level;
    - (2) Identification of all Urban Subwatersheds where sources are likely to be present, and in which the Permittee will be taking required actions, including a discussion of the reasons for so identifying each Urban Subwatershed;
    - (3) The prioritized list of actions proposed by the Permittee to address identified sources;
    - (4) A description of steps taken to evaluate the implementation and effectiveness of existing BMPs in Urban Subwatersheds where sources are likely to be present;
    - (5) A description of improvements to existing BMPs the Permittee identified and will implement to reduce trash in stormwater discharges to the MEP standard;
    - (6) A description of additional BMPs the Permittee considered to improve program effectiveness and reduce trash in stormwater discharges to the MEP standard, and a list of additional BMPs, if any, selected by the Permittee for implementation; and
    - (7) Demonstration that the BMP modifications and additions will be effective at reducing trash discharges to the MEP standard.
  - g) In the Year 4 Annual Report, the Permittee shall include the following:



- i) A description of the process used to analyze the volume of solids removed from catch basins in each Urban Subwatershed and identification of the two Urban Subwatersheds with the most solids removed;
- ii) Trash Quantification
  - (1) A discussion of Trash Generation Rates used;
  - (2) A description of areas proposed for exclusion from Baseline Trash Load calculations, including the justification for their exclusion;
  - (3) A description of the method used to calculate the Baseline Trash Load, including a discussion of Trash Generation Rates used and the acreage of each land use;
  - (4) The Baseline Trash Load for the entire Permit coverage area and for each Urban Subwatershed;
  - (5) The annual Trash Load Reduction for the entire Permit coverage area and for each Urban Subwatershed;
  - (6) A summary of the comparison of the annual Trash Load Reduction with the Baseline Trash Load, for the entire Permit coverage area and for each Urban Subwatershed; and
  - (7) Identification of Urban Subwatersheds identified as significant sources of trash.
- h) In the Year 4 Annual Report and each subsequent Annual Report, the Permittee shall include the following:
  - i) Inspections
    - (1) The results of the comparison of Inspection Ratings determined during inspections of High Priority Municipal Facilities, Operations, and Events each year with Inspection Ratings determined during previous years; a description of the process used to evaluate the effectiveness of the Permittee's efforts at improving Inspection Ratings over time for High Priority Municipal Facilities, Operations, and Events; the results of the evaluation; a description of BMP modifications the Permittee will implement to achieve increasing Inspection Ratings over time at High Priority Municipal Facilities, Operations, and Events; and the schedule the Permittee will follow to implement the modifications;
    - (2) The results of the comparison of Inspection Ratings determined during inspections of Commercial and Industrial Facilities and Operations each year with Inspection Ratings determined during previous years, a description of the process used to evaluate the effectiveness of the Permittee's efforts at improving Inspection Ratings over time for Commercial and Industrial Facilities and Operations, the results of the evaluation, a description of BMP modifications the Permittee will implement to achieve increasing Inspection Ratings over time at Commercial and Industrial Facilities and Operations, and the schedule the Permittee will follow to implement the modifications;
    - (3) The results of the comparison of Inspection Ratings determined during inspections of fast food restaurants and commercial retail centers each year with Inspection Ratings determined during previous years, a description of the process used to evaluate the effectiveness of the Permittee's efforts at improving Inspection Ratings over time for fast food restaurants and commercial retail centers, the results of the evaluation, a description of BMP modifications the Permittee will implement to achieve increasing Inspection Ratings over time at fast food restaurants and commercial retail centers, and the schedule the Permittee will follow to implement the modifications;
    - (4) The results of the comparison of Inspection Ratings determined during inspections of High Priority Construction Sites each year with Inspection Ratings determined during previous years, a description of the process used to evaluate the effectiveness of the Permittee's efforts at improving Inspection Ratings over

- time for High Priority Construction Sites, the results of the evaluation, a description of BMP modifications the Permittee will implement to achieve increasing Inspection Ratings over time at High Priority Construction Sites, and the schedule the Permittee will follow to implement the modifications;
- (5) The average increase in Inspection Rating achieved through reinspection of Low Performing High Priority Municipal Facilities and Operations, the results of the comparison of this average increase with the average increase achieved in previous years, a description of BMP modifications the Permittee will implement to achieve an increasing trend over time in the degree of improvement achieved through reinspection of Low Performing High Priority Municipal Facilities and Operations, and the schedule the Permittee will follow to implement the modifications;
  - (6) The average increase in Inspection Rating achieved through reinspection of Low Performing Commercial and Industrial Facilities and Operations, the results of the comparison of this average increase with the average increase achieved in previous years, a description of BMP modifications the Permittee will implement to achieve an increasing trend over time in the degree of improvement achieved through reinspection of Low Performing Commercial and Industrial Facilities and Operations, and the schedule the Permittee will follow to implement the modifications;
  - (7) The average increase in Inspection Rating achieved through reinspection of low performing fast food restaurants and commercial retail centers, the results of the comparison of this average increase with the average increase achieved in previous years, a description of BMP modifications the Permittee will implement to achieve an increasing trend over time in the degree of improvement achieved through reinspection of low performing fast food restaurants and commercial retail centers, and the schedule the Permittee will follow to implement the modifications;
  - (8) The results of the comparison of the percentage of High Priority Construction Sites that were ready for each rain event each year with the percentage of High Priority Construction Sites that were ready for each rain event in previous years, a description of the process used to evaluate the effectiveness of construction site management BMPs at increasing the percentage of High Priority Construction Sites ready for each rain event over time, the results of the evaluation, a description of BMP modifications identified and implemented to achieve an increasing trend in the percentage of High Priority Construction Sites ready for each rain event over time, and the schedule the Permittee will follow to implement the modifications;
- ii) A description of progress made implementing any modifications to the catch basin inspection and cleaning program identified by the Permittee to achieve optimal sediment and debris removal; and
  - iii) Verification that the Permittee implemented modifications and/or additions to the Commercial and Industrial Program to reduce exceedances of the Targeted Pollutant in stormwater discharges from industrial facilities.
- i) The Permittee shall submit the following items with the Report of Waste Discharge:
    - i) A description of the process used to evaluate the effectiveness of public education and municipal staff training BMPs, including a description of BMPs evaluated, the results of modifications identified and implemented subsequent to Year 2, and the results of the evaluation;
    - ii) A description of the process used to analyze and identify potential sources of sediment to the MS4 in the two Urban Subwatersheds identified according to Section

- P.1.b.ii.1 (Catch Basin Cleaning), a description of sediment sources identified, a description of the process used to evaluate the effectiveness of BMPs at controlling sediment discharges to the MS4 in the two identified Urban Subwatersheds; a description of BMP modifications the Permittee will implement to control sediment discharges, and the schedule the Permittee will follow to implement the modifications;
- iii) A description of the process used to analyze information collected according to Section E.6.b in preceding years, including a summary of the information and modifications to the sweeping schedule proposed by the City to optimize the total volume of solids collected during the dry season for all routes for the same total number of route miles;
  - iv) A description of the process used to evaluate the effectiveness of BMP modifications and/or additions at reducing exceedances of the Target Pollutant, including the number of exceedances of the Target Pollutant reported in Year 5 per industrial facility reporting in Year 5, a discussion of the specific objectives of BMP modifications and/or additions selected, a summary of the reasons each modification was (or was not) able to achieve its intended objective, and verification of whether the number of exceedances of the Target Pollutant per annual report submitted increased or decreased;
  - v) Riparian Protection
    - (1) The total area of encroachment permitted into riparian buffers established by this Order, for the Permit coverage area as a whole and for each Urban Subwatershed;
    - (2) The total amount of riparian area created, restored, or enhanced as mitigation for the permitted encroachments, for the Permit coverage area as a whole and for each Urban Subwatershed;
    - (3) A tabular summary of the results of inspection of each riparian area created, restored, or enhanced as mitigation for the permitted encroachments, including the size and quality of each mitigation area compared with the original mitigation requirements and the value of the riparian area lost or damaged by the permitted encroachment, whether each mitigation area complies with the original mitigation requirements, and whether each mitigation area successfully replaces the riparian values lost or damaged;
    - (4) A description of the evaluation of the development planning and review process at protecting riparian habitat, including an analysis of the number and scope of exceptions, exemptions, and variances permitted, the amount of riparian area lost or reduced in quality, and potential impacts to water quality and beneficial uses from the encroachments;
  - vi) Identification of modifications to program BMPs needed to achieve measurable goals for improving targeted watershed processes according to Section P.7 (Program Improvement Needs);
  - vii) Pollutant Load Quantification
    - (1) A discussion of all assumptions used to quantify pollutant loads and pollutant load reductions, including a discussion of how Stormwater Discharge Trend Monitoring data and other data collected according to this Section were used to modify the assumptions;
    - (2) A discussion of the results of Pollutant Load Quantification, including annual loads calculated for each pollutant for the entire Permit coverage area and for each Urban Subwatershed;
    - (3) A comparison of annual loads calculated prior to the submittal of the Permittee's Report of Waste Discharge with annual loads calculated in Year 1;

## viii) Trash Quantification

- (1) A description of short-term and long-term Trash Load Reduction objectives developed according to Section P.2.b (Trash Quantification);
- (2) A description of the process used to evaluate the effectiveness of the Trash Load Reduction program at achieving increasing trash load reductions over time, the results of the evaluation, and a description of program modifications the Permittee will implement to achieve such a decreasing trend over time, and the schedule the Permittee will follow to implement the modifications;

## ix) Runoff Volume Quantification

- (1) A description of the model used to quantify Developed Runoff Volume according to Section P.2.c (Runoff Volume Quantification), including a discussion of all assumptions used to quantify runoff volume and runoff volume reductions;
- (2) The Pre-developed Runoff, Developed Runoff before subtracting runoff volume reductions, and Developed Runoff after subtracting runoff volume reductions for the Permit coverage area as a whole and for each Urban Subwatershed;
- (3) The Percent Change in Runoff Volume for each Urban Subwatershed;
- (4) The change in Developed Runoff Volume, including volume reductions associated with BMPs and other program elements, over time for the Permit coverage area as a whole and for each Urban Subwatershed;
- (5) The runoff volume from the 24-hour, 85<sup>th</sup> percentile storm event, determined according to Section P.2.c (Runoff Volume Quantification), for the Permit coverage area as a whole and for each Urban Subwatershed;
- (6) The change in runoff volume from the 24-hour, 85<sup>th</sup> percentile storm event, including volume reductions associated with BMPs and other program elements, over time for the Permit coverage area as a whole and for each Urban Subwatershed;

## x) Stormwater Discharge Trend Monitoring

- (1) A description of the process used to analyze Stormwater Discharge Trend Monitoring data for stormwater discharge quality trends, including identification of stormwater discharge trends for each parameter;
- (2) A discussion of the time-based relationship between precipitation and discharge;
- (3) A description of the process used to evaluate stormwater discharge water quality pollutant loads, concentrations, and trends relative to upstream land uses, population, sources, and stormwater management activities, including identification and discussion of the results of the evaluation;
- (4) A description of the process used to extrapolate the results of Stormwater Discharge Trend Monitoring data to other Urban Subwatersheds, including identification and discussion of target pollutants and loading characteristics from other Urban Subwatersheds suggested by the extrapolation;
- (5) A discussion of conclusions reached;

## xi) Receiving Water and Background Receiving Water Monitoring

- (1) A description of the process used to analyze Receiving Water Monitoring data for trends in receiving water quality and beneficial use protection, including identification of water quality trends for each parameter, if any;
- (2) A description of the process used to assess trends in the change in pollutant load between the Background Receiving Water Monitoring sites and the Receiving Water Monitoring site for the identified parameters, including identification of trends, if any;
- (3) A description of the process used to extrapolate the results of Receiving Water Monitoring data to other receiving waters, as appropriate, including a discussion of the results of the extrapolation;

- (4) A discussion of conclusions reached;
- xii) Program Effectiveness Ratings
  - (1) A detailed description of the evaluation performed to establish Urban Subwatershed Program Effectiveness Ratings, addressing each required evaluation element, including the results of the evaluation;
  - (2) The Urban Subwatershed Program Effectiveness Rating of each Urban Subwatershed;
- xiii) Program Improvement Needs – A detailed description of Stormwater Management Program improvements needed to effectively manage the effects of urban stormwater on beneficial uses and watershed processes, including the following for each Urban Subwatershed:
  - (1) Identification of specific watershed processes targeted for improvement;
  - (2) Measurable goals for improving targeted watershed processes; and
  - (3) Identification of specific improvements in each program area identified in Section P.7 Program Improvement Needs) necessary to achieve measurable goals for improving targeted watershed processes.
- j) In the Year 5 Annual Report, the Permittee shall include the following:
  - i) Inspections
    - (1) A description of progress made implementing identified modifications to municipal BMPs according to the schedules identified according to Section P.1.b.i (Inspections);
    - (2) A description of progress made implementing identified improvements to commercial and industrial BMPs, including modifications to trash and litter control BMPs for fast food restaurants and commercial retail centers, according to the schedules identified according to Section P.1.b.i (Inspections); and
    - (3) A description of progress made implementing identified improvements to construction BMPs according to the schedules identified according to Section P.1.b.i (Inspections).

#### Q. Watershed Characterization

- 1) Watershed Data Information Management – The Permittee shall characterize its watersheds for the purpose of stormwater management and compile and manage information in digital format, by completing the components described in Sections Q.2 (Watershed Delineation) – Q.5 (Meteorological Information). The Permittee shall develop and maintain capacity for spatial data management, analysis, and display (mapping) - functions commonly provided by Geographic Information System software. At least once every two years, the Permittee shall update information on current conditions of watershed characteristics described in Sections Q.2 – Q.5 (Watershed Delineation) – Q.5 (Meteorological Information) [The Permittee shall update the map each year for items identified in Section Q.2.b (MS4 System Map)], using the most accurate information available. The Permittee shall use the compiled watershed information as indicated in this Order and make the information available for review by Central Coast Water Board staff.
- 2) Watershed Delineation
  - a) Within 12 months of adoption of this Order, the Permittee shall delineate and map each feature listed below. The Permittee may propose an alternative delineation scheme and use it upon approval by the Central Coast Water Board Executive Officer.