

7. Integrated Watershed Monitoring and Assessment

Permittees in each WMA shall develop an integrated monitoring program as set forth in Part IV of the MRP (Attachment E) or implement a customized monitoring program with the primary objective of allowing for the customization of the outfall monitoring program (Parts VIII and IX) in conjunction with an approved Watershed Management Program or EWMP, as defined below. Each monitoring program shall assess progress toward achieving the water quality-based effluent limitations and/or receiving water limitations per the compliance schedules, and progress toward addressing the water quality priorities for each WMA. The customized monitoring program shall be submitted as part of the Watershed Management Program, or where Permittees elect to develop an EWMP, shall be submitted within 18 months of the effective date of this Order. If pursuing a customized monitoring program, the Permittee(s) shall provide sufficient justification for each element of the program that differs from the monitoring program requirements as set forth in Attachment E. Monitoring programs shall be subject to approval by the Executive Officer following a public comment period. The customized monitoring program shall be designed to address the Primary Objectives detailed in Attachment E, Part II.A and shall include the following program elements:

- Receiving Water Monitoring
- Storm Water Outfall Monitoring
- Non-Storm Water Outfall Monitoring
- **New Development/Re-Development Effectiveness Tracking**
- Regional Studies

8. Adaptive Management Process

a. Watershed Management Program Adaptive Management Process

- i. Permittees in each WMA shall implement an adaptive management process, every two years from the date of program approval, adapting the Watershed Management Program or EWMP to become more effective, based on, but not limited to a consideration of the following:
 - (1) Progress toward achieving interim and/or final water quality-based effluent limitations and/or receiving water limitations in Part VI.E and Attachments L through R, according to established compliance schedules;
 - (2) Progress toward achieving improved water quality in MS4 discharges and achieving receiving water limitations through implementation of the watershed control measures based on an evaluation of outfall-based monitoring data and receiving water monitoring data;

- (3) Achievement of interim milestones;
 - (4) Re-evaluation of the water quality priorities identified for the WMA based on more recent water quality data for discharges from the MS4 and the receiving water(s) and a reassessment of sources of pollutants in MS4 discharges;
 - (5) Availability of new information and data from sources other than the Permittees' monitoring program(s) within the WMA that informs the effectiveness of the actions implemented by the Permittees;
 - (6) Regional Water Board recommendations; and
 - (7) Recommendations for modifications to the Watershed Management Program solicited through a public participation process.
- ii. Based on the results of the adaptive management process, Permittees shall report any modifications, including where appropriate new compliance deadlines and interim milestones, with the exception of those compliance deadlines established in a TMDL, necessary to improve the effectiveness of the Watershed Management Program or EWMP in the Annual Report, as required pursuant to Part XVIII.A.6 of the MRP (Attachment E), and as part of the Report of Waste Discharge (ROWD) required pursuant to Part II.B of Attachment D – Standard Provisions.
- (1) The adaptive management process fulfills the requirements in Part V.A.4 to address continuing exceedances of receiving water limitations.
- iii. Permittees shall implement any modifications to the Watershed Management Program or EWMP upon approval by the Regional Water Board Executive Officer or within 60 days of submittal if the Regional Water Board Executive Officer expresses no objections.

D. Storm Water Management Program Minimum Control Measures

1. General Requirements

- a. Each Permittee shall implement the requirements in Parts VI.D.4 through VI.D.10 below, or may in lieu of the requirements in Parts VI.D.4 through VI.D.10 implement customized actions within each of these general categories of control measures as set forth in an approved Watershed Management Program per Part VI.C. Implementation shall be consistent with the requirements of 40 CFR § 122.26(d)(2)(iv).
- b. Timelines for Implementation
 - i. Unless otherwise noted in Part VI.D, each Permittee that does not elect to develop a Watershed Management Program or EWMP per Part VI.C shall implement the requirements contained in Part VI.D within 6 months after the

	appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly.
8.	Cover the “cold-mix” asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm.
9.	Cover loads with tarp before haul-off to a storage site, and do not overload trucks.
10.	Minimize airborne dust by using water spray or other approved dust suppressant during grinding.
11.	Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in or near storm water drainage system or receiving waters.
12.	Protect stockpiles with a cover or sediment barriers during a rain.

j. Construction Site Inspection

- i. Each Permittee shall use its legal authority to implement procedures for inspecting public and private construction sites.
- ii. The inspection procedures shall be implemented as follows:
 - (1) Inspect the public and private construction sites as specified in Table 17 below:

Table 17. Inspection Frequencies for Sites One Acre or Greater

Site	Inspection Frequency Shall Occur
a. All sites 1 acre or larger that discharge to a tributary listed by the state as an impaired water for sediment or turbidity under the CWA § 303(d)	(1) when two or more consecutive days with greater than 50% chance of rainfall are predicted by NOAA ²⁹ , (2) within 48 hours of a 1/2-inch rain event and at (3) least once every two weeks
b. Other sites 1 acre or more determined to be a significant threat to water quality ³⁰	
c. All other construction sites with 1 acre or more of soil disturbance not meeting the criteria above	At least monthly

- (2) Each Permittee shall inspect all phases of construction as follows:

(a) Prior to Land Disturbance

Prior to allowing an operator to commence land disturbance, each Permittee shall perform an inspection to ensure all necessary erosion

²⁹ www.srh.noaa.gov/forecast

³⁰ In evaluating the threat to water quality, the following factors shall be considered: soil erosion potential; site slope; project size and type; sensitivity of receiving water bodies; proximity to receiving water bodies; non-storm water discharges; past record of non-compliance by the operators of the construction site; and any water quality issues relevant to the particular MS4.

and sediment structural and non-structural BMP materials and procedures are available per the erosion and sediment control plan.

- (b) During Active Construction, including Land Development³¹ and Vertical Construction³²

In accordance with the frequencies specified in Part VI.D.8.j and Table 17 of this Order, each Permittee shall perform an inspection to ensure all necessary erosion and sediment structural and non-structural BMP materials and procedures are available per the erosion and sediment control plan throughout the construction process.

- (c) Final Landscaping / Site Stabilization³³

At the conclusion of the project and as a condition of approving and/or issuing a Certificate of Occupancy, each Permittee shall inspect the constructed site to ensure that all graded areas have reached final stabilization and that all trash, debris, and construction materials, and temporary erosion and sediment BMPs are removed.

- (3) Based on the required frequencies above, each construction project shall be inspected a minimum of three times.

- (4) Inspection Standard Operating Procedures

Each Permittee shall develop, implement, and revise as necessary, standard operating procedures that identify the inspection procedures each Permittee will follow. Inspections of construction sites, and the standard operating procedures, shall include, but are not limited to:

- (a) Verification of active coverage under the Construction General Permit for sites disturbing 1 acre or more, or that are part of a planned development that will disturb 1 acre or more and a process for referring non-filers to the Regional Water Board.
- (b) Review of the applicable ESCP and inspection of the construction site to determine whether all BMPs have been selected, installed, implemented, and maintained according to the approved plan and subsequent approved revisions.
- (c) **Assessment of the appropriateness of the planned and installed BMPs and their effectiveness.**
- (d) Visual observation and record keeping of non-storm water discharges, potential illicit discharges and connections, and potential discharge of pollutants in storm water runoff.
- (e) Development of a written or electronic inspection report generated from an inspection checklist used in the field.

³¹ Activities include cuts and fills, rough and finished grading; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; stockpiling of select material for capping operations; and excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvement.

³² The build out of structures from foundations to roofing, including rough landscaping.

³³ All soil disturbing activities at each individual parcel within the site have been completed.

already included in the WMPP. The summary information describing the subwatershed shall include the following information:

- a. Description including HUC-12 number, name and a list of all tributaries named in the Basin Plan
- b. Land Use map of the HUC-12 subwatershed
- c. 85th percentile, 24-hour rainfall isohyetal map for the subwatershed
- d. One-year, one-hour storm intensity isohyetal map for the subwatershed
- e. MS4 map for the subwatershed, including major MS4 outfalls and all low-flow diversions

3. Description of the Permittee(s) Drainage Area within the Subwatershed.

Where a Permittee has individually or collaboratively developed a WMPP as described in Part VI.C of this Order, reference to the WMPP and any revisions thereto may suffice for baseline information regarding the Permittee's Drainage Area within the subwatershed (HUC-12), where the required information is already included in the Watershed Management Program. The following information shall be included for each jurisdiction within the Subwatershed (HUC-12):

- a. A subwatershed map depicting the Permittee(s) jurisdictional area and the MS4, including major outfalls (with identification numbers), and low flow diversions (with identifying names or numbers) located, within the Permittee's jurisdiction.
- b. Provide the estimated baseline percent of effective impervious area (EIA) within the Permittee(s) jurisdictional area as existed at the time that this Order became effective.

XVIII. ANNUAL ASSESSMENT AND REPORTING

- A. Each Permittee or group of Watershed Permittees shall include the information requested in A.1 through A.7 below in its Annual Report. The requested information shall be provided for each watershed within the Permittee's jurisdiction. Each Permittee shall format its Annual Report to align with the reporting requirements identified in Parts A.1 through A.7 below.

Annual Reports submitted on behalf of a group of Watershed Permittees shall clearly identify all data collected and strategies, control measures, and assessments implemented by each Permittee within its jurisdiction as well as those implemented by multiple Permittees on a watershed scale.

1. **Storm Water Control Measures.** Each Permittee shall make all reasonable efforts to determine, compile, analyze, and summarize the following information.
 - a. Estimated cumulative change in percent EIA since the effective date of this Order and, if possible, the estimated change in the storm water runoff volume during the 85th percentile storm event.

- b. Summary of New Development/Re-development Projects constructed within the Permittee(s) jurisdictional area during the reporting year.
 - c. Summary of Retrofit Projects that reduced or disconnected impervious area from the MS4 during the reporting year.
 - d. Summary of other projects designed to intercept storm water runoff prior to discharge to the MS4 during the reporting year.
 - e. For the projects summarized above in 1.b through 1.d, estimate the total runoff volume retained on site by the implemented projects.
 - f. Summary of actions taken in compliance with TMDL implementation plans or approved Watershed Management Programs to implement TMDL provisions in Part VI.E and Attachments L-R of this Order.
 - g. Summary of riparian buffer/wetland restoration projects completed during the reporting year. For riparian buffers include width, length and vegetation type; for wetland include acres restored, enhanced or created.
 - h. Summary of other Minimum Control Measures implemented during the reporting year, as the Permittee deems relevant.
 - i. Status of all multi-year efforts that were not completed in the current year and will therefore continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, the Permittee shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.
- 2. Effectiveness Assessment of Storm Water Control Measures**
- a. Rainfall summary for the reporting year. Summarize the number of storm events, highest volume event (inches/24 hours), highest number of consecutive days with measureable rainfall, total rainfall during the reporting year compared to average annual rainfall for the subwatershed. Precipitation data may be obtained from Los Angeles County Department of Public Works rain gauge stations available at <http://www.ladpw.org/wrd/precip/>.
 - b. Provide a summary table describing rainfall during storm water outfall and wet-weather receiving water monitoring events. The summary description shall include the date, time that the storm commenced and the storm duration in hours, the highest 15-minute recorded storm intensity (converted to inches/hour), the total storm volume (inches), and the time between the storm event sampled and the end of the previous storm event.
 - c. Where control measures were designed to reduce impervious cover or storm water peak flow and flow duration, provide hydrographs or flow data of pre- and post-control activity for the 85th percentile, 24-hour rain event, if available.

- d. For natural drainage systems, develop a reference watershed flow duration curve and compare it to a flow duration curve for the subwatershed under current conditions.
- e. Provide an assessment as to whether the quality of storm water discharges as measured at designed outfalls is improving, staying the same or declining. The Permittee may compare water quality data from the reporting year to previous years with similar rainfall patterns, conduct trends analysis, or use other means to develop and support its conclusions (e.g., use of non-storm water action levels or municipal action levels as provided in Attachment G of this Order).
- f. Provide an assessment as to whether wet-weather receiving water quality within the jurisdiction of the Permittee is improving, staying the same or declining, when normalized for variations in rainfall patterns. The Permittee may compare water quality data from the reporting year to previous years with similar rainfall patterns, conduct trends analysis, draw from regional bioassessment studies, or use other means to develop and support its conclusions.
- g. Status of all multi-year efforts, including TMDL implementation, that were not completed in the current year and will continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, the Permittee shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

3. Non-Storm Water Control Measures

- a. Estimate the number of major outfalls within the Permittee's jurisdiction in the subwatershed.
- b. Provide the number of outfalls that were screened for significant non-storm water discharges during the reporting year.
- c. Provide the cumulative number of outfalls that have been screened for significant non-storm water discharges since the date this Order was adopted through the reporting year.
- d. Provide the number of outfalls with confirmed significant non-storm water discharge.
- e. Provide the number of outfalls where significant non-storm water discharge was attributed to other NPDES permitted discharges; other authorized non-storm water discharges; or conditionally exempt discharges pursuant to Part III.A of this Order.
- f. Provide the number of outfalls where significant non-storm water discharges were abated as a result of the Permittee's actions.
- g. Provide the number of outfalls where non-storm water discharges was monitored.

- h. Provide the status of all multi-year efforts, including TMDL implementation, that were not completed in the current year and will continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, the Permittee shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

4. Effectiveness Assessment of Non-Storm Water Control Measures

- a. Provide an assessment as to whether receiving water quality within the jurisdiction of the Permittee is impaired, improving, staying the same or declining during dry-weather conditions. Each Permittee may compare water quality data from the reporting year to previous years with similar dry-weather flows, conduct trends analysis, draw from regional bioassessment studies, or use other means to develop and support its conclusions.
- b. Provide an assessment of the effectiveness of the Permittee(s) control measures in effectively prohibiting non-storm water discharges through the MS4 to the receiving water.
- c. Provide the status of all multi-year efforts that were not completed in the current year and will continue into the subsequent year(s).

5. Integrated Monitoring Compliance Report

- a. Provide an Integrated Monitoring Report that summarizes all identified exceedances of (1) outfall-based storm water monitoring data, (2) wet weather receiving water monitoring data, (3) dry weather receiving water data, and (4) non-storm water outfall monitoring data against all applicable receiving water limitations, water quality-based effluent limitations, non-storm water action levels, and aquatic toxicity thresholds as defined in Sections XII.F and G of this MRP. All sample results that exceeded one or more applicable thresholds shall be readily identified.
- b. If aquatic toxicity was confirmed and a TIE was conducted, identify the toxic chemicals as determined by the TIE. Include all relevant data to allow the Regional Water Board to review the adequacy and findings of the TIE. This shall include, but not be limited to, the sample(s) date, sample(s) start and end time, sample type(s) (flow-weighted composite, grab, or field measurement), sample location(s) as depicted on the map, the parameters, the analytical results, and the applicable limitation.
- c. Provide a description of efforts that were taken to mitigate and/or eliminate all non-storm water discharges that exceeded one or more applicable water quality based effluent limitations, non-storm water action levels, or caused or contributed to Aquatic Toxicity.
- d. Provide a description of efforts that were taken to address storm water discharges that exceeded one or more applicable water quality based effluent limitations, or caused or contributed to Aquatic Toxicity.

- e. Where Receiving Water Limitations were exceeded, provide a description of efforts that were taken to determine whether discharges from the MS4 caused or contributed to the exceedances and all efforts that were taken to control the discharge of pollutants from the MS4 to those receiving waters in response to the exceedances.

6. Adaptive Management Strategies

- a. Identify the most effective control measures and describe why the measures were effective and how other control measures will be optimized based on past experiences.
- b. Identify the least effective control measures and describe why the measures were deemed ineffective and how the control measures will be modified or terminated.
- c. Identify significant changes to control measures during the prior year and the rationale for the changes.
- d. Describe all significant changes to control measures anticipated to be made in the next year and the rationale for the changes. Those changes requiring approval of the Regional Water Board or its Executive Officer shall be clearly identified at the beginning of the Annual Report.
- e. Include a detailed description of control measures to be applied to New Development or Re-development projects disturbing more than 50 acres.
- f. Provide the status of all multi-year efforts that were not completed in the current year and will continue into the subsequent year(s).

7. Supporting Data and Information

- a. All monitoring data and associated meta data used to prepare the Annual Report shall be summarized in an Excel spreadsheet and sorted by watershed, subwatershed and monitoring station/outfall identifier linked to the subwatershed map. The data summary must include the date, sample type (flow-weighted composite, grab, field measurement), sample start and stop times, parameter, analytical method, value, and units. The date field must be linked to a database summarizing the weather data for the sampling date including 24-hour rainfall, rainfall intensity, and days since the previous rain event.
- b. Optional. The Permittee may at its option, provide an additional detailed summary table describing control measures that are not otherwise described in the reporting requirements.