

Los Angeles Regional Water Quality Control Board

July 28, 2015

Mr. Anthony Arevalo
Storm Water/Environmental Compliance Officer
City of Long Beach
333 W. Ocean Blvd., 9th Floor
Long Beach, CA 90802

REVIEW OF THE CITY OF LONG BEACH'S DRAFT WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VII.C OF THE CITY OF LONG BEACH MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004003; ORDER NO. R4-2014-0024)

Dear Mr. Arevalo:

The Regional Water Board has reviewed the draft Watershed Management Program (WMP) submitted on March 30, 2015 by the City of Long Beach (City). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004003 (Order No. R4-2014-0024), which authorizes discharges from the municipal separate storm sewer system (MS4) in the City of Long Beach (hereafter, City of Long Beach MS4 Permit). The City of Long Beach MS4 Permit allows the City the option to develop a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement many of the permit's requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs).

Participation in a WMP or EWMP is voluntary and may be developed individually or collaboratively. A WMP or EWMP allows the City to address the highest watershed priorities, including complying with the requirements of Part VI.A (Receiving Water Limitations) and Part VIII (Total Maximum Daily Load Provisions), and customizing the control measures in Parts IV.A-B (Prohibitions – Toxic Substances and Non-Storm Water Discharges) and VII.D (Minimum Control Measures) of the City of Long Beach MS4 Permit. If the City opts to develop a WMP or EWMP, the WMP or EWMP must meet these requirements, including conducting a Reasonable Assurance Analysis (RAA), of Part VII.C (Watershed Management Programs) of the City of Long Beach MS4 Permit and must be approved by the Regional Water Board.

As stated above, on March 30, 2015, the City submitted an individual draft Watershed Management Program (WMP) for the nearshore watersheds within its jurisdiction that drain to Dominguez Channel, the Port of Long Beach, the Long Beach City Beaches, the Colorado Lagoon, the Alamitos Bay Area, the San Gabriel River Estuary, and El Dorado Lakes to the Regional Water Board pursuant to Part VII.C.4.c.ii of the City of Long Beach MS4 Permit.

The Regional Water Board has reviewed the draft WMP and has determined that, for the most part, the draft WMP includes the elements and analysis required in Part VII.C of the City of Long

Beach MS4 Permit. However, some revisions to the City's draft WMP are necessary. The Regional Water Board's comments on the draft WMP, including detailed information concerning necessary revisions to the draft WMP, are found in Enclosure 1 and Enclosure 2, respectively. The specific Permit provisions cited in the enclosures refer to provisions in the City of Long Beach MS4 Permit. The City of Long Beach MS4 Permit includes a process through which necessary revisions to the draft WMP can be made (Part VII.C.4 in the City of Long Beach MS4 Permit). The process requires that a final WMP, revised to address Regional Water Board comments identified in the enclosures, must be submitted to the Regional Water Board not later than three months after comments are received by the City on the draft program. Please make the necessary revisions to the draft WMP as identified in the enclosures to this letter and submit the revised WMP as soon as possible and no later than **October 28, 2015**.

The revised WMP must be submitted to losangeles@waterboards.ca.gov with the subject line "City of Long Beach MS4 Permit – Revised Draft Long Beach WMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Erum.Razzak@waterboards.ca.gov.

If the necessary revisions are not made, the City will be subject to the baseline requirements in Part VII.D of the Order and shall demonstrate compliance with receiving water limitations pursuant to Part VI.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VIII pursuant to subparts VIII.E.1.a-c and VIII.F.1.a-c, respectively.

Until the draft Long Beach WMP is approved, the City is required to:

- (a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv);
- (b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii); and
- (c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters.

In addition, on March 30, 2015, the City submitted a draft Integrated Monitoring Program (IMP) as Appendix 8 of the WMP to the Regional Water Board pursuant to Part IV.C of Attachment E of the City of Long Beach MS4 Permit. The Regional Water Board review and comments on the draft IMP will be provided in separate correspondence.

If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit by electronic mail at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, by electronic mail at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Enclosure 1 - Comments and Necessary Revisions to Draft WMP
Enclosure 2 - Comments on Reasonable Assurance Analysis Report for City of
Long Beach

cc: Ara Maloyan, Director of Public Works, City of Long Beach
John L. Hunter, P.E., John L. Hunter and Associates, Inc.
Dylan Porter, Port of Long Beach
James Vernon, Port of Long Beach

Los Angeles Regional Water Quality Control Board

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft WMP

City of Long Beach

WMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Table of Contents		In the Table of Contents of the WMP, revise title of Appendix 8 from “Coordinated Integrated Monitoring Program” to “Integrated Monitoring Program”.
Executive Summary		The bulleted list of waterbodies and watersheds should explicitly identify Colorado Lagoon.
Executive Summary		The Executive Summary identifies zinc during wet weather as the “primarily [sic] pollutant of concern.” This statement should be revised as there are many Category 1 pollutants of concern that are the highest priorities to address, including zinc. Zinc was identified as the “limiting pollutant,” for purposes of conducting the RAA, which is a different concept than that of “pollutant of concern.”
Executive Summary		The Executive Summary does not describe bacteria TMDL related measures, or final dates for achieving dry and wet weather bacteria TMDL limitations.
Section 1.1	Part VII.C.1.d (page 36-37)	Rather than referencing the permit findings, the WMP should reference the permit provision that states, “... [WMPs] shall ensure that discharges from the MS4: (i) achieve applicable [WQBELs] in Part V.A.2 and VIII..., (ii) do not cause or contribute to exceedances of receiving water limitations in Parts VI.A and VIII, and (iii) do not include non-stormwater discharges that are effectively prohibited pursuant to Part IV.B. The programs shall also ensure that controls are implemented to reduce the discharge of pollutants to the MEP pursuant to Part V.A.1.” (See Part VII.C.1.d, pp. 36-37.)
Section 1.3.1		The Los Angeles River Estuary subwatershed within the City of Long Beach is not listed. Please either include the Los Angeles River Estuary Queensway Bay Area among the nearshore subwatersheds, including all other relevant information in the subsequent sections, or provide documentation that the City of Long Beach’s area draining to the LA River Estuary is wholly covered by the Lower LA River WMP.
Figure 1-3 & Table 1-2		Figure 1-3 of the draft WMP shows the Compton Creek-Los Angeles River HUC-12. If the nearshore watershed covered by this WMP falls in the Compton Creek-Los Angeles River HUC-12, please include in Table 1-2 of the revised WMP. Table 1-2 of the draft WMP lists San Pedro Bay HUC-12. Please indicate San Pedro Bay

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		<p>HUC-12 in Figure 1-3 of the revised WMP.</p> <p>Provide a new figure of the City's entire jurisdictional boundary and the boundaries of the WMPs that address each area of the City.</p>
Various		<p>The WMP has a number of grammatical, typographical and cross-referencing errors that should be corrected in the revised WMP.</p>
Water Quality Characterization		
Section 2.2		<p>The draft WMP indicates that monitoring data and findings for non-Port areas area described in Section 2.2.1; however, Section 2.2.1 seems to be missing this summarization and analysis. (We note that Sections 2.2.2 through 2.2.4 only pertain to the Port area.) The revised WMP must include the complete water quality characterization based on available monitoring data for the non-Port areas addressed by the WMP including Dominguez Channel Estuary.</p>
Water Body Pollutant Classification		
Section 1.3.1, Table 2-22 & Table 2-36	Part VII.C.5.c.ii (page 44-45)	<p>The revised WMP should ensure that the pollutants identified for each subwatershed in Section 1.3.1 align with those in Table 2-22. Additionally, corrections are needed to Table 2-22. For example, sediment toxicity in Colorado Lagoon is identified as a Category 2 pollutant (2D), but is addressed by the Colorado Lagoon Toxics TMDL, so should be identified as Category 1A. Similarly, in Table 2-36, sediment toxicity in Colorado Lagoon should be identified as high priority.</p>
Section 2.1.1	Parts VIII.P.1.a & VIII.P.2.a (page 124-125)	<p>Category 1 pollutants for the freshwater portion of Dominguez Channel are not included. Per Part VIII.P.1 these include interim and final WQBELs for toxicity and interim and final WQBELs for total copper, total lead, and total zinc during wet weather.</p>
Section 1.3.1 & Table 2-20	Part VII.C.5.c.ii (page 44-45)	<p>The WMP Section 1.3.1 subsection Alamitos Bay Area states that <i>"The Los Cerritos Channel Estuary part of the Alamitos Bay Area is listed on the State of California's 303(d) list as an [sic] impaired by chlordane contaminated sediment and Enterococcus."</i> In addition, Table 2-20 of the WMP lists total chlordane as a category 2 pollutant. However, Los Cerritos Channel Estuary is not listed on the 303(d) list. Therefore, total chlordane and Enterococcus should not be classified as category 2 pollutants unless analysis of available water quality data indicated that the 303(d) listing criterion was met for each pollutant. Please clarify in the revised WMP.</p> <p>Appendix 8 "IMP" Section 8.2 Table 3-1 footnote 5, 6, 7 cites SCCWRP Bight 2008 data, City of Long Beach Stormwater Monitoring Reports 2002-2014, and Regional Water Board 4 Dominguez Channel Watershed Monitoring 2003-2005. If</p>

WMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		<p>chlordane is listed as a category 2 pollutant for Los Cerritos Channel Estuary due to water quality data from the aforementioned data sources, the WMP should state so.</p> <p>Also update Table 2-22 and Table 2-36 if the aforementioned table has any changes.</p>
<p>Section 2.1.2 & Table 2-4</p>	<p>Part VII.C.5.c.ii (page 44-45)</p>	<p>Section 2.1.2 (Basis for Categorization) of the WMP states: <i>“Further, 5 of 11 exceedances of mercury in the Inner Harbor occurred on September 17, 2009, during the Station Fire, which is the largest wildfire in the modern history of Los Angeles County. Thus, the exceedances occurring during that event were likely a result of atmospheric deposition and directly contributed to the wildfire and not representative of water quality conditions within the Inner Harbor. Considering this event, only 6 exceedances from the 90 samples could possibly be attributed to water quality conditions in the Inner Harbor; therefore, mercury should not be classified as a Category 2 pollutant.”</i> It is reasonable to classify mercury as a Category 3 pollutant because it is not listed on the 2010 303(d) list for Long Beach Inner Harbor.</p> <p>Table 2-4 of the WMP should add a footnote to Pyrene and Mercury (if still categorized as Category 2 pollutant) indicating that although Pyrene and Mercury are not on the 2010 303(d) list, they are characterized as a Category 2 pollutant on the basis of exceedances and meeting the 303(d) listing criteria.</p> <p>Also update Table 2-22 and Table 2-36 if the aforementioned table has any changes.</p>
<p>Table 2-4</p>	<p>Part VII.C.5.c.ii (page 44-45)</p>	<p>Table 2-4 of the WMP should include benthic community effects, benzo(a)pyrene, and sediment toxicity as category 1 pollutants on the basis that these pollutants are addressed by the Harbors Toxics TMDL.</p> <p>Also update Table 2-22 and Table 2-36 if the aforementioned table has any changes.</p>
<p>Section 2</p>	<p>Part VII.C.5.c.ii (page 44-45)</p>	<p>List applicable receiving water limitations for category 2 pollutants under Section 2 of the WMP, or ensure that all applicable receiving water limitations are identified in Appendix I of the IMP.</p>
<p>Section 2</p>	<p>Part VII.C.5.c.iii (page 44-45)</p>	<p>List applicable receiving water limitations for category 3 pollutants under Section 2 of the WMP, or ensure that all applicable receiving water limitations are identified in Appendix I of the IMP.</p>
<p>Table 2-5</p>		<p>Preferably below Table 2-5 of the WMP, please specify what the asterisk (*) next to DDTs and PCBs means.</p>
<p>Prioritization</p>		
<p>Table 2-36</p>	<p>Part VII.C.5.e</p>	<p>In Table 2-36 of the WMP, revise “2C” in regards to chlordane to</p>

WMP Reference	MS4 Permit Provision	Comment and Necessary Revision
	(page 45-46)	follow the prioritization scheme used for the other pollutants (i.e., H, h, or m).
Table 2-36	Part VII.C.5.e (page 45-46)	<p>Section 2.4.1 of the WMP under Medium Priority states that “[b]acterial exceedances (1/5) and pH exceedance (1/2427) in water of the Inner Harbor (classified as Category 3) do not appear to be persistent water quality issues as presented in Figures 3 and 4. Thus they were not prioritized.”</p> <p>With 1/5 samples exceeding bacteria limitations, thus a 20% exceedance rate, bacteria should be prioritized in Table 2-36 of the WMP as a medium priority.</p>
Watershed Management Program Provisions		
Section 3.2.1.4	Part VII.J.5.i (page 70-71)	<p>Section 3.2.1.4 of the draft WMP states that the City has adopted a Low Impact Development (LID) ordinance in 2010 (Ordinance No. 10-0035), amended in 2013. It also states that “in lieu of requirements in Part VII.J the city requests to be allowed to implement Ordinance No. 10-0035. The City will condition projects in Part VII.J.2 and Part VII.J.3 to include a retention requirement numerically equal to 0.75-inch, 24-hour rain event or the 85th percentile, 24- hour rain event, whichever is greater.”</p> <p>As per the City of Long Beach MS4 Permit, the City should provide documentation within 60 days of the effective date of the Permit (May 28, 2015) that alternative requirements in the local ordinance will provide equal or greater reduction in stormwater discharge pollutant loading and volume as would have been obtained through conformance with Permit requirements. If documentation has already been sent to the Regional Board, please provide the date and details on the medium of delivery. Alternatively, please submit the required documentation with the revised WMP.</p>
Table 3-6 & Section 5.1		<p>The WMP assumes a 10% pollutant load reduction by March 28, 2019 as a result of implementation of non-structural controls. However, many of the significant non-structural controls identified in Table 3-6 are identified as “potential” measures, not “planned” measures. The City should re-evaluate some of the measures for Existing Development and Public Agency Activities (i.e., upgrading street sweepers) to determine whether it can identify them as “planned” measures, or alternatively, re-evaluate the 10% anticipated pollutant load reduction.</p>
Sections 5.2 -5.3	Part VII.C.5.h.iv.(4) (page 48)	<p>Section 5.2 of the WMP states that “[u]ncertainties associated with the structural controls complicate establishment of specific implementation dates.” Section 5.2.2 of the WMP also states that “[t]hrough implementation of the WMP and adaptive management there is the potential for the BMP capacity for the final compliance</p>

WMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		<p><i>milestone to change, therefore, potential BMPs for final milestones were not identified."</i></p> <p>To achieve interim and final compliance with WQBELs and receiving water limitations, the revised WMP must propose implementation dates for structural controls that the RAA identifies as most significant for pollutant reduction, including those to address dry weather requirements such as those for the bacteria TMDL.</p> <p>Greater specificity is needed in the WMP regarding compliance deadlines for structural control measures, including those to address non-stormwater discharges that may be a source of pollutants, such as bacteria, to receiving waters (e.g., low flow diversions, irrigation controls).</p>
Reasonable Assurance Analysis (RAA)		
	Part VII.C.5.h.v (page 48)	Section 3 of the WMP implies that the activities and control measures to be implemented will address receiving water limitations for category 2 and 3 pollutants. However, the RAA does not provide a demonstration that the activities and control measures to be implemented will address receiving water limitations for category 2 and 3 pollutants. The revised WMP must include a discussion of how implementation of the watershed control measures in the WMP will address Category 2 and Category 3 pollutants such that receiving water limitations for those pollutants are achieved as soon as possible.
Appendix 4		Section 2 "Applicable Interim and Final Requirements": The RAA establishes a final milestone of 2040 for achieving the Long Beach City Beaches and Los Angeles River Estuary (LARE) TMDLs for Indicator Bacteria, stating that this is consistent with the final [wet weather] compliance deadline for the LA River Bacteria TMDL. However, the final wet weather compliance deadline for the LA River Bacteria TMDL is March 23, 2037. There is not adequate justification for extending the deadline for achieving the wet weather bacterial indicator TMDL requirements for the LARE and City Beaches until 2040; therefore, the final wet weather compliance deadline for this TMDL should be no later than March 23, 2037.
	Part VII.C.5.h.v (page 48)	See Enclosure 2 for specific comments on the RAA.

Los Angeles Regional Water Quality Control Board

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

City of Long Beach Watershed Management Program (WMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains the comments on the draft Report of Reasonable Assurance Analysis (RAA) for City of Long Beach dated March 23, 2015.

General comments on the draft RAA section of the draft WMP (Appendix 4):

1. Section 2 “Applicable Interim and Final Requirements”: The City of Long Beach is required to achieve the final WQBELs (as set forth in Parts VIII.I.2 and VIII.I.3 of the Long Beach MS4 Permit) established pursuant to the Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals TMDL (Colorado Lagoon Toxics TMDL) by July 28, 2018. Yet, the RAA states that the City will achieve a 10% pollutant load reduction by March 28, 2019. This is after the final deadline to achieve the final mass based WQBELs set forth in Table 21, and is therefore not appropriate. The RAA must demonstrate that the final mass based WQBELs expressed as annual discharge of sediment will be achieved by July 28, 2018.
2. Section 2 “Applicable Interim and Final Requirements”: The RAA establishes a final milestone of 2040 for achieving the Long Beach City Beaches and Los Angeles River Estuary (LARE) TMDLs for Indicator Bacteria, stating that this is consistent with the final [wet weather] compliance deadline for the LA River Bacteria TMDL. However, the final wet weather compliance deadline for the LA River Bacteria TMDL is March 23, 2037. There is not adequate justification for extending the deadline for achieving the wet weather bacterial indicator TMDL requirements for the LARE and City Beaches until 2040; therefore, the final wet weather compliance deadline for this TMDL should be no later than March 23, 2037. Additionally, throughout the document and tables additional clarity is needed to distinguish between interim and final compliance milestones for wet weather versus those for dry weather, pertaining to the bacteria TMDL.
3. Note that there appear to be some errors in Table 2-2. Interim compliance dates for the Colorado Lagoon Toxics TMDL and Dominguez Channel and Greater LA and Long Beach Harbor Waters Toxic TMDL should be 3/28 (i.e., upon the effective date of the permit). The permit effective date is March 28, 2014. (See Long Beach MS4 Permit, Part VIII.I.1 and Part VIII.P.1.) Additionally, the July 28, 2018 compliance date for the Colorado Lagoon Toxics TMDL should be identified as a final deadline in the table.
4. Sections 5 through 8 did not discuss the estimated required reductions, proposed BMPs, and pollutant reduction milestones to achieve required final mass based WQBELs expressed as annual discharge pursuant to the Colorado Lagoon Toxic TMDL by July 28, 2018.

RAA Modeling comments:

1. The percent error in total annual volume between the modeled and observed values for Coyote Creek below Spring Street located at LAC DPW F-354 Station is 16.3% as shown in Table 4-3 and Figure E-8, which is considered "fair" for the model calibration. Generally, per the RAA guidance, the percent error for hydrology/flow should be 15% or less (see Table 3.0 of the RAA guidance). The calibration of annual storm volume is very good with only a 5.2% error between modeled and observed volume. Additional discussion should be included regarding the greater error between modeled and observed values for total volume and potential explanations for this discrepancy (e.g., upstream contributions, etc.). Further, data needs to improve model calibration for total volume should be identified along with a commitment to collect the necessary data.
2. The representative wet weather critical conditions are based on rainfall data resulting in the Water Year 2003 being selected as the representative year for the 90th percentile critical wet conditions. The proposed BMPs for the most part are volume reduction BMPs. As such, it is recommended that the RAA present an analysis of the annual storm volume relative to annual rainfall to confirm that annual rainfall is an appropriate proxy for annual storm volume when identifying the critical condition.
3. The model predicted baseline loads and allowable loads, per the RAA guidance, in terms of model predicted concentrations and loads for the representative condition and critical condition should be presented before pollutant reduction targets presented in Table 5-4, Figure 5-7 and Figure 5-8 on pages 26-27. Model predicted concentrations and loads for bacteria should also be included.
4. The flow and water quality time series output for baseline at the watershed outlet should be provided along with the 90th percentile of modeled pollutant concentrations. The mass per day for wet critical condition should be provided as well to be consistent with the expression of the WQBELs. In addition, per the RAA Guidelines, the model output should include storm water runoff at the watershed outlet for the baseline and each BMP scenario as well (See Table 5. Model Output for both Process-based BMP Models and Empirically-based BMP Models, pages 20-21 of the RAA Guidelines).
5. Per the RAA Guidelines, the model results for the proposed control measures and potential BMPs should be provided to demonstrate the effectiveness of the proposed BMPs that would achieve the required volume reduction goals as described in Sections 7 and 8 and presented in Table 7-1 and Tables 8-1 and 8-2. The BMP performance model proposed in the RAA Guidelines should be used to predict the pollutant reduction for BMPs identified in Sections 7 and 8 of the Report.