



Los Angeles Regional Water Quality Control Board

February 12, 2016

John C. Dettle, P.E.
Engineering Manager
City of Torrance, Public Works Department
20500 Madrona Avenue
Torrance, CA 90503

REVIEW AND REQUEST FOR EXTENSION OF THE MACHADO LAKE BMP IMPLEMENTATION PLAN PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Mr. Dettle:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the City of Torrance's (City) Machado Lake BMP Implementation Plan (Implementation Plan) submitted as part of the Beach Cities draft Enhanced Watershed Management Program (EWMP) on June 26, 2015 by the Beach Cities Watershed Management Group. This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

CHARLES STRINGER, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. One joint letter was from the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper and the other letter was from Construction Industry Coalition on Water Quality (CICWQ). On July 9, 2015 and November 5, 2015, the Board held workshops at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the Implementation Plan, the Los Angeles Water Board considered those comments applicable to the City's Implementation Plan.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the Implementation Plan. During its review, staff of the Los Angeles Water Board had meetings on October 15, 2015 and January 21, 2016, teleconferences on December 9, 2015 and December 15, 2015, and other telephone and email exchanges with the City's representatives and consultants to discuss the Board staff's questions, tentative comments and potential revisions to the Implementation Plan. A review letter was sent to the Beach Cities Watershed Management Group (Group) on October 22, 2015 detailing comments on the Group's draft EWMP. In response to some of those comments, the City opted to revise its Implementation Plan to fulfill the elements and analysis required of an EWMP for the portion of the Beach Cities area within the Machado Lake subwatershed. To provide time to revise the Implementation Plan, the City, in a letter to the Los Angeles Water Board dated January 15, 2016, requested an extension of the due date of January 20, 2016 for the submission of a revised EWMP to February 20, 2016.

The Los Angeles Water Board has reviewed the Implementation Plan and has determined that, for the most part, the Implementation Plan includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the City's Implementation Plan are necessary. The Los Angeles Water Board's comments on the Implementation Plan, including those related to the Reasonable Assurance Analysis (RAA), are found in Enclosure 1 and Enclosure 2, respectively. The Board's comments in the enclosures reflect the discussions held with the City in the meetings and teleconferences described above.

Further, the City's extension request is hereby granted. Please make the necessary revisions to the Implementation Plan as identified in the enclosures to this letter and submit the revised Implementation Plan as soon as possible and no later than **March 11, 2016**.

The revised Implementation Plan must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – City of Torrance's Revised Machado Lake BMP Implementation Plan" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Elizabeth.Payne@waterboards.ca.gov.

If the necessary revisions are not made and the City does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the City will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachment N Parts B-D pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the City of Torrance's revised Implementation Plan 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);
- (c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
- (d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachment N Parts B-D by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Beth Payne by electronic mail at Elizabeth.Payne@waterboards.ca.gov or by phone at (916) 341-5579. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, 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 the Machado Lake BMP Implementation Plan
Enclosure 2 – Comments on the Reasonable Assurance Analysis
Beach Cities Watershed Management Group Distribution List

Los Angeles Regional Water Quality Control Board

Enclosure 1 - Summary of Comments and Necessary Revisions to the Machado Lake BMP Implementation Plan

Beach Cities Watershed Management Group: City of Torrance

Plan Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Various		Revise the document for consistent use of terms. "Catch basin filter," "catch basin," and "catch basin filter inserts" are used interchangeably.
Section 1.3.2.1		Revise the first sentence of Section 1.3.2.1 to "The Machado Lake Nutrient TMDL was adopted by the LARWQCB on May 1, 2008."
Section 8.1	Part VI.C.5.c (page 66)	Correct the schedule for implementation of the toxics TMDL in Section 8.1 (p. 108). The Machado Lake Toxics TMDL only has a final compliance date, which is September 30, 2019.
Section 1.3.2.1		In Section 1.3.2.1 (p. 8), correct units of flow condition 8.45 hm3.
Table 1.3	Attachment N Part C.2 (page N-2)	Correct Table 1.3 of the Implementation Plan to express WLAs as WQBELs consistent with Attachment N Part C.2 of the LA County MS4 Permit.
Section 2.1		In Section 2.1, correct typographical error in the second paragraph from largest "faction;" to largest "fraction".
Table 3.6		Table 3.6 appears to have a typographical error under Required Reduction (g/yr) for Total PCBs: it is stated as 0.00 g/yr, with a corresponding percent reduction of 8%. Revise to correct the calculation.
Section 1.2 of the Beach Cities EWMP		The Beach Cities revised EWMP in Section 1.2 states that "A small portion of the City of Redondo Beach is located within the Machado Lake Watershed boundary but has requested to be removed from the Machado Lake Implementation Plan". Hence, remove the City of Redondo Beach from the Implementation Plan but acknowledge that the City of Redondo Beach's drainage to the Machado Lake Watershed is being covered in the Beach Cities Group EWMP.
Waterbody-Pollutant Classification		
Table 1.1		Revise Table 1.1 to omit rows for Dominguez Channel and Santa Monica Bay since these are covered under the Beach Cities EWMP. Revise the rest of the Implementation Plan accordingly including table titles and narrative to only focus on TMDLs for the Machado Lake Watershed.
Table 1.2	Part VI.C.5.a.ii (page 60)	The title for Table 1.2 should be revised as "Water Body Pollutant Combinations for Machado Lake Watershed" and the table should include categories 1, 2 and 3 pollutants. See Table 2-3 of the

Plan Reference	MS4 Permit Provision	Comment and Necessary Revision
		Beach Cities EWMP for guidance on creating a table with the needed information.
	Part VI.C.5.a.ii.(3) (page 60)	Ensure that E. coli, a category 3 pollutant for Machado Lake, is addressed. See comments in Enclosure 2.
Source Assessment		
Section 3.0	Part VI.C.5.a.iii (page 60-61)	<p>The permit requires an EWMP to identify known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters for all pollutants covered by a TMDL ('category 1'), those identified on the 303(d) list but not yet addressed by a TMDL ('category 2'), and those exceeding water quality standards in the receiving water where the source may be MS4 discharges ('category 3'), based on available data, including studies.</p> <p>Section 3.0 discusses pollutant source characterization and prioritization; however, this characterization (Optional Study #3) only focused on nutrients and TSS as a surrogate for toxics. Also describe potential sources of other category 2 and 3 pollutants, including bacteria (for Machado and Wilmington Drain) and copper and lead (for Wilmington Drain).</p>
Section 1.3.2.3	Part VI.C.5.a.ii.(1) (page 60) & Attachment N Part B (page N-2 to N-3)	The Implementation Plan identifies nutrients, toxic pollutants and trash, but does not explicitly address trash as a category 1 pollutant. Revise section 1.3.2.3 to include the TMDL water quality based effluent limitations, identify trash controls being implemented, and present the implementation schedule for the trash controls consistent with Attachment N Part B of the LA County MS4 Permit. RAA/modeling of trash reductions is not required. If all trash controls have been implemented in the City's drainage areas to Machado Lake, in light of the March 6, 2016 final deadline, this should be documented and no further trash controls need to be proposed in the Plan.
	Part VI.C.5.a.ii.(2) (page 60)	<p>The Implementation Plan identifies 303(d) listed pollutants in Wilmington Drain (coliform bacteria, copper, & lead) in Table 1.2 and briefly discusses these in Section 1.3.3. The Implementation Plan should be revised to ensure that all drainage areas within the City's jurisdictional boundaries to Wilmington Drain are addressed in the Implementation Plan, including Walteria Basin, and to address MS4 discharges of coliform bacteria, copper and lead from the City of Torrance to Wilmington Drain.</p> <p>Also, address Wilmington Drain category 2 and 3 pollutants in the Plan. If already addressed by proposed BMPs, clarify (e.g., water quality design volume-based retention BMP will address all pollutants for the drainage area covered by the BMP). See also</p>

Plan Reference	MS4 Permit Provision	Comment and Necessary Revision
		comments in Enclosure 2.
	Part VI.C.5.a.iii.(1). (b) (page 61)	Add a map depicting all major outfalls and major structural controls for storm water and non-storm water that discharge to the Machado Lake watershed from the City of Torrance.
Selection of Watershed Control Measures		
Section 5.3.4.1		The technology used, as stated in the Implementation Plan, is storage/infiltration for subcatchments AS2 and AS3. Clarify what portion of the water will be stored for reuse and what portion will be infiltrated for AS2 and AS3.
Section 5.3.6	Part VI.C.1.g (page 49)	In Section 5.3.6, clarify for Baseball Field Basin that the water quality volume of 2.54 acre-feet presented in Table 5.8 for Option No. 2 represents the volume associated with the 85th percentile, 24-hour event for the Baseball Field Basin drainage area. Additionally, specify the design storm to capture.
Section 5.3.4.1	Part VI.C.5.b.ii.(1) (page 62)	The Implementation Plan indicates that, wherever feasible, all non-stormwater runoff will be captured and retained for Torrance Airport project. Clarify that this applies to all three Regional projects (Torrance Airport, Walnut Sump and Baseball Field).
Section 5.2.1	Part VI.C.1.g.vii (page 50)	Provide performance data for the catch basin inserts from peer-reviewed studies. The performance data should be included for all pollutants being targeted.
Section 4.0, 5.0, & Table 8.2, 8.3	Part VI.C.5.a.iv.(1) (page 61) & Attachment N Parts B-D (pages N-2 to N-4)	Clarify the strategy(ies) to implement pollutant controls necessary to achieve water quality-based effluent limitations and/or receiving water limitations with compliance deadlines that have already passed, or clearly document that the deadline has been met. For example, the nutrient TMDL includes a 2014 interim deadline, while the trash TMDL has a final deadline of March 2016. For nutrients, have the interim limitations in Table 1.3 been achieved? If so, clearly state this in the Plan and provide support. If not, ensure that the schedules in Tables 8.2 (Proposed Implementation Schedule for Nonstructural Solutions) and Table 8.3 (Implementation Schedule for Structural Projects) of the Implementation Plan address past deadlines as well as future deadlines as listed in Attachment N, Parts B-D of the LA County MS4 Permit.
Section 5.3.4.1	Part VI.C.1.g (page 49)	For the Torrance Airport Project, the Implementation Plan states that the <i>“City wants to capture and retain all non-stormwater runoff and all stormwater runoff from the 85th percentile, 24-hour storm event for the drainage area tributary to the BMP site.”</i> The Implementation Plan probably implicitly has the same approach for the entire implementation area, but should express it explicitly.
Section 5.3.4.2, and Tables 5.4, 5.5, 5.6, 5.7, and 5.9	Part VI.C.5.b.iii.(1) (page 62)	Clarify if the 57 catch basins in subcatchment AS1 will capture <u>all</u> of the stormwater runoff from AS1 (249 acres). Regarding structural BMPs, clarify for each drainage/sub-drainage

Plan Reference	MS4 Permit Provision	Comment and Necessary Revision
		<p>area and option whether the pollutant load reductions in Tables 5.4, 5.5, 5.6, 5.7, and 5.9 are based strictly on runoff volume reduction. If not, clearly present the source(s) of pollutant reduction/BMP effectiveness data:</p> <ul style="list-style-type: none"> a. For catch basin filter inserts, provide data, if available, from peer-reviewed sources such as the International BMP database. b. For reductions in toxic pollutants, clarify if load reductions for toxic pollutants are directly related to load reductions of TSS (i.e., pollutant loading capacity = volume active sediment X target concentration) to demonstrate that the annual loading can be in compliance with the toxics WLAs based on toxics concentration (unit: µg/kg) through required sediment reduction. If so, provide calculations relating toxic pollutant load reductions to TSS load reductions for each drainage/sub-drainage area and option, as presented in Tables 5.5, 5.6, 5.7 and 5.9. <p>Indicate what year was used to evaluate BMP performance (e.g. Table 5.5 on p. 65, Table 5.6 on p. 66, Table 5.7 on p. 82, and Table 5.9 on p. 87), and provide justification for the year selected.</p> <p>For the Baseball Field Basin, clarify that the water quality volume of 2.54 acre-feet presented in Table 5.8 for Option No. 2 represents the volume associated with the 85th percentile, 24-hour event for the Baseball Field Basin drainage area.</p>
Section 5.3.4.2 & 5.3.4.3		<p>Section 5.3.4.2 subsection Subcatchments AS2 and AS3 states that <i>“runoff generated from subcatchments AS2 and AS3 will be treated at Site A2,”</i> but it does not specify the volume for each site. Section 5.3.4.3 states that <i>“BMP site A1 will be considered for implementation of additional storage/infiltration systems in Phase 2”</i> but it does specify how much. For subcatchments AS2 and AS3, specify volume to be captured for Phase I and Phase II, if applicable.</p>
Section 5.3.5.1		<p>For the Walnut Sump Basin, clarify in the text which option is recommended (it appears that Option 2 is recommended, but it is not explicitly stated).</p>
Section 5.3.6		<p>For the Baseball Field Basin, clarify if the 19 catch basins treat <u>all</u> of the runoff from the sub basins. Are these catch basins that allow full capture filters, the same type used in the other two project areas (Airport and Walnut)?</p> <p>For the Baseball Field Basin, the Plan recommends Option 1 which, as proposed, will treat 30% of the stormwater runoff using catch basins. In light of the bacteria concerns in Machado Lake, the Regional Board highly recommends Option 2, which proposes to</p>

Plan Reference	MS4 Permit Provision	Comment and Necessary Revision
		capture and treat <u>all</u> of the storm water runoff from the four subareas. Option 2 would be much more effective than Option 1 in addressing bacteria for Machado Lake.
	Part VI.C.5.b.iv.(1). (a) (page 63)	Specify if the minimum control measures required in the LA County MS4 Permit will be modified/enhanced. If so, provide justification. If not, please confirm that the permit provisions will be implemented as written.
Table 5.4, 5.5, 5.6 (page 66), 5.7, & 5.9		Tables 5.4, 5.5, 5.6 (page 66), 5.7, and 5.9 list toxics in lb/yr. Specify the individual toxic pollutants and the annual load for each.
		The Beach Cities Revised EWMP in the Executive Summary states that <i>"The Del Amo Retention Basin also has no outlet, and is sized to capture runoff from at least the 85th percentile, 24 hour storm event. Because the Del Amo Retention Basin is within the Machado Lake Watershed, this drainage area is excluded from the EWMP."</i> Therefore, include the Del Amo Retention Basin in the revised Implementation Plan for the City of Torrance.
Enhanced Watershed Management Program Provisions		
Section 9.0	Part VI.C.1.g.ix (page 50)	<p>While cost estimates are provided in Section 9.0 (Tables 9.1 and 9.2), a financial strategy to obtain the funds to pay for the projects in the near or long-term is missing. Where the City of Torrance has secured and/or begun to seek funding from specific sources for the projects in the Implementation Plan, provide details regarding the funding sources, requested amounts, and timing of funding, if awarded. For other projects to be implemented in the future, identify project-specific strategies for obtaining the necessary funding.</p> <p>Additionally, information on the City's annual budget for its stormwater programs should be included. (This should have already been compiled for the FY 14-15 annual report, and can simply be reproduced in the revised Implementation Plan.) The Implementation Plan shall also describe how the selection of certain program / project options in the various sub-drainage areas, and the scheduling of those programs / projects, maximizes the effectiveness of funds through the analysis of alternatives, and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance.</p> <p>(The Beach Cities EWMP could be reviewed to determine whether some of the funding options applicable to Beach Cities as a whole could also be applicable to the City of Torrance as they address the pollution problems in Machado Lake.)</p> <p>Also note that section 7 of the draft Beach Cities EWMP received</p>

Plan Reference	MS4 Permit Provision	Comment and Necessary Revision
		the following comments: <ol style="list-style-type: none"> 1. Include the amount and source of current monetary funds to install and implement the BMPs proposed for the milestones in the current permit cycle. 2. Include a selection and a prioritization process for obtaining funding strategies that best fits the Groups' needs (e.g. step 1: apply from X grants; step 2: apply for loans, etc.). 3. Provide a timeline to search for funding with consideration of the milestones indicated in the EWMP. 4. Articulate who is responsible for seeking funding (e.g., the lead permittee, all the group members). If most or all Group members will be seeking funding, please specify the responsibilities of those members.
	Part VI.C.8 (pages 68-70)	Add a section to include clear steps and timeframes for the adaptive management approach.
Reasonable Assurance Analysis (RAA)		
	Part VI.C.5.b.iv.(5) (page 65)	Clarify if TSS was used a surrogate pollutant for toxics. Provide detail on, and support for, the calculation used to determine toxics removal as a fraction of suspended sediments removed by proposed stormwater treatment devices (pg. 10). Finally, present the toxics data developed from the Dominguez Channel Flow Monitoring Program, which the Plan relies upon (pg. 10).
	Part VI.C.5.b.iv.(5) (page 65)	See Enclosure 2.

Los Angeles Regional Water Quality Control Board

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

Beach Cities Watershed Management Group: City of Torrance Machado Lake BMP Implementation Plan

Prepared by: C.P. Lai, Ph.D., P.E.

This memorandum contains the comments on the Reasonable Assurance Analysis (RAA) of the Machado Lake BMP Implementation Plan for the City of Torrance dated October 2014.

1. As discussed in the meeting on January 21, 2016, for BMP modeling, in order to address categories 2 and 3 pollutants for drainage areas to Machado Lake and to Wilmington Drain within the cities' jurisdictions, the Machado Plan should either:
 - a. Document that the *water quality design volume* (i.e., the runoff volume associated with the 85th percentile, 24-hour event) will be captured in the drainage/sub-drainage area, or
 - b. Identify the relationship between the stormwater volume reduction and the necessary pollutant load reduction for each category 2 and 3 pollutant.

If using the approach in (b) above, identify and discuss the empirical data used to determine the relationship as well as any assumptions made in establishing the relationship.

2. Provide the model calibration for runoff volume entering into Machado Lake from the cities' jurisdictions.
3. Provide the data used to identify the 85th percentile, 24-hour storm volume for the drainage area(s), including detailed information in terms of rainfall, frequency distribution of available rainfall depth, and finally the volume associated with the 85th percentile, 24-hour storm for each drainage/sub-drainage area.
4. Explain in more detail the model results for the baseline loads that are included in Table 3.6. Clarify how annual loading was calculated. In addition to the baseline loads, provide the runoff volumes and pollutant concentrations for each sub-drainage area contributing to Machado Lake.
5. Provide the estimated BMP effectiveness in terms of runoff volume, pollutant concentration, and pollutant loads for each drainage/sub-drainage area to Machado Lake for before BMP and after BMP scenarios.
6. Provide the model input and output files.

7. Clarify whether drainage areas within the cities' jurisdiction, which first discharge to Wilmington Drain, but ultimately discharge to Machado Lake, were modelled for nutrients and toxics as an input to Machado Lake.
8. Clarify whether the PLAT model considers the flow from Walteria Basin as contributing to the Wilmington Drain, as well as ultimately to Machado Lake.
9. Table 3.5 under section 3.3.2 lists annual average loads generated by PLAT. Clarify whether the values are a total load for the wet weather season, wet weather year-round, or for the entire year (including wet and dry conditions).

Beach Cities Watershed Management Group

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