

Los Angeles Water Board Response to Specific Written Comments by NRDC, LA Waterkeeper, Nature For All, and Heal the Bay, received February 28, 2019, on the Rio Hondo and San Gabriel Draft Revised EWMP

Comment Type	NRDC, Nature For All, LA Waterkeeper, and Heal the Bay Comment	Los Angeles Water Board Response
Revised EWMP versus WMP	<p>The Board's approval is subject to three conditions, one of which is that the program as revised is considered a Watershed Management Program (WMP) and not an Enhanced Watershed Management Program (EWMP). The Board does not provide any detail on the implications of changing the Program from an EWMP to a WMP. The Board must provide details regarding how this change may affect the Program, including compliance requirements and deadlines. If this change is to take effect, it must not allow for any delays to compliance timelines, other permit requirements, or project implementation.</p>	<p>There are no new implementation or compliance implications of a change from an EWMP to a WMP.</p> <p>First, the change in Watershed Management Program type does not change how the Group would be expected to implement its program, including achieving final compliance timelines.</p> <p>Second, the change does not affect how the Los Angeles Water Board will determine the Group's compliance with the interim water quality-based effluent limitations (WQBELs) and receiving water limitations (RWLs) in the permit. Pursuant to Part VI.E.2.d of the permit, Permittees shall be considered in compliance with interim WQBELs and RWLs if Permittees are implementing either a WMP or an EWMP.</p> <p>Third, the change does not affect how the Los Angeles Water Board will determine the Group's compliance with the final WQBELs and RWLs in the permit. Under Part VI.E.2.e of the permit, Permittees implementing an EWMP can additionally demonstrate compliance with final WQBELs and RWLs through provision VI.E.2.e.i.(4):</p> <p><i>In drainage areas where Permittees are implementing an EWMP, (i) all non-storm water and (ii) all storm water runoff up to and including the volume equivalent to the 85th percentile, 24 hour event is retained for the drainage area</i></p>

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		<p><i>tributary to the applicable receiving water, and the Permittee is implementing all requirements of the EWMP, including, but not limited to, Parts VI.C.7 [Integrated Watershed Monitoring and Assessment] and VI.C.8 [Adaptive Management Process] of this Order. This provision (4) shall not apply to final trash WQBELs. [underlines added for emphasis]</i></p> <p>Since the Group does not claim that the regional projects identified in its program retain all non-storm water and the 85th percentile, 24-hour storm (either in the previously approved EWMP or the proposed revised WMP), the provision in Part VI.E.2.e.i.(4) would not apply to the Group. Thus, revising the program from an EWMP to a WMP would not affect the Group’s interim or final compliance determination.</p> <p>Additionally, if the program did ultimately include projects that retain the above-mentioned volumes, the Group would still be required to continue monitoring and adaptively managing their program to achieve WQBELs and RWLs. The underlined language in the provision above was added to the permit by the State Water Board (through Order WQ 2015-0075) to emphasize this.</p> <p>Los Angeles Water Board staff’s intent in including the WMP condition in the Draft Tentative Conditional Approval was merely to:</p> <ol style="list-style-type: none"> 1) Reflect the fact that in its proposed program, the Group did not choose to comprehensively evaluate opportunities to retain the stormwater

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		<p>volume of the 85th percentile, 24-hour storm in its drainage areas per Part VI.C.1.g. of the permit; and</p> <p>2) Emphasize that the major projects in the proposed program are not designed to retain the 85th percentile, 24-hour rain event.</p> <p>The draft conditional approval letter has been revised to clarify the limited implications of changing the program from an EWMP to a WMP.</p>
General	<p>Generally, the rEWMP illustrates one of the major concerns regarding the 2012 permit: that there would be little project analysis up-front, leading to constant revision and little actual implementation. Without up-front analysis, there remains significant potential for constant Program revision and little project implementation, allowing for continued pollution and resulting in continuous negative impacts to public and environmental health. This concern is borne out by the dramatic change in the proposed green streets—from 273 miles of green streets previously approved in the Rio Hondo to zero miles in the new revised plan.</p>	<p>Although the proposed revised EWMP significantly reduces the number of proposed green streets projects, it does not eliminate these types of projects. The Group proposes green streets in County unincorporated areas within the Rio Hondo and San Gabriel River watersheds. These projects are listed as “Distributed BMPs” in Attachment C, Tables 4-8 and 4-9 and were included in the Group’s RAA. The Group’s “Recommended” Green Street Opportunities in the San Gabriel River Watershed have a project footprint of 3.77 acres and a drainage area of 674.72 acres, as listed in Table 4-5. The recommended projects in the Rio Hondo Watershed have a total project footprint of 5.22 acres and drainage area of 326.63 acres, as listed in Table 4-7. Using the Group’s assumption of project width, this would roughly be 7.8 and 10.8 miles, respectively.</p> <p>The implementation schedules for these projects are outlined in the Rio Hondo Watershed Clean Water Strategy on page 27 of the EWMP.</p>

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		<p>As the Group notes in Attachment C, Section 4.3 (pg. 77):</p> <p><i>“the required load reductions are achieved through the Non-structural and Regional BMPs for two of the three compliance points, green streets are only required for the Big Dalton Wash drainage area and the portion of the EWMP area draining downstream from the Rio Hondo compliance point (via Eaton Wash).”</i></p>
<p>Potential Upstream Exceedances and Other Data Collection</p>	<p>Permittees should have a plan in place in the event that upstream water quality exceedances are detected. Permittees should not wait until exceedances are detected to develop a plan, but instead should have a draft contingency plan in place, including proposed projects, if upstream exceedances are an issue. The Board’s approval should be conditioned on the development of such a plan by a date certain. The Board should also ensure that Permittee’s monitoring plan is sufficient to inform a final determination of whether upstream exceedances are occurring, the determination of which should be made within the next year. If the Board agrees that the current monitoring plan is insufficient, approval of the rEWMP should be predicated on the development of an adequate plan.</p>	<p>Currently, the Group’s Coordinated Integrated Monitoring Program (CIMP) includes receiving water monitoring in Rio Hondo Reach 3, Peck Road Park Lake, Santa Anita Wash, Sawpit Wash, and Big Dalton Wash. Stormwater outfall monitoring is conducted at five outfalls. These sites can detect any potential upstream exceedances.</p> <p>The Board believes that the Adaptive Management Process is the appropriate mechanism for the Group to develop and implement additional control measures if upstream exceedances are detected.</p>
<p>Potential Upstream Exceedances and Other Data Collection</p>	<p>In response to the Board’s comment that Permittees’ model underpredicted water quality for TSS, copper, lead and zinc, Permittees state that there is insufficient data for specific pollutants. If the current monitoring plan is insufficient as Permittee states, the Board’s approval should also be conditioned on the development and implementation of a monitoring</p>	<p>The current CIMP collects sufficient monitoring data for the specified pollutants. As the Group continues to implement its CIMP, there will be more data available for model recalibration.</p> <p>The Board believes that these concerns are addressed through the permit’s Adaptive</p>

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	<p>program sufficient to predict water quality related to specific pollutants. Alternatively, if sufficient data is available, the model should be adjusted per the Board's comments. As we stated in our previous comments on the proposed rEWMP, the underprediction of zinc is particularly troubling because of its role as the limiting priority pollutant. Additionally, elevated concentrations of zinc can have toxic effects on aquatic ecosystems, impacting many species of algae and macroinvertebrates</p>	<p>Management Process and the RAA update that Permittees are required to submit by June 30, 2021.</p> <p>Additionally, this RAA update will be supported by updates to the County of Los Angeles' Watershed Management Modeling System (WMMS), the modeling system upon which the Group based its RAA. The County is currently updating WMMS and the updated WMMS will include a recalibration based on data collected under the CIMPs for the Group and other watershed management groups in the Los Angeles and San Gabriel River watersheds.</p>
<p>Model Calibration</p>	<p>The rEWMP hydrology model was calibrated using "available monitoring data" from 10/1/1990 to 4/30/2012. The data used to calibrate the model should include more recent available monitoring data. Additionally, as we stated in our previous comments, the modeling used underrepresents flows from larger events; this is particularly troublesome as climate change will undoubtedly increase the frequency of larger events. See Attachment C's Table 2-5. The Regional Board's recent resolution to adapt to and mitigate the impacts of climate change recognizes the substantial impacts that climate change will have on water resources, impacts which include an increase in "extreme precipitation" and flooding events. These larger events must be accurately represented. Additionally, the draft rEWMP still does not contain model verification or a plan to do so when more data is available. As data accumulate in the future, though, the models should be revisited and verified or, if unverified, recalibrated and applied to reevaluate compliance with Permit objectives.</p>	<p><u>Calibration Data Time Period</u> The Los Angeles Water Board agrees that the model should be calibrated with more recent monitoring data. This recalibration will occur as part of the WMMS update and will be incorporated into the June 30, 2021 RAA update as part of the Adaptive Management Process.</p> <p><u>Modeling of Higher Flows</u> The Board is concerned with the modeling of highest flows; however, improving model fit for high flows shouldn't sacrifice fit for other more frequently occurring flows.</p> <p>In Table 2-5, the station with the largest <i>Error in 10% highest flows</i> (32.90%) is F319 (Los Angeles River below Wardlow). The two other stations in the LA River watershed, E326 (Rio Hondo below Garvey) and F194 (Sawpit Wash below Live Oak Avenue), have lower <i>Errors in 10% highest flows</i> at -11.11% and 3.76%, respectively. These stations are</p>

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		<p>upstream of F319 and closer to the Group’s jurisdictional area.</p> <p>Board staff intend to raise issues with respect to the modeling of highest flows in an upcoming technical advisory committee meeting with the County of Los Angeles regarding WMMS, the modeling system which the Group used in its RAA.</p> <p><u>Model Verification</u> With respect to model verification, the permit’s provisions for Integrated Watershed Monitoring and Assessment (Part VI.C.7) and Adaptive Management Process (Part VI.C.8) provide a mechanism for Permittees to verify model results and update watershed models with new data.</p>
<p>Assumptions and Conclusions</p>	<p>The revised plan assumes that control of one pollutant will also control other target contaminants. First, it assumes that implementation of the metals TMDLs will address much of the bacteria impairment. However, there are known instances where addressing metals did not adequately address bacteria (e.g. in the Upper LA River, Reach 2). Also, the rEWMP assumes that base flows and dry-weather discharges from the RH/SGR area are not large contributors to the impairments identified in the relevant TMDL. While the revision states that more investigation is needed, it does not examine in any way the current level of confidence in these vital assumptions. A discussion of these assumptions and their effects must be submitted.</p>	<p><u>Limiting Pollutant – Bacteria Impairment</u> The Group’s rationale is consistent with the rationale used in their current approved EWMP and those in a significant number of other WMPs and EWMPs. However, the Board does share the concerns raised regarding bacteria and intends to evaluate these issues as models are updated/developed (e.g. WMMS); TMDLs are reconsidered; and the Regional MS4 Permit is developed.</p> <p><u>Base Flows and Dry Weather Discharges</u> Section 2.4.1 of the Group’s proposed revised EWMP provides detail regarding its understanding of base flows.</p> <p>To evaluate these assumptions, Permittees are required to investigate, report on, and, if necessary, monitor significant non-storm water discharges</p>

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		<p>(NSWDs) under the permit's Monitoring and Reporting Program. If Permittees determine through monitoring that their NSWDs are sources of pollutants, then the permit's non-storm water discharge prohibition provisions and Illicit Connections and Illicit Discharge Elimination provisions require Permittees to abate those discharges.</p>
<p>Assumptions and Conclusions</p>	<p>Metals mass loading is simulated as associated with sediment erosion and transport in rainfall and irrigation water runoff; this assumption is questionable for copper and zinc due to the variable solubility of these constituents depending on the contaminant source and on conditions of the receiving water. The validity of and support for this assumption is particularly important for zinc, as it has been selected as the limiting priority pollutant. Applicants must justify the use of this assumption.</p>	<p>The modeling of metals as associated with sediment erosion and transport is valid and supported by evidence. Metals are strongly associated with particulate matter in wet weather. This assumption is an inherent part of the LSPC model for Los Angeles County within WMMS and the LSPC model used in development of the Los Angeles River and San Gabriel River metals TMDLs. This assumption is based on the research relied upon for the metals TMDLs.</p> <p>Furthermore, the Group calibrated its model to observed water quality data. As the Group outlines in Section 2.1 of Attachment C, comparison of modeled vs. observed concentrations for copper and zinc give R² values above 0.8 for the Los Angeles River. The R² values for San Gabriel River were not as high. However, the Group provides additional information regarding these statistics.</p> <p>The Los Angeles water Board requests that the commenters clarify and raise this issue of metals solubility as permits, TMDLs, RAA guidance, and/or models are updated/developed.</p>

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Assumptions and Conclusions	<p>Another key assumption that has not been justified is that all redevelopment projects will include low impact development (LID) BMPs required by the MS4 Permit providing a loading reduction based on capturing the runoff volume associated with the 85th percentile, 24-hour rainfall. As with other assumptions covered above, these premises are not justified with documentation (e.g., data on actual achievements since Permit adoption) or investigated in terms of their repercussions if not borne out. For various reasons, regulatory requirements are usually not completely fulfilled. Furthermore, there is no attention given to an enhanced institutional framework and programs to advance application of the present Permit requirements. For example, the establishment of specific functions within each municipal stormwater program and development permitting department to implement MCMs and ensure that redevelopment projects actually install the required LID BMPs.</p>	<p><u>Redevelopment LID</u> The Group's LID assumptions are reasonable since Permittees must require qualifying new development and redevelopment projects to retain the Storm Water Quality Design Volume (SWQDV) or to implement an alternative compliance measure (e.g., offsite mitigation, biofiltration, other measures in an equivalent LID Ordinance, etc.). Permittees not implementing the provisions of the Planning and Land Development Program are in violation of the permit.</p> <p><u>Enhanced Institutional Framework and Programs</u> The commenters note of a lack of attention given to an enhanced institutional framework and programs to advance the application of the present permit requirements. A detailed description of such a framework beyond what the Group has provided is not needed since the Group is ultimately required to implement minimum control measures (MCMs) per the permit. Furthermore, the Group's load reduction assumption from MCMs is consistent with other approved WMPs and EWMPs.</p>
Project General Assumptions	<p>One overarching category of assumptions pertains to all projects: the hydrogeological conditions at the sites, most instrumentally the soil types, infiltration rates, presence of confining subsurface layers, groundwater positions, and existing below-ground contamination. Soils must have sufficient porosity to store infiltrated runoff until it percolates farther down. The infiltration rate, absence of a confining soil or rock layer, and sufficient spacing to the highest water table position determine if the facility can drain rapidly enough and avoid operating problems; and legacy</p>	<p>The Group has begun to evaluate these conditions in Attachment B of its proposed program. The degree of detail in these evaluations is consistent with the evaluations conducted in other approved WMPs and EWMPs.</p> <p>The Los Angeles Board notes the concerns regarding "constant revision".</p> <p>Ultimately, the projects and project milestones Permittees propose in a WMP/EWMP are what</p>

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	<p>contamination in the percolating water path risks mobilizing and spreading pollutants.</p> <p>It is necessary to conduct more investigation up-front regarding whether the projects discussed are feasible and will function as stated, rather than seeking revisions once it is revealed that projects weren't adequately vetted from the beginning. This confirms what we feared with the 2012 permit: that there would be constant revision of proposed projects with little to no implementation. Finally, more information is needed about proposed project conveyance(s), including the legality of such conveyance(s).</p>	<p>Permittees will be required to implement. Although revisions are allowed and are an integral part of the Adaptive Management Process, approval of revisions is not guaranteed.</p>
Project Details	<p>The Board requested that Permittees provide more project details including the responsibilities of participating Agencies in the revised EWMP document. While Permittees did provide more detail in Table 1 of the rEWMP, this was only done for regional projects, and not distributed projects. Further, this table does not "clearly identify the responsibilities...for implementation." LA County MS4 Permit Part VI.C.5.B.iv.(4)(e).</p>	<p>The Group identifies that the County of Los Angeles is the only Group member responsible for green streets BMPs in Attachment B, Section 3.2.3 (pg. 22) and Attachment C, Section 3.2.3 (pgs. 70-72).</p>
Project Specific	<p>Arcadia Arboretum Natural Treatment and Groundwater Recharge Project: This regional project is likely undersized as a single, 85th percentile 24-hour storm event would create about 50 acre-feet of runoff whereas the wetland cell has a storage volume of 1.4 acre-feet. Relatedly, the revised plan does not describe the expected treatment effectiveness for the runoff passing through the wetland and then discharging to downstream waters. This variable is subject to uncertainty, like so many other factors in the analysis and this is yet another area where uncertainty must be quantified</p>	<p><u>Arboretum Project Sizing</u> The Group describes how the arboretum project was modeled in Attachment C, Section 3.2.2. In addition to the wetland cell, the arboretum includes two 500' x 30' x 3' recharge ponds (~ 1 AF storage each) and references an equation (Kadlec and Knight method) for pollutant removal. As the Group implements its projects, it would be expected to substantiate its modeling and load reduction estimates.</p>

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	<p>and examined for its implications on achieving objectives. In addition to the lack of examination of hydrogeological conditions at the site, applicants have not yet examined dry weather flows for this project. The revised plan cites dry weather flow as a potential problem at the site, and this should be examined prior to approval.</p> <p>Finally, the schedule of this project allows for five years for feasibility studies followed by another five years until completion. This extended, ten-year schedule must be justified. Further, the project timeline states that the feasibility study started over a year ago; on 1/11/2018. If this is accurate, the rEWMP should be updated to reflect this, including providing details on what information the study has produced.</p>	<p>As the commenters note, the regional project is undersized compared to the 85th percentile, 24-hour storm event. This is in part why the proposed tentative includes the condition to reclassify the program as a WMP.</p> <p><u>Project Constraints</u> The Los Angeles Water Board shares the commenter’s concern with respect to the potential dry weather flows constraint cited by the Group (i.e., there needs to be dry weather flow to sustain the wetlands and to sustain Baldwin Lake). The Group will be expected to further evaluate the constraints it has identified with respect to its wetlands projects and update its RAA and/or control measures as it implements its program and submits its June 30, 2021 RAA Update.</p> <p><u>Feasibility Studies</u> The Group’s general project implementation schedule adheres to compliance deadlines related to TMDLs and the Group’s identified waterbody pollutant combinations and watershed priorities. Given the above, as well as the multiple factors involved to implement and construct projects, the Board does not believe it is necessary to expedite the Group’s proposed timeframe.</p>
Project Specific	<p>Rio Hondo Ecosystem Restoration Project and Arcadia Wash Water Conservation Diversion: Once again, the size of the contributing area versus the project’s cited infiltration capacity call into question its functionality. The system will serve a contributing drainage area of 15,870 acres while</p>	<p>See comment above regarding project constraints.</p>

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	<p>infiltration rates of < 0.3 inch/hour, calculated by project analysts, are very limiting to recharge. Applicants state that “non-homogeneity could also affect significantly the infiltration capacity at the site, with infiltration rates below and above the minimum acceptable infiltration rate.” Attachment B, p.101. This must be addressed prior to rEWMP approval. Further, even if ample infiltration existed at the site, the project remains undersized for the drainage area.</p>	
Project Specific	<p>Encanto Park Stormwater Capture Project: The proposed timeline for this project is unsupported. Feasibility studies are set to take place between September 2022 and March 2023, with project completion by September 2026. The schedule provided must be justified.</p>	See comment above regarding feasibility studies.
Project Specific	<p>Basin 3E Enhancements at Santa Fe Spreading Grounds Project: While this project has a more compressed feasibility assessment period than the others, the proposed schedule is not justified. The feasibility study is set to begin at the end of March, just a few weeks after the Board’s proposed approval. Additionally, the project’s follow-up steps appear to be exceedingly drawn out and also must be justified.</p>	See comment above regarding feasibility studies.
Green Streets	<p>The revised plan does not go into site-by-site specifications of proposed green streets. As in the case of the regional projects, there has been no on-site geotechnical investigation. Particularly in light of the vast reduction in the amount of green streets proposed, the revised plan must have more details regarding feasibility and location of green streets projects. Without these specifics, these numbers should be regarded only as goals; goals which could be revised at any time with little to no implementation,</p>	The Group’s upfront analysis for green streets is at an adequate level of detail and is consistent with the level of analyses in other approved WMPs and EWMPs.

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	as demonstrated by this revision. Again, this is a manifestation of our original fear with the 2012 permit: constant revision with little to no projects installed.	
Model Assumptions	Table 4-8 in Attachment C shows that there is little margin at any compliance point between the total expected and required decreases in zinc mass loading. The differentials range from 0.5 to 24 lbs/yr; these are small margins in light of the uncertainties introduced by the assumptions, calibration deviations, and project constraints discussed above.	<p>Uncertainties in the program are accounted for because of the following:</p> <ol style="list-style-type: none"> 1) The Group will be required to update its program with an updated RAA by June 2021. 2) After completing the control measures identified in the program, the Group must demonstrate compliance with all applicable final WQBELs and RWLs.
Model Assumptions	The two regional projects in the Rio Hondo Drainage Area are being relied on for 68 percent of the total pollutant reduction. Both of those projects, especially the Peck Park Lake spreading grounds, pose significant questions about infiltration and sizing. It is fair to say that it is unlikely these regional projects will function exactly as planned; as such, additional distributed projects should be analyzed and included in the revision. These issues must be addressed prior to approval.	The Los Angeles Water Board shares the commenter's concern regarding the two regional projects in the Rio Hondo subwatershed. Due to these concerns, the Draft Tentative Conditional Approval includes conditions that emphasize the Group's re-evaluation of its RAA. The Board believes that these issues can be best addressed through the conditions of the approval and the Adaptive Management Process.
Model Assumptions	There has been no quantification of uncertainties introduced by assumptions; calibration issues with the hydrologic, water quality, and BMP models; and BMP projects. Not having this analysis has prevented examination of the effects of uncertainties on modeling results and conclusions regarding the prospects for actually achieving the Permit's objectives. Failing to include this analysis is likely contrary to the Permit. Finally, the revised RAA gives	The RAA Guidance document used by Permittees outlines criteria for estimating baseline loading, required pollutant reductions, and BMP performance. However, even with such criteria in place, uncertainties and assumptions will still be an inherent element in watershed storm water modeling and permit implementation.

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	<p>no estimates of the relative certainty of either the mass loading reductions or CTR compliance. Failure to quantify potential deviations and potential error magnitudes and failure to determine which projects are necessary for a certain level of assurance of achieving compliance seems contrary to the permit requirement in VI.C.5.b.iv.(5), which states that "...data shall be statistically analyzed to determine the best estimate of performance and the confidence limits on that estimate for the pollutants to be evaluated.</p>	<p>The permit's Adaptive Management Process outlines a framework for Permittees to continually refine implementation such that uncertainty is reduced, and water quality priorities are achieved in receiving waters. A quantification of uncertainties is best handled within this framework.</p> <p>The permit language stating that data shall be statistically analyzed refers to watershed control measure performance data that are used as a model input:</p> <p><i>Data on performance of watershed control measures needed as model input shall be drawn only from peer-reviewed sources. These data shall be statistically analyzed to determine the best estimate of performance and the confidence limits on that estimate for the pollutants to be evaluated.</i></p> <p>The Group did not deviate from this language. The Group used the USEPA SUSTAIN Model to optimize BMP configurations. Furthermore, the Kadlec and Knight and Holton infiltration methods used by the Group are published empirical formulas.</p>