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San Diego Region



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June 29, 2009

Chandra Wallar
Deputy Chief Administrative Officer
County of San Diego
Land Use and Environment Group
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San Diego, CA 92101

In reply refer to:

CIWQS Place ID No.:710562 carias

Dear Ms. Wallar:

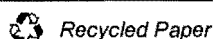
**SUBJECT: Regional Board Comments on Draft Final San Diego
Hydromodification Management Plan (Draft HMP) Dated January 24, 2009 and
Revised May 1, 2009**

The San Diego Regional Water Quality Control Board, San Diego Region (Regional Board) has reviewed the Draft Final San Diego Hydromodification Management Plan (draft HMP) dated January 24, 2009 and revised May 1, 2009. The HMP is required per Section D.1.g of Order No. R9-2007-0001, the San Diego County Municipal Permit (Permit). This letter provides comments on the revised HMP dated May 1, 2009, and the revised "Appendix G" dated June 12, 2009.

The draft HMP demonstrates a rigorous modeling analysis on the part of the regulated entities under Order No. R9-2007-0001 (the County of San Diego, the incorporated cities of San Diego County, the San Diego Unified Port District, and the San Diego County Airport Authority—herein after collectively referred to as Copermittees). This modeling analysis was conducted in an effort to accurately define a lower flow threshold for which hydromodification impacts are likely to occur on receiving waters from Priority Development Projects (PDPs) as defined in the Permit. This analysis included synthetic modeling since actual data describing the geomorphic conditions for local receiving waters are limited. The analysis includes using a lower flow threshold value of $0.1Q_2$ (10 percent of the 2-year runoff event) as a conservative, blanket standard for local receiving waters. Where site specific conditions warrant a less conservative lower flow threshold, project applicants may utilize a series of nomographs to evaluate a lower flow threshold based on sufficient knowledge of input parameters (channel bottom width, channel width/depth ratio, channel bed composition, etc.).

Although the Regional Board agrees with the Copermittee's general approach for evaluating the lower flow threshold that causes hydromodification impacts on local receiving waters, the draft HMP lacks sufficient detail regarding both the generation of

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the lower flow threshold analysis and the implementation of this approach for PDPs. Specific comments are as follows:

1. The draft HMP should include a flow chart demonstrating how the various analyses relate or do not relate to one another. For example, Appendix G discusses the use of a “minimum” flow value of 1 cubic foot per second (cfs) in cases where $0.1Q_2$ is lower than 1 cfs, but it is unclear when this value would be used instead of the value generated by the use of the nomograph. Although the text specifies that such a flow chart will be provided in the final HMP, such information is needed to understand the proposed approach and properly evaluate it.
2. Permit provision D.1.g.(1)(i) states that the HMP must include technical information supporting any standards and criteria proposed. Therefore, Appendix G must include a discussion or summary of pertinent data (such as a scatter plot or other visual aid) supporting the use of $0.1Q_2$ as the blanket standard, as well as 1 cfs as the minimum flow rate.
3. Although much improved over earlier versions, Appendix G is still not clear with regards to how the nomographs were constructed. For example, the second bullet on page 3 describes the approach used, with mention of “backing calculations,” and the dimensions associated with two different trapezoidal channels. Figure 1 shows rating curves for three different channels, and the dimensions for these channels do not match those described on page 3. Further, the text should state how the nomographs were constructed—from governing equations, model output, literature values, etc. The discussion should also clearly state all assumptions and limitations. The HMP must be a stand-alone document in terms of the methodology being proposed and the supporting technical analysis.
4. Although Appendix G includes two sample scenarios and text describing how to use the nomograph, it is unclear as to how many nomographs will be included in the final product. How an applicant would know which nomograph to use (assuming there are several to choose from) is also unclear.
5. In terms of utilizing input data for the nomograph, the text is silent as to what reach of the creek will be evaluated. This will likely be interpreted from project applicants as the area of the creek closest to the project discharge point, without consideration of an area further downstream that could be more sensitive to erosion. The concept of a domain of analysis is mentioned in the draft HMP but must be clarified.
6. The text is unclear in regards to how the minimum flow threshold calculated for the receiving water relates to the flow that must be controlled at the project site. For example, Figure 2 in Appendix G describes an example flow range where

erosion is expected to occur, which is derived from using the nomograph. The minimum flow threshold based on stream parameters derived from this example is 2.6 cfs. How this value relates to what flow range must be controlled at the upstream project site is not mentioned. If 2.6 cfs represents an assimilative capacity of the creek to tolerate flow (before erosion occurs), then the flow leaving the project site must be lower than this value (assuming that there are increased flows from multiple projects in the watershed). Additionally, how the analysis deals with cumulative flows from numerous projects discharging to the same stream reach must be clarified. Page 5-10 of the draft HMP states that cumulative impacts could affect the implementation of minimum discharge standards depending on the degree of development existing within a watershed, but does not specify how this information will be tracked or utilized.

7. Related to item 6, on page 7 of Appendix G, the text states that a minimum flow value "assumes limited potential for additional development in the watershed within the domain of analysis." However, page 5-3 states that development is likely to occur in the Otay, Peñasquitos, and Batiquitos watersheds in the next 5-10 years. The assumption that there is limited potential for additional development within the domain of analysis must therefore be removed or better qualified.
8. Permit provision D.1.g.(1)(k) requires a description of pre-and post-project monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP. The draft HMP is unclear as to what type of monitoring will be required; however, the draft HMP repeatedly states that there are data gaps in regards to local channel morphology. The Regional Board suggests meeting this permit provision by requiring the collection of necessary information to both improve the existing data set for local channel morphology, as well as assess the effectiveness of the HMP.
9. The draft HMP states that sediment yield is a significant variable in terms of variability with hydrologic model results, yet does not recommend incorporation of sediment yield into the analysis. The text should incorporate sediment yield into the draft HMP, or discuss what is needed to do so at a later date.
10. Permit provision D.1.g.(1) applies to all PDPs where increased rates and durations are likely to cause increased erosion. The draft HMP allows for many exemptions from the requirements. The alternate lower flow threshold based on watershed position may be a suitable adaptation. However, in doing so, there must be assurance that even though a project may meet the threshold for exemptions, this project will not cause erosion per the requirements of the Permit.
11. Permit provision D.1.g.(1)(c) requires PDPs "to implement hydrologic control measures so that PDP's post-project runoff flow rates and durations do not

exceed pre-project flow rates and durations....” Although the Permit does not specifically interpret “pre-project” conditions to reference pre-development (naturally occurring) conditions, the Copermittees are not restricted from implementing this more conservative standard. Tentative Order No. R9-2009-0002 (the draft Orange County Municipal Permit) dated June 18, 2009 contains this more restrictive language. The San Diego Copermittees should be aware that the next iteration of the Permit may contain similar language. Additionally, the exceptions for hydromodification management measures included in the Permit (provision D.1.g.(3)) for discharges into hardened channels will also likely be eliminated.

12. Several requirements in the permit are discussed in the draft HMP, but only in a “placeholder” capacity. While the bulk of the draft HMP focuses only on provision D.1.g.(1)(b), most of the remaining provisions are discussed in terms of a future HMP submittal. The Regional Board has previously stated that the proposed approach to determining the minimum threshold analysis is acceptable, provided that more technical information is included to support the standards and criteria proposed. However, the final HMP **must** include the remaining provisions described in the Permit. The following provisions summarized from Permit section D.1.g.(1) do not currently contain sufficient information:

- a. *Identify a standard for channel segments.* The Regional Board understands that the Copermittees are waiting for results from a study being conducted by the Southern California Coastal Waters Research Project. If the study does not conclude in a timely manner, then the Copermittees must propose an alternative analysis.
- c. *Require PDPs to implement hydrologic control measures.* Although page 6-1 of the draft HMP states that PDPs are required to implement hydrologic control measures, it is unclear if this is a standard proposed in the draft HMP or simply a Permit citation. The text describes potential methods by which project applicants may demonstrate HMP compliance, but it is unclear if demonstrating HMP compliance is equivalent to the standard described in this Permit provision.
- f. *Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from PDPs.* The draft HMP does not contain information satisfying this requirement.
- g. *Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.* The draft HMP does not contain information satisfying this requirement.
- h. *Include criteria on selection and design of management practices and measures to address potential hydromodification impacts.* The draft HMP states that the Copermittees are developing a decision matrix to satisfy this requirement. This element must be completed and included in the final HMP.

- i. *Include technical information supporting any standards and criteria proposed.* As mentioned earlier, the draft HMP must include information supporting the use of the standards chosen (0.1Q₂, 1cfs, and the information used to generate the nomograph concept).
- j. *Include a description of inspections and maintenance to be conducted for management practices and measures.* The draft HMP mentions the need for this information. This element must be completed and included in the final HMP.
- k. *Include a description of pre- and post- project monitoring and other program evaluations to assess effectiveness of the HMP.* The draft HMP does not contain information satisfying this requirement.
- l. *Include mechanisms for addressing cumulative impacts on channel morphology.* The draft HMP mentions cumulative impacts as a consideration but does not contain information satisfying this requirement.

Per permit provision J.2.a.(2)(d), the Copermitees are required to submit a final HMP for Regional Board approval within 180 days of this letter (December 29, 2009). The Regional Board appreciates the Copermitee's efforts on the draft HMP and anticipates working closely with the Copermitees to resolve the above-mentioned items.

In the subject line of any response, please include the requested "In reply refer to:" information located in the heading of this letter. For questions pertaining to the subject matter, please contact Christina Arias at (858) 627-3931 or carias@waterboards.ca.gov.

Respectfully,



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