Agenda

Discussion of Tentative Order No. R9-2013-0001

April 18, 2013
1-4pm
Council Chambers, City of Dana Point

1. Introduction – Mary Anne Skorpanich/Chris Crompton
2. Discussion
    a. LID Performance Standard – Lisa Austin/Aaron Poresky
    b. Bacteria TMDL – Nancy Palmer/Karen Cowan
    c. Road Projects – Daniel Apt
    d. Hydromodification – Daniel Apt/Richard Boon
    e. Receiving Water Limitations – Richard Boon/Karen Cowan
3. Next Steps

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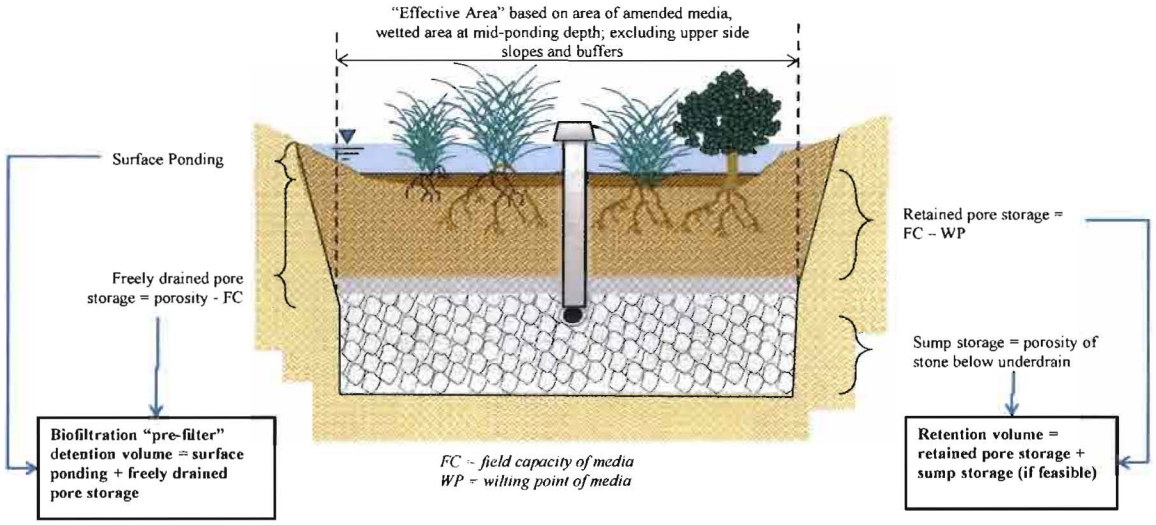
Comparison of Alternative Biofiltration Sizing Standards

Biofiltration Geometry Schematic



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Comparison of Alternative Biofiltration Sizing Standards

Scenario 1 - Typical Biofiltration - Median Routing Time; Typical Media Filtration Rate

Tributary Area Characteristics	Value	Explanation
85th Percentile, 24-hour Storm Depth, d, inches	0.85	Typical of SOC
Tributary Area, A, ac	1	For illustration purposes
Imperviousness	0.7	Typical mix of land uses
Runoff coefficient, RC	0.675	TGD runoff coefficient equation
Design Capture Volume, cu-ft	2083	A × d × RC × (43560 sf/ac) / (12 in/ft)

Baselne Biofiltration BMP Design Parameters	Value	Explanation
Ponding Depth, inches	12	Typical design; per TGD and other guidance
Media Thickness, inches	24	Typical design; per TGD and other guidance
Media Available Pore Space, in/in (porosity - FC)	0.25	Porosity, minus portion wetted by irrigation and/or previous event
Design Media Filtration Rate, in/hr	2.5	Default design; per TGD; LAMS4 guidance with 2.0 clogging facgtor

Assumptions and Baseline Calculations	Value	Explanation
Portion of DCV Reliably Retained, cu-ft	0	Assumption; theoretically yields largest difference between alternative biofiltration design approaches
Remaining DCV	2083	
Routing Period, hrs	7	Typical storm duration, storms similar to 85th pctl depth; sensitivity assumption
Depth filtered during routing period, inches	17.5	Media filtration rate × routing period
Depth of detention storage, inches	18	Ponding depth + pore space
Total Depth Treated, during and following event	35.5	Depth filtered + detention storage
Storage drawdown time, hours	7.2	Depth stored / media filtration rate

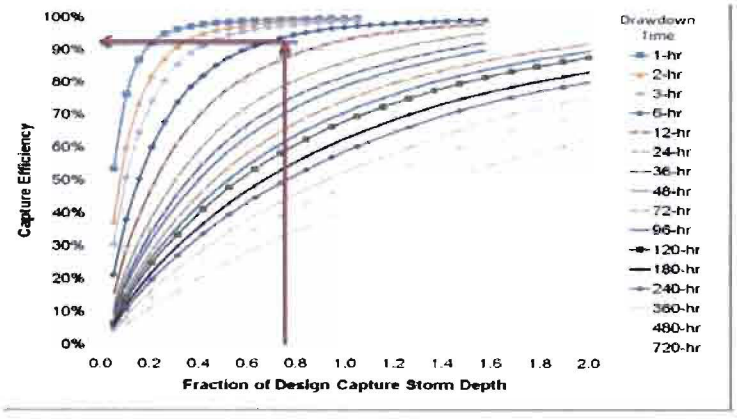
Results - Biofiltration Alternative 1 - Treat 150% of the remaining DCV.	Value	Explanation
Required Biofiltration Treated Volume, cu-ft	3124	1.5 × remaining DCV
Biofiltration Footprint Required, cu-ft	1056	Req'd Biofiltration Volume / Total Depth Treated + Stored
Storage Volume as fraction of remaining DCV	0.76	Storage volume / Remaining DCV
Average Annual Capture Efficiency	92%	From TGD nomograph; see below

Results - Biofiltration Alternative 2 - Store 0.75 of remaining DCV in pores and ponding.	Value	Explanation
Required Biofiltation Storage Volume, surface + pores	1562	0.75 × remaining DCV
Footprint Area, sq-ft	1041	required biofiltration storage volume / total storage depth (ponding + pores)
Effective storm volume filtered and stored during routing period, cu-ft	3081	Total stored plus filtered depth; multiplied by footprint area
Storage Volume as fraction of remaining DCV	0.75	
Average Annual Capture Efficiency	92%	From TGD nomograph; see below

Summary Comparison	Biofiltration Sizing Alternatives	
	Alt 1 - 150% treat	Alt 2 - 0.75 storage
Footprint	1,056	1,041
Effective Storm Volume Treated	3,124	3,081
Average Annual Capture Efficiency	92%	92%

Support for Percent Capture Calculations - Nomographs from TGD

Red = 150 percent treat; Blue = 75 percent store



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Comparison of Alternative Biofiltration Sizing Standards

Scenario 2 - Typical Biofiltration - Longer Routing Time

Tributary Area Characteristics	Value	Explanation
85th Percentile, 24-hour Storm Depth, d, inches	0.85	Typical of SOC
Tributary Area, A, ac	1	For illustration purposes
Imperviousness	0.7	Typical mix of land uses
Runoff coefficient, RC	0.675	TGD runoff coefficient equation
Design Capture Volume, cu-ft	2083	A × d × RC × (43560 sf/ac) / (12 in/ft)

Baseline Biofiltration BMP Design Parameters	Value	Explanation
Ponding Depth, inches	12	Typical design; per TGD and other guidance
Media Thickness, inches	24	Typical design; per TGD and other guidance
Media Available Pore Space, in/in (porosity - FC)	0.25	Porosity, minus portion wetted by irrigation and/or previous event
Design Media Filtration Rate, in/hr	2.5	Default design; per TGD; LAMS4 guidance with 2.0 clogging facgtor

Assumptions and Baseline Calculations	Value	Explanation
Portion of DCV Reliably Retained, cu-ft	0	Assumption; theoretically yields largest difference between alternative biofiltration design approaches
Remaining DCV	2083	
Routing Period, hrs	12	Upper bound on potentially acceptable routing time
Depth filtered during routing period, inches	30	Media filtration rate × routing period
Depth of detention storage, inches	18	Ponding depth + pore space
Total Depth Treated, during and following event	48	Depth filtered + detention storage
Storage drawdown time, hours	7.2	Depth stored / media filtration rate

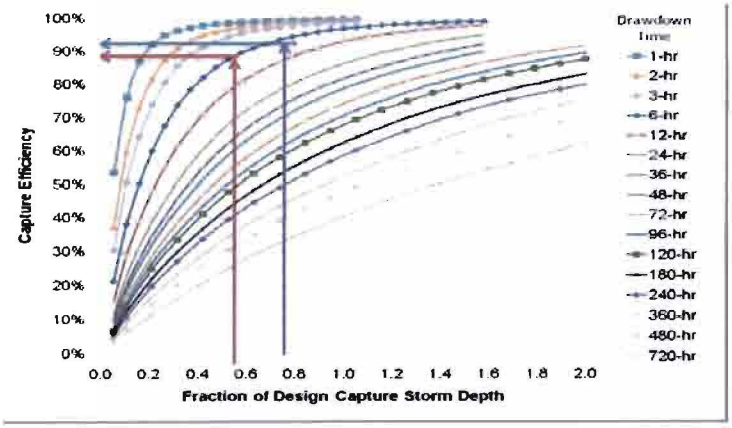
Results - Biofiltration Alternative 1 - Treat 150% of the remaining DCV.	Value	Explanation
Required Biofiltration Treated Volume, cu-ft	3124	1.5 × remaining DCV
Biofiltration Footprint Required, cu-ft	781	Req'd Biofiltration Volume / Total Depth Treated + Stored
Storage Volume as fraction of remaining DCV	0.56	Storage volume / Remaining DCV
Average Annual Capture Efficiency	87%	From TGD nomograph; see below

Results - Biofiltration Alternative 2 - Store 0.75 of remaining DCV in pores and ponding.	Value	Explanation
Required Biofiltation Storage Volume, surface + pores	1562	0.75 × remaining DCV
Footprint Area, sq-ft	1041	required biofiltration storage volume / total storage depth (ponding + pores)
Effective storm volume filtered and stored during routing period, cu-ft	4165	Total stored plus filtered depth; multiplied by footprint area
Storage Volume as fraction of remaining DCV	0.75	
Average Annual Capture Efficiency	92%	From TGD nomograph; see below

Summary Comparison	Biofiltration Sizing Alternatives	
	Alt 1 - 150% treat	Alt 2 - 0.75 storage
Footprint	781	1,041
Effective Storm Volume Treated	3,124	4,165
Average Annual Capture Efficiency	87%	92%

Support for Percent Capture Calculations - Nomographs from TGD

Red = 150 percent treat; Blue = 75 percent store



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Comparison of Alternative Biofiltration Sizing Standards

Scenario 3 - Typical Biofiltration - Shorter Routing Time

Tributary Area Characteristics	Value	Explanation
85th Percentile, 24-hour Storm Depth, d, inches	0.85	Typical of SOC
Tributary Area, A, ac	1	For illustration purposes
Imperviousness	0.7	Typical mix of land uses
Runoff coefficient, RC	0.675	TGD runoff coefficient equation
Design Capture Volume, cu-ft	2083	A × d × RC × (43560 sf/ac) / (12 in/ft)

Baseline Biofiltration BMP Design Parameters	Value	Explanation
Ponding Depth, inches	12	Typical design; per TGD and other guidance
Media Thickness, inches	24	Typical design; per TGD and other guidance
Media Available Pore Space, in/in (porosity - FC)	0.25	Porosity, minus portion wetted by irrigation and/or previous event
Design Media Filtration Rate, in/hr	2.5	Default design; per TGD; LAMS4 guidance with 2.0 clogging facgtor

Assumptions and Baseline Calculations	Value	Explanation
Portion of DCV Reliably Retained, cu-ft	0	Assumption; theoretically yields largest difference between alternative biofiltration design approaches
Remaining DCV	2083	
Routing Period, hrs	4	Lower bound on acceptable routing time
Depth filtered during routing period, inches	10	Media filtration rate × routing period
Depth of detention storage, inches	18	Ponding depth + pore space
Total Depth Treated, during and following event	28	Depth filtered + detention storage
Storage drawdown time, hours	7.2	Depth stored / media filtration rate

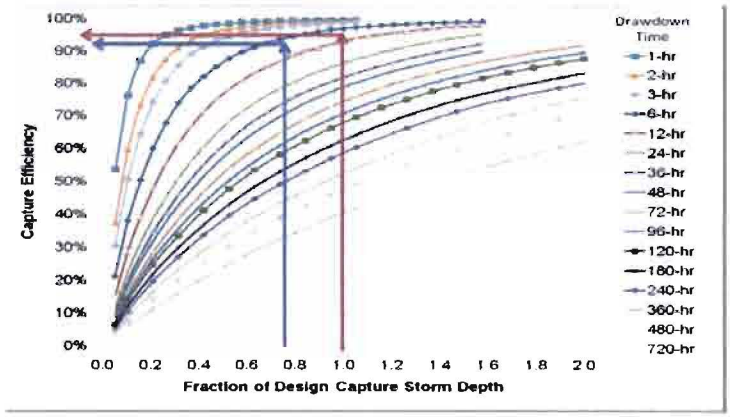
Results - Biofiltration Alternative 1 - Treat 150% of the remaining DCV.	Value	Explanation
Required Biofiltration Treated Volume, cu-ft	3124	1.5 × remaining DCV
Biofiltration Footprint Required, cu-ft	1339	Req'd Biofiltration Volume / Total Depth Treated + Stored
Storage Volume as fraction of remaining DCV	0.96	Storage volume / Remaining DCV
Average Annual Capture Efficiency	95%	From TGD nomograph; see below

Results - Biofiltration Alternative 2 - Store 0.75 of remaining DCV in pores and ponding.	Value	Explanation
Required Biofiltation Storage Volume, surface + pores	1562	0.75 × remaining DCV
Footprint Area, sq-ft	1041	required biofiltration storage volume / total storage depth (ponding + pores)
Effective storm volume filtered and stored during routing period, cu-ft	2430	Total stored plus filtered depth; multiplied by footprint area
Storage Volume as fraction of remaining DCV	0.75	
Average Annual Capture Efficiency	92%	From TGD nomograph; see below

Summary Comparison	Biofiltration Sizing Alternatives	
	Alt 1 - 150% treat	Alt 2 - 0.75 storage
Footprint	1,339	1,041
Effective Storm Volume Treated	3,124	2,430
Average Annual Capture Efficiency	95%	92%

Support for Percent Capture Calculations - Nomographs from TGD

Red = 150 percent treat; Blue = 75 percent store



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Comparison of Alternative Biofiltration Sizing Standards

Scenario 4 - Typical Biofiltration - Higher Media Flowrate

Tributary Area Characteristics	Value	Explanation
85th Percentile, 24-hour Storm Depth, d, inches	0.85	Typical of SOC
Tributary Area, A, ac	1	For illustration purposes
Imperviousness	0.7	Typical mix of land uses
Runoff coefficient, RC	0.675	TGD runoff coefficient equation
Design Capture Volume, cu-ft	2083	A × d × RC × (43560 sf/ac) / (12 in/ft)

Baseline Biofiltration BMP Design Parameters	Value	Explanation
Ponding Depth, inches	12	Typical design; per TGD and other guidance
Media Thickness, inches	24	Typical design; per TGD and other guidance
Media Available Pore Space, in/in (porosity - FC)	0.25	Porosity, minus portion wetted by irrigation and/or previous event
Design Media Filtration Rate, in/hr	5	Default design; per TGD; LAMS4 guidance without clogging facgtor

Assumptions and Baseline Calculations	Value	Explanation
Portion of DCV Reliably Retained, cu-ft	0	Assumption; theoretically yields largest difference between alternative biofiltration design approaches
Remaining DCV	2083	
Routing Period, hrs	7	Typical storm duration, storms similar to 85th pctl depth; sensitivity assumption
Depth filtered during routing period, inches	35	Media filtration rate × routing period
Depth of detention storage, inches	18	Ponding depth + pore space
Total Depth Treated, during and following event	53	Depth filtered + detention storage
Storage drawdown time, hours	3.6	Depth stored / media filtration rate

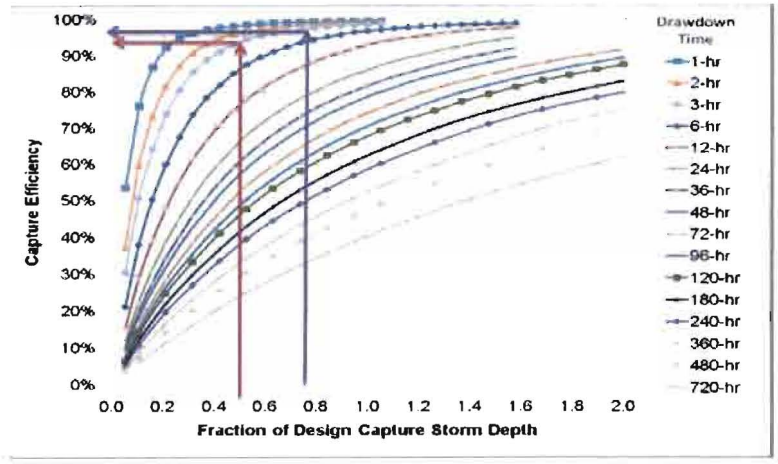
Results - Biofiltration Alternative 1 - Treat 150% of the remaining DCV.	Value	Explanation
Required Biofiltration Treated Volume, cu-ft	3124	1.5 × remaining DCV
Biofiltration Footprint Required, cu-ft	707	Req'd Biofiltration Volume / Total Depth Treated + Stored
Storage Volume as fraction of remaining DCV	0.51	Storage volume / Remaining DCV
Average Annual Capture Efficiency	93%	From TGD nomograph; see below

Results - Biofiltration Alternative 2 - Store 0.75 of remaining DCV in pores and ponding.	Value	Explanation
Required Biofiltation Storage Volume, surface + pores	1562	0.75 × remaining DCV
Footprint Area, sq-ft	1041	required biofiltration storage volume / total storage depth (ponding + pores)
Effective storm volume filtered and stored during routing period, cu-ft	4599	Total stored plus filtered depth; multiplied by footprint area
Storage Volume as fraction of remaining DCV	0.75	
Average Annual Capture Efficiency	96%	From TGD nomograph; see below

Summary Comparison	Biofiltration Sizing Alternatives	
	Alt 1 - 150% treat	Alt 2 - 0.75 storage
Footprint	707	1,041
Effective Storm Volume Treated	3,124	4,599
Average Annual Capture Efficiency	93%	96%

Support for Percent Capture Calculations - Nomographs from TGD

Red = 150 percent treat; Blue = 75 percent store



LID Performance Standard
Lisa Austin/Aaron Poresky

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Revisions to Part E (JURMP) are necessary in order to address LID performance standard.

c. PRIORITY DEVELOPMENT PROJECT STRUCTURAL BMP PERFORMANCE REQUIREMENTS

In addition to the BMP requirements listed for all development projects under Provision E.3.a, Priority Development Projects must also implement structural BMPs that conform to performance requirements described below.

(1) Storm Water Pollutant Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite structural BMPs to control pollutants in storm water that may be discharged from a project as follows:

(a) Each Priority Development Project must be required to implement LID BMPs that are designed to retain (i.e. intercept, store, infiltrate, evaporate, and evapotranspire) onsite ~~100 percent of the pollutants contained in~~ the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume);[1]

(b) If a Copermittee determines that implementing LID BMPs to retain the full design capture volume onsite for a Priority Development Project is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize flow-thru treatment control BMPs to treat the remaining portion of the design capture volume ~~to achieve the equivalent pollutant load removal~~ that cannot be reliably retained onsite, per one of the following options listed in (i) through (iii) ~~described in Provision E.3.c.(1)(a).~~

(i) LID BMPs including Biofiltration shall treat 1.5 times the portion of the design capture volume that is not reliably retained onsite, or

(ii) LID biofiltration BMPs shall treat the remaining portion of the design capture volume that is not reliably retained onsite. The LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention

[1] This volume is not a single volume to be applied to all areas covered by this Order. The size of the 85th percentile storm event is different for various parts of the San Diego Region. The Copermittees are encouraged to calculate the 85th percentile storm event for each of its jurisdictions using local rain data pertinent to its particular jurisdiction. In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees must describe their method for using isopluvial maps in its BMP Design Manuals.

volume, must be sized to hold at least 0.75 times the portion of the design capture volume that is not reliably retained onsite, or ~~Biofiltration LID BMPs must be considered as a first option before other types of flow-thru treatment control BMPs may be considered~~

(iii) If LID BMPs are not feasible per option (i) or (ii) above, a priority development project is allowed to utilize other flow-thru treatment control BMPs pursuant to Provision E.3.c.(1)(d) below.

(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a). The Priority Development Project alternative compliance project must mitigate for the portion of the pollutant load in the design capture volume not retained onsite if Provision E.3.(c)(3) is utilized.

(d) ~~If a Priority Development project is allowed to utilize alternative compliance, flow-thru treatment control BMPs must be implemented to treat the portion of the design capture volume that is not retained onsite.~~ Flow-thru treatment control BMPs must be sized and designed to:

(i) Remove pollutants from storm water to the MEP;

(ii) Filter or treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event, or 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two;

(iii) Be ranked with high or medium pollutant removal efficiency for the Priority Development Project's most significant pollutants of concern. Flow-thru treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of flow-thru treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

Bacteria TMDL
Nancy Palmer/Karen Cowan

Issue 1: Recognize delisted beaches under the Bacteria TMDL for Baby Beach (Attachment 5) and under the Revised TMDL for Indicator Bacteria, Project 1 (Attachment 6). Add compliance option for formal de-listing from the 303(d) list for interim and final compliance with the TMDLs. Recommend four changes.

Recommendation 1: Modify Attachment E, Provision 5.b(3) as follows:

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittees' MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 5.b.(2)(b)(i) at the Responsible Copermittees' MS4 outfalls; OR

(d) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the final effluent limitations under Specific Provision 5.c.(2)(b)(ii); OR

(e) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 5.c.(2)(b)(iii); OR

(f) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(g) The waterbody is delisted from the 303(d) list for bacterial indicators related to REC-1 use; OR

~~(g)~~ (h) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 5.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 5.b.(2)(c) achieves compliance with Specific Provisions 5.b.(3)(a), 5.b.(3)(b), 5.b.(3)(c), 5.b.(3)(d), 5.b.(3)(e) and/or 5.b.(3)(f),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 5.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 5.d, to demonstrate compliance with Specific Provisions 5.b.(3)(a), 5.b.(3)(b), 5.b.(3)(c), 5.b.(3)(d), 5.b.(3)(e) and/or 5.b.(3)(f).

Recommendation 2: Modify Attachment E, Provision 5.c.(1)(b) as follows:

(b) Interim Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

(i) There is no direct or indirect discharge from the Responsible Copermittees' MS4s to the receiving water; OR

(ii) There are no exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR

(iii) There are no exceedances of the final effluent limitations under Specific Provision 5.b.(2)(b)(i) at the Responsible Copermittees' MS4 outfalls; OR

(iv) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the final effluent limitations under Specific Provision 5.b(2)(b)(ii); OR

(v) The Responsible Copermittees can demonstrate that exceedances of the applicable receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(vi) The pollutant loads discharging from the Responsible Copermittees'

MS4 outfalls do not exceed the interim effluent limitations under Table 5.6a of Specific Provision 5.c.(1)(a); OR

(vii) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the interim effluent limitations under Table 5.6b of Specific Provision 5.c.(1)(a); OR

(viii) The Responsible Copermittees have submitted and are fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates; OR

(ix) The waterbody is delisted from the 303(d) list for bacterial indicators related to REC-1 use.

Recommendation 3: Modify Attachment E, Provision 6.b.(3) as follows:

(1) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittees' MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 6.b.(2)(b)(i) at the Responsible Copermittees' MS4 outfalls; OR

(d) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 6.b.(2)(b)(ii); OR

(e) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(f) The waterbody is delisted from the 303(d) list for bacterial indicators

related to REC-1 use; OR

(g) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 6.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 6.b.(2)(c) achieves compliance with Specific Provisions 6.b.(3)(a), 6.b.(3)(b), 6.b.(3)(c), 6.b.(3)(d), and/or 6.b.(3)(e),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 6.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 6.d, to demonstrate compliance with Specific Provisions 5.b.(3)(a), 6.b.(3)(b), 6.b.(3)(c), 6.b.(3)(d), 6.b.(3)(e) and/or 6.b.(3)(f).

Recommendation 4: Modify Attachment E, Provision 6.c.(3) as follows:

(2) Interim TMDL Compliance Determination

Compliance with the interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittees' MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 6.b.(2)(b)(i) at the Responsible Copermittees' MS4 outfalls; OR

(d) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 6.b.(2)(b)(ii); OR

(e) The Responsible Copermittees can demonstrate that exceedances of the

final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(f) There are no exceedances of the interim receiving water limitations under Specific Provision 6.c.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR

(g) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the interim effluent limitations under Specific Provision 6.c.(2)(b); OR

(h) The Responsible Copermittees have submitted and are fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates; OR

(i) The waterbody is delisted from the 303(d) list for bacterial indicators related to REC-1 use.

Issue 2: Receiving water limitations in the permit must be the same as the receiving water limitations in the adopted TMDL. Tables 6.2a and 6.2b, including footnotes, should be modified to be consistent with Receiving Water Limitations in Tables 7-48 and 7-49 from the San Diego Basin Plan. Table 6.2 should also be modified for consistency with the receiving water limitations. Recommend three changes.

Recommendation 5: Modify Table 6.2a (and Footnotes b and c) of Attachment E to be consistent with Table 7-48 from the San Diego Basin Plan.

Table 6.2a
Final Receiving Water Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies for Beaches

Constituent	Wet Weather Days		Dry Weather Days	
	Single Sample Maximum[a,b] (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency[c]	30-Day Geometric Mean[b] (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Total Coliform	10,000	22% ~~/ 0%~~	1,000	0%
Fecal Coliform	400	22% ~~/ 0%~~	200	0%
Enterococcus	104	22% ~~/ 0%~~	35	0%

Notes:
a. During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
b. During dry weather days, the ~~single sample maximum and~~ 30-day geometric mean receiving water limitations are required to be achieved.
c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. The 0% geometric mean ~~single sample maximum~~ allowable exceedance frequency applies to dry weather days.

Recommendation 6: Modify Table 6.2b (and footnotes b and c) of Attachment E to be consistent with Table 7-49 from the San Diego Basin Plan.

Table 6.2b
Final Receiving Water Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies for Creeks

Constituent	Wet Weather Days		Dry Weather Days	
	Single Sample Maximum[a,b] (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency[c]	30-Day Geometric Mean[b] (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Fecal Coliform	400	22% ~~/ 0%~~	200	0%
Enterococcus	61 (104)	22% ~~/ 0%~~	33	0%

Notes:
a. During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
b. During dry weather days, the ~~single sample maximum and~~ 30-day geometric mean receiving water limitations are required to be achieved.
c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. The 0% ~~single sample maximum~~geometric mean allowable exceedance frequency applies to dry weather days.
d. A single sample maximum of 104 MPN/100ml for *Enterococcus* may be applied as a receiving water limitation for creeks, instead of 60 MPN/100mL, if one or more of the creeks addressed by these TMDLs (San Juan Creek, Aliso Creek, Tecolote Creek, Forrester Creek, San Diego River, and/or Chollas Creek) is designated with a "moderately to lightly used area" or less frequent usage frequency in the Basin Plan. Otherwise, the single sample ~~maximum~~maximum of 61 MPN/100mL for *Enterococcus* must be used to assess compliance with the allowable exceedance frequency.

Recommendation 7: Modify Table 6.2 (and footnotes b and c) of Attachment E to be consistent with receiving water limitations from the San Diego Basin Plan and recommended changes above.

Table 6.2
Final Effluent Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies in MS4 Discharges to the Water Body

Constituent	Concentration-Based Effluent Limitations			
	Single Sample Maximum[a,b] (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency[c]	30-Day Geometric Mean[b] (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Total Coliform[d]	10,000	22% ~~/ 0%~~	1,000	0%
Fecal Coliform	400	22% ~~/ 0%~~	200	0%
Enterococcus	104[e] / 61[f]	22% ~~/ 0%~~	35[e] / 33[f]	0%

Notes:
a. During wet weather days, only the single sample maximum effluent limitations are required to be achieved.
b. During dry weather days, the ~~single sample maximum and~~ 30-day geometric mean effluent limitations are required to be achieved.
c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. The 0% ~~single sample maximum~~geometric mean allowable exceedance frequency applies to dry weather days.
d. Total coliform effluent limitations only apply to MS4 outfalls that discharge to the Pacific Ocean Shorelines and creek mouths listed in Table 6.0.
e. This *Enterococcus* effluent limitation applies to MS4 discharges to segments of areas of Pacific Ocean Shoreline listed in Table 6.0.
f. This *Enterococcus* effluent limitation applies to MS4 discharges to segments or areas of creeks or creek mouths listed in Table 6.0.

Issue 3: Calculations of exceedance frequencies in the permit must be consistent with the requirements in the TMDLs. Attachment E, Provision 6.d(1)(c)(iii)[c] should be deleted. Recommend one change.

Recommendation 8: Modify Attachment E, Provision 6.d.(1)(c)(iii) as follows.

(iii) Wet weather exceedance frequencies must be calculated as follows:

[a] If only one sample is collected for a storm event, the bacteria density for every wet weather day associated with that storm event must be assumed to be equal to the results from the one sample collected;

[b] If more than one sample is collected for a storm event, but not on a daily basis, the bacteria density for all wet weather days of the storm event not sampled must be assumed to be equal to the highest bacteria density result reported from the samples collected;

~~[c] If there are any storm events not sampled, the bacteria density for every wet weather day of these storm events must be assumed to be equal to the highest bacteria density result reported from wet weather samples collected; and~~

[dc] The single sample maximum exceedance frequency must be

calculated by dividing the number of wet weather days that exceed the single sample maximum receiving water limitations in Table 6.2 by the total number of wet weather days during the rainy season.

[ed] The data collected for dry weather must be used in addition to the data collected for wet weather to calculate the wet weather 30-day geometric means. The exceedance frequency of the wet weather 30-day geometric means must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the wet season.

Road Projects
Daniel Apt

Revisions to Part E (JURMP) are necessary in order to address road projects

Section E.3.b.(3)(b)

Retrofitting and redevelopment of existing paved alleys, streets or roads that are designed and constructed in accordance with the USEPA Green Streets guidance.[24]

Section E.3.b.(3)(c) (New provision)

For Permittee capital improvement projects, any impervious surface that is 5,000 square feet or more used for the transportation of automobiles, trucks, motorcycles, and other vehicles the Copermittees may develop post-construction BMP roadway guidance which shall meet the following criteria:

(i) Be developed by the Copermittees and reviewed by Regional Board staff within 18 months of the adoption date of the Tentative Order.

(ii) Be based on the USEPA guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets to the MEP

Hydromodification
Daniel Apt/Richard Boon

Revisions to Part E (JURMP) are necessary in order to address hydromodification

Hydromodification

Section E.3.c.(2)(b)

(b) Each Priority Development Project must avoid known critical sediment yield areas or implement measures that allow critical coarse sediment to be discharged to receiving waters, such that the sediment supply to the receiving water is unaffected by the project to the MEP.

Section E.3.c.(2)(d)

(d) Exemptions

Each Copermittee has the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provisions E.3.c.(2)(a), pending completion of the Watershed Management Area Analysis incorporated into the Water Quality Improvement Plan pursuant to Provision B.3.b.(4), where the project discharges storm water runoff to:

(i) Existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean;

(ii) Conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean;

(iii) An area identified by the Copermittees as appropriate for an exemption by the Watershed Management Area Analysis incorporated into the Water Quality Improvement Plan pursuant to Provision B.3.b.(4).

(iv) Storm water runoff into conveyance channels that are engineered for the capacity to convey the 10-year ultimate build out condition flow and are regularly maintained to ensure flow capacity all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

(v) Large rivers where large rivers are defined as reaches for which the contributing drainage area exceeds 100 square miles and with a 100-year design flow in excess of 20,000 cfs.

(vi) Areas that receive discharges from infill redevelopment projects that meet criteria to be established in updates to the Copermittees' HMPs.

(vii) Flood control and stream restoration projects.

Revisions to Part E (JURMP) are necessary in order to address road projects

Section E.3.b.(3)(b)

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(i) Be developed by the Copermittees and reviewed by Regional Board staff within 18 months of the adoption date of the Tentative Order.

(ii) Be based on the USEPA guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets to the MEP

Receiving Water Limitations
Richard Boon/Karen Cowan

Revisions to Part A (Prohibitions and Limitations) are necessary in order to address the decision by the 9th Circuit Court of Appeals.

Recommendation (Alternative #1): Modify Provision A to explicitly cross-reference the compliance option provided under Provision B.3.c. [Note: this version also includes recommended revisions to the compliance option under B.3.c].

II. PROVISIONS

A. PROHIBITIONS AND LIMITATIONS

The purpose of this provision is to describe the conditions under which storm water from and non-storm water discharges into ~~and from~~the MS4s are effectively prohibited or limited. The goal of the prohibitions and limitations is to protect the water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through the implementation of water quality improvement strategies and runoff management programs that effectively prohibit non-storm water discharges into the Copermittees' MS4s, and reduce pollutants in storm water discharges from the Copermittees' MS4s to the MEP. The process for determining compliance with the Discharge Prohibitions (A.1), Receiving Water Limitations (A.2), and Effluent Limitations (A.3, including effluent limitations derived from the TMDL requirements – Attachment E) is defined in Provision A.4.

1. Discharge Prohibitions

a. Except as provided in Provision A.1.e, A.1.f, and A.4.d., ~~D~~discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance in receiving waters of the state are prohibited.

b. Non-storm water discharges into MS4s are to be effectively prohibited, through the implementation of Provision E.2, unless such discharges are authorized by a separate NPDES permit.

c. Discharges from MS4s are subject to all waste discharge prohibitions in the Basin Plan, included in Attachment A to this Order.

d. Storm water discharges from the City of San Diego's MS4 to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's MS4 to the Heisler Park ASBS are authorized under this Order subject to the Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012 applicable to these discharges, included in Attachment A to this

Order. All other discharges from the Copermittees' MS4s to ASBS are prohibited.

e. If a Permittee has complied with the procedures outlined in Part B.3.c, the Permittee shall not be considered in violation of Part A.1 of this Order.

f. For discharges associated with water body pollutant combinations addressed in a TMDL in Attachment E of this Order, the affected Copermittees shall achieve compliance as outlined in Attachment E.

2. Receiving Water Limitations

a. Discharges from MS4s must not cause or contribute to the violation of water quality standards in any receiving waters, including but not limited to all applicable provisions contained in the list below to the extent that they remain in effect and are operative, unless such discharges are being addressed by the Copermittee(s) through the processes set forth in this Order (Provision A.4, Provision B.3.c., and Attachment E). Where a TMDL has been developed and its terms have been incorporated into this Order (in a manner that is consistent with the waste load allocations set forth in the TMDL), a Permittee shall also be considered in compliance with such TMDL-related requirements provided in this Order, if it is timely and in good faith implementing the MEP-compliant control measures otherwise established by this Order:

(1) The San Diego Water Board's Basin Plan, including beneficial uses, water quality objectives, and implementation plans;

(2) State Water Board plans for water quality control including the following:

(a) Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan), and

(b) The Ocean Plan, including beneficial uses, water quality objectives, and implementation plans;

(3) State Water Board policies for water and sediment quality control including the following:

(a) Water Quality Control Policy for the Enclosed Bays and Estuaries of California,

Revisions to Part A (Prohibitions and Limitations) are necessary in order to address the decision by the 9th Circuit Court of Appeals.

Recommendation (Alternative #2): Provide for an explicit reopener in Provision H to reconsider Part A after State Water Resources Control Board action regarding precedential language of Order WQ 99-05.

H. Modification of Order

1. Modifications of the Order may be initiated by the San Diego Water Board or by the Copermittees. Requests by Copermittees must be made to the San Diego Water Board.

2. Minor modifications to the Order may be made by the San Diego Water Board where the proposed modification complies with all the prohibitions and limitations, and other requirements of this Order.

3. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR 122.44, 122.62 to 122.64, and 124.5. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

4. This Order may be re-opened for modification for cause including but not limited to the following:

   a. ~~The State Water Board determines that revisions are warranted, and the San Diego Water Board concurs that revisions are necessary to those provisions of the Order addressing compliance with water quality standards in the receiving water and/or those provisions of the Order establishing an iterative process for implementation of management practices to assure compliance with water quality standards in the receiving water~~To incorporate provisions as a result of new or amended statewide water quality control plans or policies adopted by the State Water Board, or in consideration of any State Water Board action regarding the precedential language of State Water Board Order WQ 99-05;

   b. An application for early coverage under this Order is received pursuant to Provision F.6;

   c. Any of the TMDLs in Attachment E to this Order are amended in the Basin Plan by San Diego Water Board, and the amendment is approved by the State Water Board, Office of Administrative Law, and the USEPA;

   d. The Basin Plan is amended by San Diego Water Board to incorporate a new TMDL, and the amendment is approved by the State Water Board, Office of Administrative Law, and the USEPA; or

   e. Updating or revising the monitoring and reporting requirements is determined to be necessary, at the discretion of the San Diego Water Board. Such modification(s) may

include, but is (are) not limited to, revision(s) to: (i) implement recommendations from Southern California Coastal Water Research Project (SCCWRP), (ii) develop, refine, implement, and/or coordinate a regional monitoring program, (iii) develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, Resolution in Support of a Regional Monitoring Framework, and/or (iv) add provisions to require the Copermittees to evaluate and provide information on cost and values of the monitoring and reporting program.

5. The San Diego Water Board, after opportunity for public comment and a public hearing, will re-open and consider modifications to this Order when the Orange County Copermittees or the Riverside County Copermittees submit a complete Report of Waste Discharge pursuant to the requirements of their current Orders.