

Planning and Land Development Program Element Suggestions: BIA/SC-CICWQ

Permit Issue	Interpretation and Concerns	Suggested Approach
Flow-thru biofiltration does not meet onsite retention standard	A zero discharge standard is established; it is scientifically and technically unsupported; limits LID BMPs in toolbox	Use established LID BMP selection hierarchy that includes biofiltration as an option when other retention BMPs are infeasible
Use of flow-thru biofiltration must be accompanied by mitigation of SWQDv	Biofiltration and bioretention BMPs are established LID practices; requiring accompanying mitigation of SWQDv that has already been biofiltered penalizes use of effective LID controls	Remove this provision; no other permit requires accompanying mitigation for volume that has already been managed in biofilters

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<p>Sub-regional and regional LID approaches and watershed planning using LID practices within watershed planning are absent or minimized</p>	<p>Draft permit minimizes any type of regional approach</p> <p>Draft permit doesn't allow co-permittees to incorporate watershed and sub-watershed scale LID and hydromodification control BMPs into a JURMP</p>	<p>Provide co-equal approach to onsite compliance when benefit to groundwater replenishment is established</p> <p>Allow compliance when watershed master plans include LID BMPs implemented at appropriate scale</p>
<p>Hydromodification exemptions for other hardening techniques and urban area have been removed</p>	<p>Requirement is unduly restrictive and requires controls when they are not needed and will have no effect</p>	<p>Substitute "concrete lined" with "hardened"; recognize urban area exemption >70% per HMP</p>

Comparison of New and Re-development Low Impact Development Performance Criteria in Southern California MS4 Permits

Permit Criteria	Southern California Phase I MS4 Permit Comparison—Low Impact Development BMP Permit Criteria							
	Administrative Draft San Diego Regional Permit SDRWQCB Tentative Order	Adopted South Riverside County Permit SDRWQCB 11/10/2010	Adopted Ventura County Permit LARWQCB 7/8/2010	Adopted Western Riverside County Permit SARWQCB 1/29/2010	Adopted San Bernardino County Permit SARWQCB 1/29/2010	Adopted South Orange County Permit SDRWQCB 12/16/2009	Adopted North Orange County Permit SARWQCB 6/3/2009	Adopted San Diego County Permit SDRWQCB 1/24/2007
LID Sizing Criteria	<ol style="list-style-type: none"> Size and design BMPs to retain the volume equivalent to runoff produced by the 85th percentile storm event If onsite retention is technically infeasible, flow-thru LID BMPs must be implemented to treat remaining SWQDv not retained onsite Mitigate portion of SWQDv pollutant load not retained onsite 	<ol style="list-style-type: none"> Size and design BMPs to ensure onsite retention, without runoff, the 24-hour 85th percentile storm event If #1 infeasible, treat excess surface discharge with biofiltration; increase sizing for biotreatment BMPs by 0.75 times the design storm volume remaining Treat excess surface discharge not retained or biofiltered using treatment controls 	<ol style="list-style-type: none"> 5% EIA, with finding of infeasibility allowance to use biofiltration for 1.5X remaining design volume; disconnection is defined as full retention of the water quality volume (85th percentile event) Treat directly connected impervious and pervious areas 	<ol style="list-style-type: none"> Retain and treat WQ volume (85th percentile event) Treat excess surface discharge from water quality design storm per WQMP 	<ol style="list-style-type: none"> Retain and treat WQ volume (85th percentile event) Treat excess surface discharge from water quality design storm per WQMP 	<ol style="list-style-type: none"> Fully retain onsite water quality volume (85th percentile event) without any runoff If #1 infeasible, treat excess surface discharge with biofiltration; increase sizing for biotreatment BMPs by 0.75 times the design storm volume remaining If #2 infeasible to biofilter or biotreat, use conventional BMPs and mitigate volume reduction offsite 	<ol style="list-style-type: none"> Retain water quality volume (85th percentile event) or biotreat with a showing of infeasibility to retain the entire volume Treat excess surface discharge from water quality design storm per WQMP 	<ol style="list-style-type: none"> Size all treatment systems for 85th percentile event Treat excess surface discharge
LID BMP Selection Priority/Allowable LID BMPs to meet On-site Retention Standard	<ol style="list-style-type: none"> Infiltration Harvest and Use Evapotranspiration Flow-thru LID treatment control BMPs; project applicants must perform mitigation for portion of the pollutant load in the SWQDv that is not retained onsite 	<ol style="list-style-type: none"> Site design (conserve natural areas, etc) Infiltration Other LID BMPs sized at 0.75 x portion of design capture volume not retained onsite. Treatment control measures 	<ol style="list-style-type: none"> Infiltration Harvest and Use Evapotranspiration Bioretention/ biofiltration 1.5 times remaining design volume 	<ol style="list-style-type: none"> Site design (conserve natural areas) Infiltration Harvest and Use Evapotranspiration Bioretention / biofiltration 	<ol style="list-style-type: none"> Site design (conserve natural areas) Infiltration Harvest and Use Evapotranspiration Bioretention / biofiltration 	<ol style="list-style-type: none"> Infiltration Harvest and Use Evapotranspiration Bioretention / biofiltration 	<ol style="list-style-type: none"> Site design (conserve natural areas, etc) Infiltration Harvest and Use Evapotranspiration Bioretention/ Biofiltration 	<ol style="list-style-type: none"> Site design (conserve natural areas) Drain portion of impervious area to pervious areas (landscaping) Low traffic areas and appropriate soils, use permeable materials Treatment control measures
LID Technical Infeasibility and Mitigation Process	<ol style="list-style-type: none"> Demonstrate retention LID BMPs implemented to maximum extent technically feasible given project site conditions Perform mitigation with net result the same level of water quality protection as would have been 	<ol style="list-style-type: none"> LID waiver program Mitigate pollutant load estimated from each project participating in program Water quality credit option In-lieu fee option 	<ol style="list-style-type: none"> Submit hydrologic and/or design analysis showing project meets various criteria Make up volume retention requirement offsite either directly or via in-lieu fee All feasible measures to reduce 	<ol style="list-style-type: none"> Submit hydrologic and/or design analysis showing project meets various criteria Create watershed based infiltration map to target stormwater infiltration and storage Create urban runoff fund to fund watershed and sub- 	<ol style="list-style-type: none"> Submit hydrologic and/or design analysis showing project meets various criteria Create watershed based infiltration map to target stormwater infiltration and storage Create urban runoff fund to fund watershed and sub-watershed 	<ol style="list-style-type: none"> Offsite “waiver” (mitigation) programs to be developed In-lieu fees Water quality credit system 	<ol style="list-style-type: none"> Submit hydrologic and/or design analysis showing project meets various criteria Create watershed based infiltration map to target stormwater infiltration and storage Create urban runoff fund to fund watershed and sub-watershed 	<ol style="list-style-type: none"> No requirement Model SUSMP to include criteria for LID BMP applicability and feasibility

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LID Technical Infeasibility and Mitigation Process	<p>achieved with full implementation of LID BMPs onsite</p> <p>3. For SWQDv not retained on-site, require either: i) implement an offsite mitigation project; or ii) provide sufficient funding for a public or private offsite mitigation project via a mitigation fund:</p> <p>a. <u>Project Locations:</u> preferably within same hydrologic subarea or within the same hydrologic unit if infeasibility demonstrated</p> <p>b. <u>Project Type:</u> retrofit, stream habitat restoration, green streets, or regional BMPs upstream of receiving waters</p> <p>c. <u>Project Timing:</u> regional projects completed at time of occupancy of first project</p> <p>d. <u>Mitigation Fund:</u> fund pollution credit or mitigation fund allowed</p>		<p>EIA <30%</p> <p>4. Projects achieving <30% EIA, mitigation or payment in lieu equivalent to stormwater not managed onsite</p> <p>5. Projects >30% EIA, mitigation or payment in lieu equivalent to stormwater not managed onsite multiplied by 1.5</p> <p>6. Offsite mitigation must be in same sub-watershed</p> <p>7. Offsite mitigation must be completed in 4 yrs</p>	<p>watershed scale LID projects</p> <p>4. Create watershed LID water quality credit system</p>	<p>scale LID projects</p> <p>4. Create watershed LID water quality credit system</p>		<p>scale LID projects</p> <p>4. Create watershed LID water quality credit system</p>	

National Comparison of New and Redevelopment Low Impact Development Performance Criteria

Permit Criteria	West Virginia Small MS4 Permit Effective: 7/22/2009	Georgia Phase II MS4 Permit Effective: 1/3/2012	Washington DC Phase I MS4 Permit Effective: 10/7/2011	Philadelphia, Pennsylvania Phase I MS4 Permit Effective: 1/1/2006	Portland, Oregon Phase I MS4 Permit Effective: 1/22/2011
LID Sizing Criteria	<ol style="list-style-type: none"> 1. Keep and manage on site the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measureable precipitation. 	<ol style="list-style-type: none"> 1. Capture and treat the runoff volume resulting from the first 1.2 inches of rainfall from a site. 	<ol style="list-style-type: none"> 1. On-site retention of 1.2" of stormwater from a 24-hour storm with a 72-hour antecedent dry period for all development greater than or equal to 5,000 square feet. 	<ol style="list-style-type: none"> 1. Manage water quality volume of 1-inch of rainfall over directly connected impervious area. 2. Sizing differs for areas of separate or combined sewers. 	<ol style="list-style-type: none"> 1. Infiltrate the 10-year, 24-hour storm event. 2. Three sizing methodologies allowed: Simplified, Presumptive, and Performance 3. Capture and treat 80% of average annual runoff volume
LID BMP Selection Priority/Allowable LID BMPs to meet Onsite Retention Standard	<ol style="list-style-type: none"> 1. Runoff volume reduction achieved thru: canopy interception, soil amendments, evaporation, rainfall harvesting, engineered infiltration, extended filtration, and evapotranspiration. 2. In addition to practices listed in #1 above, use: dry swales, bioretention, rain tanks and cisterns, soil amendments, roof top disconnections, permeable pavement, porous concrete, permeable pavers, reforestation, grass channels, and green roofs for volume reduction. 	<ol style="list-style-type: none"> 1. Determine feasibility to include green infrastructure practices, such as infiltration, reuse, and evapotranspiration. 	<ol style="list-style-type: none"> 1. Achieved through evapotranspiration, infiltration, and/or stormwater harvesting. 2. Green landscaping incentives program required to encourage use of planters, permeable paving, green roofs, vegetated walls, preservation of existing trees, and layering of vegetation. 3. Every major renovation/rehabilitation project for District owned properties will include on-site stormwater retention measures, such as green roofs, and stormwater harvest/reuse, to meet the retention performance standard. 	<ol style="list-style-type: none"> 1. Infiltrate water quality volume (WQV) unless infeasible 2. If infeasible to infiltrate WQV, remaining volume treated by an approved stormwater management practice for volume reduction: planter boxes, biofiltration/bioretention, swales, constructed wetlands, ponds and wet basins, rain barrels and cisterns and green roofs 3. Use rooftop disconnection, pavement disconnection, maximize tree canopy cover, install green roofs, or install porous pavement to reduce directly connected impervious area and WQV to be managed 	<ol style="list-style-type: none"> 1. Infiltration and discharge hierarchy of practices subject to 4 categories covering onsite infiltration and offsite discharge. 2. Implement ecoroofs, pervious pavement, or street trees to reduce impervious area (aka hydrologic source controls) 3. Implement total infiltration (>2.0 in/hr), partial infiltration (2.0 to 0.5 in/hr) , or flow-through stormwater management facilities (<0.5 in/hr) depending upon in situ soil infiltration rate.
LID Technical Infeasibility and Mitigation Process	<ol style="list-style-type: none"> 1. If onsite retention is infeasible using practices listed in LID BMP Selection Priority, use two alternatives: <ol style="list-style-type: none"> i) Off-site mitigation, or ii) Payment in-lieu 2. Volume reduction credits available for certain development types, (eg. brownfield redevelopment) 	<ol style="list-style-type: none"> 1. Submit determination of infeasibility with associated set of proposed plans. 2. Develop policy or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state and local law. 	<ol style="list-style-type: none"> 1. If onsite mitigation is infeasible, two alternatives are considered: <ol style="list-style-type: none"> i) Off-site mitigation, or ii) Fee-in-lieu 2. Any allowance for adjustments in the retention standard shall be defined in the Permittee's regulations. 	<ol style="list-style-type: none"> 1. LID BMP waiver process 	<ol style="list-style-type: none"> 1. Applicant may fulfill all or portion of storm water quality volume by compensating the City for future development of offsite facilities per square foot of unmanaged impervious surface