

February 3, 2012 Draft 2012 Ecology Stormwater Management Manual Review – Deep Root LLC Comments

Comment No.	Vol.	Section	Page	COMMENT	Recommendation
1	V3	Appendix III-C		Volume III, Appendix C seems redundant with information provided in the 2012 LID Technical Guidance Manual (Draft).	Refer to LID Technical Guidance Manual for design and flow control credit information in place of Volume III, Appendix C.
2	V3	Appendix III-C, 7.7.2	C-14	<p>The flow control credit for retained trees (Table X.X) is linear with respect to canopy area. Literature shows that the flow control benefits of trees actually increases non-linearly as a function of tree size. As an example, Xiao et. al. (2003) found that rainfall interception ranged from 0.8 m³/tree for a small <i>Jacaranda mimosifolia</i> (3.5 cm diameter at breast height) to 20.8 m³/tree for a mature <i>Tristaniaconferta</i> (38.1 cm). This represents an approximate 25-fold increase in interception with an approximate 10-fold increase in tree size.</p> <p>Reference: Xiao Qingfu and McPherson, E. Gregory, Rainfall interception by Santa Monica's municipal urban forest, <i>Urban Ecosystems</i>, 6: 291-302., Accepted September 30, 2003.</p>	Revise the flow control credits table to accurately reflect the difference in flow control benefits provided by large trees versus those provided by small trees.
3	V3	Appendix III-B	B-7	Ecology intends to update the LID credits in WWHM in 2012.	<p>Consider adding an "Element" (i.e., button) specific to urban trees in the updated version of the model, so that the flow control and water quality treatment benefits can be accurately applied by designers and understood by development reviewers.</p> <p>The Element should accurately reflect the difference in flow control benefits provided by large trees versus those provided by small trees (per comment above).</p> <p>The Element should also reflect the combined flow control and treatment benefits of 1) the soil type and volume and 2) the canopy size. The current Ecology approved modeling guidelines for Silva Cell focus on sizing facilities for water quality treatment only, not for flow control and water quality treatment. The current guidelines also do not consider the canopy size; they only consider soil type and geometry in determining water quality treatment benefits.</p> <p>The flow control credits table (see comment above) do consider canopy size to some degree, but those credits are disconnected from the Ecology-approved modeling guidance for sizing urban trees (i.e., Silva Cell) for water</p>

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					quality treatment requirements in WWHM. One tool is needed that connects flow control and water quality credits with soil type/volume and canopy size. The best way to offer this tool to designers is by adding an Element in the next revision of WWHM.

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