

<b>Technical Committee Briefing</b>	<b>Briefing Date: 9/30/15</b>	<b>Briefing Time: 10:00</b>
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**1. Briefing Title:**

Staff Lead/Division	Steve Hitch / NR
Other city departments involved:	Planning / DS
Other agencies involved:	

**2. Purpose/Objective / Level of Service Involved**

<input checked="" type="checkbox"/> <b>Decision</b>	<input type="checkbox"/> <b>Discussion</b>	<input type="checkbox"/> <b>Status</b>	<input checked="" type="checkbox"/> <b>Information</b>
The purpose of this briefing is to inform the Technical Committee of conflicting language in the Stormwater Technical Notebook and request that it be revised to provide clearer direction to developers so they better understand how we interpret our code, earlier in the process.			

**3. Key Issues**

<b>Key Issue(s)</b>	<b>Staff Recommendation/Rationale</b>	<b>Decision needed by</b>
<p>RMC 15.24 establishes minimum thresholds for flow control requirements.</p> <p>The STN supports those minimum thresholds.</p> <p>Both RMC and STN require the use of the Ecology Manual to further define project thresholds.</p> <p>The Ecology Manual conflicts with the STN.</p>	<p>One of the thresholds for flow control is for projects that create 0.1 CFS of new flow in the 100-year storm event. Thresholds for this factor are triggered for sites one acre and larger.</p> <p>The Ecology manual requires projects that create 0.1 CFS increase in the 100-year storm event to provide a flow control facility, without regard to the one-acre threshold.</p> <p>The STN has internal conflicts with both requiring and not requiring flow control for projects less than 1 acre when a 0.1 CFS increase in the 100-year storm flow is exceeded.</p>	
<p>If an in-fill project releases more than 0.1 CFS of flow in the 100-year event, that water is typically discharging onto someone else's property and can cause flooding. Similarly, not requiring flow control results in increased impacts to stream habitat.</p>	<p>Development review engineers recommend that controlling flows in projects less than one acre is important to ensure infrastructure that protects neighboring properties and downstream habitat.</p> <p>The NPDES municipal permit will require flow control on any site that increases the 100-year flow by 0.1 CFS by January 1, 2017.</p> <p>Almost all cities and counties in Western Washington currently require flow control if any project increases 100-year storm flows by 0.1 CFS.</p>	

#### 4. Project Background, Analysis and Alternatives Summary

There are multiple thresholds that a project may trigger to require flow control.

- 1) Projects first pass through a flow chart to determine if flow control is required. (Minimum Requirement 7.)
- 2) Then they pass through additional threshold analysis, to see if the project can build onsite stormwater BMPs in lieu of a traditional flow control facility. At this level, both RMC and STN include a threshold requirement for projects that are one acre or larger, so projects smaller than one-acre do not trigger the requirement for a flow control facility even if their flows exceed 0.1 CFS in the 100 year storm.
- 3) Then projects are required to model the site with the alternative onsite stormwater BMPs and if the flow exceeds 0.1 CFS in the 100 year storm, a flow control facility is ultimately required.

RMC 15.24.080.2(d) establishes some minimum thresholds for flow control.

(d) Water Quantity Control.

- (i) Post construction runoff quantity control requirements depend on project and site characteristics. Runoff reduction/on-site stormwater management and flow control facilities are required of development/redevelopment projects based on the following:
  - If a project creates 2,000 square feet (sf) or more new, replaced, or new plus replaced impervious surfaces, OR the project will disturb 7,000 sf or more land: runoff reduction/on-site stormwater management, to reduce the quantity of runoff created by the proposed project, is required as detailed in the Stormwater Technical Notebook.
  - If a project adds 5,000 sf or more new impervious surfaces OR the project converts 3/4 acre native vegetation to lawn/landscaping OR the project converts 2.5 acres of native vegetation to pasture OR a project one acre or larger will result in a 0.1 cubic feet per second increase in flow during a 100-year frequency storm: runoff flow control facilities AND runoff reduction/on-site stormwater management are required as detailed in the Stormwater Technical Notebook.

The Stormwater Notebook, Chapter 2, 2.5.7, summarizes these minimum thresholds.

The following require construction of flow control facilities and/or land use management BMPs that will achieve the standard flow control requirement for western Washington (see Table 4.2):

- Projects in which the total effective impervious surfaces is 10,000 square feet or more in a threshold discharge area; or
- Projects that convert 3/4 acres or more of native vegetation to lawn or landscape, or convert 2.5 acres or more of native vegetation to pasture in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site; or
- Projects **that disturb one acre or more**, that through a combination of impervious surfaces and converted pervious surfaces cause a 0.1 cubic feet per second increase in the 100-year flow frequency from a threshold discharge area as estimated using the Western Washington Hydrology Model or other approved model.

That portion of any development project in which the above thresholds are not exceeded in a threshold discharge area shall apply On-site Stormwater Management BMPs in accordance with Minimum Requirement #5.

Table 2.2 Flow Control Requirements by Threshold Discharge Area		
	Flow Control Facilities	On-Site Stormwater Management BMPs
<3/4 acres conversion to lawn/landscape, or <2.5 acres to pasture		X
> 3/4 acres conversion to lawn/landscape, or > 2.5 acres to pasture	X	X
<10,000 square feet of effective impervious area per TDA		X
>10,000 square feet of effective impervious area per TDA	X	X
>0.1 cubic feet per second increase in the 100-year flood frequency for sites 1 acre or larger	X	X

Ecology Manual, Volume V, Section 5.3

Projects that trigger Minimum Requirement 7 in the regulatory flow chart go to Table 2.2 to see if they must build a flow control facility. If they don't, then they are required to use on-site stormwater controls like flow dispersion and model the site. If the site discharge exceeds 0.1 CFS in a 100 year return frequency flow with those on-site BMPs, then they are then required to build a flow control facility, as described here:

“Impervious surfaces that are not fully dispersed should be partially dispersed to the maximum extent practicable and then hydrologically modeled. If the model predicts that there will be a 0.1 cfs or greater increase in the 100-year return frequency flow, or if certain thresholds of impervious surfaces or converted pervious surfaces are exceeded within a threshold discharge area (see Volume 1, Table 2.2), then a flow control facility is required. Also, a treatment facility is required if the thresholds in Table 2.1 of Volume 1 are exceeded.”

Staff interpret this section of the Ecology Manual to require such developments to build a flow control facility, even though they didn't pass the intermediate threshold in Table 2.2.

**Staff would like to remove the highlighted text from Table 2.2, to help stop this loop of requirements that leads to conflict with developers. It is preferred to identify this requirement earlier in the development process.**

## 5. Next Steps and Major Milestones (if known)

Activity	Date
• TC Confirm that Table 2.2 may be revised as noted below.	9/23/2015
• TC sign this document to confirm this revision will be implemented in the next Stormwater Notebook update and should be used immediately.	9/23/2015
• This change will be included in the next Stormwater Technical Notebook Update.	12/2/2015
• RMC 15.24 should be revised in the future, as part of the next major revision to the STN, planned for the end of 2016.	12/1/2016

### Proposed Change to Stormwater Technical Notebook

#### Thresholds

The following require construction of flow control facilities and/or land use management BMPs that will achieve the standard flow control requirement for western Washington (see Table 4.2):

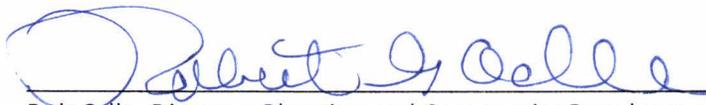
- Projects in which the total effective impervious surfaces is 10,000 square feet or more in a threshold discharge area; or
- Projects that convert  $\frac{3}{4}$  acres or more of native vegetation to lawn or landscape, or convert 2.5 acres or more of native vegetation to pasture in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site; or
- Projects ~~that disturb one acre or more~~, that through a combination of impervious surfaces and converted pervious surfaces cause a 0.1 cubic feet per second increase in the 100-year flow frequency from a threshold discharge area as estimated using the Western Washington Hydrology Model or other approved model.

That portion of any development project in which the above thresholds are not exceeded in a threshold discharge area shall apply On-site Stormwater Management BMPs in accordance with Minimum Requirement #5.

	Flow Control Facilities	On-Site Stormwater Management BMPs
<3/4 acres conversion to lawn/landscape, or <2.5 acres to pasture		X
> 3/4 acres conversion to lawn/landscape, or > 2.5 acres to pasture	X	X
<10,000 square feet of effective impervious area per TDA		X
>10,000 square feet of effective impervious area per TDA	X	X
>0.1 cubic feet per second increase in the 100-year flood frequency <del>for sites 1 acre or larger</del>	X	X

## 6. Decision Approval

Action
The proposed change shall be adopted, effective immediately.
The proposed change shall be incorporated into the next update to the Stormwater Technical Notebook

Approval Block	Date
 Linda De Boldt, Director, Public Works	9/30/15
 Rob Odle, Director, Planning and Community Development	9/30/15