

December 2, 2022

Via Electronic Submission  
Washington State Department of Ecology  
Water Quality Program

**RE: Stormwater Management Manual for Western Washington (SWMMWW)  
Preliminary Draft Package (October 2022)**

Dear Washington State Department of Ecology:

The City of Everett appreciates the opportunity to comment on the Stormwater Management Manual for Western Washington (SWMMWW) Preliminary Draft Package, dated October 2022. We are providing our comments on this package in the Preliminary Draft Comment Template as an attachment to this letter. We would also like to offer the following comments on sections of the 2019 SWMMWW that are not included in the Preliminary Draft Package.

**SWMMWW Preliminary Draft Package – Appendix 1**

1. For Figure 2: Flow Chart for Determining Whether the Permittee Must Regulate the Project, consider revising the top right box to read:

*"The Permittee is not required to regulate the project but has the option to do so per local code." ~~The project is not required to comply with the Minimum Requirements.~~*

**Minimum Requirement #8**

2. Projects that are required to meet Minimum Requirement (MR) #8 wetland hydroperiod protection criteria must also meet the MR #7 flow control performance standard. It is our understanding that the MR #8 wetland hydroperiod protection criteria was designed with a scenario in mind where projects must mimic existing conditions that are undeveloped. The Manual provides guidance on reconciling between MR #7 and MR #8 and states that protecting the wetland hydroperiod with MR #8 is the overriding concern. MR #7 also compares projects to undeveloped conditions, so meeting MR #8 and achieving some level of flow control can be feasible. However, this can be particularly challenging for projects when existing conditions are largely impervious and uncontrolled, which does not match the basis for MR #8. Projects with uncontrolled impervious runoff may not be able to provide any flow control if they are to meet all MR #8 hydroperiod protection criteria. Conversely, in this scenario, flow control could help restore wetlands which were already altered by the original development. Flow control would protect wetland habitat from peak flows, which meets the intent of MR #8 and provides a greater benefit than solely meeting the MR #8 criteria. Please consider modifying MR #8 wetland hydroperiod protection criteria to allow redevelopment projects in urban settings (perhaps those within a UGA) to be compared to a theoretical predeveloped condition, or consider providing an alternate solution.

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3. Provide additional guidance on the process that designers should follow to reconcile between MR #8 and MR #7, and indicate what information designers should submit with their Stormwater Site Plan.
4. It is our understanding that Ecology may review projects on a case-by-case basis that are unable to meet MR #8 wetland hydroperiod protection criteria. Please provide additional guidance so that local jurisdictions can align with Ecology's review considerations.
5. Legal access to a wetland is one parameter that may require a project to meet MR #8 Method 1 criteria. Projects may have access to only a portion of a wetland. Please provide further clarification on the definition of legal access, including whether legal access means that the project has sufficient access to establish appropriate flow monitoring.
6. The "Criteria+Pivottables" tab in the Ecology Excel template for MR #8 Method 1 includes Pass/Fail calculations for Criteria 3, amphibians. Appendix I-C.4 does not include amphibian limits for Criteria 3. Please clarify whether the frequency of stage excursion calculations for amphibians in the Excel template are only precursory to the Criteria 4 calculations for amphibians.

#### **V-12.2 Control Structure Design**

7. Consider providing a link to or including Ecology's guidance on sizing detention if project flow control modeling is unable to achieve the minimum 0.5 inch orifice size.
8. Consider providing additional guidance on when flow throttling is allowed and design criteria.

#### **Aligning Industrial Stormwater Permit and SWMMWW BMP Selection**

9. Projects may be required to meet industrial stormwater permit treatment requirements in addition to complying with the SWMMWW MR #6. Consider allowing a mechanism to approve an industrial treatment BMP where it would also satisfy the intent of MR #6 runoff treatment requirements.

#### **Chapter I-4 UIC Program**

10. Consider providing additional guidance and examples of stormwater facilities that are or are not considered to be UICs. Some examples to potentially discuss include proprietary detention systems (e.g., StormChamber, R-Tank) with infiltration verses use of an impermeable liner, perforated storm conveyance pipes, and underdrains.
11. Please provide additional guidance or clarifying language to indicate how MS4 permittees are required to regulate UIC wells. For example, if a UIC fully infiltrates but still has an emergency overflow connected to the MS4 or if a UIC incompletely infiltrates and partially flows to the MS4, is the permittee required to regulate the UIC?

#### **BMP T5.10A: Downspout Full Infiltration**

12. Please clarify whether BMP T5.10A: Downspout Full Infiltration applies to all projects or only residential roof runoff. For non-residential roof runoff, it appears that BMP T5.10A would be a UIC.

#### **BMP T10.40: Combined Detention and Wetpool Facilities**

13. Consider compiling all design criteria for combined detention and wetpool facilities. The current text cross-references the individual detention and wetpool facility BMP sections with modifying language. This can be confusing for the designer and reviewer.



**S409 BMPs for Fueling at Dedicated Stations**

14. Please update the references to the Uniform Fire Code (UFC) and International Fire Code (IFC) in the S409 BMPs. It appears that the references to UFC Section 7901.8 and IFC Section 5703.6.8 are outdated. Please verify that updated information or cross-references provide guidance on sizing spill control.

**Artificial Turf**

15. Consider adding in guidance to define when artificial turf is considered to be an impervious or pervious surface. Also consider adding modeling guidance for artificial turf.

**Glossary – Pervious Surface**

16. Consider adding the following to the “Pervious Surface” definition: outdoor decks, stairways, or similar that allow stormwater to pass through and infiltrate to the ground.

Thank you,



Cindy Cullen – Associate Engineer PE  
City of Everett Public Works – Surface Water Management

***Attached:***

Preliminary Draft Comment Template – City of Everett Response  
City of Everett Comments on Figure 4: Flow Chart for Determining Requirements for Redevelopment



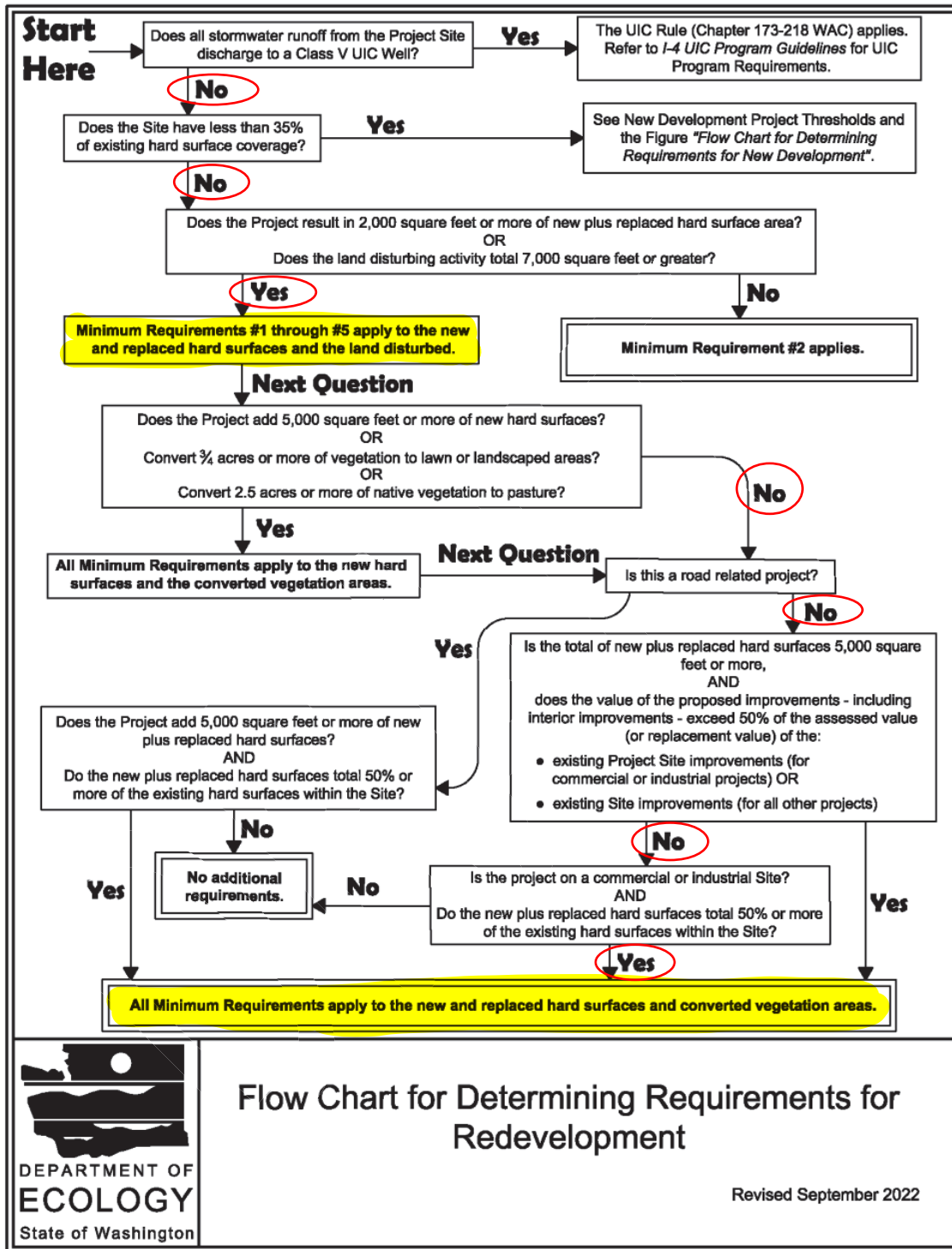
Informal Comments on the PRELIMINARY DRAFT Municipal Stormwater Permits (Phase I, Eastern and Western Phase II) and Stormwater Management Manuals (Eastern and Western)  
 October 17 - December 2, 2022

PRELIMINARY DRAFT TOPIC (select from drop down)	Comment	Comment Made By
SWMMWW Item 3: Stormwater Pollutants Topic	Clearly indicate that the Source Control BMP Recommendations in this section are optional.	City of Everett
SWMMWW Item 5: Bioretention BMP	Page 42 (of 51) states that bioretention with a gravel-filled dug or drilled drain is a UIC. Please clarify that this excludes underdrains that are intended to convey stormwater to a downstream flow path.	City of Everett
SWMMWW Item 5: Bioretention BMP	Consider listing compacted till liners (2019 SWMMWW, V-1.3.3 Low Permeability Liners) as a type of restricting layer that can protect adjacent roads and other structures from excessive hydraulic loading.	City of Everett
MS4 Permit: Appendix 1 (Phase I and Western Phase II)	The Pavement Maintenance Projects section (PDF pg. 86 of the preliminary draft package) states that larger redevelopment projects must consider the pavement maintenance areas as new or replaced hard surfaces. Please clearly define "larger redevelopment projects" to avoid confusion.	City of Everett
MS4 Permit: Appendix 1 (Phase I and Western Phase II)	<p>For Section 1. Exemptions, consider allowing a small threshold (e.g., less than 500 sf) of pavement maintenance or underground utility work that is part of a larger project to be exempt from the Minimum Requirements or at least Minimum Requirement #6. Many development projects have a small section of frontage improvements or a replaced utility line in the public right-of-way that is unable to flow to onsite stormwater treatment facilities, and it is not always possible for these projects to treat an equivalent area.</p> <p>Also, consider allowing the exemption to be applied for utility installations which are wholly outside of any other development. Example: Installing a water main through an existing parking lot and drive to create a fire flow loop when the actual project is just a new building. Thresholds could be based on the footprint of the building and any associated paving, but the water line areas would not count because they would be restored to pre-project conditions.</p>	City of Everett
MS4 Permit: Appendix 1 (Phase I and Western Phase II)	For Figure 4: Flow Chart for Determining Requirements for Redevelopment, please define commercial and industrial projects. Clarify whether schools fall into these definitions.	City of Everett
SWMMWW Item 2: Climate Change Topic	Ecology's recommendations include using local future precipitation projections to size flow control facilities. The City of Everett worked with the University of Washington to produce a climate change adjusted time series that we might consider implementing as a standard. However, loading the time series into WWHM and performing design sizing is cumbersome at best. In order to require the use of the future data as a design requirement for development, we need to have an easily accessible way for all designers to use it. A couple of options that may work include: 1) Update WWHM with a user-friendly tool for importing alternate rainfall data. It would need to be something that was as simple as pushing a button and selecting a data file to work as a requirement for all projects. 2) Facilitate incorporation of local jurisdiction rainfall data into the published WWHM rainfall files so that users can select jurisdiction specific information from the drop-down. Currently, the process is not user-friendly to important outside data, and our concern is there may be erroneous import of that data.	City of Everett
SWMMWW Item 2: Climate Change Topic	We have struggled with the following in discussions about implementing climate change adjusted rainfall. What should be used for a baseline/predeveloped condition for flow control? We currently use predeveloped conditions for our baseline land use assumption. Would the baseline rainfall be non-climate change adjusted rainfall? If climate change is applied to the baseline, the resulting volumes are not significantly different from current rainfall calculations. It is not really reasonable to expect developers to mitigate for the increased runoff rates associated with climate change as those increases would not be due to their actions. Using future rainfall for both the predeveloped and developed condition means that the runoff rates to be matched will also go up. We played with this a few years ago and found that the increase in detention volume ended up being on the order of 10%, using predicted Year 2100 rainfall. This approach would also mean that orifices would be larger resulting in the standards not being met for the near-term rainfall rates. The approach is much more clear cut for designing water quality facilities as they just get bigger.	City of Everett

MS4 Permit: Appendix 1 (Phase I and Western Phase II)	<p>For the new criteria/threshold for commercial/industrial sites requiring MR 6-9 if replacing more than 50% of the impervious on the site: This seems to create the same loophole that was addressed by changing the value based criteria to "Project Site". For large campuses (malls, business parks, Boeing, Ports, etc.) that can define the entire campus as the "Site", they will be able to make extensive changes to the site without triggering this criteria. They just need to stay at 49% of the total with each round of redevelopment. As a result, some of the areas most in need of retrofit will slide by with no improvements. Using "Project Site" likely is not the right way to go either because that skews too far the other way and would require retrofit on every project. A couple options: an additional criteria with a total area threshold (ex. 1 acre new+replaced automatically triggers MR 1-9 for replaced hard surfaces) or address cumulative impacts (MR 1-9 applies to all replaced surfaces if more than 50% have been replaced since the new standard was issued, or some other date).</p>	City of Everett
MS4 Permit: Appendix 1 (Phase I and Western Phase II)	<p><u>In reference to Figure 4: Flow Chart for Determining Requirements for Redevelopment - "Is the project on a commercial or industrial site? And Do the new plus replaced hard surfaces total 50% or more of the existing hard surfaces within the Site?":</u></p> <p>As presented, the Figure 4 flow chart could be construed to say that any project which replaces 50% or more of the existing hard surface must apply MR 1-9. Presumably, the intent is to limit this to projects with new/replaced hard surface exceeding 5,000 SF, but it does not actually say that. (See our attached flow chart notes for more details.)</p>	City of Everett
MS4 Permit: Appendix 1 (Phase I and Western Phase II)	<p>How well do the available runoff treatment technologies, particularly proprietary BMPs, scale to treating smaller drainage areas (for the proposed reduction to the MR #6 threshold from 5,000 sf to 2,000 sf)?</p>	

Assume a project is being constructed on a site with 8,000 SF of existing pavement and will replace 4,500 SF of hard surface.

Figure 4: Flow Chart for Determining Requirements for Redevelopment



Result: The project is required to address MR 1-9 even though it only replaces 4,500 SF of hard surface. With the changes to the MR 6 specific threshold this project could easily be required to provide WQ treatment. There are likely very few commercial/industrial sites that are small enough for this to be an issue, but it is possible. Coffee stand?