



King County

Department of
Natural Resources and Parks
Director's Office
King Street Center
201 S Jackson St, Suite 700
Seattle, WA 98104-3855

November 14, 2018

Abbey Stockwell
Municipal Permit Comments
Washington Department of Ecology
Water Quality Program
PO Box 47696
Olympia, WA 98504-7696

RE: King County Comments on the Draft 2019 Phase I Municipal Stormwater General Permit.

Dear Ms. Stockwell:

Thank you for the opportunity to review and provide comments on the 2019 Phase I Municipal Stormwater General Permit. The permit is a critical tool in the region's effort to prevent environmental degradation caused by stormwater runoff. King County is a strong advocate of comprehensive stormwater management and believes this permit plays an essential role in improving clean water and healthy habitat.

King County appreciates the collaborative efforts Ecology has led over the years with permittees and stakeholders. This engagement has been valuable in helping our region work toward common goals and approaches to stormwater management that better protects the environment.

The attached spreadsheet includes detailed comments related to clarity and technical considerations in the draft permit language and has been submitted electronically through Ecology's Water Quality Portal. At a broader policy level, we want to call attention to two provisions in the draft permit: watershed planning and structural control requirements.

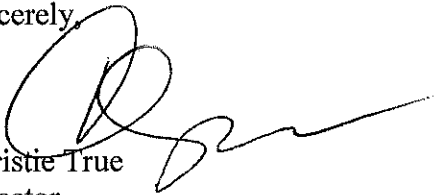
- King County recommends an optional watershed-based approach that would allow permittees to meet the proposed new Stormwater Management Action Planning requirements found in the draft 2019 Phase II NPDES Municipal Stormwater Permit. We encourage Ecology to develop language to incentivize collaboration, and promote consistent, complementary methods of stormwater management. We believe including such an option presents opportunities for multi-jurisdictional collaboration that are likely to lead to more innovative programs that deliver more cost-effective and greater water quality improvements, as opposed to each jurisdiction developing its own plan.

- King County supports the inclusion of a stormwater retrofit metric in the permit along with a process, during this next permit cycle, to gather and evaluate local, regional, and national scientific information on the performance and benefits of different structural stormwater control project types. This process would seek regional stakeholder and tribal input through the establishment of a regional or state-wide committee(s) to develop recommendations to improve the Structural Stormwater Controls requirements to direct investments to the highest priority environmental outcomes.

Thank you again for the opportunity to review this draft language. We look forward to working with Ecology on permit implementation to better protect the environment and advance solutions that are feasible and effective. If you have any questions, please feel free to contact Doug Navetski, Environmental Programs Managing Supervisor in the Stormwater Services Section of the Water and Land Resources Division in the Department of Natural Resources and Parks, at 206-477-4783.

Sincerely,

Christie True
Director



Enclosures

cc: Josh Baldi, Division Director, Water and Land Resources Division (WLRD),
Department of Natural Resources and Parks (DNRP)
Douglas D. Navetski, Environmental Programs Managing Supervisor, Water Quality
Compliance Unit, Stormwater Services Section, WLRD, DNRP

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Document	Section	Page	Comment
Both WWA	Appendix 2	A2-16	<p>Reccomended language:</p> <p>Complete IDDE field screening for bacteria sources in these areas, including rural sub-basins, by January 1, 2022</p> <p>Request that the deadline be extended by a year to align with county resources. The change in the geographic coverage in the Boise Creek TMDL has added a significant geographic area to the TMDL program for King County. This deadline requires the county to complete the screening of the other 50% of Bear Creek basin which would require the county to complete the bacteria screening of a 51 square mile basin in 18 months. This schedule would require increasing resources to this basin for a program that has been and will be in place for years due to the nature of the pollutant.</p>
Both WWA	Definitions and Acronyms	Def-14	Define "co-applicant" as used in S.5.C.1.b.iv
Phase I	General	5	<p>It would be helpful to consolidate certain types of actionable items that reside in various sections and put their locations together in tables:</p> <p>Proposed Language: Add</p> <ol style="list-style-type: none"> 1. Table 1 - Training requirements 2. Table 2 - Reporting deliverables/ deadlines in the permit. 3. Table 3 – Annual Report deliverables described in the body of the permit.
Phase I	General	6	<p>Submit a Notice of Intent (NOI) for Coverage under National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit provided in on Ecology’s website</p> <p>In cases where there is an electronic submission requirement or resource cited, there should be a hard copy alternative provided. Example: S1.e.2.a & b, S5.C.2.c. There have been instances where permittees have not been able to use electronic submissions due to internet or website failures. A non-web based method should be included as an alternative. Ecology has provided an alternative in S.9.A in the form of an Ecology waiver. This could be made available for all electronic submittals but the process of obtaining the waiver is unclear and should be clarified.</p> <p>Proposed Language Permit provided on Ecology’s website or can be obtained by mailing to the following (contact info) Provide a waiver for non-electronic submittals. As found in S.9. A. Permittees unable to submit electronically through Ecology’s WQWebPortal must shall contact Ecology to request a waiver and obtain instructions on how to submit an annual report in an alternative format.</p>
Phase I	Notice of Intent	7	<p>“Facilities” are not defined by permit. This uses a permit-defined term that creates specificity.</p> <p>Proposed Language: Public Notice applies to stormwater treatment and flow control BMPs/facilities that begin operations on or after August 1st, 2019.</p>

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Phase I	S1.F	7	<p>All MS4s owned or operated by Permittees named in S1.B and located in another city or county area requiring coverage under this permit or either the Western Washington Phase II Municipal Stormwater Permit or the Eastern Washington Phase II Municipal Stormwater Permit are also covered under this permit.</p> <p>King County would like clarity on what parts of the permit apply to property outside its jurisdiction. We recommend that this be viewed through the permit requirements legal ability to dictate action. For example – King County should not be taking enforcement actions on property owned by King County but located in another jurisdiction and King County should use the development requirements of the jurisdiction where that construction is occurring.</p> <p>S1.B ...under this permit, applicable to the following sections of the Phase I SWMP: S5 C2, C3, C6, C8, C9, and C10, and any applicable actions required to meet Appendix 2.</p>
Phase I	S2.B.1	8	<p>S2.B.1: This permit authorizes discharges of non-stormwater flows to surface waters and ground waters of the state from MS4s owned or operated by each Permittee covered under this permit, in the geographic area covered pursuant to S1.A, only under one or more of the following conditions:</p> <p>Include language clarifying that authorized, allowable and conditionally allowable discharges may still need to be reported as a G3, this should be explicitly laid out in S2.B.1.</p>
Phase I	S3. B. 1. and 2. - Notice of Intent	9	<p>B. Permittees may rely on another entity to satisfy one or more of the requirements of this permit. Permittees that are relying on another entity to satisfy one or more of their permit obligations remain responsible for permit compliance if the other entity fails to implement the permit conditions.</p> <p>As described in S3.B. (subsections 1 & 2), this requirement in the NOI is for secondary permittees only but that is not stated in the NOI. Clarify that this requirement is exclusive to secondary permittees.</p> <p>Proposed Language: If you are a secondary permittee, are you relying ... The statement must shall be signed by all participating permittees.</p> <p>Entity captures consultants, service providers, etc. to submit and NOI. Substitute "entity" with "governmental entity"</p>
Phase I	S.5.C.2.a.iv	14	<p>The permit requires the Phase I counties to map 50% of their rural subbasins during this permit cycle.</p> <p>Proposed Language: Tributary conveyances to all known outfalls and discharge points with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. For Counties, this requirement applies to urban/higher density rural sub basins. For Counties this requirement applies to urban/higher density rural subbasins and 50% of the rural subbasins as described in S.5.C.2.b.iii</p>
Phase I	S4.C.2.b.i	15	<p>No later than January 1, 2020, begin mapping size and material for all known MS4 outfalls. MS4 Mapping and Documentation</p> <p>The understanding from conversations is the intent of this requirement is to not require a specific mapping effort to meet this requirement but to collect size and material metrics during normal maintenance and inspection activities. Please provide clarifying guidance.</p> <p>Proposed Language No later than January 1, 2020, begin mapping size and material for all known MS4 outfalls as normal maintenance and other like activities re-visit the known outfalls.</p>

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Phase I	S5.C.2.b.ii MS4 Mapping and Documentati on	15	<p>ii. No later than August 1, 2021, complete mapping of all known connections from the MS4 to a privately-owned stormwater system.</p> <p>Add clarity to identify the start and end dates of this requirement. There should be language describing the intent, and this should be outcome/deliverable based.</p> <p>Proposed Language:</p> <p>ii. No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately-owned stormwater system. For Counties this requirement applies to urban/higher density rural subbasins and 50% of the rural subbasins as described in S.5.C.2.b.iii</p>
Phase I	S5.C.2.b.iii	15	<p>Poorly worded. Proposed rewrite.</p> <p>New Mapping: Each Permittee shall complete the following mapping by July 31, 2024.</p> <p>No later than July 31, 2024, Counties shall start complete mapping tributary conveyances, as described in S5.C.2.a.v. for 50% of areas outside the urban/higher density rural subbasins.</p>
Phase I	S5.C.3.	17	<p>Language from the 2018 permit was struck: Failure to effectively coordinate is not a permit violation provided other entities, whose actions the Permittee has no or limited control over, refuse to cooperate.</p> <p>-Restore the language as subsection "d"</p> <p>Not having this stated explicitly can mean that the inability to coordinate is a permit violation. Coordination among permittees can be very nuanced and complicated, and documenting efforts is an important part of the process (included in the permit), but the proposed language does not allow for documenting efforts and still not being able to coordinate.</p>
Phase I	S5.C.5	17	<p>The SWMP shall include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities. Refer to Appendix 10 for a list of approved manuals and ordinances. The program shall apply to private and public development, including roads.</p> <p>Comment: Please be consistent where requirement and descriptive language goes. E.g. Min Requirements in the permit and descriptive language in Appendix 10.</p> <p>Questions: Will a permit MOD need to be done to comply with Appendix 10? What happens if KC issues a new manual during the permit cycle?</p>
Phase I	S.5.C.5.a.iii	18	<p>iii. For King County, applications submitted prior to March 15, 2016, which have not started construction by March 15, 2021.</p> <p>1. The date for King County should be February 3, 2021, instead of March 15, 2021. This is based on Ecology's May 4, 2015, letter to King County after completion of the equivalency review, which set forth February 3, 2016, as the date for adoption of the existing program.</p>
Phase I	S5.C.5.b.iv	19	<p>The process is not clear on vesting after the application submittal dates (a flowchart would be helpful to understand what does and does not get vested). Example scenarios could be provided.</p> <p>Suggested additional language after the second paragraph: "The prior manual shall apply to applications submitted prior to the effective date of the new manual."</p>
Phase I	S5.C.6	28	<p>b. Low impact development code-related requirements.</p> <p>i. Permittees shall continue to update and revise development-related codes, rules, standards, or other enforceable documents as needed to incorporate and require LID principles and LID BMPs. The intent of the review and revisions shall be to make LID the preferred and commonly-used approach to site development. The local development-related codes, rules, standards, or other enforceable documents shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations.</p> <p>The LID language in S5.C.6.b should be moved to S5.C.5.b.v</p>
Phase I	S5.C.6.a.i	28	-

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Phase I	S5.C.6.a.i.(a)	28	<p><u>On or before March 31, 2020, the Permittee shall describe how water quality and watershed protection were addressed during the 2013-2018 permit cycle in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated long-range land use plans that are used to</u></p> <p>This only provides seven months to author this report. Recommend change the date to March 31, 2021 to align with the 2020 annual report.</p>
Phase I	S5.C.6.b	28	<p><u>b. Low Impact Development code code-related requirements.</u></p> <p><u>i. and revise development-related codes, rules, standards, or other enforceable documents as needed to..</u></p> <p>Recommend moving this to section S5.C.5.b to be included with other code-related requirements.</p>
Phase I	C5.C.6.c.i	29	<p>As stated in the general comment. Reports to be submitted as part of the annual report should be summarized in a table that contains the reporting requirements and due dates. A logic place to locate the annual report summary table would be in Annual Report section S9.</p> <p>Make sure the guidance and permit coincide.</p>
Phase I	S5.C.7.a	29	<p>The projects listed in Section S5.C.7.a are also listed in Appendix 12. This language is duplicative but each location contains unique language.</p> <p>To avoid confusion recommend moving the project description language from S5.C.7.a to Appendix 12 and in section S5.C.7.a refer the reader to the project descriptions found in Appendix 12.</p>
Phase I	S5.C.7	30	<p>Guidance for Special Condition S5.C.7 and Appendix 12</p> <p>Recommend that elements of the guidance be clarified and included as permit language and as fact sheet language or added to Appendix 12. For example: defining project types, and describing point system methods should be included in Appendix 12.</p> <p>Fact sheet information should support the use of the incentive point system as a permit requirement.</p>
Phase I	S5.C.7	30	<p>King County advocates for and supports an Ecology-led process, which would be similar to the process used to LID requirements in the 2013 NPDES permit. The stakeholder process should also consider the opportunities for how the Structural Stormwater Controls program could potentially be enhanced through closer synergies with other permit requirements (e.g. Long Term MS4 Planning). This could provide the region an opportunity to have a discussion with Ecology to consider how to develop a structural retrofit program that supports stormwater management actions on a multi-jurisdictional, watershed scale</p>
Phase I	S5.C.7	30	<p>The program shall address impacts that are not adequately controlled by the other required actions of the SWMP.</p> <p>Proposed Language: The program shall address impacts that are not adequately controlled by the other required actions of the SWMP (S5.C.5.)</p> <p>Consider clarifying that these are projects that were not prompted by existing code/regulatory requirements associated with the Permit. (e.g. New flow control facilities, including LID BMPs that are not required by S5.C.5)</p>
Phase I	S5.C.7.c	31	<p>With each annual report, each Permittee shall provide a list of planned, individual projects scheduled for implementation during this permit term. This list must shall include at a minimum the information and formatting specified in Appendix 12</p> <p>Recommended language:</p> <p>With each annual report, each Permittee shall provide a list of planned, individual projects scheduled for implementation during this permit term for the purpose of meeting S5.C.7.d . This list must shall include at a minimum the information and formatting specified in Appendix 12.</p> <p>The intent of this section is to provide a list of projects planned to meet this permit requirement so Ecology can track implementation.</p>

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Phase I	S5.C.8.a.ii and b.ii	32	<p>King County's business inventory doesn't include mobile businesses that are based outside of unincorporated King County even if they perform work in unincorporated King County. Complaint-based inspections of mobile operators are tracked but not included in the inventory for the reasons mentioned above.</p> <p>Recommmend changing the section organization and move this out of the inventory requirement S5.C.8.a.ii and move it to S5.C.8.iii.c</p>
Phase I	S5.C.8.b.iii.(a)	33	<p>(a) All identified sites with a business address shall be provided, by mail, telephone, electronic communications, or in person, information about activities that may generate pollutants and the source control requirements applicable to those activities. This information may be provided all at one time or spread out over the permit term to allow for some tailoring and distribution of the information during site inspections.</p> <p>This language should be modified to encourage documentation to be given to businesses during site visits</p> <p>Recommended Language</p> <p>At a minimum, businesses identified for annual inspections shall be provided, by mail, telephone, electronic communications, or in person, information about activities that may generate pollutants and the source control requirements applicable to those activities. This information may be provided at at one time or spread out over the permit term to allow for some tailoring and distribution of the information during site inspections.</p>
Phase I	S5.C.8.b.iii.(b)	33	<p>S5.C.8.b.iii.(b) - Please add language to this section identifying that Permittees may count denial of access to properties towards the 20% annual inspection performance standard. Permittees have no control over whether or not a property owner will allow access to private property and Permittees should not be penalized for it.</p>
Phase I	S5.C.9.b.i	35	<p>Allowable Discharges: The ordinance or other regulatory mechanism does not need to prohibit the following categories of non-stormwater discharges:</p> <p>Recommended language</p> <ul style="list-style-type: none"> • (f) residential air conditioning condensate • (g) Irrigation water from agricultural sources that is commingled-mixed with urban stormwater .
Phase I	S5.C.9.d.iii	37	<p>Truncate the end of the paragraph. Legal actions can occur even when the discharge is eliminated. The original language is too narrow.</p> <p>Procedures for eliminating the discharge; including notification of appropriate owners or operators of interconnected MS4s; notification of the property owner; technical assistance; follow-up inspections; and use of the compliance strategy developed pursuant to S5.C.9.d.iv, including escalating enforcement and legal actions if the discharge is not eliminated.</p>
Phase I	S5.C.10. a.	38	<p>For facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard.</p> <p>Recommended language:</p> <p>- Move this statement to a separate paragraph and remove the date. The development of new maintenance standards should be base on the time of acceptance of the new type of facility into the permittees inventory. -</p> <p>For facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard within 1 year of the time of acceptance of the new type of facility into the permittees inventory or the determination of the need for new maintenance standards.</p>

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Phase I	S5.C.10.a.ii	39	<p>Unless there are circumstances beyond the Permittee’s control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:</p> <p>(a) Within 1 year for typical maintenance of facilities, except catch basins. (b) Within 6 months for catch basins. (c) Within 2 years for maintenance that requires capital construction of less than \$25,000.</p> <p>This requirement should be outcome based</p> <p>King County is advocating for flexibility for exceedances in the time frame for maintenance actions required for flow control and water quality facilities and catch basins. The proposal would allow for minor exceedances of required maintenance timelines to reduce the number of G20s for minor issues. The proposal is advocating for jurisdictions to accomplish 95% maintenance required (instead of 100%) for compliance, with the permittee meeting the remaining 5% permit-required maintenance actions within an additional six months. Language to be applicable to 10.b, c, and d</p>
Phase I	S5.C.10.f	43	<p>Implement an ongoing training program for employees of the Permittee who have primary construction, operations or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of the training provided. The staff training records to be dates, activities or course descriptions, and names and positions of staff in attendance.</p> <p>Reccomended changes:</p> <p>Permittees shall document and maintain records of the training provided. The staff training records to be dates, activities or course descriptions, and names and positions of staff in attendance.</p> <p>please remove “position” from this language. Postition descriptions such as Engineer II do not connote roles and responsibilities as related to stormwater management</p> <p>Providing names was a privacy issue during previous permit cycles. This should only be submitted upon request due to privacy issues.</p>
Phase I	S5.C.11.	44	<p>Permittees may choose to meet these requirements individually or as a member of a regional group. Regional collaboration on general awareness or behavior change programs, or both, includes Permittees developing a consistent message, determining best methods for communicating the message, and when appropriate, creating strategies to effect behavior change. If a Permittee chooses to adopt one or more elements of a regional program, the Permittee shall participate in the regional group and implement each element of the regional program in the local jurisdiction</p> <p>The use of the term “elements” is confusing. Please use the same words consistently.</p> <p>Reccomended language: If a Permittee chooses to adopt one or more elements of a regional program, the Permittee shall participate in the regional group and implement each element of the regional program in the local jurisdiction participate in a regional C.11. “General awareness” or an existing or new “behavioral change” measure, the permittee shall participate in the regional group and implement element(s) in the permittee’s jurisdiction.</p>

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Phase I	SS.C.11.	44	<p><i>Permittees may choose to meet these requirements individually or as a member of a regional group. Regional collaboration on general awareness or behavior change programs, or both, includes Permittees developing a consistent message, determining best methods for communicating the message, and when appropriate, creating strategies to effect behavior change. If a Permittee chooses to adopt one or more elements of a regional program, the Permittee shall participate in the regional group and implement ... element(s) of the regional program in the local jurisdiction.</i></p> <p>This contradictory statement (in bold blue) allowing permittees to adopt one or more elements of a regional program and also requiring them to implement each element in their jurisdiction needs to be clarified. Is this to mean implement the element chosen by the jurisdiction or every program element? For example, each phase of the three phases of Don't Drip and Drive had elements tested and refined by the program team. Implementation of regional elements by local jurisdictions amplified the program impact and provided permittees flexibility in their program role and the capacity to contribute.</p> <p>The focus on three elements: general awareness, behavior change and stewardship are coherent goals to fostering engagement in environmental issues related to stormwater issues.</p> <p>Allowing permittees to meet these requirements individually, or collaboratively and regionally, builds in flexibility for permittees with specific issues to address, or the ability to participate as part of a larger, comprehensive program. Keeping and encouraging regional programs increases efficiency and reach of public information. In general, most permit holders that participate in regional activities have extremely limited resources and capacity to address education and outreach. In many cases an individual is responsible for fulfilling many or all of the Phase II permit required activities in addition to other responsibilities for their jurisdiction. This makes flexibility in outreach, and the ability to franchise STORM programs, even more valuable to permittees and regional water quality efforts.</p>
Phase I	SS.C.11.	44	<p>General comments</p> <p>There is no mention of planning for climate change and stormwater impacts in this section of the permit. Coordination of climate change projections and public information should be included in the consideration of the BMPs and low impact development strategies.</p> <p>Another ubiquitous issue are TMDLs, and despite the focus on fecal coliform, there is no mention of septic information or best practices, and only BMP focus on pet waste. Septic system impact should be included in BMPs along with pet waste, as an awareness and behavior change issue.</p> <p>These comments apply to the requirements for secondary Permittees as well. The opening comment in this response applies even more so when considering how to make the most of the efforts of all jurisdictions in improving water quality outcomes. The impacts from development are shared regionally. It is useful to build a coherent summary of the individual Permittee efforts and outcomes, gauge the effectiveness of BMPs, and to coordinate public information to address these large regional issues.</p> <p>It would be very helpful if standards for effective public engagement best practices were widely accepted. At this time not all permittees approve of, recognize, know, value or are trained on behavior change program design or even basic communications practices. In general, behavior change, engagement and evaluation are professional training outside of the engineering, planning, technology, or science backgrounds required of most stormwater engineers. Although this section of the permit is short, it represents a large body of additional skills and expectations and requires both internal and external communications. If state environmental goals are to be met, public engagement should not continue to be short changed. Our agencies cannot address environmental damage focusing solely on science and engineering fixes and without investment, recognition and training to effectively rally the general publics targeted in the permit.</p> <p>a. Each Permittee shall implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below. The outreach program shall be designed to educate each target audience about the stormwater problem and provide specific actions they can follow to minimize the problem.</p> <p>i. General awareness: To build general awareness, Permittees shall target the following audiences and subject areas:</p> <p>(a) Target Audiences: General Public (including school age children and overburdened communities), and businesses (including home-based and mobile business)</p> <p>Subject areas:</p> <ul style="list-style-type: none"> • General impacts of stormwater on surface waters, including impacts from impervious surfaces.. • Impacts from impervious surfaces. • Impacts of illicit discharges and how to report them. • LID principles and LID BMPs. - Potential impacts of climate change on water cycle and stormwater • Opportunities to become involved in stewardship activities.

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Phase I	S5.C11.a	44	<p>Recommended language changes</p> <p>Each Permittee shall implement an education and outreach program for the area served by the MS4. The program design shall be based on local water quality information data as available and target audience characteristics and demographics to identify high priority target audiences, subject areas, and/or BMPs.</p>
Phase I	S5.C.11. a. i.(b)	45	<p>(b) Target audiences: Engineers, contractors, developers, and land use planners. Subject areas:</p> <ul style="list-style-type: none"> • Technical standards for stormwater site and erosion control plans. • LID principles and LID BMPs. • Stormwater treatment and flow control BMPs/facilities. • Climate change projections
Phase I	S5.C.11. a. ii.	45	<p>ii. <u>Behavior change</u>: To effect behavior change, Permittees shall target the following audiences and BMPs:</p> <p>Are Permittees to target all the listed audiences and BMPs for the permit period? Or can the Permittee chose a selection of appropriate audiences and BMPs to focus on locally?</p> <p>ii. Behavior change: To effect behavior change, Permittees shall target the following audiences and BMPs: Permittees may chose one or more audiences and participate on a local or regional campaign that includes a selection of some or all of the following BMPs:</p>
Phase I	S5.C.11. a. ii.(b)	46	<p>No later than July 1, 2020, each Permittee shall conduct a new evaluation, or participate in a new or on-going evaluation with other Permittees, of the effectiveness of the new or ongoing behavior change program (required under S5.C.10.a.ii of the 2013-2018 Permit). Permittees shall document lessons learned and recommendations for which option to select from S5.C.11.a.ii.(c).</p> <p>Again, evaluation of behavior change programs is a professional skill set not necessarily part of a stormwater engineer’s training. It would be most effective and efficient for Permittees to coordinate, track and share evaluations to build data for regional impact of BMPs and behavior change. We are wasting money and effort running discrete project evaluations that aren’t creating a comprehensive picture of our efforts, changes in audiences and approaches, or environmental outcomes.</p>
Phase I	S5.C.11. a. iii.	47	<p>Recommened language:</p> <p>Each permittee shall create <u>and advertise</u> stewardship opportunities and/or partner with existing organizations (<u>including non-permittees</u>) to encourage residents to participate in activities <u>or events planned and organized within the community</u>, such as: stream teams, storm drain marking, volunteer monitoring, riparian plantings and education activities. Advertising may be done locally or in coordination with regional stewardship activities.</p>
Phase I	S9	73	<p>Permittees unable to submit electronically through Ecology’s WQWebPortal must shall contact Ecology to request a waiver and obtain instructions on how to submit an annual report in an alternative format.</p> <p>Reccomend that this process be applied to all submissions and source materials that are currently only refer to an electronic source. The concern is not being able to access or submit electronically for various reasons such as power failure, website taken down, etc. It would be helpful to expand on point of contact and timeframe to obtain a waiver.</p>

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Document	Section	Page	Comment
Phase I	S5.C.5.a	18-20	<p>S5.C.5.a - Vesting</p> <p>Each Permittee shall continue to implement existing programs approved under the 2013 Phase I Municipal Stormwater Permit until the program required in S5.C.5.b.iv applies. The existing program applies to applications submitted as follows: apply to all applications submitted:</p> <p>i. On or after December 31, 2021.</p> <p>ii. Prior to January 1, 2017 that have not started construction¹⁹ by January 1, 2022</p> <p>Proposed Language:</p> <p>1. Page 18 – S.5.C.5.a.iii: The date for King County should be February 3, 2021, instead of March 15, 2021. This is based on Ecology’s May 4, 2015, letter to King County after completion of the equivalency review, which set forth February 3, 2016, as the date for adoption of the existing program.</p> <p>2. Pages 19-20 - S.5.C.5.b.iv: Suggested additional language after the second paragraph: “The prior manual shall apply to applications submitted prior to the effective date of the new manual.”</p> <hr style="width: 30%; margin-left: 0;"/> <p>S5.C.5.a.iii. : For King County, applications submitted prior to March 15, 2016, which have not started construction by March 15, 2021.</p> <p>Comment: KC adopted a public rule revising the King County Surface Water Design Manual (SWDM). This public rule was adopted on March 25th, 2016. The 2016 SWDM is effective as of April 24th, 2016</p>
Phase I	S8	63-65	<p>It is also not clear why payment dates for all monitoring in the current permit, and S8.B in the 2019 permit are all given as August 15; the first payment for S8.B is August 15, 2020, but the first payment date for S8.A is given as December 1, 2019.</p> <p>Proposed:</p> <p>Make all annual payment dates August 15, and both first payments due August 15, 2020.</p>
Phase I	S8/S9	63-65, 73	<p>How is Ecology going to deal with the annual report and monitoring fees with the extension of the 2018 permit to August 2019?</p> <p>Comment: There is an issue with both permit fees and the annual report regarding dates due and the extension of the 2018 permit. Please resolve and make clear.</p>
Phase I	Appendix 1	A1	<p>Section 2. Definitions Related to Minimum Requirements</p> <p>Need to add a definition for Motor Vehicles</p> <p>Motor Vehicles – Please provide a definition for motor vehicles</p>
Phase I	Appendix 10	A10	<p>Part 1, Part 2, Part 3</p> <p>Part 3 is confusing, I think it intends to summarize the language found in S5.C.5.b.iii. Part 3 should be rewritten to clarify the process</p> <p>Part 3 is confusing, I think it intends to summarize the language found in S5.C.5.b.iii. Part 3 should be rewritten to clarify the process and refer back to S5.C.5.b.iii. (Usually the appendix contains more detail than the permit language – in the case, the reverse is true.)</p>
Phase I	Appendix 10	A10-1	<p>S5.C.5.a.i. and S5.C.5.a.ii</p> <p>Not sure maybe S5.C.5.b.i and S5.C.5.b.ii ?</p> <p>The reference to this permit section seems to be made in error. It refers to Clark County and Pierce County vesting date requirements.</p>

Comment Spread Sheet – Formal Draft Phase I Permit

Document	Section	Page	Comment
Phase I	Appendix 10 – Equivalency	A10-1	<p>The use of Parts 1,2 and 3 in Appendix 10 are unclear to the reader and the intent should be clearly laid out in the introduction section of this Appendix (see suggested test below).</p> <p>Part 3 is unclear and needs to be edited to describe Ecology's requirements and permittees responsibility for submissions. The Fact sheet describes Ecology's plan to list the approved manual and codes in Appendix 10 of a modified Phase I permit. Appendix 10 part 3 should address that Ecology plans to do a permit modification that will list the approved manual and codes.</p> <p>Add following language to the beginning of Appendix 10</p> <p>"Ecology has determined that a formal equivalency process is unnecessary for this permit cycle because of the minimal changes made to Ecology's 2019 Stormwater Management Manual for Western Washington. Part 1 restates the equivalency determinations made during the 2013 permit. Part 2 delineates the changes that Ecology has determined to be significant enough to amend in the permittees enforceable documents for the 2019 permit cycle. Part 3 describes Ecology's approval process for the permittees updated enforceable documents."</p>
Phase I	Appendix 12	A12-1	<p>Table 1: Lat/Long: Need to specify which geodetic system (datum) lat/long is based on; either proscriptively, or as a reporting requirement. If proscriptively, examples include WGS84, GCS North American 1983, etc.</p> <p>Specify which geodetic system (datum) lat/long is based on; either proscriptively, or as a reporting requirement. If proscriptively, examples include WGS84, GCS North American 1983, etc.</p>
Phase I	Appendix 1	A1-42	<p>This appears to be a text change. Is the intention of the text to let the jurisdiction choose which "existing condition" to apply for this exemption? Or to choose the most conservative existing condition of those listed e.g. lowest runoff?--a developer will choose whichever is advantageous e.g. not triggering a facility.</p>
Phase I	Appendix 1	A1-5	<p>Section 2. Definitions Related to Minimum Requirements</p> <p>Definition of Pollution-generating impervious surface (PGIS)</p> <p>". . . storage of erodible or leachable materials . . ." needs to be expanded</p> <p>Applies to definition in SWMMWW as well.</p> <p>Add ". . . storage <u>or use</u> of erodible or leachable materials . . ."</p>
Phase I	Appendix 2	A2-18	<p>Recommended language:</p> <p>Complete IDDE field screening for bacteria sources in these areas, including rural sub-basins, by January 1, 2024</p> <p>Request that the deadline be extended by a year to align with county resources. The change in the geographic coverage in the Boise Creek TMDL has added a significant geographic area to the TMDL program for King County. This deadline requires the county to complete the screening of the other 50% of Issaquah basin which would require the county to complete the bacteria screening of a 61 square mile basin in 2.5 years from issuance of the permit, simultaneously conducting the same program in Bear Creek and Boise Creek. This schedule would require increasing resources to this basin for a program that has been and will be in place for years due to the nature of the pollutant.</p>
Phase I	Appendix 3	A3-1	<p>Elements in the permit that require reporting (i.e. Annual Report) should either:</p> <ul style="list-style-type: none"> - Measure level of effort - Provide useful data that guides regional efforts and permit requirements. There should be clarity on what the intent is behind collecting this data. Consider the publication of data for all jurisdictions to see. The data collected should be used in conjunction with the SAM Effectiveness Studies to alter and modify the permit requirements.
Phase I	Appendix 3 - Annual Report	A3-3	<p>Question 36</p> <p>Replace amount of times with number of times</p>

Comment Spread Sheet – Formal Draft Phase I Permit

Document	Section	Page	Comment
Phase I	Appendix 3 - Annual Report	A3-4	Questions 40a, 41 The Annual Report questions should support one of two questions. The first being a simple way of communication level of effort and meeting permit requirements. The second being using this information in regional analytical efforts. It appears that these questions doesn't provide a useful measure of "level of effort". It also adds additional complexity to the Annual Report.
Phase I	Appendix 6	A6-2	the removed water has been stored in a clean container or into an appropriate temporary holding facility. Maintenance activities that handle waters removed from facilities during maintenance, on occasion, will construct a temporary holding facility instead of using a container as described. The use and operation for these facilities is identical to the use and operation of the containers listed in the section.
Phase I	Appendix 7	A7-1	Correct pagination
Phase I	Appendix 1	AP-42	"The 0.15 cfs increase should be a comparison of the postproject runoff to the existing condition runoff. For the purpose of applying this threshold, the existing condition is either the pre-project land cover, or the land cover that existed at the site as of a date when the local jurisdiction first adopted Flow Control requirements into code or rules." This appears to be a text change . Is the intention of the text to let the jurisdiction choose which "existing condition" to apply for this exemption? Or to choose the most conservative existing condition of those listed e.g. lowest runoff?--a developer will choose whichever is advantageous e.g. not triggering a facility.
Phase I	Definitions and Acronyms	Def-83	Define - Beneficial Uses - Remove from permit, not used.
Phase I	Definitions and Acronyms	Defn	Best Management Practices are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State. Reccomend deleting "approved by Ecology". or using the EPA definition Not all stormwater best management practices employed in Washington State have been approved by Ecology. The EPA definition of Best Management Practices are defined as a schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States, BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. U.S. Environmental Protection Agency (EPA), Washington, D.C. "EPA Administered Permit Programs: The National Pollutant Discharge Elimination System." Code of Federal Regulations, 40 C.F.R. 122.2.
Phase I	Fact Sheet	Fact Sheet 14	Comment RE: Fact Sheet Pg 14, Degraded Water Bodies, 3rd bullet under heading: Re: text "Studies in the 1990s". The numbered end-note (4) only lists one study dated 1991. Recommendation: Please provide references to additional studies.
Phase I	Fact Sheet	Fact Sheet 14	Comment RE: Fact Sheet Pg 14, Degraded Water Bodies, 5th bullet under heading: Re: text "Recent modeling exercises". "Recent modeling" seems to be referencing the Watershed Modeling efforts done by Phase I Counties. (see section 3.2.1 below on "Phase I Counties' Watershed Modeling and Planning")

Comment Spread Sheet – Formal Draft Phase I Permit

Document	Section	Page	Comment
Phase I	Fact Sheet	Fact Sheet 14	<p>Comment RE: Fact Sheet Pg 14, Degraded Water Bodies, 2nd bullet under heading: Re: text "Other recent studies".</p> <p>Suggested Language: "Studies have suggested that road density and traffic volumes are main stressors to benthos community health in urban streams indicating traffic associated pollutants in stormwater degraded receiving water bodies."</p>
Phase I	Fact Sheet	Fact Sheet 20	<p>Roof Runoff: Issue – Based on Ecology’s recent roof runoff study, certain types of roofing materials have been identified as being a significant source of pollutants. Comment: What does Ecology plans to do with the results of their study? King County recommends that Ecology include these types of roofing materials as PGIS</p>
Phase I	Fact Sheet	Fact Sheet 51	<p>Comment: King County recommends that Ecology reference the MS4 database framework, the “data dictionary” developed by a GROSS grant and currently housed at the Washington Stormwater Center website as a supplement to the guidance that they currently provide.</p>
Phase I	Fact Sheet	Fact Sheet 51	<p>We encourage Ecology to point to the MS4 database framework, the “data dictionary” developed by a GROSS grant and currently housed at the Washington Stormwater Center website in addition to the guidance that they currently provide.</p> <p>http://www.wastormwatercenter.org/standardized-mapping-framework/</p>
Phase I	Fact Sheet	Fact Sheet 57	<p>Ecology plans on doing a permit modification process to include the list of “approved” documents and codes in Appendix 10. Recommend that this should that be clearly stated in Appendix 10, Part 3 and in S5.C.5 of the permit</p>
Phase I	Fact Sheet	Fact Sheet 57	<p>One important strategy that only one of the four counties highlighted in their scenarios was changing the land use designation or zoning established as part of the growth management process. King County demonstrated that such changes will help protect water quality while substantially lowering the high capital project costs identified by the models.</p> <p>Please remove this statement as it is incomplete in its explanation and use.</p> <p>This statement is based on a modeling run in which 25% of the effective impervious area was removed from the analysis. The cost estimates were based on what mitigation was needed to meet the objective with reduced EIA. The cost of the removal of the impervious surfaces, the houses, roads, sidewalks, etc. and the cost of the property purchases were not included in the analysis making this statement inaccurate.</p>
Phase I	General	Gen	<p>Please review all internal references to ensure that the correct sections are being referenced. Due to the changes in section numbers, internal references are directing the reader to the wrong sections.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Appendix 8 reference S.5.C.7.b.ii and should reference S.5.C.8.b.ii • Appendix 13 references S.5.C.7 and S.5.C.8 which should reference S.5.C.8 and S.5.C.9
Phase I and II	S2	7	<p>Allowable and conditionally allowable discharges are a regulatory standard and are not an action that can be taken by the permittee through the SWMP. This should be moved from S5.C.9 to S2. This would eliminate the need to repeat the list in S6.D and S.6.E</p>
Phase II	S5.C.1.c	PhII 19	<p>Section S5.C.1.c.i says, “Permittees may choose to meet this permit requirement individually, or as part of a regional effort”. King County supports the inclusion of that same language in section S5.C.1.c.ii and S5.C.1.c.iii</p>

Comment Spread Sheet – Formal Draft Phase I Permit

Document	Section	Page	Comment
SWMMWW	Section 1-6.1	64	<p>1-6.1 General Design, Maintenance, and Construction Criteria for Infiltration BMPs: Infiltration or dispersion BMPs that are only used to meet The List Approach in 1-1.1.1 MR5: On-Site Stormwater Management do not require additional Runoff Treatment prior to infiltration</p> <p>King County requires that pollution generating runoff routed to infiltrative on site BMPs to be either : (A) pre-treated by a treatment facility; (B) be a specific on site infiltrative BMP considered to provide treatment (bioretention) or permeable pavement underlain w/sand on residential driveways; C: infiltrated into soils meeting soil suitability criteria for treatment: or D Be deemed infeasible. In addition, Ecology notes that permeable pavement have an added 6" sand layer if soils don't provide treatment to overcome infeasibility where soils don't provide treatment. However, the blanket statement in text seems to convey the message (perhaps inaccurately at w/regard to advisements on permeable pavement w/sand) that promoting LID/on site BMP infiltration should/can come at the expense of protecting groundwater quality. KC encourages Ecology to take an approach that promotes LID where feasible, but not to erode the infeasibility criteria in a way that compromises water quality.</p>
WWA Phase II	S5.C.1.c	PhII 19	<p>Recommend allowing for regional effort to meet compliance in Sections S5.C.1.c.ii and iii</p> <p>Consistent support for multijurisdictional watershed based stormwater management efforts. The Guidance document for this section even indicates the need to collaborate around the prioritization of shared receiving waters and the possibility of collaborating with other permittees on the SMAP</p> <p>See King County Conceptual Model for Basin Planning Alternative Paper - Attached</p>
	S5.B	13	<p>The SWMP shall be designed to reduce the discharge of pollutants from MS4s to the MEP, meet state AKART requirements, and protect water quality.</p> <p>Proposed Language: B. The SWMP shall be designed to reduce the discharge of pollutants from MS4s to the MEP, meet state AKART requirements, and protect water quality. Compliance with the actions in S5, S7 and S8 constitutes compliance with S.4.D (AKART) and S.4.C. (MEP).</p>

**Comments on Public Draft 2019 Phase I Municipal Stormwater Permit:
Appendix 10 Table 10.1**

2013-2018 Permit and 2012 Manual (as amended in 2014)	Change to equivalent manual required to ensure equivalency with the 2019-2024 Permit and 2019 Manual	Text/Summary of Change	Comment to Ecology
2013-2018 Permit Appendix 1 - Section 4.2, Element 4, new bullet	Use Appendix 1 - Section 4.2, Element 4e from the 2019-2024 Appendix 1 Permit.	Adds new requirement under "Element 4: Install Sediment Controls" of 4.2 Minimum Requirement #2: Construction Stormwater Pollution Prevention Plan (SWPPP). New requirement is thus: "Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible."	"Provide and maintain natural buffers": Buffers are already addressed in Clearing Limits, and they are typically intended to be undisturbed, not maintained. Maybe the intent is to maintain the buffer boundary markers? "Natural" buffer has no definition to enforce. The new text suggests directing stormwater to vegetated (natural) buffers. Fine for clean water, but it opens the door for using a buffer to filter turbid water, not a good idea. Could be just the syntax used in the new statement. I don't think the proposed text is helpful or appropriate, and it may encourage untreated discharge to buffers. Suggest revising "Provide and maintain natural buffers" to "Clearly delineate and protect sensitive area buffers" (or dropping the first line entirely, redundant with Clearing Limits) and changing "direct treated stormwater to vegetated areas" to "utilize vegetated areas to filter controlled runoff" or something to that effect. How does this tie into directive 4c of Appendix 10t to rout construction water to sediment ponds and traps? Does our CAO already "provide and maintain natural buffers around surface waters"? Define "infeasible" for this requirement. Can the dispersion into vegetated areas be used in lieu of otherwise required sediment traps/ponds?
2013-2018 Permit Appendix 1 - Section 4.2, Element 8a	Use Appendix 1 - Section 4.2, Element 8a from the 2019-2024 Appendix 1 Permit.	Modifies element 8a "Stabilize Channels and Outlets by changing flow rate calculation methods. a. Design, construct, and stabilize all on-site conveyance channels to prevent erosion from the flow rate calculated by one of the following methods: • Single Event Hydrograph Method: The peak volumetric flow rate calculated using a 10-minute time step from a Type 1A, 10-year, 24-hour frequency storm OR • Continuous Simulation Method: The 10-year peak flow rate, as determined by an approved continuous runoff model, with a 15-minute time step.	The syntax is wonky at (a) with the added text. Suggest changing "flow rate calculated" to "flows at the rate calculated". The flows cause erosion, the rate is just a number.
2014 SWMMWW Volume III, Appendix III-B	Delete appendix, refer to the 2019 SWMMWW Volume III, Section III, Section 2.2	2014 Appendix III-B is "Western Washington Hydrology Model – Information, Assumptions, and Computation Steps". DELETED 2019 Section III-2.2 is "Ecology Approved Continuous Simulation Models" Deletion substitution with REFERENCE to this section. Ecology's only approved model is WWHM2012 version 4.2.14, published March 02, 2018. MGS Flood is specifically disallowed, although Ecology says MGS is incorporating LID and seeking re-approval, which Ecology may grant "after the publication of this model" (ECY doesn't say, but doesn't rule out approval before final publication of the manual). KCRTS is specifically disallowed.	Why can't MGS be allowed in the interim for non LID modeling purposes?
2014 SWMMWW Volume III, Appendix III-C, Part 2: Summary of WWHM 2012 Representation of LID BMPs, Permeable Pavements	Replace the sentence: "For grades greater than 2%, see additional guidance under the WWHM3 section." With: 2014 SWMMWW Volume III-C, Section C.11.3	Changes SWMMWW internal reference from WWHM3 guidance to Vol III-C, Section C.11.3.	Should new reference be to Section C.11.2, (Instructions for Roads on Grades above 2%), not , not C.11.3 (Instructions for Roads on a Slope with Internal Dams within the Base Material that are Below Grade)?

Comments on Ecology Structural Stormwater Controls Guidance

King County recommends that elements of the guidance be clarified and included as either permit language in S5.C.7 or Appendix 12 and/or as fact sheet. This document provides suggestions on where the various elements of the draft guidance document should go.

Permit Context

- Elements of the guidance should be clarified and included as either permit language and/or as fact sheet language.
- Examples of permit language include: defining project types, describing point system method in appendix 12
- Fact sheet information should support the use of the incentive point system as a permit requirement.

Questions that could be asked when the permit and factsheet are published include:

- How is the incentive point system supported by science and water quality law as a basis for being a permit requirement?
- How does the incentive point system support the goals described on guidance page 1?
- Was the incentive system tested to ensure it fosters the goals on page 1?

General comments:

- Suggest using the term “flow control” instead of “hydrologic”.
- In project descriptions – please provide project descriptions rather than giving examples of what does or does not meet the project definition.
- On the non-infrastructure projects such as 5, 7, 8 and 9 note that these projects purpose is to protect and restore designated and existing beneficial uses degraded by stormwater runoff associated with MS4s.

Project types and points:

- Consider allowing wetland restoration as a project type. These wetlands would be waters of the state as forested wetlands and marshlands rather than stormwater control facilities or mitigation under regulatory requirements of GMA and/or the CWA.
- Treatment for roads should allow greater points for WSDOT-defined collectors and arterials under 25,000 ADT.

Attachment 1

Things to consider in the future:

- King County believes that from both the technical and policy perspective this requirement deserves the level of input that a facilitated scientific and stakeholder process undertaken during the 2019 permit would provide.
- The system will need a means of scaling the amount of required points to permittee capacity.
- Scaling points to project benefit within the project type is important. This considers both watershed benefits due to project location in the watershed and the project benefit by problem it treats (e.g. low, moderate or high ADT)

Attachment 2

Conceptual Alternative to Phase II Municipal NPDES Permit Section S5.C.1.c: Comprehensive Stormwater Planning

Proposal for a watershed-based, multijurisdictional long-range MS4 planning alternative to the Phase II Municipal NPDES Permit Section S5.C.1.c: Comprehensive Stormwater Planning

One of the purposes of long-term MS4 stormwater management action planning is identifying the stormwater management strategies needed to control stormwater runoff for the protection and restoration of the beneficial uses of receiving waters. To meet this purpose, Ecology has drafted Section S5.C.1.c in the Phase II Municipal NPDES permit as a planning and prioritization process to identify structural retrofit needs and tailored management strategies and actions (programmatic activities), and the development of tools to prioritize them.

Ecology's current proposal for comprehensive stormwater planning has three primary elements, S5.C.1.a, b, and c.. This memo presents a conceptual alternative to the requirements Ecology is proposing in the Phase II permit section S5.C.1.c, Stormwater Management Action Planning (SMAP).

This alternative proposal offers a multijurisdictional watershed-based approach to S5.C.1.c. This alternative is intended to be equivalent to S5.C.1.c, except that it prioritizes specific stormwater management BMPs within the boundaries of a watershed rather than limiting the geographic scope to within the permittee's permit boundary. This would result in the ability of multiple permittees to focus long-range planning efforts on one or more priority receiving waters.

ALTERNATIVE PROPOSAL

Consistent with the organizational structure of the draft permit language the proposed alternative consists of three parts of Element 3:

- a. Basic receiving water & contributing area inventory and assessment:

Permittees involved in the multijurisdictional approach would collect available data and characterize receiving waters (e.g. tributaries, lakes, and wetlands) and contributing areas that would benefit from stormwater management planning within a watershed. This process would collect and inventory the same data required under Ecology's approach but would be done at a watershed-scale. Permittees can meet the requirement by participating in the multijurisdictional effort.

Compliance: Submittal of a report describing the inventory and characteristics of the MS4 receiving waters and contributing areas using all available information. Identify data gaps and develop a plan and protocol to improve "state of knowledge."
- b. Prioritization of a watershed's sub-basins for tailored management actions:

Permittees involved in a multijurisdictional approach would collectively implement a process to identify and prioritize those sub-basins, within the watershed, that would realize the greatest benefit to the receiving waters from stormwater management efforts. The goal of this component is to identify structural retrofits and programmatic activities that reduce pollutant loading and control flow volumes and timing.

Compliance: Submission of sub-basin rankings and a description of the prioritization process that also describes how the results of the prioritization process is used to inform

Attachment 2

Conceptual Alternative to Phase II Municipal NPDES Permit Section S5.C.1.c: Comprehensive Stormwater Planning

future stormwater retrofit projects and/or other tailored management strategies and actions.

c. Stormwater management action plan (SMAP)

The SMAP for the multijurisdictional alternative approach would identify high priority sub-basins throughout an entire watershed. Under this alternative, the SMAP would identify structural retrofits and programmatic activities, a proposed implementation schedule, and explore possible budget sources or barriers to implementation within the watershed boundaries. Similar to Ecology's proposed plan, the SMAP would identify short term actions, long term actions, and a process to adaptively manage this multijurisdictional watershed scale plan.

Compliance: Submission of a watershed scale SMAP that combines the work done by each of the participating jurisdictions.

CHALLENGES

In developing this alternative, King County has identified a few possible issues that may require further discussion. This is not an exhaustive list.

- i. This alternative needs to be equivalent to Ecology's intent and forward looking to anticipate how the SMAP would be implemented in future permits.
- ii. While the alternative proposal doesn't discuss watershed size, one idea the County supports would be selecting watershed boundaries similar to the WRIAs. Many of the goals outlined in this alternative are similar to those of the WRIAs, and partnerships are already in place. However, the County would support different scales depending on the character and needs of the drainage.
- iii. This proposal suggests the SMAP could be organized by looking at the entirety of the watershed, and prioritizing sub-basins irrespective of jurisdictional boundaries. This could be challenging if a participating jurisdiction has already identified and designated priority basins within their city limits but outside of the watershed boundary.
- iv. Based on King County's experience developing a multijurisdictional effort in the Bear Evans basin planning requirement in the 2007 Permit, it takes longer to complete. Ecology should consider extending the SMAP submittal date for those jurisdictions participating in this multijurisdictional alternative.
- v. Does compliance with this alternative relieve a jurisdiction from completing all three of Ecology's proposed parts of S5.C.1c within the remaining portion of their jurisdiction that lies outside of the watershed?
 1. This proposal advocates for a jurisdiction to have a majority of land area draining to the watershed. What are the expectations for the rest of the land within the boundaries of that jurisdiction? King County would advocate that participation in one multijurisdictional watershed effort would meet the requirement.

Attachment 2

Conceptual Alternative to Phase II Municipal NPDES Permit Section S5.C.1.c: Comprehensive Stormwater Planning

2. An alternative to this proposal would be for each jurisdiction to prioritize within the area of their jurisdiction that drains to the watershed, using the same prioritization process identified in S5.C.1.c.ii . This would at least allow for participating jurisdictions to have a consistent prioritization method in an attempt to work towards a similar goal.
 3. The next step would be to centralize the jurisdiction's prioritization into an OGD SMAP. However, due to the added level of coordination, this may create a Phase II effort in excess of the Ecology proposal.
 4. Since the parts of this alternative build on each other, with each element dependent on the preceding one, it would be most effective if the participating jurisdictions are committed to all three parts of the watershed approach.
- vi. Some of the other questions/challenges that arose during conversation include:
1. Would Ecology want to see agreements, or ILA's in place as a possible method for demonstrating committed participation for compliance?
 2. As this requirement is developed and look forward to implementation, Ecology should consider that retrofit programs are often driven by factors other than restoring beneficial use of receiving waters. For example restoring aging/failing infrastructure, flood protection, meeting ESA requirements, and accommodating growth under the state Growth Management Act.
 3. Within long term stormwater management planning, there is value in developing a plan and protocol to improve the state of knowledge for receiving waters. Stormwater management actions, as required by the Permit, have an important role to play in the protection and recovery of receiving waters but the permit is not the sole vehicle or solution for the protection and restoration of beneficial uses of receiving waters.
- vii. Identification of short term and long term projects – Implementation Plan
1. Assuming there's consensus on the prioritization methodology within the watershed, what is to be done about a possible outcome where one or more jurisdiction has few high priority sub-basins within the watershed? Under this alternative every jurisdiction within the watershed would have at least one prioritized sub-basin. A city or county would start at the top of the priority list and work their way down until a basin within their jurisdictional boundaries is identified.
 2. The basin planning work done by the Phase I counties demonstrated that establishing metrics for most programmatic activities cannot currently be done, and the best use of long range planning was to focus on the structural retrofit needs. Including programmatic activities in this effort should be limited to the actions found in Appendix 11 (now 12) of the Phase I permit.

Attachment 2

Conceptual Alternative to Phase II Municipal NPDES Permit Section S5.C.1.c: Comprehensive Stormwater Planning

Comments on Public Draft 2019 Stormwater Management Manual for Western Washington

Document	Section	Page	Comment
Phase I	SWMMWW		<p>Ecology's roof runoff study (Investigation of Toxic Chemicals in Roof Runoff, February 2014, Publication No. 14-03-003) demonstrated that certain types of roofing materials have been identified as being a significant source of pollutants.</p> <p>How does Ecology plan to incorporate the results of this study in Ecology's Stormwater Mangement Manual for Western Washington and where appropriate, the Municopal NPDES Stormwater permits?</p>
Phase I	SWMMWW		<p>There is an inconsistency in the use and restrictions of bio solids and compost in Ecology's Manual, particularly across different BMPs.</p> <p>How is Ecology planning on addressing the inconsistency in the use and restrictions of biosolids and compost across various BMPs that function simularly?</p>
	SWMMWW		<p>There are a number of ongoing studies examining different types of bioretention sould mixes but the results of the studies have not been included in Ecology's manual. The 60/40 mix is still the required mix despite studies showing that it is pollution generating. How does Ecology plan on including the results of these studies in Ecology's Stormwater Mangement Manual for Western Washington and where appropriate, the Municopal NPDES Stormwater permits?</p>
Phase I	SWMMWW	141	<p>SWMMWW MR7 Flow Control TDA Thresholds</p> <p>Bullet #1: Given that modeling shows that bullet #3 thresholds are exceeded (in all cases?) for effective impervious way below 10,000 square feet, has there been any consideration in deleting bullet #1 or amending the square footage number.</p> <p>Delete the bulleted condition, or lower the square footage to more closely approach that which would model equal to or greater than 0.15 cfs discharge.</p>
Phase I	SWMMWW	141	<p>Bullet #3: Calls out "effective hard surfaces". This term is not defined in the glossary. It is therefore not clear how permeable pavement, a defined "hard surface", is supposed to be modeled against these thresholds in bullet 3. Is this guidance elsewhere? In any case, "effective hard surfaces" should be defined prominently (in glossary) given the importance of it in this flow control BMP exception language. It should be made clear, not a mystery, as to how "effective" permeable is or is not and under what conditions. King County considers permeable that is determined feasible, to be 50% impervious/50% grass when modeling for flow control BMP modeling credits, FYI.</p> <p>Define "effective hard surfaces" in the Glossary.</p> <p>Consider a definition that incorporates mirroring King County's method for modeling permeable pavement (50% impervious/50% grass).</p>
Phase I	SWMMWW	142	<p>From MR 7, Flow Control, TDA Thresholds:</p> <p>Note: If the discharge from the TDA is to a stream that leads to a wetland, or to a wetland that has an outflow to a stream, both this Minimum Requirement and 1-9.1.5 MR8: Wetlands Protection apply to the TDA.</p> <p>Comment: RE: MR7 and MR8</p> <p>Is there any guidance as to what to do if /when these to MRs (5, Onsite FC, 7 FC and 8 Wetlands Protection) are in conflict? For example, a previously cleared site (pasture/lawn) is being developed and per MR 7 FC must provide standard flow control based on historic (forested) conditions) and must infiltrate runoff to max extent feasible per MR5---both could impact downstream wetland "existing" hydrology and potentially not comply with MR8 wetland hydrology guidelines. Any guidance on this matter?</p> <p>Please provide guidance, if not.</p>

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Phase I	SWMMWW	161	<p>SWMMWW UIC I-4.1, Introduction to UIC Wells</p> <p>Registration "Residential UIC wells used to collect stormwater runoff from roof surfaces on an individual home (or duplex) or for basement flooding control are exempt from the registration requirement. All other UIC wells must be registered."</p> <p>The exemption for basement flooding control should only apply to groundwater infiltration sump drainage. Otherwise there is risk of proliferation of general-use basement floor drains with sump pumps being used for e.g. floor-washing or laundry drainage.</p>
Phase I	SWMMWW	167	<p>PRAY - Comments on Section III-2.1:</p> <p>"In most cases, UIC wells are designed to completely drain ponded runoff within 48 to 72 hours after flow to the UIC well has stopped. If the UIC well is designed to meet a Runoff Treatment requirement, the long-term infiltration rate (see V-5.4 Determining the Design Infiltration Rate of the Native Soils), must be sufficient to accommodate the Water Quality Design Flow Rate (see III-2.6 Sizing Your Runoff Treatment BMPs)."</p> <p>Comment: If King County is expected to take up UIC review, this will need further ECY clarification to calculate facility size, i.e., whether or not facility size is determined solely from the design UIC footprint. There is no ECY-prescribed method provided for infiltration analysis within a UIC with discussion about how that analysis would address horizontal infiltration through sidewalls (often the dominant flow direction in UICs) to calculate total discharge from the UIC or satisfy the WQ Design Flow Rate inflow. WWHM will only model vertical infiltration and ignores sidewall infiltration. Using only the UIC footprint for sizing will produce an oversized BMP if the UIC is not lined by design against sidewall infiltration. If this is ECY's intent, explicit guidance will be needed.</p>
Phase I	SWMMWW	175	<p>SWMMWW Volume I, I-4.12 "Determining Treatment Requirements" UIC Wells (new section)</p> <p>There is lack of clarity regarding the presumptive approach (provision of standard/approved water quality vs. vadose zone treatment capacity).</p> <p>Clarify if using water quality treatment facilities per approved NPDES program prior to discharge to a UIC is considered the "presumptive approach". If so, section I-4.12 "Determining Treatment Requirements" should be amended to include the use of approved treatment facilities/BMPs as a highlighted alternative method to those listed here.</p> <p>Also, I-4.4 "the Presumptive Approach" should be clarified. It lists "Know Treatment Methods" and "the potential treatment capacity of the vadose zone" as "issues that must be addressed" when I think, in fact, you need only address one or the other to meet the non-endangerment standard.</p> <p>Lastly, a potential general edit would be to state providing NPDES program approved treatment BMPs/Facilities prior to discharge to UICs is the preferred method for meeting non endangerment given requirements/ability to maintain these BMPs/facilities which is not the case for use of the vadose zone for treatment.</p> <p>We think use of the vadose zone should not be allowed to provide treatment. Treatment should be provided by approved facilities prior to discharge to UIC wells. This is a better long term approach, not only with regard to treatment assurance, but also with regard to spills, maintenance, and UIC well longevity.</p>
Phase I	SWMMWW	177	<p>SWMMWW Volume I, I-4.12 "Determining Treatment Requirements" UIC Wells (new section)</p> <p>"In general, the vadose zone may provide adequate filtration, adsorption, and other pollutant reduction capacity to meet the non-endangerment standard for solids, metals, oil, grease, and PAHs. Designers may use the tables in I-4.13 Classification of Vadose Zone Treatment Capacity to evaluate the use of the vadose zone for treatment and to determine treatment requirements for these pollutants prior to discharge to the UIC well."</p> <p><u>Please provide reference to the studies demonstrating the effectiveness of the vadose zone in treating stormwater runoff, by pollutant removal</u></p>

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Phase I	SWMMWW	203	<p>Comments on Appendix I-C Guidelines for Wetlands When Managing Stormwater</p> <p>I-C.2 Levels of Wetland Protection, redlines pp. 6-7</p> <p>Habitat score has changed from 19 (by the Guide Sheets method) to 8 (p.6) and 4 (p.4), reflecting levels of protection. Is it intended that the habitat scoring in the Guide Sheets method be revised as well? Note the previous methods including the Guide Sheets method are still approved for use.</p> <p>Answer query and resolve issue</p>
Phase I	SWMMWW	209	<p>Comments on Appendix I-C Guidelines for Wetlands When Managing Stormwater</p> <p>I-C.5 Hydroperiod Protection Guidelines for Wetlands, redlines p.8 and p.13</p> <p>The text discussing the Water Level Fluctuation (WLF) speaks to values of >15 and <15cm but leaves out values =15cm.</p> <p>Correct the error or explain</p>
Phase I	SWMMWW	333	<p>SWMMWW Throughout the manual</p> <p>RE: "up to 35% biosolids" and "up to 35% biosolids or manure"</p> <p>The manual needs to specify whether this is by volume or weight, and if by weight, whether it's dry weight or wet weight. Proposed Language: Material percent always needs to specify whether by volume or weight, and if by weight if dry weight or wet weight.</p>
Phase I	SWMMWW	497	<p>Comments on Section III-2.1:</p> <p>An Overview of Hydrologic Analysis, Hydrologic Modeling Options</p> <p>"If a basin plan is being prepared, then a hydrologic analysis should be performed using a continuous simulation model such as the EPA's HSPF model, the EPA's Stormwater Management Model (SWMM), or an equivalent model as approved by the local government"</p> <p>This is the only place the SWMMWW mentions EPA's SWMM model, and in this text it infers that SWMM is an approved model. Otherwise, approved models are WWHM and HSPF as explicitly stated in other locations in the manual. Misleading if SWMM is not approved for general use.</p>
Phase I	SWMMWW	753	<p>SWMMWW V-1.1 - Sequence of Runoff Treatment and Detention BMPs</p> <p>Throughout (first noticed in this section): Ecology has changed terminology from Facility (facilities) to BMP(s) We prefer retaining the term Facility for engineered water quality treatment and flow control structures, to distinguish them from non-engineered landscape LID, source control, and behavioral practices. i.e., a facility is not a practice. This comment and correction applies throughout the SWMMWW -without going into listing every section in which the issue appears.</p>

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Phase I	SWMMWW	754	<p>SWMMWW Table V-1.1: Runoff Treatment BMP Placement in Relation to Detention</p> <p>Please provide references to the studies that demonstrate that wet 'biofiltration' swales achieve the same TSS % removal as conventional grass-lined swales. Wet swale plant spacing is substantially wider, suggesting less flow inhibition and therefore less particle settling than with a standard grass swale.</p> <p>If studies demonstrating equivalent performance are not available recommend that wet swales should be reserved for locations where there's no other option.</p> <p>First row of the table, BMP T9.10: Basic Biofiltration Swale: In Following Detention the entry should be: - Changed from "OK" to . Not applicable unless nothing else is feasible.</p> <p>Second row of the table, BMP T9.20: Wet Biofiltration Swale: Change text for both Preceding and Following Detention: - Change from "OK" to . Not applicable unless nothing else is feasible.</p>
Phase I	SWMMWW	831	<p>SWMMWW V-5 Infiltration BMPs BMP T5.15 Permeable Pavement</p> <p>Concern regarding feasibility</p> <p>Clarify that modified infeasibility criteria for permeable pavements still gives the option to call permeable pavement infeasible if underlying soils don't provide treatment capacity and that adding a sand layer remains, essentially, an OPTIONAL approach to allowing pollution generating permeable pavements over non treatment soils.</p>
Phase I	SWMMWW	856	<p>SWMMWW BMP T5.15: Permeable Pavements</p> <p>Permeable pavement is now allowed as a Basic Treatment BMP—King County has concerns about maintainability. Unlike a conventional sand filter, the sand layer under permeable pavement is not removable/replaceable should clogging or pollutant breakthrough occur - without removing the pavement over-layer entirely.</p> <p>Besides maintainability, King County has concerns about road section stability and spill control.</p> <p>Consider not allowing permeable pavement in lieu of a Basic treatment facility.</p>
Phase I	SWMMWW		<p>1-6.1 General Design, Maintenance, and Construction Criteria for Infiltration BMPs:Infiltration or dispersion BMPs that are only used to meet The List Approach in 1-1.1.1 MR5: On-Site Stormwater Management do not require additional Runoff Treatment prior to infiltration</p> <p>King County requires that pollution generating runoff routed to infiltrative on site BMPs to be either : (A) pre-treated by a treatment facility; (B) be a specific on site infiltrative BMP considered to provide treatment (bioretention) or permeable pavement underlain w/sand on residential driveways; C: infiltrated into soils meeting soil suitability criteria for treatment: or D Be deemed infeasible. In addition, Ecology notes that permeable pavement have an added 6" sand layer if soils don't provide treatment to overcome infeasibility where soils don't provide treatment. However, the blanket statement in text seems to convey the message (perhaps inaccurately at w/regard to advisements on permeable pavement w/sand) that promoting LID/on site BMP infiltration should/can come at the expense of protecting groundwater quality. KC encourages Ecology to take an approach that promotes LID where feasible, but not to erode the infeasibility criteria in a way that compromises water quality.</p>
Phase I	SWMMWW	1232	<p>SWMMWW Glossary</p> <p>Definition of Pollution-generating impervious surface (PGIS)</p> <p>". . . storage of erodible or leachable materials . . ." needs to be expanded</p> <p>". . . storage or use of erodible or leachable materials . . ."</p>

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Document	Section	Page	Comment
SWMMWW	Section 1-4.6	164	<p>Design Recommendations for Rule-Authorization of New UIC Wells, Stormwater Infiltration Rate/Drawdown Time</p> <p>If King County is expected to take up UIC review, this will need further ECY clarification to calculate facility size, i.e., whether or not facility size is determined solely from the design UIC footprint. There is no ECY-prescribed method provided for infiltration analysis within a UIC with discussion about how that analysis would address horizontal infiltration through sidewalls (often the dominant flow direction in UICs) to calculate total discharge from the UIC or satisfy the WQ Design Flow Rate inflow. WWHM will only model vertical infiltration and ignores sidewall infiltration. Using only the UIC footprint for sizing will produce an oversized BMP if the UIC is not lined by design against sidewall infiltration. If this is ECY's intent, explicit guidance will be needed.</p>
SWMMWW	Appendix I-D: Regional Facilities:-D.4 Using Regional Facilities to Meet Minimum Requirements:	Volume I - Appendix D - Page 231	<p>General Comment: In general, this section mixes guidance language w/regulatory language and is lacking in sufficient depth and clarity of language.</p>
SWMMWW	Appendix I-D: Regional Facilities: Using Regional Facilities to Meet Minimum Requirement #6	Volume I - Appendix D - Page 234	<p>The section re: projects using in-basin or out of basin transfer for meeting MR6 requirements in regional facilities, is difficult to follow. It closes with "Due to these area specific concerns, Ecology has not provided a generalized method for in-basin or out-of-basin transfers for regional facilities designed to meet I-3.4.6 MR6: Runoff Treatment. Jurisdictions seeking to make in-basin or out-of-basin transfers for regional facilities designed to meet I-3.4.6 MR6: Runoff Treatment must develop area specific trading criteria that ensures equivalent or improved Runoff Treatment when compared to the on-site option. Ecology will review and approve this plan when it is part of a Stormwater Control Transfer Program."</p>
SWMMWW	Appendix I-D: Regional Facilities: Using Regional Facilities to Meet Minimum Requirement #6	Volume I - Appendix D - Page 234	<p>"If the project is using an in-basin or out-of-basin transfer, as described in I-D.6 Regional Facility Area Transfers, then the areas transferred must have similar pollution characteristics. "Similar pollution characteristics" is not limited to the types of treatment (Basic, Enhanced, Phosphorus or Oil Treatment) For example, two areas that may require the same level of treatment, but do not have similar pollution characteristics, are:</p> <ul style="list-style-type: none"> • a commercial area that includes restaurants and high traffic roads • a business park with lower traffic volumes. <p>Both of these areas would require enhanced treatment, but their pollution characteristics may be quite different."</p> <p>It is not clear why the distinction between areas "requiring "same level of treatment" versus but "different pollutant characteristics" is being made if both would result in the same facility type e.g. an Enhanced Basic facility. It needs more explanation. I thought the purpose of required treatment menus was to standardize treatment—why would trading in/out of basin impact this basic premise? Isn't the broader concern around trading (in or out of basin) for addressing MR6 the concern of new, specific impacts from untreated surfaces whereas flow control, we can at least "hold the line" in one basin and trade the restorative flow control to higher priority areas?</p>

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Document	Section	Page	Comment
SWMMWW	Appendix I-D:Regional Facilities:Using Regional Facilities to Meet Minimum Requirement #7	Volume I - Appendix D - Page 235	<p>“It is not acceptable to use flow splitters upstream of regional facilities that are being used to meet MR7: Flow Control if the regional facility cannot be designed to fully meet the Flow Control standard for contributing area. Flow splitting cannot replicate the distribution of flows that would be produced by a subset of the contributing area.”</p> <p>This does not read like guidance and needs more explanation. Is this what is meant?: “It is not acceptable to use flow splitters upstream of regional facilities that are being used to meet MR7: Flow Control TO ACCOMMODATE AREAS UPSTREAM OF THE FLOW SPLITTER if the regional facility cannot be designed to fully meet the Flow Control standard for THAT contributing area THAT IS BEING DIVERTED AROUND/PAST THE FACILITY. Flow splitting cannot replicate the distribution of flows that would be produced by a subset of the contributing area.”</p>
SWMMWW	I-D.5 Sizing Regional Facilities/How to Expand an Existing Regional Facility to Serve Additional Development	Volume I - Appendix D - Page 236	<p>The existing regional facility may be designed to comply with an outdated flow frequency matching standard (e.g. single event methodology), but it is critical to know how much and how to expand the regional facility to mitigate the additional runoff associated with additional new or redevelopment projects.”</p> <p>It is not clear if “may be designed to comply with an outdated flow frequency matching standard (e.g. single event methodology),” is referencing the end goal/performance standard of the proposed expanded facility (probably not) OR whether it is merely a statement of presupposition e.g. “The existing facility may have been designed to comply with an outdated flow frequency matching standard (e.g. single event methodology)..” The remaining part of the statement doesn’t clarify whether the existing pond volume needs to be expanded to accommodate both (A) the new development to occur in the future and (B) a higher standard of performance for the existing development already mitigated by the existing pond (in the case where it was designed to an outdated standard). Please clarify. The example under “Pre-Developed Scenario” seems to indicate that existing areas already mitigated by the existing pond can be modeled as the currently developed condition, which seems inaccurate, as assuming it is impervious, would indicate that the model what essentially provide no detention for those areas as there’d be no change pre to post. Shouldn’t the predeveloped condition for areas currently mitigated by the existing pond be either “Historic/forested” OR the condition that the existing pond is designed to match/mitigate? Looking at the referenced figure I-D.1 (modeling screen), it is clear that the predeveloped contribution from the existing areas draining to the existing pond are merely to be modeled by routing those areas through the designed pond---this seems correct (matching ‘existing mitigated condition’ but the accompanying text does not express this well. Please correct/clarify.</p>
SWMMWW	I-D.6 Regional Facility Area Transfers	Volume I - Appendix D - Page 241	<p>General: How does allowance for area transfers mesh w/redevelopment requirements? E.g. if a parking lot is “redeveloped” as permeable pavement to provide a regional facility to accommodate other projects in meeting MR5-LID Standard—we are only holding the line ..no net gain...whereas the redevelopment standards alone, over time, might ultimately capture both the parking lot and the other projects requiring both/all to be mitigated.</p>
SWMMWW	I-D.6 Regional Facility Area Transfers	Volume I - Appendix D - Page 241	<p>The text mentions current guidance for area transfers is limited to flow control and LID Performance Standard portion of MR5, however, the following sections on in and out of basin transfers calls out MRs 5, 6, 7, and 8 as MRs that municipalities may allow to be addressed---This is unnecessarily confusing. Delete reference to other MRs until guidance is worked out for them.</p>
Phase I	SWMMWW	1225	<p>Need to add a definition for Motor Vehicles</p> <p>Motor Vehicles – Please provide a definition for motor vehicles</p>

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SWMMWW	I-E.1 Introduction to the Stormwater Control Transfer Program	Volum e I - Appen dix D - Page 253	The text mentions that current guidance only applies to MR7, but other sections mention also includes the LID performance standard portion of MR5. Please check for consistency throughout appendix I-D and I-E.