**Stormwater manual/wiki meeting, October 30, 2018**

**Meeting attendees**

Doug Snyder – Mississippi WMO

Jennifer Olson - Tetratech

Randy Neprash – MCSC/Stantec

Ross Bintner - Edina

Derek Asche - Plymouth

John Chapman – U of M

Ed Matthiesen - Wenck

Jim Kosluchar - Fridley

Tina Carstens – Ramsey-Washington WD

Jeremy Walgrave - LimnoTech

Mike Findorff - MPCA

Bob Bean – Bolton and Menk

Joe Mulcahy – Met Council

John Bilotta – U of M

Haley Bauer - MPCA

Mark Zabel – Dakota County

Forrest Kelly – Capitol Region WD

Sharon Doucette - Woodbury

Brett Emmons – Emmons and Olivier

Dave Douglas – Bolton and Menk

Zach Kolsum - MPCA

Rachel Olmanson - MPCA

Mike Trojan - MPCA

Webex attendees

Paul Moline – Carver County

David Fairbairn - MPCA

Greg Wilson – Barr Engineering

Pete Young – Prior Lake

**How do people use the manual**

* Design – 5
* Reference – 5
* Regulatory/permit/ordinances – 4
* Technical specifications and review – 3
* Training/education – 2
* BMP selection – 1

**Discussion**

1. Website
   1. Update links – always a challenge; please let us know when you come across bad links by using the Comment box on most pages in the wiki
   2. Search tool within the wiki is less than optimal. We agree; suggest using “quotes” when using the Search box
   3. Comment that it seems easier to find material by doing a web search rather than looking in the wiki. We agree when searching for relatively broad topics. An example would be “Bioretention design”, which is easier to get to through a Google search.
2. BMPs
   1. Need more/updated information/guidance on operation and maintenance, particularly case studies; possibly videos. Note there will be a Water Resources Institute Stormwater Operations and Maintenance Conference in Minneapolis in August of 2019. Check the U of M’s WRC website. We will post in the wiki (Events) when we get firm dates.
   2. Interest in new technologies for sand filters, including spent lime, biochar, and iron enhanced
   3. Underground infiltration vaults, info for developers
   4. Harvest and use/reuse – provide links to most recent documents
   5. Update sizing information for ponds (upgrade a NURP pond) to improve performance
3. Credits
   1. Urban Forestry – can we explore credit opportunities? The Chesapeake Bay folks have developed a credit. NOTE: We are planning to develop a credit system for street sweeping as well as new information on green infrastructure. We feel information on urban forestry should be developed in conjunction with information on street sweeping.
   2. Streambank restoration
   3. Reduction in phosphorus associated with the statewide fertilizer ban
   4. Converting turf to native vegetation
   5. Wetland buffers
   6. Clarify ‘load reduction’ vs. ‘credit’
4. Scale – there was a discussion of how the manual historically focuses on practices at the site scale. Information is needed at the regional/watershed scale, particularly as development occurs and density changes.
5. Separation distance of 3 feet – it is based on separation distances for septic drainfields. The construction stormwater permit requires a separation distance of 3 feet from bedrock and seasonally saturated soils. Can separation distances be developed based on research, or are there designs that can be used when separation distance may be a concern. One example would be designing an infiltration practice to prevent inflow under certain conditions, such as when a spill occurs.
6. It might be useful if there was a consortium of manual people who communicated with each other. This might help reduce redundancy in developing new information. NOTE: The ITRC recently released [guidance on stormwater best management practices performance evaluation](https://www.itrcweb.org/about/Guidance-on-Stormwater). While not the same as a consortium, this was an effort to develop a standard approach all states and other regulatory units could use in selecting stormwater BMPs.
7. Pretreatment
   1. Pretreatment standards – MPCA will be continuing work on this in 2019.
   2. Woodbury uses ponds for regional pretreatment.
   3. Inver Grove Heights has pretreatment standards. See [page 6 of the IGH stormwater manual](http://www.invergroveheights.org/DocumentCenter/View/277/Chapter-7?bidId=) (Northwest Area).
   4. Need information on O&M for pretreatment, including maintenance agreements.
   5. Need information on pretreatment costs. Would be useful to know if pretreatment provides cost savings, particularly on O&M for the primary BMP.
8. Monitoring – there was a fair amount of discussion and interest in the topic of monitoring. MPCA currently is developing monitoring guidance and we’ll touch base with folks who are doing monitoring and expressed interest in having more information and guidance on monitoring.
9. Pages focused on specific issues (e.g. pages on alleviating compaction, individual pollutants, pollinator-friendly practices)
   1. General support for these types of pages
   2. Should label these pages as technical, information, or tech/info pages
   3. Climate adaptation – information on basic education, resiliency, design, storage
   4. Wellhead protection – BMP selection in wellhead areas
   5. Alternative grasses/seed mixes
   6. Link to noxious weed list
10. Research
    1. There is an expectation that vetted research goes into the manual
    2. Link to [Minnesota Water Research Digital Library](http://www.mda.state.mn.us/protecting/cleanwaterfund/toolstechnology/mnwrl) (MNWRL)
    3. Create a single research page that includes summary of and links to active research, list of research needs, list of research and monitoring techniques
11. Education – some possible information related to education that could be in the wiki includes the following
    1. Permit requirements
    2. Key messages from the governors 25X25 initiative
    3. Develop education plans for different audiences – policy makers, citizens, city staff, homeowner’s associations, public, schools, local decision makers, planning commissions
    4. Videos, examples of education plans (e.g. bioretention O&M)
    5. A clearinghouse for education materials/events
    6. How to conduct workshops and trainings, particularly for staff

**Possible action items (these are things we might be able to get to within the next year or so, outside anticipated contractual work)**

* Consider expanding next year’s work on iron-enhanced to include other materials (spent lime, biochar)
* Look for O&M case studies
* Update links for harvest use/reuse
* Expand the [existing page on credits](https://stormwater.pca.state.mn.us/index.php?title=Overview_of_stormwater_credits) to include some of the points made at the meeting
* Label pages as technical, information, or technical/information pages
* We currently have a [list of links to other website](https://stormwater.pca.state.mn.us/index.php?title=Trees#Urban_Forestry)s around the topic of urban forestry. We could build a separate section in the manual on this topic, including some overview text on the topic and links to credit information (e.g. Chesapeake Bay)
* Not sure what to do about the scale issue, but at a minimum look for some examples and provide some basic text on the topic
* More information on plants, including grasses
* Develop research and education pages

**Some things you may not have known**

During the meeting, I heard a few suggestions about things that have already been done in the manual. Here are a few that may be of interest.

* **Separation distance**: there is [a table in the manual](https://stormwater.pca.state.mn.us/index.php?title=Minimum_bioretention_soil_media_depths_recommended_to_target_specific_stormwater_pollutants) that provides recommended separation distances for bioinfiltration practices designed to treat specific pollutants. Note that the CSW permit requires 3 feet of separation.
* **Operation and maintenance**: As we update BMPs in the manual, we update the O&M pages for each BMP. These new pages include design phase maintenance considerations, construction phase maintenance considerations, checklists, inspection planning information, estimated hours for O&M, and more. As an example [see here](https://stormwater.pca.state.mn.us/index.php?title=Operation_and_maintenance_of_stormwater_infiltration_practices).
* **Pretreatment:** Pretreatment sections in the manual are being updated. For example, see the [new section on pretreatment filter strips](https://stormwater.pca.state.mn.us/index.php?title=Design,_construction,_operation_and_maintenance_specifications_for_pretreatment_vegetated_filter_strips). This site includes three sample maintenance agreements.
* [Link to certification programs](https://stormwater.pca.state.mn.us/index.php?title=Overview_for_pretreatment_settling_devices#Certification_programs) for proprietary BMPs
* Individual plant pages per BMP – [example for swales](https://stormwater.pca.state.mn.us/index.php?title=Plants_for_swales)
* [Case studies](https://stormwater.pca.state.mn.us/index.php?title=Case_studies)