

**MEETING DETAILS**

Meeting Date/Time: 06/24/2020 11:00AM to 12:30PM (via Microsoft Teams)

Attendees: See Q1 in poll results

This document: Meeting details (Page 1)  
 Meeting notes (Page 1)  
 Stakeholder Poll Results (Pages 2-5)

Related: Video recording (via Microsoft Stream) – available at [www.mhfd.org](http://www.mhfd.org)

**DISCUSSION NOTES**

TOPIC	DISCUSSION NOTES & COMMENTS
<p><b>City of Boulder            “Ideas on            Accounting for            MS4 Design            Standards in            USDCM</b></p>	<p><u>Guidance vs. Required Criteria:</u></p> <ul style="list-style-type: none"> <li>- Can / should the USDCM define minimum design criteria apart beyond the standard?</li> <li>- What is guidance vs what is required for aspects such as ponding depth, filter area, media specifications, etc.</li> <li>- Minimum design criteria set up of the <a href="#">North Carolina BMP manual</a> may be an interesting reference for this.</li> </ul> <p><u>Design Standard Applicability</u></p> <ul style="list-style-type: none"> <li>- Consider a matrix or intro that matches up the BMP fact sheets to which design standard is applicable to that facility.</li> <li>- Consider expanding / clarifying if and how runoff reduction standard could be applied to BMP with storage.</li> </ul>
<p><b>SPM Specific            Considerations</b></p>	<p><u>Infiltration Basin</u></p> <ul style="list-style-type: none"> <li>- Consider adding an infiltration basin/ gallery as a treatment BMP.</li> </ul> <p><u>Grass Swale</u></p> <ul style="list-style-type: none"> <li>- Should there be criteria to design a water quality swale to meet pollutant removal standard by filtration and particle setting.</li> </ul> <p><u>Bioretention</u></p> <ul style="list-style-type: none"> <li>- Clarify applicability of runoff reduction design standard.</li> </ul> <p><u>Permeable Pavement</u></p> <ul style="list-style-type: none"> <li>- Clarify applicability of WQCV design standard for lined systems, with/without sand media.</li> <li>- Clarify applicability of runoff reduction design standard.</li> </ul> <p><u>Underground BMP’s</u></p> <ul style="list-style-type: none"> <li>- Consider the applicability of applying a clearing house so municipalities can more consistently review the less than 20 mg /L requirement.</li> <li>- <a href="#">Virginia Stormwater BMP Clearinghouse</a> for reference.</li> </ul>

---

## **STAKEHOLDER POLL RESULTS**

### **Q1: Introduce yourself (Name, where do you work)**

- Benny Lonchar, AbTech Industries
- Jonathan Diller, Smith Environmental and Engineering
- Laddie Fromelius
- Craig Perl, City of Aurora Public Works
- Brik Zivkovich, MHFD
- Teresa Patterson, MHFD
- Heidi Otten, Kimley-HorN
- Tiffany Clark, SEMSWA
- City of Westminster
- Judah Gaioni, City of Longmont
- Jeff Williams, City and County of Denver
- Kevin Koryto - City of Boulder
- Laura Hinds, MHFD
- Jim Watt, MHFD
- Jane Clary, Wright Water Engineers
- Colin Bell, City and County of Denver
- Jon Villines, MHFD
- Ben Beall, City of Steamboat Springs

### **Q2 What is the biggest challenge with the new MS4 design standards?**

- Mean vs Median
- Regional facilities with WQCV
- BMP selection criteria for targeting stormwater pollutants
- EDB vs underground detention
- Mixing criteria
- As an MS4, how do we verify the pollutant removal standard? NJ and WA use percent removal instead of absolute removal
- Roadway projects
- Constrained sites
- Runoff reduction (x2)
- Quantifying annual pollutant load reductions
- 20% area vs. 20% storage
- Runoff reduction for filters
- Standard vs recommendation
- More difficult to review
- Underground systems
- 30 mg/L vs volume
- TSS removal rates

**Q3: What should we add in Volume 3, in regard to design standards?**

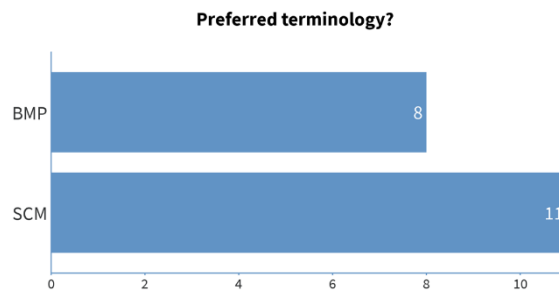
- Trash?
- Pretreatment for EDB's
- Guidance on underdrains
- Seed mixes for buffer strips
- Selecting vegetation
- Minimum base design criteria (always has to be met to meet design standard) vs guidance
- Maintenance considerations in design
- Water quality treatment for sites on historic landfills
- Examples for common BMP's
- Revamp the guidance on BMP selection to give design a nudge toward other BMP's beside EDB's for everything
- Expanded maintenance recommendations for permanent control measures
- Design guidance for level spreaders
- Flow chart
- Expand runoff reduction to relate to both WQCV and detention
- Minimum design standard v. additional recommendations ... clarity between two.
- BMP selection flow chart
- Ease of maintenance. Can we send a vac truck to go clean the facility? Recommend frequency of inspection and cleaning
- Additional infiltration guidance(x2)
- How to evaluate TSS criteria compliance with biofilters
- Accepted EMCs for TSS for the region, probably by land use
- Underground systems sizing guidance
- Starting point for pollution runoff concentration by land use type
- Evaluation of proprietary devices
- Bioretention soil recipe

**Q4: What features could we add to the manual that would help with record keeping?**

- Photo-based examples in support guides for site inspections and maintenance
- Annual BMP report template.
- Standardize narratives on Drainage Reports discussing water quality, meeting the 100 percent (20-1 acre) and listing applicability of exemptions
- Design standards worksheets
- Example language for exclusions to include in Drainage Reports.
- Guidance on during construction inspections of BMPs and associated documentation
- Sample maintenance checklists with frequencies.
- O&M plan and agreement template
- How to track exclusions
- Exclusions evaluation form template

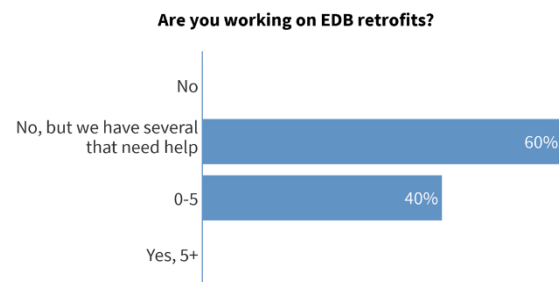
**Q5: Preferred Technology?**

Response	Count
BMP	8
SCM	11
Total	19



**Q6: Are you working on EDB retrofits?**

Response	Count
No	0
No, but we have several that need help	6
0-5	4
Yes, 5+	0
Total Responses	10

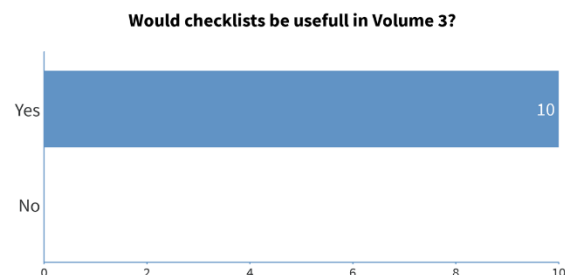


**Q7: What is your biggest challenge with existing EDB's?**

- Changing storm event (new NOAA)
- Maintenance issues that may result from adding a WQCV element to an historical detention only system
- Transition to educate community
- Difference in past vs current standards, eg 10-yr vs EURV
- Having the original design data to adequately "re-design"
- Base flows - snow melt runoff
- How to deal with baseflows
- Safety
- \$\$\$
- Drain times and water rights
- Maintenance consideration

**Q8: Would checklists be useful in Volume 3?**

Response	Count
Yes	10
No	0
Total	10



**Q9: If so, what kind of checklists?**

- Specific checklist for each type of BMP, key components and items to consider
- Options for resilient design features (upturned elbow, capped underdrain, etc)
- Components to inspect during construction
- Spur the designer to think about common components
- Design review to meet criteria
- Specific to design criteria for given BMP.
- Key criteria compliance