



BDCWA Comments on Draft Denver Water MS4 Permit

Lesia Julian <ljulian@broomfield.org>
To: lisa.knerr@state.co.us

Fri, Sep 13, 2019 at 9:20 AM

Lesia Julian <ljulian@broomfield.org>
to mary.welch

8:25 AM (53 minutes ago)

On behalf of the Big Dry Creek Watershed Association (BDCWA), we are providing comments on the Draft Denver Municipal Separate Storm Sewer System (MS4) Permit. The leadership includes representatives from the City and County of Broomfield, the Cities of Westminster, Thornton, and Northglenn, and Weld and Adams Counties, with technical support and coordination provided by Wright Water Engineers.

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Lesia Julian
Environmental Services Superintendent
City & County of Broomfield
[2985 W. 124th Ave.](#)
[Broomfield, CO 80020](#)
303.464.5641

 **BDC Denver MS4 permit comments Sept 2019.pdf**
129K



September 13, 2019

Ms. Lisa Knerr
Colorado Water Quality Control Division
Colorado Department of Public Health and Environment
4300 Cherry Creek S. Dr.
Denver, CO 80246

Re: Public Comments on Draft Denver Municipal Separate Storm Sewer System (MS4) Permit

Dear Lisa:

On behalf of the Big Dry Creek Watershed Association (BDCWA), a 501(c)(3) non-profit organization, we would like to thank you for reaching out to our organization to be involved in the stakeholder meetings related to renewal of the Draft Denver Municipal Separate Storm Sewer System (MS4) Permit. BDCWA's leadership includes representatives from the City and County of Broomfield, the Cities of Westminster, Thornton and Northglenn, and Weld and Adams Counties, with technical support and coordination provided by Wright Water Engineers. Our organization has been working together to better understand and address water quality issues in the Big Dry Creek Watershed since the mid-1990s. We are currently working on updating our watershed plan to collaboratively address water quality issues in our watershed.

We understand that other organizations are providing detailed comments to the Division, so our comments focus primarily on several key areas that could set precedent for future MS4 permit conditions in our watershed. We have also provided comments concurrently on the draft Non-standard MS4 Permit and are repeating some of those comments in this comment letter.

1. **Discharges that Could be Excluded from Being Effectively Prohibited** (pp. 11-12, v.G, L, N, O). "Discharges that Could be Excluded from Being Effectively Prohibited" is a confusing and unclear statement—the previous permit wording of "allowable non-stormwater discharges" was more straightforward to understand, although we understand that the Division is moving away from the previous terminology. BDCWA also has some substantive concerns in this section related to the subsections on various types of groundwater discharges to the storm drain system in terms of roles and responsibilities of the Division versus the MS4. Our view is that the Division, not the MS4, should be making a determination of whether a groundwater discharge meets stream standards and determining dewatering discharge permit requirements. Additionally, the regulatory context for arsenic and selenium, which are commonly found in groundwater in some areas due to natural geologic conditions, remains complicated, as evidenced by inclusion of these pollutants in Colorado's 10-year Water Quality Road Map. The groundwater-related items in this section would benefit from additional stakeholder discussion or postponing these

changes to the next permit renewal after further resolution of the selenium and arsenic issues occurs during the 10-year Water Quality Road Map process. There are multiple interconnected complex issues in place for these pollutants with extremely high economic implications, particularly for stream segments with fish+water arsenic limits. We believe that it is premature to introduce these issues into the Denver Permit without a more cohesive overarching policy in place in terms of stream standards and other related Division permits.

2. **Control of Sanitary Sewer Seepage into the MS4** (p.13, xi.). The requirement to monitor at least 600 miles of sanitary lines per year seems overly prescriptive without connecting the source of *E. coli* to the required action. If human sources of *E. coli* are not present at the outfall, then focusing on sanitary sewers will not be effective in reducing the *E. coli* load from that outfall. We believe that Denver should have more discretion to allocate resources targeted to identified sources of *E. coli*.
3. **Dry Weather Screening and Monitoring for Nitrate** (p. 13, xii.). Historic nitrate issues on the South Platte were clearly identified in the Segment 14 TMDL as being wastewater related, rather than stormwater related. Adding monitoring requirements that are not tied to the source of pollution is not a good use of local government resources, which could be applied toward other water quality issues.
4. **Control Measure Requirements** (p. 28., iv.). The nine options for post-construction stormwater requirements described in the draft permit are a good approach to allow implementation of the most feasible and appropriate site-specific approach to stormwater quality, given various site constraints. We have a few comments on this section:
 - a. The “EATS” standard is a good additional, pragmatic option. Some of the wording in this new option could be further clarified. (We presume that Denver and the Division will continue to work together to optimize the wording.)
 - b. For the other standards that are comparable to the Phase 2 MS4 permit requirements, we noticed that the percentages and numeric values referenced have changed relative to the Phase 2 permit. We recommend “staying the course” with the existing language for these standards to avoid confusion on projects in adjacent jurisdictions. We are not aware of a scientific/engineering basis for changing these percentages.
 - c. Constrained sites option—we recommend keeping this option from the Phase 2 MS4 Permit in Denver’s permit.
 - d. Minimum drain time of 12 hours—although 12 hours may be the minimum drain time for BMPs used in Denver that are based on the Water Quality Capture Volume, the drain time should actually be specified for various BMP types according to Volume 3 of the Urban Storm Drainage Criteria Manual. For example, extended detention basins should have a minimum drain time of 40 hours. This is an example

of a “measurable” requirement added to the permit actually being misleading in terms of design practice.

5. **Post Construction Stormwater Quality Control Plan** (p. 32-33, v.). While we strongly support the “four-step process” to protect water quality in the Urban Storm Drainage Criteria Manual, requiring review of source controls as a prerequisite requirement for approval of a permanent BMP is probably not realistic. Much of the source control information would not be available at that stage of the development process (e.g., disposal of household waste). (Also see other references on p. 33 for non-structural requirements.)
6. **Long-term maintenance** (p. 34, vii). We recognize the importance of appropriate maintenance for stormwater control measures; however, we believe that this section is too prescriptive. Local governments should have discretion to conduct maintenance at an appropriate frequency to maintain the intended function of the BMP. Some BMPs may require more frequent maintenance and others may require less. Additionally, the maintenance chapter of Volume 3 of the Urban Storm Drainage Criteria Manual is being updated and maintenance recommendations may change based on experience gained both locally and nationally.
7. **Tracking of Control Measures** (p. 38, ix.). Some of the requested metadata for previous permit term BMP installations may not be available or may require significant effort to recreate. This requirement is more reasonable for new installations. We suggest that “dates of maintenance” is sufficient, rather than requiring both “dates of scheduled maintenance” and “maintenance.”
8. **Nutrient Source Reductions** (p. 42, iv.A.1). Although BDCWA supports landscape best management practices and standard operating procedures to reduce nutrient loading, the nutrient source reductions section of this permit is overly prescriptive and has burdensome recordkeeping requirements, particularly with regard to “identified permittee operations nutrient sources.” Tracking of “any operation that uses fertilizer” as a “municipal operations nutrient source” is overly prescriptive. We suggest using a less prescriptive set of requirements that rely on training and standard operating procedures for MS4 staff and contractors.
9. **Additional Requirements—Total Maximum Daily Load, South Platte River *E. coli*** (p. 44, 7.a). BDCWA agrees that a tiered approach to prioritizing required actions for stormwater outfalls based on flow and *E. coli* concentration makes sense for this TMDL. This is a good approach to managing risk and allocating limited stormwater program resources of local governments. There are a few details associated with the approach that we think would benefit from further review. For example, we suggest modification to the tier definitions as follows:
 - a. Tier 1: Outfalls with dry weather flows less than 5 gpm or with a geometric mean recreational season *E. coli* concentration of ≤ 126 cfu/100 mL.

- b. Tier 2: Outfalls with dry weather flows greater than 5 gpm and a geometric mean recreational season *E. coli* concentration of >126 cfu/100 mL and <250 cfu/100 mL.
- c. Tier 3: Outfalls with dry weather flows greater than 5 gpm and geometric mean seasonal *E. coli* concentrations \geq 250 cfu/100 mL.

The concept of a drainage area weighted average of outfall *E. coli* concentrations as an approach to measure overall progress toward meeting the TMDL (as opposed to only individual outfalls) is also a good idea, but doesn't seem to fit within the definition of Tier 2 itself. This topic would benefit from additional discussion and review.

10. **Additional Requirements—Total Maximum Daily Load, South Platte River *E. coli*—General Comment** (p. 44, 7.a). As a general theme, we believe that the required measurable actions and control measures required in response to elevated *E. coli* at outfalls should be tied as closely as possible to the sources of *E. coli*. Based on EPA-supported research during the update to its 2012 Recreational Water Quality Criteria, a variety of peer-reviewed literature related to quantitative microbial risk assessment (QMRA) was published. These studies showed that risks to human health vary based on the source of the fecal indicator bacteria. For example, human sources posed more risk than avian sources in published QMRA studies supported by EPA. The Colorado *E. coli* Toolbox provides guidance on source identification and prioritization of measures to protect human health, building on EPA's findings and other national guidance. We believe it would be more valuable for Denver to focus on hypothesis-driven sampling plans to identify pollutant sources and use the collected data to prioritize actions based on multiple data sources and considerations (e.g., HF183 marker/microbial source tracking, age of infrastructure, loading intensity and maintenance needs for various portions of the MS4 infrastructure, known recreational use, magnitude of *E. coli* loading, others). Additionally, it is unclear how the extensive work that Denver has already completed under its prior permit term is being integrated into requirements in this permit.
11. **Additional Requirements—Total Maximum Daily Load, South Platte River Segments 14 and 15 *E. coli*—Outfall Monitoring** (p. 45-48, several locations.). We recommend simplifying the dry weather density calculations for *E. coli* throughout the permit by using a May 1 to October 31 geometric mean of five or more samples at flowing outfalls (defined as > 5 gpm). To our knowledge, none of the *E. coli* TMDLs referenced in this permit used rolling 61-day periods in development of the TMDL and associated WLAs. For Segment 15, the geometric mean of available *E. coli* data associated with the relevant flow condition (e.g., dry, moist) in the load duration curve was used to develop the allowable daily loading. Similarly, rolling 61-day averages are not used in WWTF discharge permits. Because of the significant burden associated with dry weather monitoring due to access issues, staff time and laboratory costs for multiple outfalls and sampling events, we believe that the geometric mean of five samples from May 1 to October 31, which coincides with the highest likelihood of recreational use, is a more pragmatic approach for MS4s. (In some cases, it still may not be possible to obtain five samples due to seasonal dry-up.) Use of rolling 61-

day geometric means for multiple outfalls makes the equations in the permit complicated without providing significant additional benefits for determining whether an outfall is elevated for *E. coli*. Our experience with outfall sampling on Big Dry Creek is that five samples is sufficient to “catch” outfalls that are elevated for *E. coli* for purposes of follow-up investigation and corrective actions.

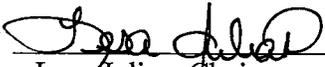
12. **System Maintenance Program** (p. 46, C.2.). The frequency requirements are overly prescriptive. Storm drain and catch basin cleaning may be beneficial for reducing *E. coli* in some areas, but may provide limited benefit in others. The local government should have discretion to identify areas where more or less frequent storm drain cleaning is warranted and allocate resources accordingly. Additionally, although it is true that fecal indicator bacteria can reside in accumulated sediment and organic matter, we are not aware of studies that demonstrate *E. coli* reduction benefits over time for storm drain cleaning. For example, if storm drain cleaning reduces *E. coli*, does that benefit persist for one week, one month, more than a year, etc.? Biofilms in storm drains can also harbor *E. coli* and may or may not be removed by storm drain cleaning. The benefit may also vary by storm drain relative to the particular sources of loading to the particular outfall. Where storm drain cleaning is effective, it should be continued. Where it is not providing benefits related to *E. coli*, storm drain cleaning should be conducted at a frequency needed to maintain functions of the storm drain.
13. **Barr Milton TMDL**. (p. 49, c.). As a general comment, the requirements in this section are excessive and overly prescriptive. We recommend that this section be reviewed and simplified in a less prescriptive manner. Additionally, percent phosphorus reduction targets at stormwater outfalls are a poor metric of performance because percent removal does not consider whether the existing discharge was “clean or dirty.” If dry weather discharges from outfalls are primarily clean groundwater, then percent reduction in phosphorus will be poor, but the discharge water quality may be better than occurs at an outfall with a high percent removal because the initial condition was “dirty” water.
14. **Wet Weather Monitoring** (p. 52, 6.) We suggest allowing the permittee to determine the type of wet weather monitoring that is most useful for advancing and assessing the performance of their stormwater program. We suggest that the permittee should be able to choose from three options: 1) instream wet weather monitoring, 2) stormwater BMP performance monitoring, or 3) outfall monitoring. The wet weather monitoring program should also be designed to answer specific study objectives and to provide data to test hypotheses. We suggest simply requiring development of a wet weather sampling plan and implementing the plan, with results synthesized in an annual report submitted to the Division.
15. **MS4 Pollutants of Concern** (p. 75). What is the scientific basis for this list? We recommend that this list be reviewed and updated to focus on stormwater pollutants and their corresponding stream standard sample fractions. For example, magnesium and sodium are not typically pollutants of concern for stormwater.

16. **Flow Measuring Devices** (p. 80, 4.) This definition is a carryover from WWTP permits and should be deleted or rewritten in the context of stormwater monitoring. Other parts of the permit should be checked for similar carryover issues. Dry weather flow monitoring is typically based on a visual estimate or a simple method like bucket-stopwatch. Wet weather monitoring can utilize more advanced technology, but is well known to have a much higher uncertainty-- +/- 20 percent would not be unusual.

Please do not hesitate to contact me with any questions about these comments, submitted on behalf of the BDCWA and in keeping with my role as the BDCWA Chairperson. We hope that these comments can be used to enhance the Denver MS4 Permit in a manner that protects and improves water quality, while allowing MS4s to focus limited resources in a manner that provides the most beneficial return for water quality.

Sincerely,

Big Dry Creek Watershed Association

By 

Lesla Julian, Chairperson
Big Dry Creek Watershed Association

cc: BDCWA Board and MS4 Coordinators:
Dennis Rodriguez, City and County of Broomfield
David Carter, City of Westminster
Heather Otterstetter, City of Westminster
Jake Moyer, City of Westminster
Shelley Stanley, City of Northglenn
Pam Acre, City of Northglenn
Julianna Archuleta, Adams County
Al Quintana, City of Thornton
Lyndsey Holbrook, Weld County