



June 27, 2018

Greg Williams  
Barr Engineering Co.  
4300 MarketPointe Drive  
Minneapolis, MN 55435

Jessica Schaum  
City of Apple Valley  
7100 147<sup>th</sup> Street W  
Apple Valley, MN 55124

**RE: *Black Dog WMO Comments - Apple Valley 2018 Surface Water Management Plan***

Dear Greg and Jessica,

The Black Dog Watershed Management Organization (BDWMO) has completed a formal review of the City of Apple Valley 2018 Surface Water Management Plan (SWMP), dated April 2018, for compliance with the current BDWMO Watershed Management Plan (WMP) as well as Minnesota Statutes 103B.235 and Minnesota Rules 8410. Our review focused on the requirements for local plans identified in sections 3.7.4 (Requirements for Local Plans) and 5.4.2 (Requirements for Local Water Management Plans) of the BDWMO Plan as related to portions of the City within the BDWMO. Comments received from Metropolitan Council on May 25, 2018, were also taken into consideration during our review.

Following our initial review, questions and comments were prepared and reviewed with Greg Williams of Barr Engineering on June 25, 2018. As a result of that phone conversation, clarification was received concerning several of the initial comments. This letter includes the remaining comments that require resolution.

In general, the Plan is largely compliant in terms of necessary contents and detail and provides the City of Apple Valley's continued commitment to management and improvement of the water resources within the City and BDWMO. That being said, BDWMO requests the following items be addressed further to meet the requirements of the BDWMO WMP.

1. BDWMO concurs with comments provided by Metropolitan Council. The comments provided in their attached letter are incorporated by reference into our comments.
2. Stormwater Analysis and Appendix C:
  - a. The BDWMO requests that peak discharge rates and flowpaths be added to the Plan. Per discussion with Barr Engineering on June 25, 2018, rates and flow paths were an intended omission for this version. Our understanding is that these details will be added when finalized within a supplemental report that focusses on the modeling process and

results. The BDWMO looks forward to seeing this additional information as part of the final Plan.

- b. The BDWMO suggests including a map index as an inset or cover page to Figure C of Appendix C to clarify what area of the City each map is depicting.
3. The BDWMO appreciates the City's efforts for maintaining exceptional water quality in Lac Lavon and continued allocation of funding as identified in item S-10 of Table 6-2 in Section 6. However, the BDWMO requests that the City include implementation of lake management activities related to reducing or eliminative invasive aquatic vegetation (i.e. Eurasian water milfoil, brittleleaf naiad).
4. The BDWMO acknowledges the significant effort put into the City's updated H&H results and in identifying potential locations of localized flooding identified in Section 4.2.3.2 (Black Dog Drainage Area) and Section 4.2.3.4 (Keller Lake Drainage Area). In addition, the BDWMO recognizes implementation item P-21 of Table 6-1 and S-5 of Table 6-2 in Section 6 as tools for prioritizing and identifying solution to potential flooding issues. The BDWMO requests clarification regarding how the information developed through these actions will be incorporated into the SWMP and/or otherwise made available to the BDWMO and other users of the Plan.

The BDWMO appreciated the opportunity to comment on the City's Plan. We look forward to receiving confirmation that the remaining items will be addressed in the final Plan. Please contact me by phone at (612) 294-9742 or by email at [ron.leaf@kimley-horn.com](mailto:ron.leaf@kimley-horn.com) should you have any questions.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



Ronald B. Leaf, P.E.  
*Senior Project Manager*

Cc: Daryl Jacobson, Black Dog Watershed Management Organization  
Aaron Stolte, Kimley-Horn

May 25, 2018

Daryl Jacobson, Administrator  
Black Dog Watershed Management Organization  
100 Civic Center Parkway  
Burnsville, MN 55337

RE: City of Apple Valley draft Surface Water Management Plan 2018-2027  
Referral No. 21928-1

Dear Mr. Jacobson:

The Metropolitan Council (Council) has completed its review of the City of Apple Valley's (City) draft Surface Water Management Plan 2018-2027 (Plan). The Plan was reviewed for consistency with Minnesota Rules Part 8410.0160 and the Council's 2040 Water Resources Policy Plan (Policy Plan) particularly with respect to Appendix C-2: Local Surface Water Management Plan Elements.

The City has shown commitment to the management and improvement of the water resources within and outside its boundaries. This commitment has been demonstrated by, for example:

- Working collaboratively with adjoining local communities, the Black Dog Watershed Management Organization (BDWMO), the Vermillion River Watershed Joint Powers Organization (VRMJPO), and other partners to come to shared solutions.
- The collaboration between the City and the City of Burnsville to improve the water quality of Alimagnet Lake.
- Updating the City's stormwater quantity and quality models to allow planning for improvements to flooding issues and improving water quality in the City.

The Plan continues this commitment, but it does require some additional information to meet the requirements of Minnesota Rules Part 8410.0160 and the Council's Policy Plan.

1. The Plan is required to have a description of drainage areas and volumes, rates and flow paths of stormwater runoff per Minnesota Rules 8410.0160. Drainage areas and the path of stormwater runoff are provided in Figures 4-1 and 4-2 and Appendix C, but a description of volumes and rates for the defined drainage areas is lacking. The PCSWMM hydrologic and hydraulic (H&H) modeling done for this Plan likely has this information. If so, this information will need to be included in the Plan, or it can be included in the Plan by reference. If not, then the City will be required to determine and incorporate this information into the Plan as required by Minn. Rule 8410.0160.
2. These rules also require area and elevations for stormwater storage adequate to meet performance standards or official controls. Appendix C provides watershed areas and elevations and storage of ponds for the 100-year event based on the H&H modeling. However, stormwater storage areas are not provided. Storage areas will need to be provided. Also, it is unclear if these storage volumes and elevations are for adequate storage to meet performance standards or official controls, or if these are "as-is" storage quantities. Clarification would be helpful, since the H&H modeling indicated many potential flooding areas

3. Section 3.2.3 states that nuisance flooding has been observed in some alleys and intersections, but the Plan does not list these existing observed areas. Listing these areas would be helpful for documenting existing known problems in Section 3 and for comparison to the potential areas identified by the H&H model in Section 4.
4. Section 3 discusses various TMDLs for lakes that the City is part of. These discussions also include implementation items for these TMDL's. We suggest that the discussion of the TMDL implementation items in Section 3 be moved to Section 6 for clarity and improved continuity of the Plan.

Council staff would like to thank the City for producing the Plan and the opportunity to comment on it. If you have any questions about these comments, please contact Brian Johnson at (651) 602-8743, or [brian.johnson@metc.state.mn.us](mailto:brian.johnson@metc.state.mn.us)

Sincerely,



Sam Paske

Assistant General Manager, MCES, Environmental Quality Assurance Dept.

cc: Jessica Schaum, City of Apple Valley  
Mark Zabel, Vermillion River Watershed Joint Powers Organization  
Wendy Wulff, Metropolitan Council District 16  
Patrick Boylan, Metropolitan Council Sector Representative  
Raya Esmaeili, Metropolitan Council Referrals Coordinator  
Greg Williams, P.E, Barr Engineering Co.  
Brian Johnson, Water Resources Section

City of Apple Valley Surface Water Management Plan

Draft Response to Comments  
July 13, 2018

small change or no change needed  
moderate change or response mildly conflicts with comment  
**significant change or response conflicts with comment**

Entity	Topic	Section	Comment	Response	Edit Complete?
VRWJPO	TMDLs	2.6.2.1	The document should reference the updated Total Maximum Daily Load (TMDL) for Long and Farquar Lakes completed by the City in 2017. If it is still a draft report, then a separate note could be provided below Table 2-3. The plan update is noted later in section 2.6.4.3.	The TMDL was not updated in 2017. The 2017 update was limited to the TMDL implementation plan. The footnote to Table 2-2 has been updated to include reference to the 2017 update in addition to the 2009 TMDL.	Y
VRWJPO	Northern Non-contributing Area	Figure 2-2	The figure should indicate that the gray area to the north is the "northern, noncontributing" area. The boundary here should be noted in the text with consideration for the Wheaton Pond lift station project that was completed shortly after the last plan update. It could remain in the northern, non-contributing area, but there is the capability to route water to the East Vermillion River district and that should be clarified.	Figure 2-2 will be revised to note that within the non-contributing area tributary to the Wheaton Pond lift station may be directed to the Vermillion River when the lift station is operated	N
VRWJPO	M54 Permit Coverage	3.1.1.1	This is splitting hairs, but technically the City does not get a permit, but rather is authorized for coverage under a general permit. That general permit requires that the city create the SWPPP for its stormwater discharges.	Section 3.1.1.1 has been revised to reflect that the City has permit coverage, versus an individual permit.	Y
VRWJPO	Impaired Waters	3.1.2	This section includes the following sentence: "runoff from the City of Apple Valley is also tributary to the Vermillion River, of which several reaches are identified as impaired." This statement is accurate, although the City of Apple Valley is not listed as a contributor with a waste load allocation. It could be stated that the City will work to address these concerns by addressing the East Lake TMDL and through collaboration with the VRWJPO on stormwater improvement projects in the east and west Vermillion River districts. Alternatively, the statement could be removed.	This section has been revised to note that the City has not been assigned a waste load allocation for the Vermillion River.	Y
VRWJPO	Resilience	5.2.1	The VRWJPO watershed plan contains the goal to "improve watershed resilience to changing precipitation and temperature patterns." Policy 1.4 somewhat addresses this by stating that "the City shall consider events larger than the 100-year event, extended duration events, and flood/drought cycles when establishing minimum building elevations..." The policy could be amended to state that the City will consider these events as they relate to the resilience of infrastructure in addition to building elevations to reference this VRWJPO goal. Alternatively, another policy could be developed to address this watershed plan goal.	The policy has been revised to state: "The City shall consider events larger than the 100-year event, extended duration events, and flood/drought cycles when establishing minimum building elevations and considering resilience of stormwater infrastructure"	Y
VRWJPO	Conservation and Water Reuse	5.2.5	Policy 5.4 references conservation and water reuse related to the City education program. The City should consider whether conservation and water reuse are also to be prioritized in its Capital Improvement Program, as the VRWJPO watershed management plan has the policy to "promote and cost-share BMPs that conserve water."	The City prefers not to identify specific activities regarding reuse and conservation in the implementation program. However, the City will consider these issues in the implementation of programs (e.g., education, ordinance updates) as well as the specific projects identified in Table 6-1.	NA

VRWJPO	Performance Standards	5.2.6	In policy 6.1, the City indicates that it requires development and redevelopment meet criteria established by the local watersheds. The policies then listed below both describe some of those requirements (Policy 6.6 covers volume control) and add more stringent City requirements (Policy 6.3 covering new and redeveloped impervious). City staff members have noted in the past that requirements are outlined in the SWMP and in the local ordinance, although sometimes not in both. For example, rate control requirements are covered by the ordinance but not mentioned in the policy section. The City should consider reworking this section to better describe the ordinance and list more policies or reducing the section by referencing the ordinance and listing the "sub-policies" contained therein.	Policy 6.1 (Section 5.2.6) is intended to maintain compliance with applicable VRWJPO and BDWMO performance standards in the event that those performance standards are updated prior to the City's next SWMP update.  Significant policies and performance standards are included in Section 5.2 in addition to City ordinances, including rate control policies (in Section 5.2.1). Table 6-2 includes an implementation item to review and update City ordinances over the next two years to address any inconsistencies.	NA
VRWJPO	Performance Standards	5.2.6	In policy 6.5, there is redundant language introducing the infiltration prohibitions. In addition, the VRWJPO is currently commenting on the draft Minnesota Pollution Control Agency (MPCA) construction stormwater permit and the decision by the MPCA to prohibit infiltration in "high" and "very high" vulnerability areas within the Drinking Water Supply Management Area (DWSMA). This prohibition may be detrimental to the VRWJPOs goals and policies related to the volume and flow rates in the Vermillion River. The City should consider a different policy or at least provide language to be flexible and allow the City, as the Municipal Separate Storm Sewer System (MS4) entity, to allow infiltration in some areas based on local knowledge, higher engineering studies, and/or evaluations that consider the level of risk of pollutant transfer to groundwater.	The redundant language has been removed.  The City wishes to maintain its current practice of prohibiting infiltration in high and very high vulnerability areas within DWSMAs.	Y
VRWJPO	Performance Standards	5.2.6	Policies 6.1.1 through 6.1.3 are related to erosion and sediment control and apply to more than strictly "development and re-development" sites (e.g., additions, remodels, re-grading projects). The City could consider a broader title for the policies in this area.	The title of this section has been revised to: "Development, Redevelopment, and Land Disturbance Policies."	Y
VRWJPO	Capital Improvements	Table 6-1	It is accurate to state that items P-23 and P-24 will be led by the VRWJPO, but projects identified in the table may already meet the intent of these two implementation plan goals.	Noted	NA
Metropolitan Council	Drainage Areas and Volumes	Section 4; Appendix C	The Plan is required to have a description of drainage areas a and volumes, rates, and flow paths of stormwater runoff per MN Rule 8410.0160. Drainage areas and the path of stormwater runoff are provided in Figures 4-1 and 4-2 and Appendix C, but a description of volumes and rates for the defined drainage areas is lacking. The PCSWMM modeling done for this Plan likely has this information. If so, this information will need to be included in the Plan, or it can be included in the Plan by reference.	This information is included among the results of the PCSWMM modeling performed concurrently with Plan development. Reference has been added in Section 4.2.2: "Complete modeling results, including peak runoff rates and volumes corresponding to the 10-year and 100-year events, as well as peak water surface elevations and storage volumes corresponding to the 100-year event are tabulated in the report Apple Valley Stormwater Modeling – Methodology and Results (Barr, 2018). Flow routing information is presented in Map 1 of the modeling report. Additional detailed modeling information is available from the City upon request."	Y
Metropolitan Council	Storage Areas and Volumes	Section 4; Appendix C	These rules require areas and elevations for stormwater storage adequate to meet performance standards or official controls. Appendix C provides watershed areas and elevations and storage of ponds for the 100-year event based on the H&H modeling. However, stormwater storage areas are not provided. Stormwater storage areas will need to be provided. Also, it is unclear if these storage volumes and elevations are for adequate storage to meet performance standards or official controls, or if these are "as-is" storage quantities. Clarification would be helpful, since the H&H modeling indicated many potential flooding areas.	Stormwater storage locations are shown in Map 1 of the document that contains detailed modeling results: Apple Valley Stormwater Modeling – Methodology and Results (Barr, 2018). Reference to this modeling report has been added to Section 4.2.2. The introduction to Section 4 has been revised to note that the modeling results reflect current development (i.e., "as-is" conditions). Section 4.2.3 of the SWMP notes that areas of localized flooding exist and the City will prioritize and address these areas as part of SWMP implementation; a cross-reference to the City's implementation tables has been added.	Y
Metropolitan Council	Nuisance Flooding	3.2.3	Section 3.2.3 states that nuisance flooding has been observed in some alleys and intersections, but the Plan does not list these existing observed areas. Listing these areas would be helpful for documenting existing known problems in Section 3 and for comparison to the potential areas identified by the H&H model in Section 4.	The City prefers not to identify all areas of nuisance flooding within the Plan. The City has compared the potential flooding areas identified by the PCSWMM modeling to known issues, and maintains this information internally.	NA

Metropolitan Council	TMDL Implementation	Section 3; Section 6	Section 3 discusses various TMDLs for lakes that the City is part of. These discussions include implementation items for these TMDLs. We suggest that discussion of the TMDL implementation items in Section 3 be moved to Section 6 for clarity and improved continuity of the Plan.	Section 6.7 has been revised to note that: "Projects and programs to address TMDLs are included in Table 6.1 and Table 6.2 and are also described in Section 3.1.2."	Y
BDWMO	Metropolitan Council Comments	NA	BDWMO concurs with comments provided by the Metropolitan Council. The comments provided in their attached letter are incorporated by reference into our comments.	Please see response to Metropolitan Council comments.	Y
BDWMO	Stormwater Analysis	Appendix C	The BDWMO requests that peak discharge rates and flow paths be added to the Plan. Per discussion with Barr Engineering on June 25, 2018, rates and flow paths were an intended omission for this version. Our understanding is that these details will be added when finalized within a supplemental report that focuses on the modeling process and results. The BDWMO looks forward to seeing this additional information as part of the final Plan.	Detailed hydrologic and hydraulic information is presented in a separate report: Apple Valley Stormwater Modeling – Methodology and Results (Barr, 2018). Subwatershed runoff rates, volumes, and depths are presented in Appendix A of the modeling report. Water surface elevations and storage volumes for the 100-year event are presented in Appendix B of the modeling report. Flow routing is shown in Map 1 of the modeling report. Section 4.2.2 of the SWMP has been revised to specifically note the inclusion of the above information in the modeling report.	Y
BDWMO	Stormwater Analysis	Appendix C	The BDWMO suggests including a map index as an inset or cover page to Figure C of Appendix C to clarify what area of the City each map is depicting.	The City prefers to present the model results in a separate document NOT appended to the SWMP. The City will regularly be updating the PCSWMM model, and model results are likely to change between SWMP updates. The City wishes to avoid regular SWMP and/or modeling report updates. The City is happy to provide the BDWMO and other SWMP users with the report and up to date modeling information as needed.	N
BDWMO	Lac Lavon Activities	Table 6-2	The BDWMO appreciates the City's efforts for maintaining exceptional water quality in Lac Lavon and continued allocation of funding as identified in item S-40 of Table 6-2 in Section 6. However, the BDWMO requests that the City include implementation of lake management activities related to reducing or eliminative invasive aquatic vegetation (i.e. Eurasian water milfoil, brittleleaf naiad).	An index map showing the extent of each map in the map book will be added.	Y
BDWMO	Prioritization Tools	Section 4.3.2, Table 6-1, and Table 6-2	The BDWMO acknowledges the significant effort put into the City's updated H&H results and in identifying potential locations of localized flooding identified in Section 4.2.3 (Black Dog Drainage Area) and Section 4.2.3.4 (Keller Lake Drainage Area). In addition, the BDWMO recognizes implementation item P-21 of Table 6-1 and S-5 of Table 6-2 in Section 6 as tools for prioritizing and identifying solution to potential flooding issues. The BDWMO requests clarification regarding how the information developed through these actions will be incorporated into the SWMP and/or otherwise made available to the BDWMO and other users of the Plan.	As noted in item S-5 in Table 6-2, a next step in SWMP implementation is to prioritize flood issues based on more detailed assessment of the potential problem areas identified via modeling and listed in Section 4.2.3. The City will identify those areas that are likely to pose real threats to safety and/or property as a priority for implementation. The City will evaluate options to address these issues (see item S-6 in Table 6-2) at a schedule determined according to the risk. Where capital improvements are identified as the preferred strategy to address the issue, the City will incorporate such improvements into its detailed, 5-year CIP (see Section 6.7 of the SWMP) for implementation.	NA
				The City plans to keep the BDWMO informed of feasibility studies (and resulting improvements) to address flooding issues located within the BDWMO. Such communication will identify intercommunity issues and/or cooperative opportunities early in the process. The City will amend the SWMP, as needed, to incorporate specific flood risk reduction projects affecting the BDWMO and its member cities, and to pursue grant funding.	