



## Bassett Creek Watershed Management Commission

June 16, 2017

Mr. Derek Asche  
Water Resources Manager  
City of Plymouth  
3400 Plymouth Boulevard  
Plymouth, MN 55447

**Re: 2017 Plymouth Creek Restoration Project, 60% Plan Set Review (BCWMC CIP 2017CR-P)**

Dear Mr. Asche:

The Bassett Creek Watershed Management Commission (BCWMC) reviewed the 60-percent stage construction plans for the above-referenced project. This project includes restoring sites along the 2,500-foot reach of Plymouth Creek in Plymouth Creek Park and west of Annapolis Lane North. The 60-percent stage plans were reviewed in accordance to the BCWMC's CIP project timeline (flowchart).

The BCWMC conditionally approved the plans at its June 15, 2017 meeting, contingent on the final plan set incorporating or addressing the following comments:

- 1) The BCWMC does not allow filling in the floodplain unless compensatory storage is created, or it can be demonstrated that the fill will not adversely impact flood levels. Although the current design does not include significant earthen fill areas, the vegetated riprap and boulders that will be added to the channel banks may constitute fill. Modeling or other documentation must be submitted to verify no change in the flood level caused by the proposed design.
- 2) Modeling or other documentation must be provided to verify that the proposed rock sizes are adequate to meet the design stability criteria, including for vegetated riprap.
- 3) The plans call for riprap to be placed in swales near Station 24+00 and 21+00 on Sheet C-104; however the size of the riprap is not specified. Please specify a riprap class to be used.
- 4) The plans call for brush mattress to be used in two locations between Stations 23+00 and 21+50. The willow cuttings used in brush mattress require significant sunlight to grow; however the clearing plan indicates that much of the canopy in this area may remain intact. Please consider if the project will provide sufficient sunlight for this stabilization technique to be successful at this location.
- 5) The plans call for a double tall cross vane near Station 11+75, which may lead to two unintended impacts: 1) a double tall cross vane may create a deeper than expected scour pool, which may undermine the footer boulders for the cross vane and result in failure; 2) the double tall cross vane may be an obstacle for aquatic organism passage. Please consider these potential impacts

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and consider if an alternate layout, such as two regular cross vanes near each other, may achieve the same result with reduced impacts.

- 6) The plans call for root wads with log toe from Station 7+00 to 8+50 in the left overbank. This segment contains tall banks with steep existing slopes. Please verify whether grading the 3:1 slope as shown on detail 3/D-101 is feasible given the existing conditions.
- 7) The proposed berm at the culvert outfall near Station 1+50 does not appear on any details. Please include the berm design on the design drawings.
- 8) Based on stream walks in 2016, significant woody debris was present between Sta. 2+50 and 4+00. The summary table indicated that the debris would be removed; however it is not called out on the plans. Please verify if debris removal will be conducted in this area and modify the plans accordingly.
- 9) The seed mix specified throughout the project is 34-262. Many species in this mix prefer full or partial sun; however it appears that much of the existing canopy will remain in place. Please consider the anticipated canopy after the project is complete and if an alternative or custom seed mix will be more appropriate than mix 34-262.
- 10) Instructions for the contractor to limit tree clearing as much as possible and only at the direction of the Engineer should be included on the plans.
- 11) Elevations and upstream/downstream stationing should be provided for all proposed toe stabilization measures.
- 12) Revised (90%) plans must be submitted to the BCWMC engineer for review and to the BCWMC for approval.

In addition to the above comments, the BCWMC requested the inclusion of the following additional information as part of the 90% plan submittal:

- Estimated pollutant removals, compared to pollutant removals estimated in feasibility study
- Educational signage in park/disc golf course
- Table and/or graphic showing golf course-related project components and costs vs. other restoration features and costs
- Tree survey results

We would also appreciate hearing about the results of the June 26<sup>th</sup> public open house and/or outreach to disc golfers.

The drawings we reviewed are dated April 20, 2017 and were received May 25, 2017. If you have questions, please contact me at 952-832-2813 or [kchandler@barr.com](mailto:kchandler@barr.com).

Sincerely,

A handwritten signature in cursive script that reads "Karen L. Chandler".

Karen Chandler, P.E.  
Barr Engineering Co.  
Engineers for the Bassett Creek Watershed Management Commission (BCWMC)

c:      Laura Jester, BCWMC Administrator  
          Lucius Jonett, Wenck Associates, Inc.