Item 5D.
BCWMC 7-21-16

Working DRAFT
Clean Water Fund - Projects and Practices Grant Application

What organization will serve as the Fiscal Agent for this grant?
Bassett Creek Watershed Management Commission

Did your organization receive competitive CWF grant dollars in FY 2014, FY 2015 and/or FY 2016? If less than 50% of the total grant amount awarded from FY 2014, FY 2015 and FY 2016 grants have been spent, please explain your organization's capacity (including available FTEs or contracted resources) to effectively implement additional Clean Water Fund grant dollars.

The Bassett Creek Watershed Management Commission (BCWMC) received CWF grant dollars in FY2016 for the Northwood Lake Improvement Project. In August 2015, the BCWMC entered an agreement with the City of New Hope to design and construct the project. The City used its consulting engineering firm, Stantec, to design the project and the BCWMC approved final design plans in November 2015. The city awarded a construction contract to Northdale Construction Company in February 2016 and construction started in March and is continuing. A grant reimbursement request will be submitted to the BWSR by the end of 2016 once appropriate invoices and documentation is gathered.

Water Resource of Concern: Identify the water resource of concern the proposed project is targeting.

The Plymouth Creek Restoration Project will improve water quality in Plymouth Creek and Medicine Lake, the creek's primary receiving water. Additionally, the Main Stem of Bassett Creek flows out of Medicine Lake and may also realize improvements from the project. Medicine Lake is impaired for nutrients, a TMDL was approved in 2011. Both Plymouth Creek and Medicine Lake are high priority waterbodies for the BCWMC and Medicine Lake is a regionally significant waterbody offering recreational opportunities and providing important fish and wildlife habitat.

Project Abstract: (scored in combination with Question #1) Succinctly describe what you are trying to achieve and how you intend to achieve those results, including the type and quantity of projects and/or practices included in the application budget and anticipated outcomes.

The Plymouth Creek Restoration Project will stabilize and restore streambanks along both sides of Plymouth Creek for a total of 2,800 feet including 1,700 feet within Plymouth Creek Park (including through an active disc golf course) and 1,100 feet between Fernbrook Lane and Annapolis Lane in the City of Plymouth. A feasibility study completed in March 2016 estimated the project will reduce total phosphorus and sediment loading to the creek by 52.2 and 90,800 lbs per year, respectively. The study identified three reaches and 21 areas where stabilization and restoration is needed. Techniques proposed to be used include re-meandering the stream channel; restoring the vegetative buffer; re-connecting the stream with its floodplain; installing a variety of stream stabilization measures, including riprap, root wads and toe wood, vegetated reinforced soil stabilization (VRSS), rock or log vanes, and stone toe protection; and removing large woody debris. Many of these techniques including vegetation establishment and log or rock vanes will also improve in-stream and near stream habitat along Plymouth Creek. Finally, educational signage in Plymouth Creek Park will inform residents and disc golf players about the project and its goals along with information on general water quality and best practices.

Project Description: 1. (5 points) A) What nonpoint pollution concerns will be the focus of this action(s)? B) Describe the public benefits of this action(s) to the water resource of concern from a local and state perspective. C) Describe how the resource of concern aligns with at least one of the statewide priorities referenced in the "Projects and Practices" section of the RFP.

The project will reduce total phosphorus and suspended sediment in Plymouth Creek and Medicine Lake stemming from streambank erosion. Streambank erosion is a common source of pollution, particularly in developed landscapes where flows in streams are considered "flashy" and can easily scour unprotected and disturbed streambanks. The public will benefit from pollution reduction and restoration of these waterbodies because the improvements in water quality, aesthetics, and fish and wildlife habitat enhance recreation opportunities and overall enjoyment of these waters. This project is aligned with the statewide priority to restore and protect water resources for public use and public health.

Relationship to Plan: 2a. (15 points) Describe why the water resource of concern was identified in the plan as a priority resource. For the proposed project, identify the specific water management plan reference by plan organization (if different from the applicant), plan title, section, and page number. In addition to the plan citation, provide a brief narrative description that explains: whether this application fully or partially accomplishes the referenced activity, the estimated scale of impact that the activity in the plan has on the problem identified and the estimated scale of impact of the proposed project.

The BCWMC went through a rigorous process to identify and prioritize its waterbodies during the development of its 2015 Watershed Management Plan. The BCWMC identified 14 priority waterbodies and divided these priority waterbodies into four classes. Priority 1 streams include MDNR public waters watercourses within the BCWMC, including Plymouth Creek. Waterbodies identified as MDNR public waters lakes and at least 10 acres in size were classified as Priority 1 or 2 lakes. Priority lakes with public access or adjacent to public land were classified as Priority 1 lakes, while those without public access or adjacent public land were classified as Priority 2 lakes. Priority 1 and 2 lakes were further subdivided based on whether they are classified as "deep" or "shallow" by the MPCA, as deep and shallow lakes are subject to different nutrient water quality standards. Medicine Lake is classified as a Priority 1, deep lake. The BCWMC adopted water quality standards for priority lakes and streams that are consistent with MPCA water quality standards published in Minnesota Rules 7050.

The proposed project is identified as "2017CR-P" and is included in the Capital Improvement Program (CIP) in the 2015 Bassett Creek Watershed Management Plan, Section 5, Table 5-3, page 5-31.

The proposed project fully accomplishes the referenced CIP project. The BCWMC CIP was developed to address pollutant sources throughout the watershed including a continuation of stream restoration projects from the 2004 Bassett Creek Watershed Management Plan. In total, the BCWMC has restored XX miles of streambanks in the watershed to date, including XX along Plymouth Creek downstream from the proposed project. [*Discuss what percentage of the creek will be restored after this project and if any other restoration on Plymouth Creek is needed.*]

In addition to the Bassett Creek Watershed Management Plan, the proposed project is included in the 2010 Medicine Lake TMDL Implementation Plan. Other projects in the Implementation Plan that have been completed by the BCWMC include XX.

Relationship to Plan: 2b. Provide web links to all referenced plans.

BCWMC 2015 Watershed Management Plan, Section 5: Implementation
http://www.bassettcreekwmo.org/application/files/5914/4676/6436/BCWMC_Section_5.pdf

Medicine Lake Excess Nutrients Total Maximum Daily Load Implementation Plan
https://www.pca.state.mn.us/sites/default/files/wq-iw8-19c.pdf

Targeting: 3. (18 points) Describe the methods used to identify, inventory, and target the most critical pollution sources or threats (root cause) done to date and describe any additional efforts that will be completed prior to installing projects or practices.

[*Include information from previous creek inventory and how Plymouth Creek restoration is included*.]

For the proposed project, the Feasibility Report for the Plymouth Creek Restoration Project was completed in March 2016 by the BCWMC Engineers with Barr Engineering Co. The study included an investigation of the surrounding landuse, stream characteristics, and historic channel alignment. Additionally, a geomorphic assessment, Phase I Environmental Assessment, and analysis of wetland impacts were completed. To estimate pollution reductions, the existing stream bank erosion rate (in units of feet per year) for each stabilization site was estimated based on a field assessment method known as the Bank Assessment for Non-Point Source Consequences of Sediment (BANCS) model.

Targeting: 4. (7 points) A) How does this application advance an overall groundwater, watershed protection, and/or restoration strategy implemented by your organization and your partners? Listing in a plan does not necessarily constitute an overall strategy. B) Describe activities other than those funded by this application that you and other partners have or will implement that affect the water resource of concern including but not limited to: other financial assistance or incentive programs, easements, regulatory enforcement, or community engagement activities that are indirectly related to this proposal.

This project is part of a watershed wide strategy to improve and project lakes, streams, and wetlands by reducing pollution from nonpoint sources, addressing water quality impairments, improving habitat, reducing flooding, and engaging residents and businesses. The BCWMC's 2015 Watershed Management Plans lays out goals and policies and a Capital Improvement Program that includes this project.

The BCWMC implements a robust Capital Improvement Program (CIP) through a strong partnership with its member cities. Each year, the BCWMC reviews the list of CIP projects for the upcoming five years and adjusts as needed according to opportunity and project readiness. The feasibility of the project slated for the following year is studied and the BCWMC certifies a tax levy through Hennepin County under Minnesota Statutes Section 103B.251 for the project. The BCWMC then orders the project and enters an agreement with the city where the project is located to design and construct the project.

In addition to the proposed project, the BCWMC has implemented the following projects that address the Plymouth Creek and/or Medicine Lake.

- Plymouth Creek Channel Restoration Project Medicine Lake to 26th Ave.
- West Medicine Lake Ponds [*need more information here*]

Additionally, the BCWMC has allocated funding for a future CIP project in the area of Lakeview Park in Golden Valley intended to improve water quality in Medicine Lake.

Measureable Outcomes: 5. (10 points) A) What pollutant(s) of concern (For groundwater: bacteria, untreated sewage, nitrate, pesticides, etc.; For surface water: dissolved phosphorus, nitrogen, sediment, etc.) does this project specifically address? B) Has there been a pollutant reduction goal set in relation to that pollutant of concern or the water resource of concern that is the subject of this application? C) If so, what is that goal and what process was used to set this goal? If no pollutant reduction goal has been set, describe the water quality trends or other management goals that have been established. D) For protection projects, indicate measurable outputs such as acres of protected land, number of potential contaminant sources removed or managed, etc.

This project addresses total phosphorus and suspended sediments in Plymouth Creek and Medicine Lake and in further downstream waters including Bassett Creek and the Mississippi River.

The 2011 Medicine Lake Excess Nutrients Total Maximum Daily Load Study set a watershed total phosphorus reduction goal (wasteload allocation) of 28% or 1,287 lbs per year. This project is estimated to remove 52.2 lbs per year of total phosphorus.

Measureable Outcomes: 6. (15 points) A) Describe how this project directly addresses the water resource of concern or potential pollution sources and how much effect the project will have on the root cause of the most critical pollution problems or threats. B) What is the annual reduction in pollutant(s) that will be achieved or avoided for the water resource of concern after this project is completed?

This project will stabilize and restore streambanks on Plymouth Creek which will reduce the amount of total phosphorus and suspended solids entering the creek and Medicine Lake. Streambank restoration projects are a common way to reduce pollution in waterbodies. Streambank restoration on Plymouth Creek is specifically listed in the Medicine Lake TMDL as an effective pollution reducing method.

This project is estimated to reduce total phosphorus loadings by 52.2 lbs per year. Earlier BCWMC projects aimed at reducing total phosphorus loads to Medicine Lake including a Plymouth Creek restoration project downstream from the current proposed site, and ponds installed in West Medicine Lake Park reduced total phosphorus loads to the lake by an estimated XX.

Measureable Outcomes: 7. (10 points) Will the overall project have additional specific secondary benefits, including but not limited to measured or estimated hydrologic benefits, enhancement of aquatic and terrestrial wildlife species, drinking water protection, enhancement of pollinator populations, or protection of rare and/or native species? If so, specifically describe, or quantify if possible, what those benefits will be.

In addition to reducing pollution, the Plymouth Creek Restoration Project will improve in-stream and near stream habitat. Rock vanes, log vanes, and toe wood will add structure into the streambed and streambanks, improving habitats for macroinvertebrates and other aquatic life. The project will include the establishment of native vegetation along streambanks, including flowering plants where sunlight is available, that will benefit pollinators, birds and other wildlife. Where active erosion is minimal at some locations in the project area, the project will prevent erosion by installing preemptive measures to protect existing stream banks.

Cost Effectiveness: 8. (5 points) Describe why the proposed project(s) is considered to be the most cost effective and reasonable means to attain water quality improvement or protection benefits. Consider such factors as, but not limited to BMP effectiveness, timing, site feasibility, practicality, and public acceptance. If any, what other alternatives were considered to achieve the same type and amount of benefit outlined in the proposed project?

The BCWMC has implemented multiple projects in the Medicine Lake watershed aimed at reducing total phosphorus in the lake. The cost of this project is estimated at $766,000 or $1,000 per pound of phosphorus reduced. This amount is within the acceptable range for pollution removal costs of similar projects.

The restoration and stabilization techniques proposed in the feasibility study are well-tested and known to be effective in settings similar to the project area. The City of Plymouth has been engaged throughout the development of the feasibility study including the city's Parks Department and the Water Resources Department. Under an agreement with the BCWMC, the City is prepared to design and construct the project in late 2017/early 2018.

The BCWMC sought input from residents near and adjacent to the project area by holding a public open house in October 2015, before the feasibility study began. Residents from eight different properties attended the open house. No residents raised major concerns about the project. Residents were in support of restoration here in the project area, even if some trees are removed in the process.

The feasibility study for this project analyzed multiple stabilization/restoration techniques for each of the 21 sites within the project area. The most feasible and practical techniques were chosen for each site.

Project Readiness: 9. (8 points) Describe steps and actions already taken to ensure that project implementation can begin soon after grant award including preliminary discussions with permitting authorities (if applicable) and the status of any state, federal or local permits that may be required for the project (Conditional use, NPDES, WCA, EAW, USACE, Public Waters, archeological surveys, etc.). Also describe any preliminary discussions with landowners/occupiers, status of agreements/contracts, contingency plans, and other project development activities to date that will ensure a smooth start to the project and minimize administrative or other critical delays.

As described earlier, a feasibility study is complete for this project. Additionally, the BCWMC will certify to Hennepin County a 2017 tax levy for this project in accordance with Minnesota Statutes, Section 103B.251, Subd. 4 to provide the local match required to complete the project. [*update with results of Hennepin Co. Commissioners 7/19 meeting*]

Staff with permitting agencies including the U.S. Army Corps of Engineers (USACE), and the Minnesota Department of Natural Resources (MDNR) toured the project area in October 2015. The tour provided an opportunity to review the project site and discuss options, considering both ideal restoration scenarios and practical aspects of maintaining existing uses within Plymouth Creek Park. The USACE and MDNR expressed their preference for bioengineering techniques whenever possible. The City described the use and popularity of the disc golf course adjacent to the creek. The City noted it will consider realigning holes on the course to minimize disturbance along the creek or to temporarily close holes to help re-establish vegetation on the banks.

In September 2016, the BCWMC will hold a public hearing on the proposed project, order the project, and enter an agreement with the City of Plymouth to design and construct the project.

Project Readiness: 10. (2 points) Newsletters, signs and press releases are standard communication tools. Beyond those basics, describe any additional project activities that would be added to the grant workplan aimed at engaging your local community on the need, benefits, and long term impacts of this project.

In addition to newsletter article, signs, and press releases, the BCWMC will seek resident input on preliminary project design plans before project plans are finalized. A letter will be mailed to residents near and adjacent to the project (similar to the letter sent during the feasibility study) inviting them to an open house to provide input on the project. Additionally, flyers will be posted in an adjacent apartment complex and at several locations in the disc golf course inviting input on the project and at the open house. A webpage dedicated to the project has already been established (http://www.bassettcreekwmo.org/index.php?cID=284) and will be updated regularly. The project may also be featured during a future watershed tour and during presentations to groups on BCWMC projects.

BBR: 11. (5 points) Did your organization submit a Biennial Budget Request (BBR) to BWSR in 2014?

Yes, this project was included in the BCWMC 2014 BBR.

BUDGET

Project Element	**Grant Request**	**Match[1]**	**Total Estimated Budget**
Project Design	$100,000	$44,000	$144,000
Project Construction[2]	$300,000	$323,000	$623,000
Project/Grant Administration	$0	$20,000	$20,000
TOTAL	**$400,000**	**$387,000**	**$787,000**

[1] Match provided through watershed tax levied by Hennepin County on behalf of BCWMC + possible Opportunities Grant from Hennepin County

[2] Includes 30% construction contingency