



Barr Engineering Company
4700 West 77th Street • Minneapolis, MN 55435-4803
Phone: 952-832-2600 • Fax: 952-832-2601 • www.barr.com *An EEO Employer*

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Agenda Item 5A– Maintenance of Bassett Creek Watershed Channel Restoration Projects
Date: October 7, 2009
Project: 23/27 051 2009

5A. Maintenance of Bassett Creek Watershed Channel Restoration Projects

Recommended/requested Commission action: For discussion; BCWMC shall define issue for TAC review

The BCWMC briefly addressed proposed maintenance of Capital Improvements Program (CIP) projects involving channel restoration at its September meeting. Some of the issues raised during the discussion included:

- Maintenance of projects on private property
- Maintenance easements to allow for future access to project sites
- Additional project implementation time to allow for establishment of vegetation
- Homeowner agreements regarding maintenance
- Homeowner involvement in the design process

It was suggested that maintenance of channel restoration CIP projects would be a good issue for the BCWMC's Technical Advisory Committee (TAC) to discuss. Chair Welch recommended initial discussion regarding maintenance of CIP projects by the BCWMC to better define the issue before sending it to the TAC.

Background Information Regarding Maintenance of Bassett Creek Watershed Projects

Maintenance of Bassett Creek watershed projects is critical for proper operation of each project. Typically, the BCWMC has relied on each municipality to maintain the channel, structures and BMPs in its city. With implementation of the Flood Control Project and water quality CIP projects (including stream restoration projects), the maintenance needs of these projects should be discussed. Generally, the types of maintenance that may be needed for flood control and water quality improvement projects include the following:

- Flood control project structures: inspection; trash and debris removal; repair structural components (trash racks, concrete structures, pipes/culverts, skimmers, control structures, tunnel, etc.); repair eroded side slopes and earth berms
- Water quality treatment (wet) ponds: inspection; trash and debris removal; sediment removal from pretreatment area, inlet, and outlet structures, and primary storage area; repair eroded side slopes and earth berms; vegetation management; repair structural components (trash racks, concrete structures, pipes/culverts, skimmers, etc.)
- Underground structures (grit chambers, proprietary devices, pretreatment vaults): inspection; trash, debris and oil removal; sediment removal from pretreatment area and primary storage area; repair structural components (trash racks, concrete structures, pipes/culverts, skimmers, etc.)
- Stream restoration projects: inspection; trash and debris removal; weed control (mowing and/or spot treatment); establishment of project landscaping features (first several years); replacement of dead plants/reseeding; controlled burns (if feasible); trimming (if needed); repair bank failures

Following is a list of several types of watershed projects and a summary of current maintenance policies and procedures:

1. **Bassett Creek Flood Control Project**

Background: The Bassett Creek Flood Control Project was a cooperative effort of the Commission, Corps of Engineers, Mn/DOT and Cities in the watershed. The project was constructed by the Cities, MnDOT and the Corps of Engineers from 1982 – 1996. The principal feature of the project included the new Bassett Creek tunnel through Minneapolis. The attached Table 5-1 from the Watershed Management Plan includes the features constructed as part of the flood control project and other features included in the annual inspection program.

Current Maintenance Policies and Procedures: In accordance to the Watershed Management Plan, the Commission regularly inspects the flood control project features. The Watershed Management Plan also contains the following policies regarding maintenance and repair of the system:

- The BCWMC is responsible for maintenance and repair of the water level control and conveyance structures that were part of the original flood control project,
- The municipalities are responsible for maintenance and repair of the new road crossings of the creek, installed as part of the project, since their primary function is transportation related.
- The routine maintenance, including debris and vegetation removal and other miscellaneous tasks, are the responsibility of the municipality the structure is located in.

2. Capital Improvements Program Projects

A. Water Quality Treatment Ponds and Other BMPs

Background: The BCWMC has funded the construction of several water quality treatment ponds and other projects to improve water quality in the watershed. Ad valorem taxes have been collected by Hennepin County on behalf of the BCWMC for the CIP. The proposed and completed CIP projects are identified in Table 12-2 from the Watershed Management Plan (revised).

Current Maintenance Policies and Procedures: In accordance to the Watershed Management Plan, the BCWMC regularly inspects the flood control project features, but does not inspect the Water Quality Treatment Ponds and other BMPs.

Although construction of each water quality treatment CIP project is the responsibility of the municipality where the project is located, maintenance of the completed projects is not addressed in the Watershed Management Plan or the Cooperative Agreements between the BCWMC and municipality for each project.

B. Stream Restoration Projects

Background: As part of the 2004 Watershed Management Plan, the BCWMC established a Creek and Streambank Trunk System Maintenance, Repair and Sediment Removal Fund (Streambank Maintenance Fund) through an annual assessment to finance the restoration projects. However, once the cities began preparing and providing preliminary cost estimates for the stream restoration work, it became apparent that the funds available in the Streambank Maintenance Fund would be insufficient to address the identified problems. In 2007 the BCWMC added major stream restoration projects to its CIP through a minor plan amendment process.

Current Maintenance Policies and Procedures: In accordance to the Watershed Management Plan, the Commission has adopted the following policies regarding stream maintenance:

- The BCWMC will use the Streambank Maintenance Fund to finance maintenance and repairs needed to restore the creek to designed flow rates, or to restore or prevent structural damage.
- The BCWMC may use the Streambank Maintenance Fund to finance the portion of the project that provides BCWMC benefits.
- The member cities are responsible for funding maintenance and repairs that are primarily aesthetic improvements.

Although construction of each stream restoration CIP project is the responsibility of the municipality where the project is located, maintenance of the completed projects is not addressed in the Watershed Management Plan or the Cooperative Agreements between the BCWMC and municipality for each project.

3. Non-BCWMC Funded Improvements and Developments

Background: The BCWMC approved the revised *Requirements for Improvements and Development Proposals* document in 2008. The document was prepared to assist developers and consultants in designing and managing commercial, industrial and residential projects that conform to the BCWMC policies. The document identifies a variety of best management practices (BMPs) that have been approved by the BCWMC for meeting water quality goal.

Current Maintenance Policies and Procedures: The *Requirements for Improvements and Development Proposals* document includes maintenance requirements for the following BMPs: infiltration basins; surface sand filters; bioretention filtration basins; water quality ponds (wet ponds); underground vaults. The document also includes the following requirements:

- The municipalities are responsible for maintenance and repair of BMPs. Each city must ensure that a maintenance agreement and maintenance plan is prepared for operation of site BMPs.