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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 5A – South Shore Drive Bridge: Plymouth
BCWMC February 18, 2010 Meeting Agenda
Date: February 11, 2010
Project: 23/27 051 2009 003

5A. South Shore Drive Bridge (DNR Permit Application): Plymouth

Summary

Proposed Work: New South Shore Drive Bridge over Bassett Creek

Basis for Commission Review: New Structure located in regulatory floodplain; DNR Permit Application

Change in Impervious Surface: Not applicable

Recommendation: Conditional approval

General Background & Comments

The Minnesota Department of Natural Resources (DNR) has requested review and comment of a Public Waters Work permit application for replacing the bridge over Bassett Creek at South Shore Drive in the City of Plymouth. The bridge is located approximately twenty feet downstream of the existing Medicine Lake dam/outlet structure. The existing timber bridge over Bassett Creek has deteriorated and is in need of replacement. The proposed bridge is a 29-foot concrete slab bridge with a 10 foot trail on the south side of the bridge for an overall total deck width of 39 feet. Comments to the DNR are requested by February 25, 2010.

The City of Plymouth staff indicated the bridge replacement plan is part of an overall South Shore Drive reconstruction plan. The City plans to submit an application to the BCWMC after the overall South Shore Drive project has been developed.

Floodplain

The BCWMC regulatory floodplain elevation along Bassett Creek is 890.3 ft. upstream of South Shore Drive and 889.4 ft. downstream of South Shore Drive. Sheet 1 indicates the low bridge member to be 889.3 ft. based on a design high water elevation of 889.4 ft. The high water elevation should be revised to 890.3 ft. and the low member should be at 891.3 or higher to provide 1-ft freeboard.

Wetlands

The City of Plymouth is the Local Government Unit (LGU) responsible for review of the project for conformance to the MN Wetland Conservation Act.

Stormwater Management

The site discharges directly to Bassett Creek. Stormwater management will be assessed during review of the South Shore Drive reconstruction plans.

Water Quality Management

The site discharges directly to Bassett Creek. Water quality management will be assessed during review of the South Shore Drive reconstruction plans.

Erosion and Sediment Control

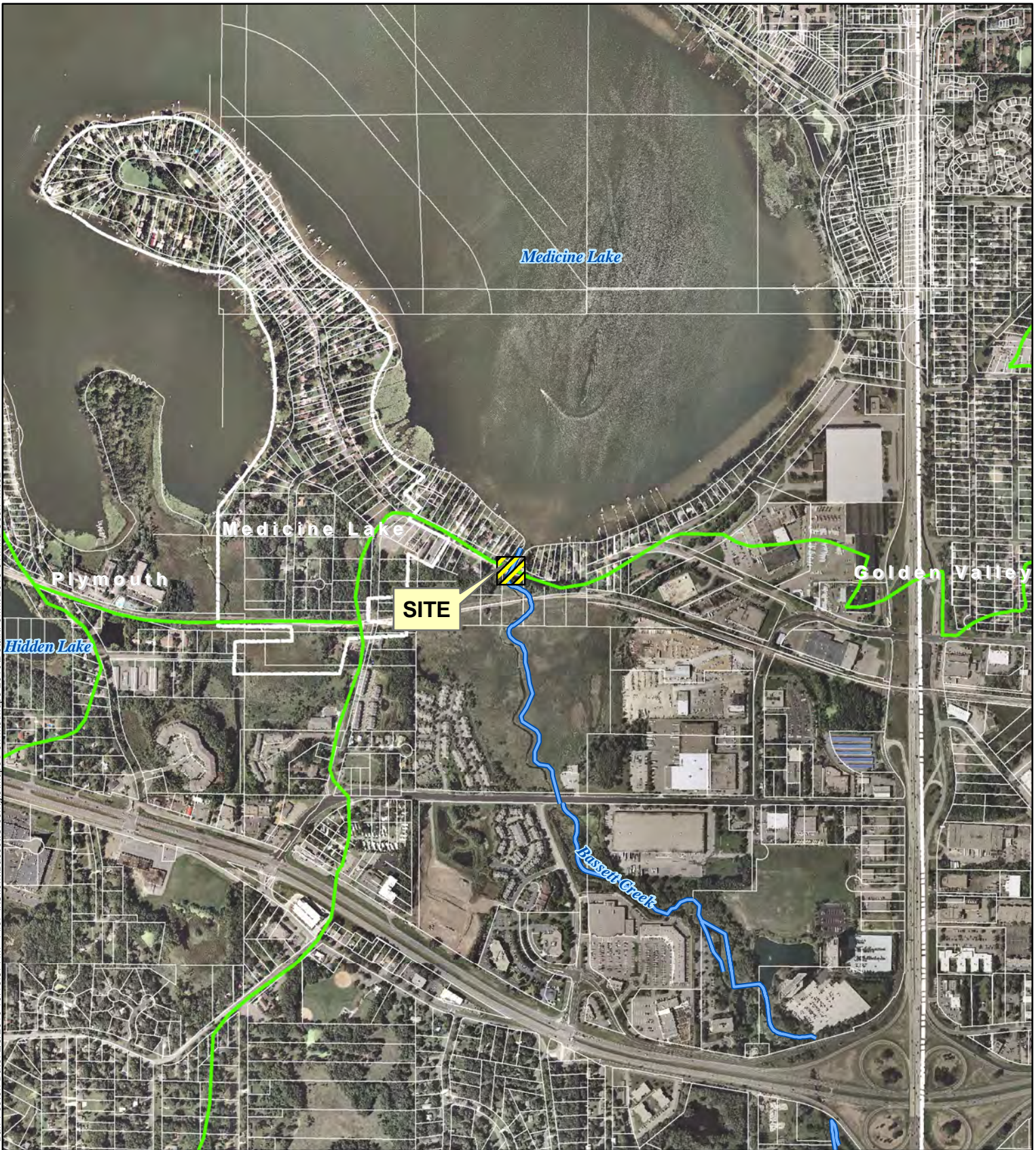
Permanent erosion control includes riprap and filter material beneath the structure. An erosion control plan must be provided for review and will be assessed during review of the South Shore Drive reconstruction plans.

Recommendation








Conditional approval based on following comments:

- a. Low bridge member should be raised to a minimum elevation of 891.3 ft. to provide 1 ft freeboard above the BCWMC regulatory floodplain. If not feasible, then bridge must be raised to elevation approved by the BCWMC.
- b. Channel cross section of Bassett Creek must not decrease due to the project. Existing and proposed channel cross section beneath bridge must be provided.
- c. Fill in the floodplain, including must be evaluated and mitigated.
- d. The City must submit an application to the BCWMC after the overall South Shore Drive project plan has been developed. Application must include erosion control plans and entire set of bridge plans.
- e. The existing South Shore Drive embankment provides support for the existing Medicine Lake dam. Potential stability issues must be addressed if excavation of the embankments is proposed.
- f. Contractor shall minimize disturbance of creek channel during construction.
- g. A diversion and dewatering plan must be submitted after a contractor has been selected and must be reviewed and approved by the BCWMC Engineer prior to installation of the proposed bridge.

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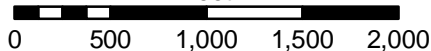


Imagery Source: Aerials Express, 2009

-  Permit Location
-  Bassett Creek
-  WMC Boundary
-  Major Subwatershed
-  Municipality
-  Parcel Line
-  Stream



Feet



LOCATION MAP
APPLICATION 2010-01
South Shore Drive
Bridge Replacement
Plymouth, MN