



Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4I – 2016 Northwood Lake Improvements– New Hope
BCWMC February 18, 2016 Meeting Agenda
Date: February 10, 2016
Project: 23270051 2016 2068

4I 2016 Northwood Lake Improvements – New Hope

Summary:

Proposed Work: Reconstruction of a portion of Jordan Avenue North, playground and infrastructure improvements in Northwood Park

Basis for Commission Review: Work within the floodplain

Impervious Surface Area: Decrease approximately 870 square feet (0.02 acres)

Recommendation: Conditional approval

General Background & Comments

The proposed project includes reconstruction of Jordan Avenue from approximately 40 ½ Avenue North to Northwood Parkway, construction of a new playground and bituminous trail, storm sewer improvements, and approximately 800 cubic yards of sediment removal from Northwood Lake. This project will be completed in conjunction with the Northwood Lake CIP project (NL-1), which will involve construction of an underground stormwater reuse system near the intersection of Boone Avenue North and Ensign Avenue North to be used for irrigation of the ballfields in Northwood Park and construction of a pond west of Jordan Avenue North. The project is in the Northwood Lake subwatershed and 0.75 acres will be graded as part of the project. The proposed project results in a decrease of approximately 870 square feet (0.02 acres) of impervious surface and a total proposed impervious area of 0.46 acres.

Floodplain

The project involves construction of a playground, bituminous trail, and rain gardens, which will include work within the floodplain of Northwood Lake. The floodplain elevation of Northwood Lake is 889.5 feet. Construction plans indicate that the project will result in 323 cubic yards of cut and 54 cubic yards of fill at the playground site and 0 cubic yards of cut and 15 cubic yards of fill at the rain garden 3 site. This results in a net cut of 254 cubic yards within the floodplain of Northwood Lake.

Wetlands

The project appears to involve work in and adjacent to wetlands. The City of New Hope is the LGU for administering the Minnesota Wetland Conservation Act of 1991.

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Stormwater Management

Under existing conditions, the portion of Jordan Avenue to be reconstructed drains to Northwood Lake. Under proposed conditions, the southern reconstructed portion of Jordan Avenue will drain to a proposed drainage pond, and the northern reconstructed portion of Jordan Avenue will drain to Northwood Lake. Under existing conditions, the Northwood Park area drains to Northwood Lake. Under proposed conditions, the drainage patterns will ultimately remain similar; however, stormwater treatment will be provided within the project area by diverting water to an underground infiltration system and rain gardens before discharging to Northwood Lake.

Water Quality Management

The project is a redevelopment that creates less than one acre of new and/or fully reconstructed impervious surfaces. Based on the September 2015 BCWMC Requirements for Improvements and Development Proposals (Requirements) document, water quality treatment is not required. However, the project is being constructed in conjunction with the Northwood Lake CIP project, which will provide water quality treatment through an underground stormwater reuse system, three rain gardens, and the Jordan Avenue Pond. No water quality treatment is currently provided on the site.

Erosion and Sediment Control

Since the area to be graded is greater than 10,000 square feet, the proposed project must meet the BCWMC erosion control requirements. Proposed temporary erosion control features include flotation silt curtain, rock log, ditch checks, inlet protection, silt fence, and rock construction entrances.

Recommendation

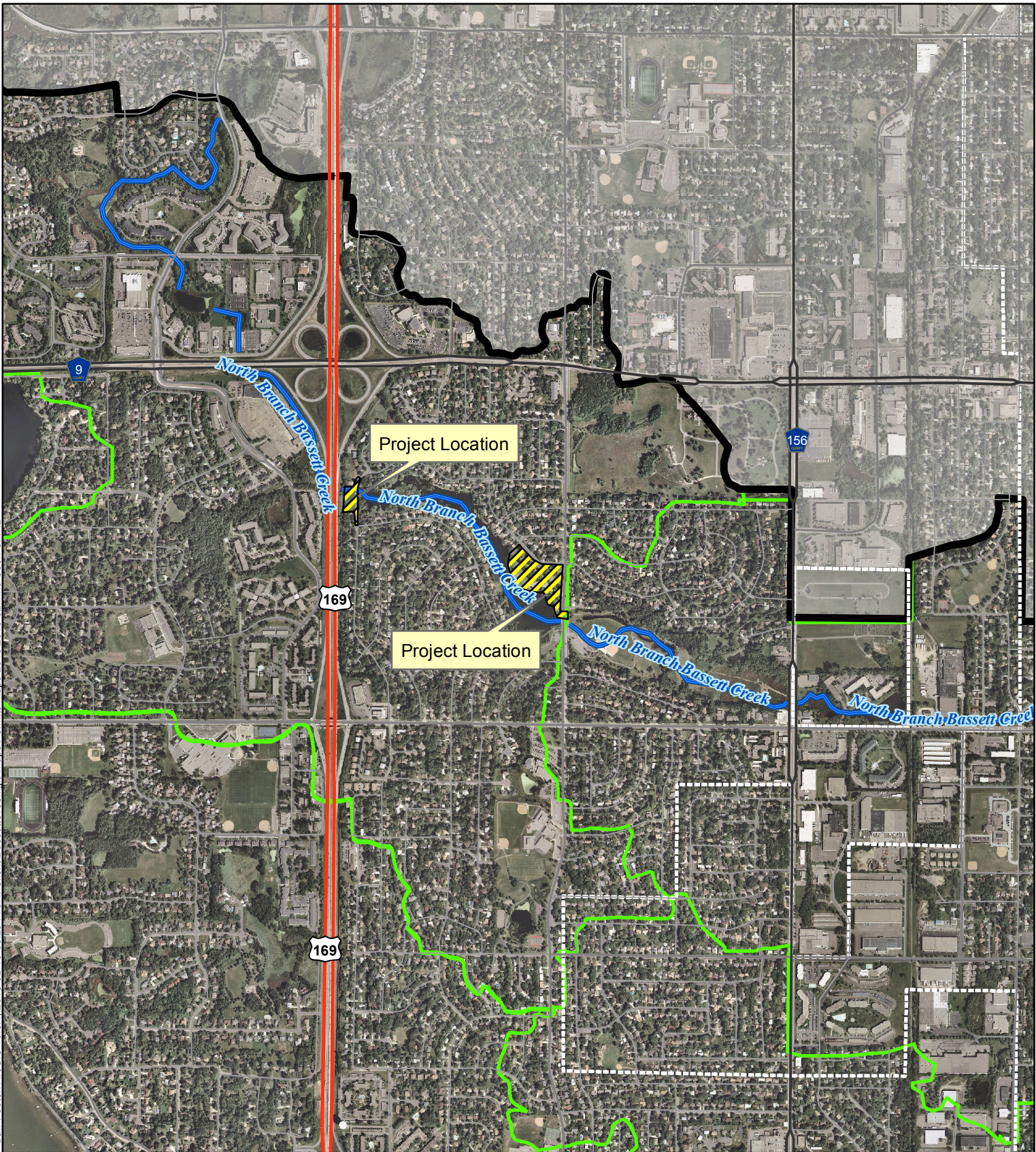
Conditional approval based on the following comments:

1. Perimeter control should be installed along the entire length of the project downgradient of all areas on Jordan Avenue N where curb and gutter will be removed.
2. Flotation silt curtain should be placed downgradient of the proposed sediment removal from Northwood Lake.
3. Inlet protection should be shown on CB-27.
4. The silt fence south of the proposed underground stormwater reuse system should be adjusted to the south to be downgradient of all proposed grading.
5. Perimeter control should be added downgradient of the trail construction east of the shelter building.
6. Applicant should ensure vegetation behind the curb cuts in Jordan Avenue N will be adequate permanent erosion control.
7. The outlet velocity at FES-14 exceeds 10 feet per second when the pipe is flowing full. Addition of a drop structure or modifying the upstream manhole to allow a shallower pipe slope is recommended to reduce outlet velocities to less than 8 feet per second.







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8. The cut off berm on the rock construction entrance shall have a minimum height of 2 feet above the adjacent roadway.
9. It is recommended that sediment sampling and material management be conducted in accordance with the latest version of the MPCA document Managing Stormwater Sediment Best Management Practice Guidance.
10. Revised drawings (paper copy and final electronic files) must be provided to the BCWMC Engineer for final review and approval.

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Imagery Source: Aerial Express (2009)

-  Project Location
-  Bassett Creek
-  WMC Boundary
-  Major Subwatershed
-  Municipality
-  Stream



Feet



**LOCATION MAP
APPLICATION 2016-02
Northwood Lake Improvements
New Hope, MN**