

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4H – Fernbrook Lane Emergency Culvert Replacement: Plymouth
BCWMC May 15, 2014
Date: May 6, 2014
Project: 23270051 2014 2006

4H Fernbrook Lane Emergency Culvert Replacement - Plymouth

Summary:

Proposed Work: Emergency replacement of an existing culvert over Plymouth Creek

Basis for Commission Review: Work in floodplain and creek crossing

Change in Impervious Surface: None

Recommendation: N/A

General Background & Comments

On April 7, 2014, the City of Plymouth closed Fernbrook Lane due to settlement in the street over the Plymouth Creek culvert. The existing 15-foot by 14-foot modified circular corrugated metal culvert was replaced under emergency conditions with a 14-foot by 10-foot concrete box culvert. Replacement of the culvert and roadway was substantially completed by April 26, 2014. The project resulted in no change of impervious area. Although projects in the floodplain require review and approval by the BCWMC prior to construction, emergency work performed by cities that involve utilities, traffic, or public safety is exempt from the BCWMC review process so the city can focus on the emergency situation. Therefore the final drawings and application have been submitted after construction, under non-emergency conditions, to document the work. BCWMC staff worked closely with the city to review the proposed culvert crossing prior to construction.

Floodplain

The BCWMC 100-year floodplain management elevation at Fernbrook Lane is 948 at the upstream end of the culvert and 947 at the downstream end of the culvert. Hydraulic modeling of the existing culvert showed that the modeled upstream elevation is 946.39 feet and the modeled downstream elevation is 946.26 feet. Modeling of the replacement culvert showed a slight increase in the upstream elevation of 0.02-feet and no change in the downstream elevation.

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Stormwater Management

The proposed work on the site will not change stormwater drainage; the bridge and its abutments drain directly to Plymouth Creek.

Water Quality Management

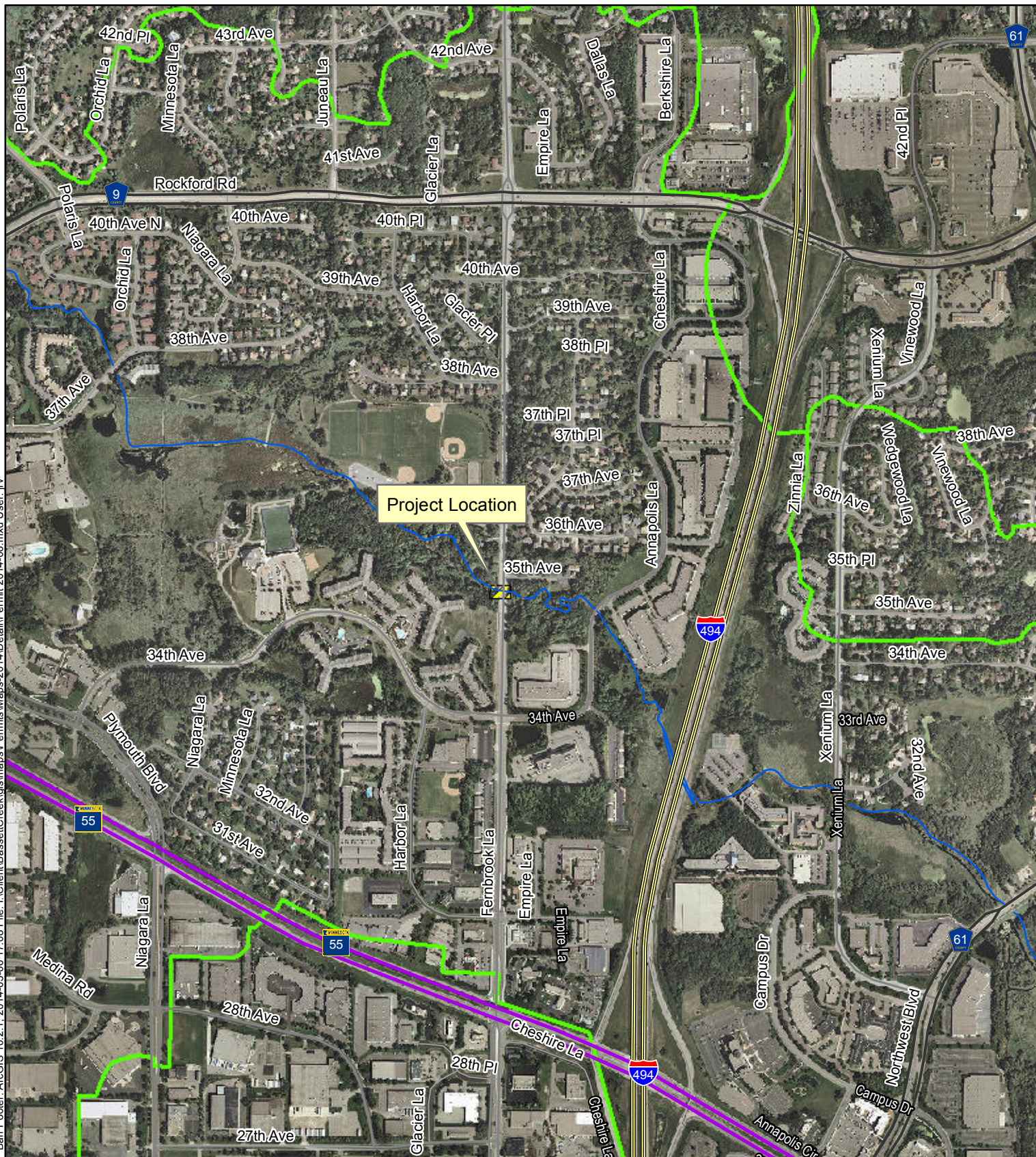
There will be no change in runoff as a result of this project. Because there is no change in impervious area, this project is not required to meet the BCWMC's non-degradation policy or Level 1 water quality treatment requirements.

Erosion and Sediment Control

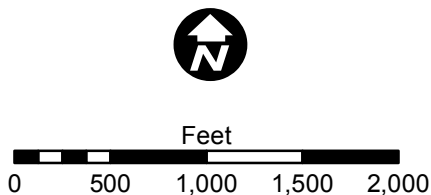
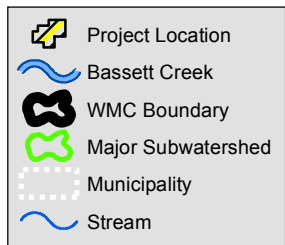
Silt fence was placed around areas to be graded to reduce runoff of sediment into the creek.

Recommendation

Approval is not required since the work has been completed.



Imagery Source: Aerial Express (2009)



LOCATION MAP
APPLICATION 2014-06
Fernbrook Lane Emergency
Culvert Replacement
Plymouth, MN