Item 4D.
BCWMC 3-16-17

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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: 4D – CenterPoint Energy MBLC Replacement – Golden Valley, MN
BCWMC March 16, 2017 Meeting Agenda
Date: March 8, 2017
Project: 23270051 2017 2110

4D CenterPoint Energy MBLC Replacement –Golden Valley, MN BCWMC 2017-03

Summary:

Proposed Work: Installation of approximately 2,628 feet of 24-inch-diameter natural gas pipeline.

Basis for Commission Review: Work in floodplain; Open trench installation of pipeline requiring disturbance of bed and banks of Bassett Creek

Impervious Surface Area: No change

Recommendation: Conditional Approval

General Background & Comments

The proposed project will involve the installation of approximately 2,628 feet of 24-inch-diameter natural gas pipeline. Project activities will take place within a 45-foot wide corridor. Approximately 250 feet of pipeline will be installed under an existing railroad right-of-way using the auger bore method. The remainder of the pipeline will be installed using the open trench method, including approximately 40 feet of pipeline to be installed under Bassett Creek. The project is located in the Bassett Creek Main Stem subwatershed. The proposed project includes 2.50 acres of grading and will result in no change in impervious surface. Approximately 0.28 acres will be reconstructed as part of the proposed project.

Floodplain

The proposed installation under Bassett Creek is located approximately 200 feet downstream of Golden Valley Road and 400 feet upstream of the confluence with the Sweeney Lake Branch of Bassett Creek. The current Bassett Creek (TP40 precipitation) floodplain elevation is 827.2 feet NGVD29, on the downstream side of Golden Valley Road. The updated, but not yet adopted, XPSWMM floodplain elevation (Atlas 14 precipitation) is 828.1 feet NAVD 88 downstream of Golden Valley Road.

Approximately 225 feet of the project will be located in the Bassett Creek floodplain. CenterPoint Energy is proposing to install temporary dams, designed so the top elevation of the dam will be below the upstream flood elevation, to prevent flooding in the event that an unanticipated significant rain event occurs. Upon completion of construction activities, CenterPoint Energy is proposing to return the project area to preconstruction contours and conditions. The bed and banks of Bassett Creek will be restored in

collaboration with the City of Golden Valley, Bassett Creek Watershed Management Commission, and the Minneapolis Parks and Recreation Board. Streambed restoration activities will include the placement of flexible concrete mats to protect the pipeline from scouring and damage. The top of the protective material will be at the same elevation as the former stream bed so there will be no change in the stream bed elevation.

Wetlands

The project appears to involve work adjacent to wetlands. The City of Golden Valley is the LGU for administering the Minnesota Wetland Conservation Act of 1991.

Stormwater Management

The drainage patterns under existing and proposed conditions will remain the same; this project will not result in changes to land use or topography.

Diversion and Dewatering

CenterPoint Energy proposes to cross Bassett Creek using the open trench method. Temporary dams and diversion culverts will likely be installed to redirect surface water around the project area to maintain a dry workspace. Sand bags and/or sheet piling will be utilized to construct the temporary dams upstream and downstream of the project area. The temporary diversion culverts will be installed within the existing creek bed. The final locations for the dams and diversion culverts will be determined at the time of construction. The natural gas pipeline crossing of Bassett Creek is estimated to be completed in 48 hours. Prior to placing the temporary dams in Bassett Creek, the weather forecast will be reviewed to finalize the pipeline installation schedule. This will allow the work to be completed at a time when Bassett Creek should be close to base flow conditions.

Permitting

CenterPoint Energy is in the process of obtaining a Water Appropriation Permit from the Department of Natural Resources, which is anticipated to be received in March 2017. CenterPoint Energy has received notice of coverage from the Minnesota Pollution Control Agency (MPCA) under National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permit No. MN 0063649 for discharges. Activities authorized under this permit consist of the discharge of waters used to test the structural integrity of new and existing pipelines; dewatering from trenches when required to remove groundwater, infiltration and/or precipitation runoff hampering construction activities; and stormwater associated with construction activities. This proposed creek crossing work is authorized under Category C of the U.S. Army Corps of Engineers (USACE) Regional General Permit 003-MN. CenterPoint Energy has received a fully executed Utility Crossing License No. UWAT010843 from the Minnesota Department of Natural Resources Division of Lands and Minerals for the crossing of Bassett Creek using the open trench method.

Water Quality Management

The project results in 0.28 acres of fully reconstructed impervious surfaces. Therefore, based on the September 2015 BCWMC Requirements for Improvements and Development Proposals, water quality treatment in accordance with MIDS is not required.

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 erosion control blanket, silt fence, sediment barrier (floating silt curtain), plastic sheeting, mulch logs, storm drain inlet protection, and sediment tracking pads (construction entrances).

Permanent erosion and scour protection features include articulated concrete matting to be placed over the installed pipeline and keyed into the creek banks.

Recommendation

Conditional approval based on the following comments:

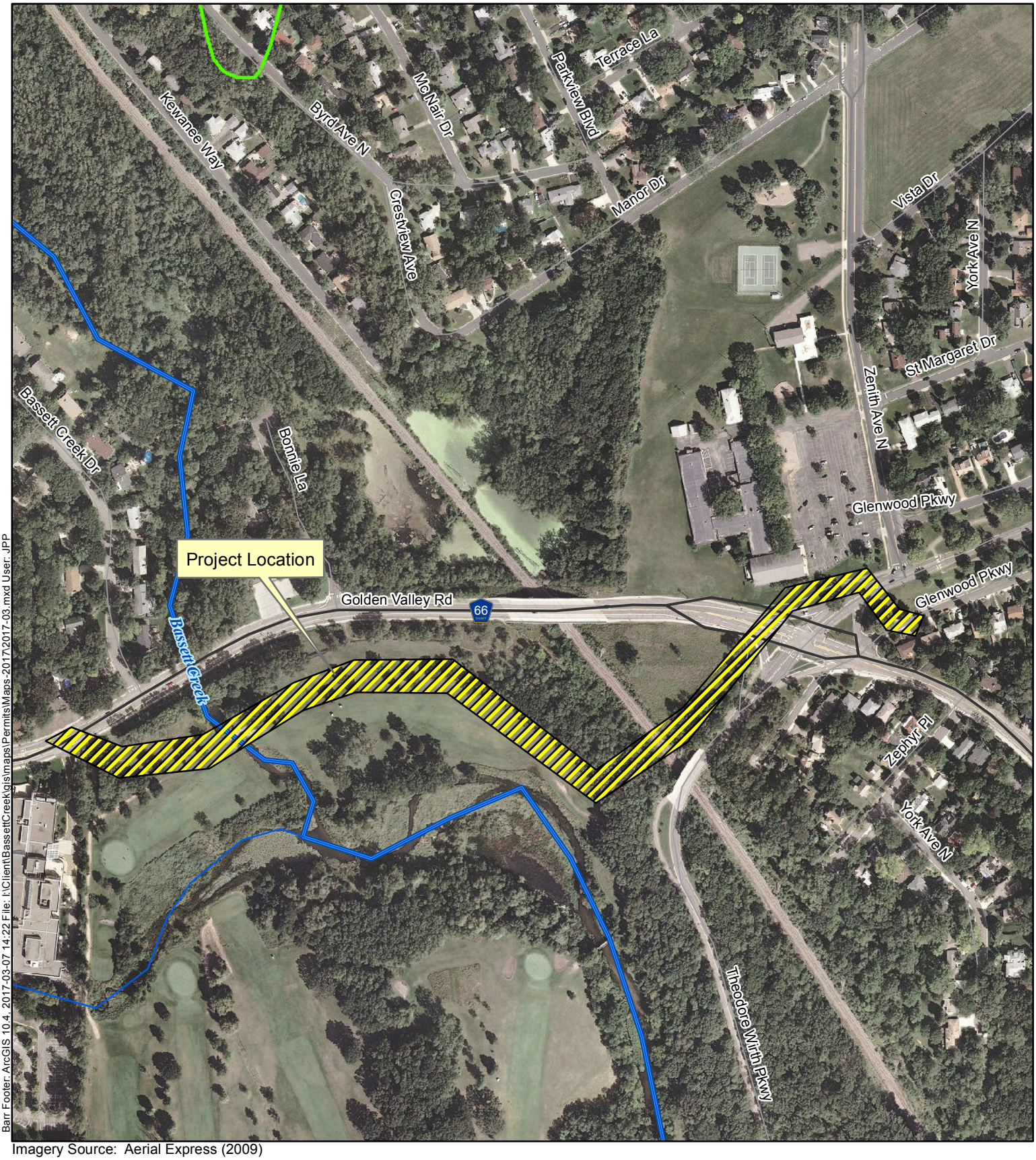
1. We recommend the applicant consider directional boring, jacking, or auguring the pipeline at a minimum depth of four (4) feet below the stream bed at the Bassett Creek crossing to avoid disturbing the creek banks and channel.
2. We recommend burying the concrete mat and installing approximately two (2) feet of native streambed material above the concrete mat to maintain the natural channel and minimize scour along the channel banks.
3. Clarify the depth of embedment of the proposed concrete mat keys and provide documentation that the proposed concrete mat is adequately designed for the anticipated flows and velocities of the creek.
4. Erosion and sediment control information must be provided on the plans, including but not limited to:
    - Erosion control blanket locations and installation details.
    - Silt fence location and installation details.
    - Sediment barrier locations and installation details.
    - Mulch log locations and installation details.
    - Storm drain inlet protection locations and installation details.
    - Sediment tracking pad (construction entrance) locations and installation details.
    - Other BMP locations and details.
    - The following erosion and sediment control notes must be added to the plans:
        i. Require that soils tracked from the site be removed from all paved surfaces within 24 hours of discovery throughout the duration of construction.

ii. Require that temporary or permanent mulch be uniformly applied by mechanical or hydraulic means and stabilized by disc-anchoring or use hydraulic soil stabilizers.

iii. Provide a temporary vegetative cover consisting of a suitable, fast-growing, dense grass seed mix spread at a minimum at the MnDOT-specified rate per acre. If temporary cover is to remain in place beyond the present growing season, two-thirds of the seed mix shall be composed of perennial grasses.

iv. Specify a permanent vegetation cover consisting of sod, a suitable grass-seed mixture, or a combination thereof. On slopes greater than or equal to 3 feet horizontal: 1 foot vertical, seeded areas shall be either mulched or covered by fibrous blankets to protect seeds and limit erosion.

5. Revised drawings (paper copy and final electronic files) must be provided to the BCWMC Engineer for final review and administrative approval.



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Imagery Source: Aerial Express (2009)

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

N

Feet

0 200 400 600

Bassett Creek Watershed Management Commission

LOCATION MAP
APPLICATION 2017-03
CenterPoint Energy MBLC Replacement
Golden Valley, MN