

Engineer's Report

December 8, 2021

Lake Cornelia and Lake Edina Water Quality Improvements- Rosland Park Stormwater Filtration BMP

Pember Companies Inc. has made good progress on construction of the Rosland Park Stormwater Filtration BMP since they began on September 30, 2021. Construction tasks completed over the last month include the installation of the reinforced concrete for the vault, insallation of additional nyloplast structures and associated storm sewer pipe, filtration vault draintile, concrete curb and bituminous pavement installation. Barr continues to coordinate with Pember on shop drawing and material submittals and schedule changes.

Barr received Pay Application #3 from Pember for \$306,520.35 for work completed through November 23, 2021. The pay application includes sediment/erosion control, bituminous pavement removal and installation, concrete curb and gutter, storm sewer structures and piping, and reinforced concrete. Barr is recommending payment of Pay Application #3.



Concrete walls for filtration vault completed



Filtration vault drainfile installation



Curb and gutter installation



Bituminous pavement installation

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Lake Cornelia and Lake Edina Water Quality Improvements: *Lynmar Basin Stormwater Retrofit Feasibility Study*

Soil borings have been completed by Haugo Geotechnical and soil sample analysis is being completed. Barr staff are assessing the soil boring data with regard to site infiltration potential and to perform a groundwater mounding analysis. The groundwater mounding analysis is to assess the potential impacts of increased stormwater runoff infiltration on localized groundwater levels and basements of surrounding houses.

Upon completion of the groundwater mounding analysis, Barr will conduct a basin sizing analysis to evaluate the costs and benefits of capturing additional stormwater in Lynmar Basin. We anticipate that results of the analyses will be shared with District and City of Edina staff for discussion in early-January, then summarized in a feasibility report to be presented to the District in January.

Site surveying has also been contracted with Sunde Land Surveying and will be taking place in the coming weeks. This survey information will be used for final design upon completion of the feasibility study and ordering of the project.



Soil borings were performed on-site using a small truck mounted borer. Four borings in total were completed. Barr staff observed drilling on-site.

Non-Profit Sites Stormwater BMP Retrofit Project

Final project close-out is nearing completion. Final payment has been approved and upon receiving final documents from Sunram, the project will be completed.

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Arrowhead Lake and Indianhead Lake Use Attainability Analysis/Water Quality Study

Activities for the Arrowhead Lake and Indianhead Lake Use Attainability Analyses (UAA) updates are progressing. In November, Barr made updates to the proposed lake best management practices' models, which include management of internal sediment loading, watershed nitrogen management, stopping copper sulfate algal treatments, promoting vegetation growth, and performing street sweeping. Opportunities for other external management practices are limited in the Arrowhead and Indianhead Lake watersheds since they are highly residential and fully developed. Barr also started the draft report summarizing the findings of the water quality study. Barr plans to submit the draft report for review by the District and City of Edina in January. A second public engagement meeting is anticipated in February to share the results with interested residents. The report will be finalized following the public engagement meeting.

Holiday-Wing-Rose Chain of Lakes Use Attainability Analysis/Water Quality Study

Activities for the Holiday-Wing-Rose Chain of Lakes Use Attainability Analysis (UAA) Update are progressing. In November, Barr made updates to the proposed lake best management practices' models, which include management of internal sediment loading, watershed nitrogen management, stopping copper sulfate algal treatments, promoting vegetation growth, performing street sweeping and installation of a filtration BMP near the Lake Holiday pumped outlet. Opportunities for other external management practices are limited in the Holiday, Wing, and Rose watersheds since they are highly residential and fully developed. Barr plans to develop the draft report in the upcoming months and submit for review by NMCWD and the City of Minnetonka in February. A second public engagement meeting is anticipated in March to share the results with interested residents. The report will be finalized following the public engagement meeting.

Edina Streambank Stabilization – Phase 2

We are working with the District's legal advisor and Sunram on the final close-out paperwork prior to release of the final payment to the contractor.

Bush Lake Shoreline Vegetation Management

No new activities this month.

Atlas 14 Flood Risk and Resiliency, Phase II

November was a productive month for the Barr team finalizing deliverables in preparation of final reporting and our final project TAC and Board meetings. Barr completed incorporation and final QA/QC of stakeholder comments and began generation and review of final flood mapping and flood impact deliverables. Completion of final flood impact mapping will allow us to begin our District-wide analysis of surface flood damage cost, which will be our primary modeling task as we enter the month of December.

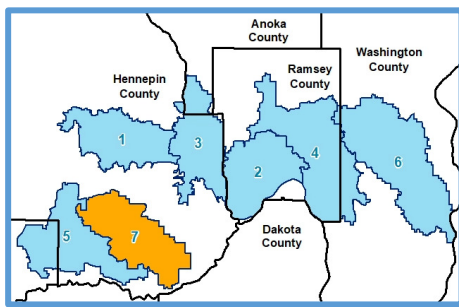
In addition to processing and review of final modeling results, Barr made significant progress on developing a draft scope of work to guide the District's next steps in Phase 3 of the Atlas 14 Flood Risk

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and Resiliency project. The Board had indicated interest in hearing about what other watershed districts (WD) and watershed management organizations (WMO) within the metro area are doing regarding Atlas 14 flood mitigation planning and implementation, and how they are defining their role(s) in this effort. To this effort, Barr convened a meeting with our engineering staff familiar with various WD/WMOs to discuss the roles and activities being undertaken by the various organizations (see figure below), and shared information gained from this meeting at the November 17th regular Board meeting.

As we enter the month of December, major project tasks include (a) finalizing flood inundation and impact mapping, (b) performing surface flood damage cost analysis watershed-wide, and (c) finalizing Phase 3 scoping. We anticipate sharing results related to final flood mapping and flood damage cost analysis with the Technical Advisory Committee (TAC) at our final Phase 2 project TAC meeting on December 17th.



1 = BCWMC
2 = CRWD
3 = MWMO
4 = RWMWD
5 = RPBCWD
6 = VBWD
7 = NMCWD

Barr recently convened a meeting with our engineering staff familiar with various WD/WMO organizations to summarize and discuss the roles and activities being undertaken by these organizations regarding Atlas 14 flood mitigation planning. This excerpt from a November 17, 2021 presentation to the NMCWD Board shows the watershed management organizations that were discussed during that meeting.

Wetland Conservation Act (WCA) and NMCWD Wetland Rule Administration

Work administering the WCA and NMCWD wetland rule in recent weeks included:

- TC&W RR – preparing and submitting WCA Notice of Decision for wetland boundary and type approval
- Blue Stem, Eden Prairie –reviewing MNRAM and responding to questions
- Three Rivers Bryant Lake culvert –preparing and submitting revised WCA exemption Notice of Decision
- Interlachen Country Club, Edina –preparing and submitting WCA Notice of Decision for wetland boundary and type approval
- Other miscellaneous program administration