



Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co. (Barr)
Subject: Item 5E – Marsh Run Apartments – Minnetonka, MN
BCWMC May 16, 2019 Meeting Agenda
Date: May 8, 2019
Project: 23270051 2019 2183

5E Marsh Run Apartments – Minnetonka, MN BCWMC 2019-06

Summary:

Proposed Work: 175-unit multifamily housing facility and associated site work
Basis for Re-Review at Commission Meeting: Use of different alternative BMP
Impervious Surface Area: Increase 0.53
Recommendation: Conditional re-approval

Background

The Commission reviewed and conditionally approved this proposed project at their April 18, 2019 meeting. Since the conditional approval at the April 18, 2019 meeting, the applicant has worked with the BCWMC Engineer to address the conditions of approval, but has been unable to demonstrate compliance to the BCWMC water quality requirements using Contech Jellyfish filters as part of the stormwater treatment system. The applicant is proposing to replace the Contech Jellyfish filters with Contech StormFilters to meet the BCWMC water quality requirements.

This memo summarizes only the general project information and revised water quality management information. The other information, previously provided in the April memo, is unchanged.

General Project Information

The proposed project is located on the border of the Bassett Creek Main Stem and Medicine Lake South subwatersheds in the northeast quadrant of the intersection of Wayzata Boulevard and Fairfield Road in Minnetonka. The proposed project includes redevelopment of the parcel from a commercial office park to a 175-unit multifamily residential housing facility resulting in 2.47 acres of grading (disturbance). The proposed project creates 1.87 acres of new and fully reconstructed impervious surfaces, including 1.34 acres of fully reconstructed impervious surfaces and an increase of 0.53 acres of impervious surfaces, from 1.34 acres (existing) to 1.87 acres (proposed). The proposed project will result in a change of land use and zoning from commercial to multifamily residential.

Water Quality Management

The BCWMC Requirements document states that projects that contain more than one acre of new or fully reconstructed impervious area must treat stormwater in accordance with the BCWMC water quality performance goals. If the BCWMC water quality performance goal is not feasible and/or is not allowed for a proposed project, then the project proposer must implement BCWMC flexible treatment options. As shown below, the proposed stormwater management system meets BCWMC water quality requirements.

The proposed project creates 1.74 acres of new and fully reconstructed impervious surfaces. Flexible Treatment Option (FTO) #2 was selected for the proposed project due to the presence of tight clay soils that are not conducive to infiltration. FTO #2 requires that the project provide 60% removal of total phosphorus (TP). The applicant designed a stormwater management system that includes stormwater reuse as irrigation and stormwater filtration using a proprietary device (Contech StormFilter). The applicant used the minimal impact design standards (MIDS) calculator to quantify the overall TP removals for the proposed project and used the “other” BMP for the two Contech StormFilters. The applicant manually input the expected pollutant removal efficiencies, provided by the manufacturer, into the MIDS calculator to evaluate the BMPs. The BCWMC Engineer reviewed available third party testing for the proprietary BMP. Table 1 summarizes the annual TP loading and TP removals for the proposed BMPs. Modifications, as required by the comments, are expected to result in approximately the values listed in the BCWMC Engineer Estimate columns in Table 1, which meet the BCWMC requirements for water quality.

Table 1: Summary of TP Removal and TP Removal Efficiency for Proposed BMPs

BMP	Applicant-Provided Information			BCWMC Engineer Estimate		
	TP Loading (lbs/year)	TP Removal (lbs/year)	Percent Removal (%)	TP Loading (lbs/year)	TP Removal (lbs/year)	Percent Removal (%)
Sump and SAFL Baffle – CBMH 301	1.97	0.27	14	<i>no change</i>		
Stormwater Reuse for Irrigation	1.74	0.53	31	<i>no change</i>		
Sump and SAFL Baffle – STMH 404	0.47	0.07	14	<i>no change</i>		
StormFilter – North	1.61	1.01	63	1.61	0.88	54
Sump and SAFL Baffle – CBMH 105	0.14	0.003	2	<i>no change</i>		
StormFilter – South	0.89	0.58	65	0.89	0.52	58
Total ¹	3.41	2.46	72	3.52	2.27	64

¹ The stormwater treatment system includes a treatment train, therefore the totals are not a direct summation of each BMP.

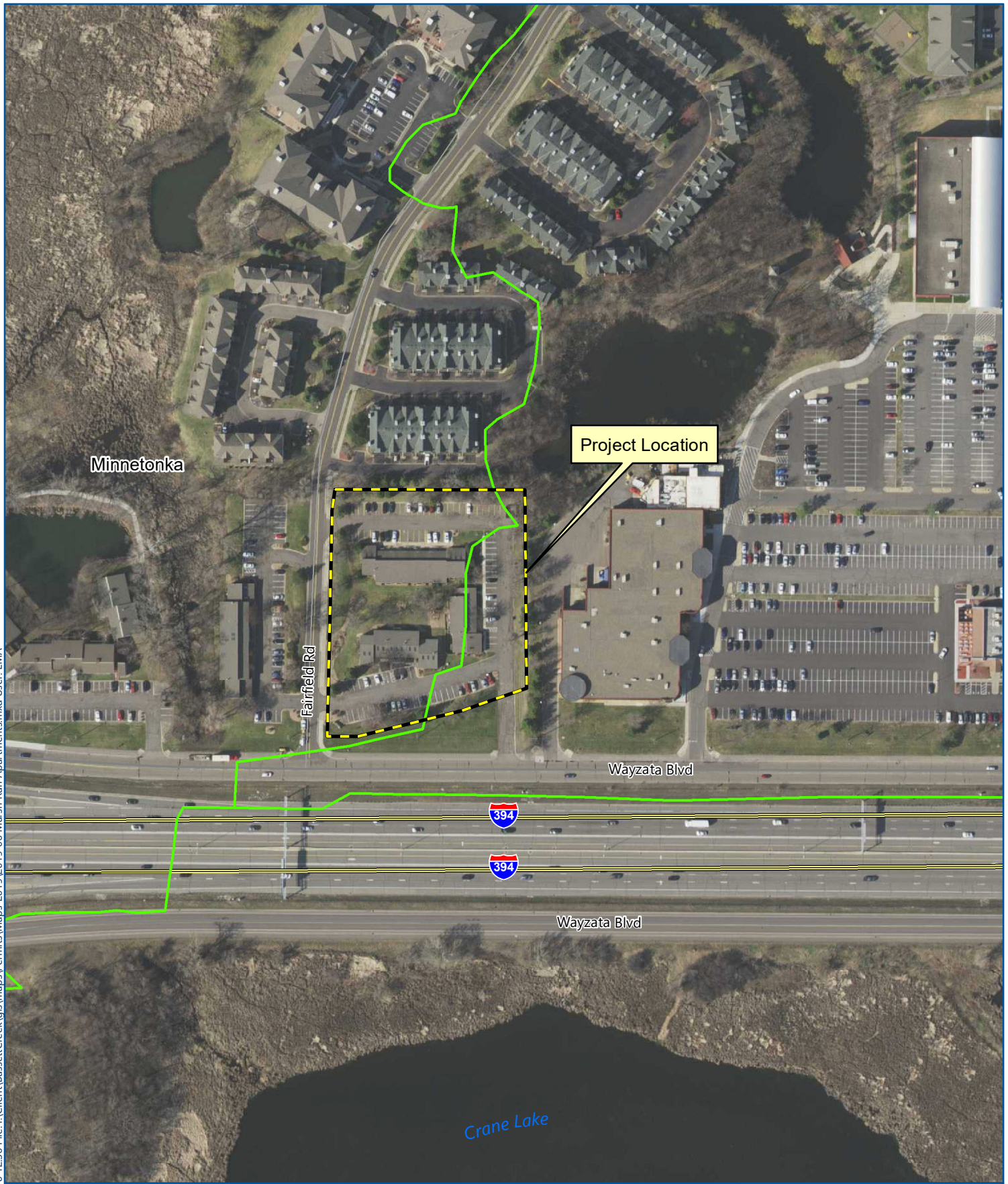
Recommendation






A. Conditional re-approval based on the following comments:

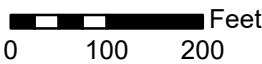
- 1) The proposed project must remove 60% of the total phosphorus from the new and fully reconstructed impervious surfaces. The proposed project includes 1.74 acres of new and fully reconstructed impervious surfaces, however 1.68 acres of impervious surfaces are included in the MIDS calculator. The additional new and fully reconstructed impervious surfaces must be included in the calculation for water quality treatment.
- 2) The BCWMC Engineer received previous documentation suggesting that the StormFilter provides 84% removal of particulate phosphorus and 27% removal of dissolved phosphorus for a total phosphorus removal, when used in MIDS, of approximately 58%. The removal efficiencies in the MIDS calculator must be modified accordingly or additional documentation must be provided to support the removal efficiencies used by the applicant in the MIDS calculator.
- 3) A maintenance agreement must be established between the property owner and the City of Minnetonka for the stormwater management BMPs.
- 4) Revised plans and/or supporting documentation (paper copy and final electronic files) must be provided to the BCWMC Engineer for final review and approval.

B. Re-consider the requirement of monitoring for the proposed proprietary stormwater treatment devices.

- 1) At their April 18, 2019 meeting, the Commission added a monitoring requirement for the Contech Jellyfish Filter as part of the conditional approval. This requirement was included, in part, due to the Commission's concerns that the Contech Jellyfish Filter would not provide the intended treatment. It was unclear whether the Commission added the monitoring requirement due to the Contech Jellyfish Filter specifically, or due to the use of a proprietary stormwater treatment device in general.



-  Project Location
-  Municipality
-  BCWMC Legal Boundary
-  Major Subwatershed
-  Bassett Creek



BCWMC #2019-06
 MARSH RUN APARTMENTS
 11650 Wayzata Blvd
 Minnetonka, MN

LOCATION MAP