# memo

Project Name	BCWD Permit 25-03 Lakeview Hospital	Date   05/12/2025	
To / Contact info	BCWD Board of Managers		
Cc / Contact info	Trevor Gruys, PE / Loucks, Inc.		
Cc / Contact info	Karen Kill, Administrator / BCWD		
From / Contact info	Camilla Correll, PE; Stu Grubb, PG; Paul Nation; Julia Lau, EIT	; John Sarafolean / EOR	
Regarding	Permit Application No. 25-03 Engineer's Report		

The following review was prepared for purposes of the engineer's recommendation to the Board of Managers for its determination of the permit application.

Applicant: HealthPartners Permit Submittal Date: 4/29/2025 Completeness Determination: 4/29/2025 Board Action Required By: 06/28/2025 Review based on BCWD Rules effective April 1, 2020 Recommendation: Approve with Conditions

## **GENERAL COMMENTS**

Health Partners has applied for a BCWD permit for the Lakeview Hospital project on four parcels north of Trunk Highway 36 and east of Manning Ave N, encompassing a total of 66 acres.

Existing Conditions: The existing project area includes a commercial building, laydown yard, and dirt roads, with five Manage 2 wetlands (see Figure 2). The total existing impervious area is 6.43 acres. There are three discharge points from the existing site, all of which flow to Long Lake. The majority of the site,62.34 acres, flows toward Wetland 2 where the discharge flows north, directly to Long Lake. One 0.76-acre subcatchment discharges west, directly to the storm sewer on Manning Ave N, and the remaining 2.92 acres on the northwest corner of the site discharge to the ditch on 62<sup>nd</sup> Street N.

<u>Proposed Conditions</u>: The applicant proposes to construct a hospital building, a parking lot, and bituminous roadway and trail, reconstruct an existing, bituminous roadway, a bituminous trail, and will establish a 4.45-acre prairie, and stormwater management facilities (Figure 1). The City of Stillwater is requiring a zoning amendment and a conditional use permit for the project. Two of the five wetlands onsite will be impacted by the development; Wetland 5 will be filled, and Wetland 3 will be partially filled. The drainage area for Manning discharge point will be decreased to 0.07 acres and the 62<sup>nd</sup> will be decreased to 0.11 acres, where the remaining area is redirected toward Wetland 2. The general flow paths for the rest of the site will remain unchanged (Figure 2, which includes information on wetland size). The project will disturb 49 acres and result in the construction of 18.99 acres of impervious surface, including 1.02 acres of redeveloped linear impervious surface.

**<u>Recommendation</u>**: The BCWD engineer recommends that the board approve the application with the conditions and stipulations outlined in the report.

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Figure 1: Site Plan

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Figure 2: Site Drainage Pattern

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## Rule 2.0—STORMWATER MANAGEMENT

The proposed project triggers the application of Rule 2.0 Stormwater Management because it creates one or more acres of new and/or reconstructed impervious surface (paragraph 2.2(b)). The site is located within the Diversion Structure Subwatershed, so the stormwater criteria in subsection 2.4.1(b) apply.

*The stormwater management plan for the project includes:* 

- Six infiltration/bioretention basins
- Two lined biofiltration basins
- One wet pond with an infiltration bench
- One bioswale
- Six proprietary stormwater pretreatment devices structures to act as pre-treatment for the proposed infiltration/bioretention basins
- Twenty-six sump structures to act as pre-treatment for the proposed infiltration/bioretention basins
- Prairie restoration which reduces stormwater runoff by restoring soil health (i.e. decompaction to a minimum depth of 12 inches and incorporation of three inches of compost into the soil and the planting of native vegetation) and allowing for a lower curve number in the HydroCAD model.

## Rate Control

According to BCWD Rule 2.4.1(b)(i), an applicant must submit a stormwater-management plan providing no increase in the existing peak stormwater flow rates from the site for a 24-hour precipitation event with a return frequency of two, 10 or 100 years for all points where discharges leave the site.

 $\boxtimes$  Rule Requirement Met

The stormwater management plan developed for the site was evaluated using a HydroCAD model of existing and post-development site conditions. A comparison of the modeled peak flow rates for each discharge point is included in Table 1. All discharge points show a decrease in rate in the modeling results submitted by the applicant.

Table 1 - Teak Runon Rates at Lach Discharge Font					
Disch	arge Point	2-year (2.80")	10-year (4.17")	100-year (7.23")	
Monning	Existing (cfs)	2.35	3.84	7.19	
Manning	Proposed (cfs)	0.20	0.33	0.63	
62nd	Existing (cfs)	1.94	2.95	6.05	
0211u	Proposed (cfs)	0.07	0.10	0.18	
Watland 2	Existing (cfs)	21.23	43.44	119.44	
wetland 2	Proposed (cfs)	20.91	38.86	116.22	

Table 1	-	Peak Runoff	Rates	at Each	Discharge	Point
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# Volume Control

According to BCWD Rule 2.4.1(b)(ii), an applicant must submit a stormwater-management plan providing retention onsite of 1.1 inches of stormwater volume from the regulated impervious surface.

#### ⊠ Rule Requirement Met

To meet the BCWD volume control requirement the applicant proposes six infiltration/bioretention basins, an infiltration bench east of the wet pond, and restoration of a prairie. Geotechnical analysis (soil borings, test pits, and hydrometer analyses) confirmed the presence of sandier materials and supports the infiltration rates used for the infiltration/bioretention basins and the infiltration bench. A groundwater mounding analysis confirms that the volume of stormwater runoff being infiltrated in this facility will not interfere with the performance of the basin. Minor modifications to the construction plan details are required to facilitate the construction of these BMPs as designed. A summary of the required stormater volume is included in Table 2a, and a summary of the stormwater volume being provided by BMP is provided in Table 2b.

Table 2a - Discharge Volume					
Impervious Surface Area (acres)	Required Volume (cf)	Provided Volume (cf)			
18.99	75,827	76,730			

#### Table 2b. Summary of Volume Control by BMP

BMP	Provided Volume (cf)
One (1) Infiltration Basin (Bench) (Pond 10)	59,112
Six (6) Biofiltration/Infiltration Basins (Ponds 1, 2, 3, 4, 5, 6)	15,573
Prairie Restoration (Buffer Side Slopes, Wetlands 2, 3, 4)	2,045
TOTAL	76,730

#### **Infiltration Pretreatment**

According to BCWD Rule 2.5.2, surface flows to infiltration facilities must be pretreated for long-term removal of at least 50 percent of sediment loads.

⊠ Rule Requirement Met

There are six infiltration/bioretention BMPs and an infiltration bench, all of which require pretreatment for runoff directed to these facilities.

All of the stormwater runoff will be routed to the infiltration bench. As stormwater runoff makes its way to the infiltration bench, it travels through a series of smaller best management practices, where it is treated along the way (i.e., a treatment train approach). Rain Guardians and storm sewer manhole sump structures will be used as pre-treatment for infiltration/bioretention basins upstream in the treatment train. The applicant submitted total suspended solids (TSS) inflow loading with Minimal Impact Design Standards modeling and TSS pretreatment reduction using software for Sizing *Hydrodynamic Separators and Manholes (SHSAM),, demonstrating compliance with Rule 2.5.2. The pretreatment requirement is met with more than 50 percent reduction in each basin, as shown in Table 3.* 

Basin	Pretreatment Practices	TSS Inflow Loading (lb/yr)	TSS Pretreatment Reduction (%)
1	7 sumps	1070.70	50.90
2	1 Rain Guardian, 1 sump	286.76	62.50
3	1 Rain Guardian, 1 sump	128.97	62.71
4	2 Rain Guardians	591.30	72.24
5	4 sumps	460.91	53.56
6	6 sumps	917.90	51.42
10	Sedimentation Basin, 1 CDS Structure	3036.25	75.99

<b>Table 3 -</b> Infiltration Basin Pretreatment
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## Lake/Wetland Bounce

According to BCWD Rule 2.4.1(b)(iii), an applicant must submit a stormwater-management plan providing no increase in the bounce in water level or duration of inundation for a 24-hour precipitation event with a return frequency of two, 10 or 100 years in the subwatershed in which the site is located, for any downstream lake or wetland beyond the limit specified in Appendix 2.1.

⊠ Rule Requirement Met

The five wetlands onsite receive runoff from the site. A HydroCAD model was provided to demonstrate compliance with Rule 2.4.1(b)(iii). As shown in Table 4, the proposed stormwater-management plan meets BCWD wetland bounce requirements because the high-water level in each wetland either decreases or stays the same for the 2-, 10-, and 100-year storms. Comparison of the hydrographs in Table 5 demonstrates that the period of inundation at each wetland decreases.

		2-year 10-year			100-year		
Waterbody	Management Category	Pre- development	Pre- velopment Proposed Pre- development P		Proposed	Pre- development	Proposed
Wetland 1	2	907.72	905.60	908.08	907.27	908.90	908.05
Wetland 2	2	900.38	900.37	901.22	901.08	903.19	903.12
Wetland 3	2	900.38	900.37	901.23	901.09	903.20	903.12
Wetland 4	2	920.90	920.75	921.16	920.94	921.70	921.31
Wetland 5	2	971.41	Filled	971.64	Filled	972.14	Filled

Table 4 - Downstream Wetland High Water Levels (ft)

		2-year		10-year		100-year	
Waterbody	dy Management Pre- Category development Propos		Proposed	Pre- development	Proposed	Pre- development	Proposed
Wetland 1	2	501.0	253.0	504.0	455.0	506.5	501.5
Wetland 2	2	453.5	452.5	462.0	461.0	464.0	462.5
Wetland 3	2	231.0	230.0	239.5	238.0	241.0	240.0
Wetland 4	2	4.5	1.5	6.5	11.0	9.0	14.5
Wetland 5	2	86.5	Filled	90.5	Filled	92.0	Filled

**Table 5 -** Downstream Wetland Inundation Period (hours)

## Rule 2.0 Conditions:

- 2-1. Provide BCWD with the final Civil Plan Set prior to start of construction. (BCWD 2.7.9)
- 2-2. Provide a stormwater facility maintenance declaration in a form acceptable to the District and proof of recordation with Washington County. A template is available under the permit section of the District's website. The maintenance declaration must be recorded on the deed to the site after a draft is approved by the District (BCWD Rule 2.6).
- 2-3. Provide documentation as to the status of a National Pollutant Discharge Elimination System stormwater permit for the project from the Minnesota pollution Control Agency and provide the storm water pollution prevention plan as it becomes available (BCWD Rule 2.7.15).
- 2-4. Update the Sedimentation/bioretention basin10 plan view detail to correctly portray that the stormwater facility is a sedimentation/infiltration basin.
- 2-5. Add a note to the sedimentation/infiltration basin 10 plan view detail that states that the soils in the area of sedimentation/infiltration basin 10 cannot be over-excavated and removed.

## Rule 3.0—EROSION CONTROL

According to BCWD Rule 3.2, all persons undertaking any grading, filling, or other land-altering activities which involve movement of more than fifty (50) cubic yards of earth or removal of vegetative cover on five thousand (5,000) square feet or more of land must submit an erosion control plan to the District, and secure a permit from the District approving the erosion control plan. *The proposed project triggers the application of Rule 3.0 Erosion Control because of land altering activities will disturb 49 acres*.

Rule Requirements Met <u>with Conditions</u>

The erosion and sediment control plan includes:

- Construction entrance/exits
- Silt fence (standard & heavy duty) perimeter control
- Sediment control logs4
- Inlet protection
- *Rip rap at pipe outlets*

- Erosion control blanket
- Tree protection fencing
- Temporary sedimentation basin & dewatering device
- Temporary stabilization and seeding measures
- Prefabricated concrete washout facility
- Permanent landscaping/restoration plan

The following conditions must be addressed in the erosion and sediment control plan to comply with the District's requirements:

#### Rule 3.0 Conditions:

- 3-1. Provide the contact information for the erosion and sediment control responsible party during construction once a contractor is selected. Provide the District with contact information for the Erosion Control Supervisor and the construction schedule when available (BCWD 3.3.2).
- 3-2. Add a detail for tree planting on slopes, trees should be planted on a level shelf.
- 3-3. Include/note the specific seed mixes on the plan set.

#### Rule 4.0—LAKE, STREAM, AND WETLAND BUFFER REQUIREMENTS

According to BCWD Rule 4.2.1, Rule 4.0 applies to land that is (a) adjacent to Brown's Creek; a tributary of Brown's Creek designated as a public water pursuant to Minnesota Statutes section 103G.005, subdivision 15; a lake, as defined in these rules; a wetland one acre or larger; or a groundwater-dependent natural resource; and (b) that has been either (i) subdivided or (ii) subject to a new primary use for which a necessary rezoning, conditional use permit, special-use permit or variance has been approved on or after April 9, 2007, (for wetlands and groundwater-dependent natural resources) or January 1, 2000 (for other waters).

⊠ Rule Requirements Met with Conditions

Rule 4.0 applies to the site because the property is being subdivided to a new primary use for which rezoning and a conditional use permit is required and there are wetlands greater than 1 acre on the property (4.2.1). There are a total of five wetlands onsite. Fifty-foot buffers will be created around wetlands 2, 3, and 4 as they are all larger than one acre and categorized as Manage 2. Wetland 1 is smaller than an acre and Wetland 5 is being filled in for construction of the Curve Crest Boulevard. The buffers for wetlands 2, 3, and 4 all encounter steep slope conditions of over 12% and have been extended to the top of the steep slopes, as shown in green in Figure 3 below.



Figure 3: Extended Wetland Buffers in Steep Slope Conditions

Under Rule 4.4.1, at the time a buffer is created under Rule 4.0, the District may require a planting or landscaping plan to establish adequate native vegetative cover for area that (a) has vegetation composed more than 30 percent of undesirable plant species (including, but not limited to reed canary grass, common buckthorn, purple loosestrife, leafy spurge, bull thistle, or other noxious weeds); or (b) consists more than 10 percent of bare or disturbed soil or turf grass.

A buffer assessment and restoration plan has been submitted for wetlands 2, 3, and 4. Steep slope areas that were not accounted for at the time of the creation of the restoration plan will need to be assessed and added to the restoration plan.

Under Rule 4.2.3, a buffer must be indicated by permanent, free-standing markers at the buffer's upland edge and no more than an interval of 200 feet, with a design and text approved by District staff.

- 1. Label sign "Wetland Buffer Zone" rather than "Watershed Buffer Zone".
- 2. Change white lettering to a darker color for legibility.

## **Rule 4.0 Conditions:**

- 4-1. Provide a buffer declaration in a form acceptable to the District and proof of recordation with Washington County. A template is available under the permit section of the District's website. The buffer declaration must be recorded with the County after a draft is approved by the District (BCWD Rule 4.2.2).
- 4-2. Submit a revised buffer monumentation design for review.
- 4-3. The buffer assessment and vegetation management plan needs to be updated with the revised steep slope buffer areas of the latest plan set that were not accounted for in the previous submittal.

## **Rule 5.0—SHORELINE AND STREAMBANK ALTERATIONS**

According to BCWD Rule 5.2, no person may disturb the natural shoreline or streambank partially or wholly below the ordinary high-water mark of a waterbody, without first securing a permit from the District. The proposed filling of wetland 3 onsite will disturb the natural shoreline of the wetland below the ordinary high-water mark, triggering Rule 5.0.

 $\boxtimes$   $\;$  Rule Requirements Met with Conditions

Because the applicant is proposing a bioengineered shoreline for wetland 3, the project design must meet the criteria in subsection 5.3, bioengineering techniques must be used to the extent possible under the following criteria.

- 5.3.1 The resultant project must be structurally stable. Special emphasis will be given to the stability of the toe of slope where traditional engineering techniques may be more appropriate.
- 5.3.2 Native vegetation must be used in all cases. Preferable species include those that form dense root systems or can be planted from cuttings.
- 5.3.3 Bioengineering projects must include a long-term maintenance plan that will ensure that small erosion spots are corrected and native plant materials are successful.

The applicant has provided construction plans that meet the requirements of 5.3.1 and 5.3.2. A native seed mix designed for shoreline restorations with quick establishment times will be established along the disturbed wetland edge up to the proposed road grade. Native trees and shrubs are also being utilized on the shoreline slope for added stabilization.

#### **Rule 5.0 Conditions:**

5-1. Provide documentation of inspections and draft maintenance declaration followed by recordation requirement of the shoreline restoration until establishment to ensure satisfaction of BCWD Rule 5.3.3.

## Rule 6.0—WATERCOURSE AND BASIN CROSSINGS

According to Rule 6.2, no person may use the beds of any waterbody within the District for the placement of roads, highways and utilities without first securing a permit from the District.

□ Rule Not Applicable to Permit. *There are no proposed watercourse or basin crossings.* 

# Rule 7.0—FLOODPLAIN AND DRAINAGE ALTERATIONS

According to Rule 7.2, no person may alter or fill land below the 100-year flood elevation of any waterbody, wetland, or stormwater management basin, or place fill in a landlocked basin, without first obtaining a permit from the District. No person may alter stormwater flows at a property boundary by changing land contours, diverting or obstructing surface or channel flow, or creating a basin outlet, without first obtaining a permit from the District.

☑ Rule Requirements Met Because the applicant is proposing to fill wetland 5 entirely and wetland
 3 in part, i.e., fill land below the 100-year flood elevation of both, Rule 7.0 applies to the project.

According to Rule 7.3.1, floodplain filling must be accompanied by a replacement of flood volume between the ordinary water level and the 100-year flood elevation.

The applicant is proposing to completely fill Wetland 5 and partially fill Wetland 3.Replacement flood storage for Wetland 5 is provided by a small depression upstream of Basin 1between the ordinary water level and the 100-year flood elevation of Wetland 5, exceeding the required replacement storage. Replacement flood storage for Wetland 3 is proposed to be provided by excavating storage along the west side of the wetland between the ordinary water level and the 100-year flood elevation of Wetland 3. Replacement storage for Wetland 3. Replacement flood storage for Wetland 5. Replacement flood storage for Wetland 5. Replacement flood by excavating storage along the west side of the wetland between the ordinary water level and the 100-year flood elevation of Wetland 3. Replacement storage volumes for the two basins are shown below in Table 6.

	Fill Volume	Replacement Storage	Excess Storage Provided
Wetland 3	15,431	20,976	5,545
Wetland 5	4,524	12,632	8,108

Table 6 - Floodplain Replacement Storage (cf)

According to BCWD rule 7.3.2 all new and reconstructed buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the natural overflow of a waterbody; and at least two feet above the 100-year high water elevation of any open stormwater conveyance; and at least two feet above the 100-year high water elevation or one foot above the emergency overflow (EOF) of a constructed basin.

The 100-year high water elevations, EOFs, and lowest adjacent building elevations were evaluated and meet the District's low floor requirement as shown in Table 6. All stormwater BMPs were evaluated for their adjacency to the hospital building. Specifically, BMP location, proximity, and flood routing were evaluated and it has been determined that Wetland 4 is the only adjacent waterbody that needs to be evaluated for freeboard.

Waterbody	Natural Overflow	100-Year HWL	Allowable Basement Floor	Lowest Proposed Basement Floor
Wetland 4	920.9'	921.2'	923.2'	938.0

#### Table 6 - Freeboard Requirement Summary

Under BCWD Rule 7.3.5, the District will issue a permit to alter surface flows under paragraph 7.2 only on a finding that the alteration will not have an unreasonable impact on an upstream or downstream landowner and will not adversely affect flood risk, basin or channel stability, groundwater hydrology, stream baseflow, water quality or aquatic or riparian habitat.

Stormwater rate and water quality will not be altered at the property boundaries as a result of the project. The proposed project will result in a reduction of the stormwater runoff rates and volumes at all discharge points for the 2-, 10-, and 100-year 24-hour rain events. For the 100-year, 24-hour rain event, the runoff volume from the site to Long Lake is reduced by 2.93 ac-ft from existing conditions.

# Rule 8.0—FEES

Fees for this project as outlined below:

	1.	Stormwater management fee	\$3,000
	2.	Erosion control fee for grading	\$2,000
	3.	Shoreline and streambank alterations fee	\$1,500
	4.	Floodplain and drainage alterations fee	\$500
•	тс	OTAL FEES	\$7,000
Ru	le 9	.0—FINANCIAL ASSURANCES	
Fir	anc	ial assurances for this project are as outlined below:	
	1.	Grading or Alteration (48.70 acres disturbed x \$2,000/acre)	\$97,400
	2.	Stormwater Management Facilities (125% of facility cost (\$2,402,080))	\$3,002,600
•	тс	TAL FINANCIAL ASSURANCES	
	(\$5	,000 Minimum Performance Financial Assurance)	\$3,100,000

# Rule 10.0—VARIANCES

According to BCWD Rule 10.0, the Board of Managers may hear requests for variances from the literal provisions of these Rules in instances where their strict enforcement would cause undue hardship because of the circumstances unique to the property under consideration. The Board of Managers may grant variances where it is demonstrated that such action will be in keeping with the spirit and intent of these rules. Variance approval may be conditioned on an applicant's preventing or mitigating adverse impacts from the activity.

□ Rule Not Applicable to Permit. *There are no requested variances.* 

# **RECOMMENDED CONDITIONS OF THE PERMIT:**

The following is a summary of the remaining tasks necessary to bring the project into compliance with the BCWD Rules in all respects other than where variances are requested as discussed above:

- 1. Demonstrate that the plan has received preliminary plat approval (BCWD Rule 1.3a).
- 2. Demonstrate that the plan has completed the Wetland Conservation Act approval process (BCWD Rule 1.3)

- 3. Address all stormwater management requirements (Conditions 2-1 to 2-5).
- 4. Address all erosion control requirements (Conditions 3-1 to 3-3).
- 5. Address all buffer requirements (Conditions 4-1 to 4-3).
- 6. Address all shoreline and streambank alteration requirements (Condition 5-1).
- Replenish the Permit fee deposit to \$36,500 (BCWD Rule 8.0). If the permit fee deposit is not replenished within 60 days of receiving notice that such deposit is due, the permit application or permit will be deemed abandoned and all prior approvals will be revoked and collection proceedings will begin on unpaid balances.
- 8. Provide the required financial assurances (BCWD Rule 9.0):
  - a. Total grading or alteration assurance 48.7 acres (\$97,400).
  - b. Stormwater management facilities assurance (\$3,100,000).

## STIPULATIONS OF APPROVAL:

- 1. Note that the permit, if issued, will require that the applicant notify the District in writing at least three business days prior to commencing land disturbance. (BCWD Rule 3.3.1)
- 2. To ensure that construction is carried out according to the approved plan, provide verification that construction standards have been met for all infiltration basins and pretreatment swales. This includes but is not limited to confirmation that infiltration basin sub-cut reaches soil material reflected in the geotechnical report and that the vegetation establishment procedures have been followed per the landscaping/restoration plan. This can be achieved by scheduling a BCWD inspection during the excavation of the basins, independent geotechnical engineer observation and note of confirmation, or well-documented photographic evidence by the onsite engineer along with collected survey elevations of the basins.
- 3. Provide the District with As-built record drawings showing that the completed grading and stormwater facilities conform to the grading plan.
- 4. Provide the District with proof, such as photographic documentation, of de-compaction and incorporation of compost for all disturbed soils.
- 5. Provide contact information for the party responsible for long-term maintenance of proposed stormwater facilities.