MINNEHAHA CREEK WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE

Meeting: Operations and Programs Committee
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Agenda Item #: 4.2
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Title: Long Lake Creek Subwatershed Update

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Purpose:
At the November 5, 2026, Operations and Programs Committee (OPC) meeting, staff will provide a briefing on the status of planning and implementation of the Long Lake Creek Subwatershed Roadmap, including restoration goals and benefits, project development, partner coordination, and potential financing strategies for the multi-year capital improvement program.

Background:
Since 2018, the cities of Long Lake, Medina, and Orono; Long Lake Waters Association (LLWA); and Minnehaha Creek Watershed District (MCWD) have been working together towards a common goal of improving water quality within the Long Lake Creek Subwatershed's five nutrient-impaired lakes: Holy Name, School, Wolsfeld, Long, and Tanager.

With the support of the partners, MCWD obtained state grant funding and led a subwatershed assessment to provide a strong scientific understanding of the system, identify cost-effective projects and strategies, and develop a clear and actionable roadmap to implement them. This subwatershed assessment was completed in January 2023 and is known as the Long Lake Creek Roadmap (Roadmap). The Roadmap prioritizes regional stormwater treatment, landscape improvements, upstream lake restoration, and eventual in-lake management.

Building on the Roadmap, MCWD has identified a suite of priority projects for implementation between 2027 and the early 2030s (see attached). Together with the completed County Road 6 Pond Retrofit, these investments are estimated to provide approximately 68% of the external reductions needed for restoration, helping Medina, Long Lake and Orono make progress towards their state-assigned phosphorus reduction targets, while also advancing restoration of upstream impaired lakes.

Proposed Project Implementation Sequence:
Although draft, the partners presently anticipate the project implementation sequence below, with the identified years representing the anticipated construction timeline, i.e., implementation following design and funding efforts:

- 2027-2028
  - Downtown Long Lake Highway Pond Retrofit – Long Lake
  - Holy Name Alum Treatment – Medina
- 2028-2029
  - Swamp Lake Restoration (in partnership with Ducks Unlimited) – Medina
  - Nelson Lakeside Park Restoration – Long Lake
  - School Lake Restoration – Medina
- 2029 – 2030
  - Wolsfeld Ravine Stabilization – Medina
  - Long Lake Alum Treatment – Orono

Project Development Updates:
<u>Downtown Long Lake</u>

The Roadmap identified downtown Long Lake as a priority because of its concentrated impervious surface, direct drainage to the Lake, and opportunity to provide regional stormwater treatment. As such, MCWD and Long Lake recently completed the Downtown Long Lake Stormwater Study, which was presented to Long Lake City Council in early August 2026, and subsequently adopted by MCWD in late August 2026. That process resulted in five recommended projects, including two that could be advanced now – Highway Pond Retrofit and Nelson Lakeside Park Restoration – and three that could be integrated into future capital improvement planning as other municipal infrastructure investment or redevelopment occurs. Since adoption, the partners have initiated conversations on implementation funding and financing strategies.

Holy Name Lake Feasibility

As an initial step toward implementing the Long Lake Creek Roadmap's recommendations for upstream lakes, staff have developed a draft internal feasibility assessment for Holy Name Lake. The assessment brings together watershed and sediment phosphorus loading analyses, water quality data, and updated fish and aquatic plant surveys to evaluate management alternatives and identify a path toward implementation. Preliminary findings support advancing alum treatment to address internal phosphorus loading, complemented by continued screening for watershed reduction opportunities, and continued biotic monitoring to guide any additional management needs. An additional goal of this effort was also to pilot a template for future staff-led feasibility assessments, connecting technical findings with project recommendations, external cost estimates, permitting, funding, partner coordination, and effectiveness monitoring to support consistent and efficient advancement of projects.

Swamp Lake Feasibility

Building on the approach developed for Holy Name Lake, MCWD is advancing a feasibility assessment for Swamp Lake to evaluate restoration opportunities and identify a path toward implementation. To support this effort, MCWD has begun developing a partnership with Ducks Unlimited, Inc., a nonprofit organization focused on wetland conservation, habitat restoration, and waterfowl management. In 2026, staff from both organizations identified complementary missions and shared interests in evaluating restoration opportunities at Swamp Lake. The organizations are formalizing this partnership through a Memorandum of Understanding (MOU), which establishes a framework for joint evaluation of restoration strategies, technical coordination, and identification of potential implementation opportunities. The nonbinding MOU does not commit either party to funding or implementation, which would require a separate future agreement.

Ongoing Partner Coordination:

MCWD has recently engaged leadership and staff from Long Lake, Medina and Orono, to build an understanding of the Roadmap, establish near-term priorities, and explore municipal funding participation. The next step is translating this initial alignment into a sustainable framework for funding implementation that aligns with project timeline goals.

Funding and Financing Strategy:

MCWD staff are currently evaluating capital needs for the Long Lake Subwatershed Program in context of funding sources and mechanisms. These include tax levy, state and federal grants, state bonding, municipal capital contributions, county master financing, MCWD capital finance funds, philanthropic and non-profit contributions, and potentially MCWD financing for municipalities.

These mechanisms could be combined to distribute costs, leverage outside investment, and spread local financial obligations over time.

Next Steps:

Staff propose continued coordination with the three municipal partners to refine project sequencing, funding responsibilities, and financing options. The objective is to establish a coordinated implementation framework during the first quarter of 2027, that supports municipal capital planning and provides a foundation for future project authorizations. In addition, MCWD staff will continue to advance upstream feasibility efforts for Holy Name Lake and Swamp Lake, to keep momentum with the draft implementation sequence.

November 5, 2026, OPC Meeting:

Staff will provide an overview presentation and seek feedback and discussion from the Committee on the status of the Long Lake Creek Subwatershed project sequence, municipal coordination, and financing strategy, before continuing next steps with outside partners.

Attachments:

- Long Lake Creek Roadmap: 2026 Restoration Priorities



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LONG LAKE CREEK ROADMAP: 2026 RESTORATION PRIORITIES

The Minnehaha Creek Watershed District (MCWD), with support from state and local partners, developed the 2023 Long Lake Creek Roadmap — a science-based implementation strategy to restore the Long Lake Creek Subwatershed's impaired lakes.

As a companion to the Roadmap, this document summarizes recommended implementation priorities, their expected benefits, and partnership opportunities to advance restoration across the Subwatershed.

Photos Top to Bottom: Holy Name Lake, Wolsfeld Lake, Long Lake

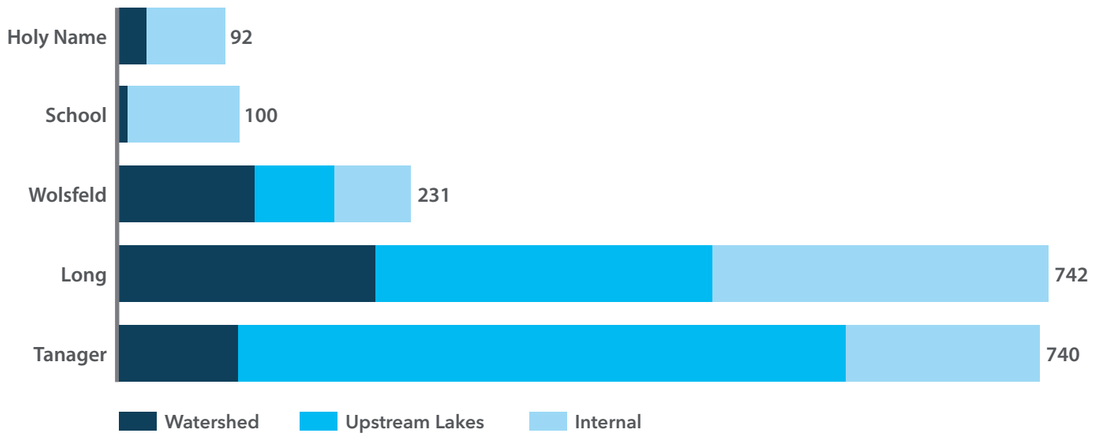
IMPAIRMENTS AND RESTORATION GOALS

Five of the Subwatershed's lakes are impaired for excess phosphorus. The State of Minnesota's 2014 Total Maximum Daily Load (TMDL) study established annual phosphorus reduction goals for each lake, including watershed load targets for the Cities of Medina, Long Lake, and Orono. Using updated monitoring and sediment chemistry, MCWD refined how these reductions should be balanced among watershed, upstream lake, and internal phosphorus sources.

Long and Tanager Lakes have the largest total reduction needs and are the most downstream waterbodies. Restoring them will require City projects to address assigned watershed loads, alongside projects to restore impaired upstream lakes, ahead of in-lake treatments.

Because water flows downstream, restoring upstream lakes will improve water quality throughout the system by reducing phosphorus delivered to downstream lakes.

ANNUAL PHOSPHORUS REDUCTION TARGETS ACROSS SOURCES (LBS/YR)



ROADMAP FOR RESTORATION

Restoration requires three complementary approaches: regional treatment for large drainage areas, targeted landscape improvements, and in-lake management following significant external load reductions.

Projects may advance on different schedules, but lasting results require meaningful reductions in external pollution before pursuing in-lake treatments.

1. **Regional Treatment** to cost-effectively address external pollutant sources across large drainage areas
2. **Localized Landscape Projects** to further reduce external pollutant sources
3. **In-Lake Management** to address internal nutrient cycling once external pollutants have been addressed

PROGRESS TO DATE

MCWD has led and funded Roadmap progress to date, **securing $287,000 in state grants and investing $725,000** to complete the County Road 6 Stormwater Pond Retrofit in Orono, while advancing projects in Long Lake and Medina.

Status in Orono

Completed: CR 6 Retrofit

This project achieves **43%** of the City's reduction target for Long Lake.

Diagnosing: Wetland Areas

MCWD is monitoring a wetland area upstream of Long Lake to inform potential future projects.

Status in Long Lake

Completed: Dtwn Feasibility

MCWD identified two regional treatment projects to advance in the City's downtown area.

Status in Medina

Feasibility: Shallow Lakes

MCWD is advancing feasibility to restore three upstream lakes, benefiting downstream lakes.

Scoping: Wolsfeld Ravine

MCWD is scoping a ravine project that would reduce the City's target for Wolsfeld Lake.

CITY WATERSHED REDUCTION TARGETS

Each city has a state-assigned watershed reduction target for the impaired waterbodies their land drains to, and is responsible for making progress toward their targets by reducing pollutant loading from the landscape.

Medina

22 LBS reduction to Holy Name

7 LBS reduction to School

108 LBS reduction to Wolsfeld

23 LBS reduction to Long

Long Lake

88 LBS reduction to Long

Orono

92 LBS reduction to Long

95 LBS reduction to Tanager

ADVANCING PROJECTS IN PARTNERSHIP

MCWD is prepared to invest in Roadmap implementation through technical leadership, capital participation, and grant coordination.

The pace of project implementation will depend on City interest, funding participation, permitting, and project readiness.

Working from shared priorities and coordinated funding strategies will maximize opportunities to leverage competitive state funding and deliver Subwatershed-wide restoration.



2026 RESTORATION PRIORITIES

These restoration priorities represent a portfolio of complementary projects throughout the Subwatershed, each contributing to a coordinated strategy for regional restoration. Projects outlined below are at different stages of development and may advance concurrently, depending on partner agreements, funding, and readiness.

Together, these projects form a coordinated restoration strategy for Long Lake by reducing a significant portion of the Lake's external load before pursuing in-lake treatment.

Regional stormwater treatment in downtown Long Lake, along with upstream restoration work in Wolsfeld Woods and shallow lakes, is estimated to reduce up to 68% of Long Lake's external load. Later in-lake management would address the Lake's internal source.

UPSTREAM SHALLOW LAKE RESTORATION (2026–2030)

City: Medina **Status:** Feasibility

Purpose: Restore Swamp, School, and Holy Name Lakes through lake-specific actions, which will also reduce external loading to Wolsfeld and Long Lakes.

Next Steps: Determine strategies, sequencing, permitting, City contributions, and funding with potential conservation partners

By the Numbers:

Project	Est. Annual TP Reduction	Est. Cost
Swamp Restoration	62 lbs	$900,000
School Restoration	93 lbs	
Holy Name Restoration	70 lbs	

DOWNTOWN LONG LAKE REGIONAL STORMWATER (2026–2030)

City: Long Lake **Status:** Feasibility Complete

Purpose: Treat major downtown drainage areas, while supporting park and public space improvements, through two projects identified in the Downtown Long Lake Stormwater Study.

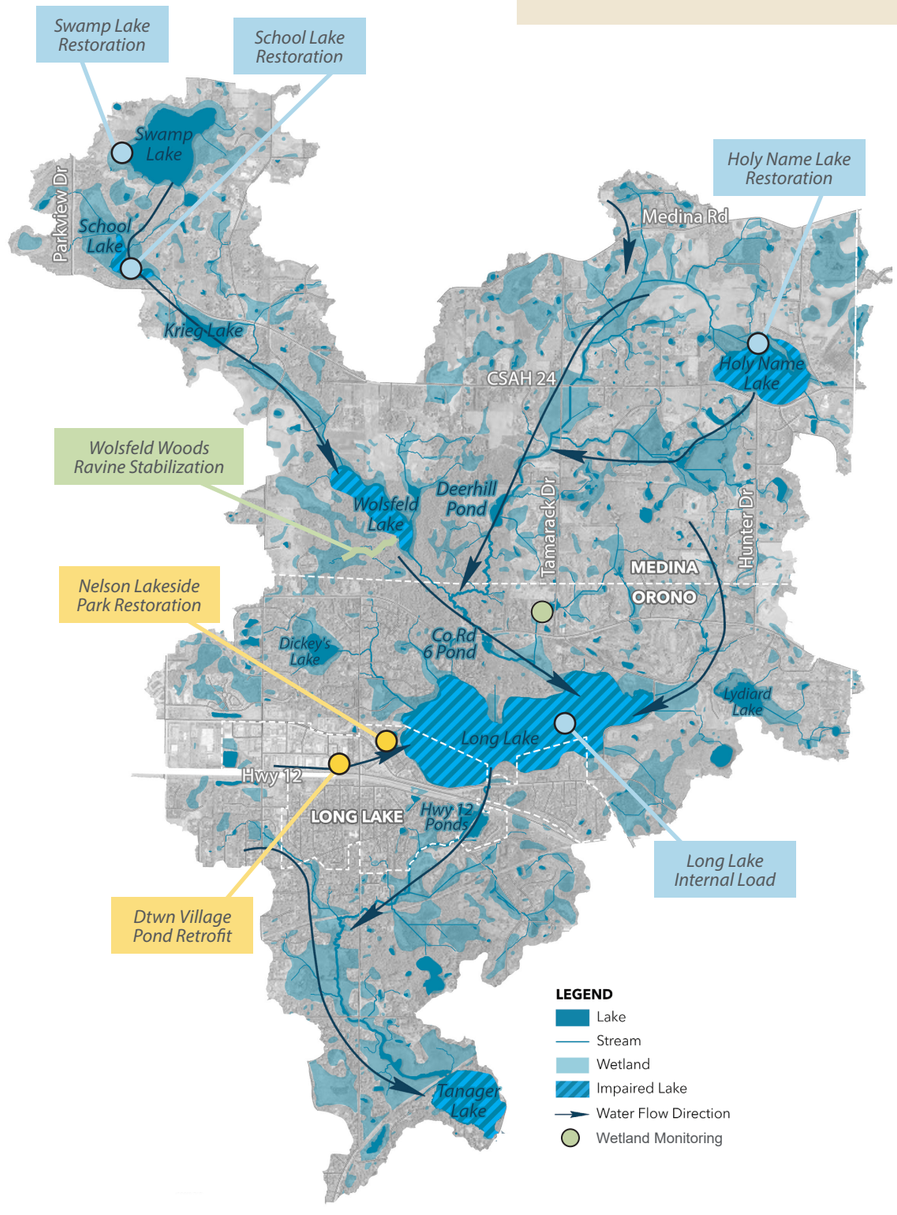
Next Steps: Confirm City and MCWD interest in advancing the projects; establish implementation roles; develop funding strategy

By the Numbers:

Project	Est. Annual TP Reduction	Est. Cost
Dtwn Village Pond Retrofit	17 - 32 lbs	$2.1 - 2.7 Million
Nelson Park Restoration	16 - 33 lbs	

Progress Toward City's Reduction Target for Long Lake

38 - 74%



WOLSFELD WOODS RAVINE STABILIZATION (2026–2031)

City: Medina **Status:** Scoping

Purpose: Stabilize approximately 2,000 feet of eroding ravine in the Wolsfeld Woods area, reducing external loading to Wolsfeld Lake.

Next Steps: Confirm permitting with MnDNR; refine costs and benefits; discuss City interest, implementation roles, and funding

By the Numbers:

Project	Est. Annual TP Reduction	Est. Cost
Ravine Stabilization	46 lbs	$500,000

Progress Toward City's Reduction Target for Wolsfeld Lake

43%

LONG LAKE INTERNAL LOAD MANAGEMENT (2029–2030)

City: Long Lake & Orono **Status:** Future Project

Purpose: Potential in-lake treatment after meaningful progress is made to reduce external loading to Long Lake.

Next Steps: Assess external loading as projects advance; confirm treatment need and dosing; develop funding plan among partners

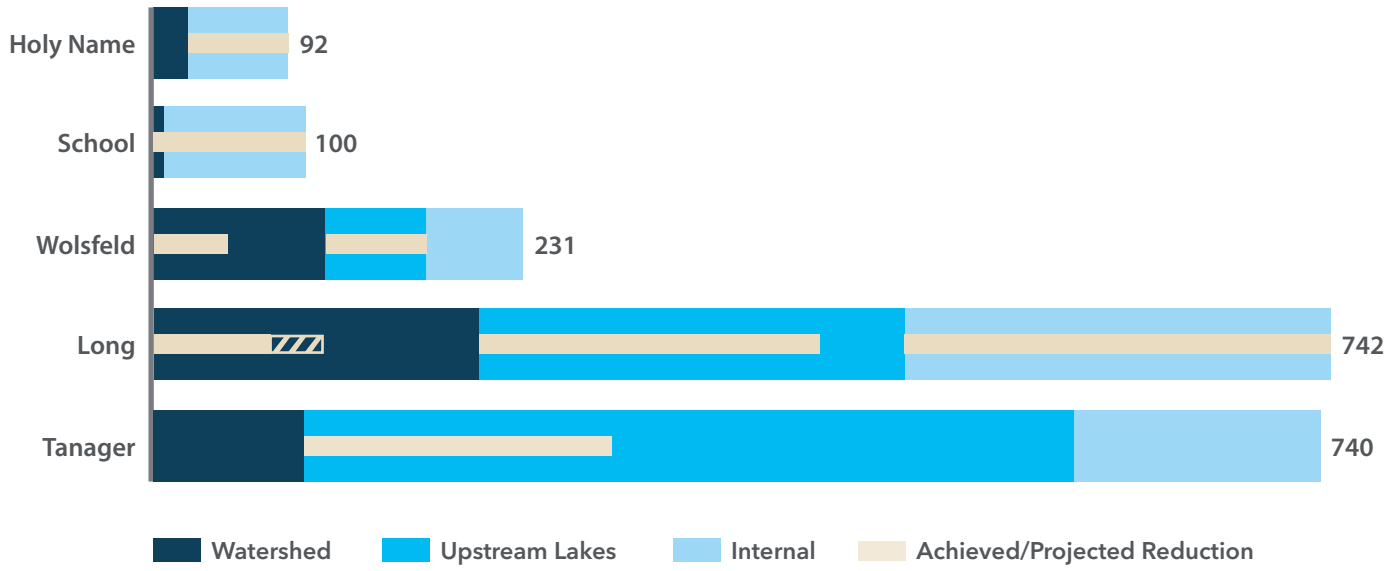
By the Numbers:

Project	Est. Annual TP Reduction	Est. Cost
Long Lake Alum	273 lbs	$720,000

PROGRESS TOWARD REGIONAL RESTORATION

Together, the completed County Road 6 Pond Retrofit and recommended Roadmap projects provide a coordinated strategy for restoring the Subwatershed's five impaired lakes, while making substantial progress toward each City's watershed reduction targets.

PROJECTED RESTORATION PROGRESS (LBS/YR)



Completed and recommended projects are projected to achieve up to 68% of the external phosphorus reductions needed for Long Lake, while also restoring upstream lakes.

RECOMMENDED NEXT STEPS

- Advance identified Subwatershed restoration priorities.
- Align implementation roles and funding strategies.
- Continue monitoring to refine future project opportunities.
- Evaluate future in-lake management as external goals are achieved.

Learn more: minnehahacreek.org/long-lake-creek-roadmap

