



Title: Project Maintenance & Land Management Program Analysis

Prepared by: Name: Tiffany Schaufler and Janna Jonely
Phone: 952-641-4513, 952-641-4523
tschaufler@minnehahacreek.org, jjonely@minnehahacreek.org

Purpose:

As a continuation of the Minnehaha Creek Watershed District's (MCWD) efforts to implement its strategic action plan, staff recently analyzed the Project Maintenance and Land Management program (PMLM) to ensure the program is best positioned to effectively maintain all current and future capital projects and land assets. Beginning with the purpose of the PMLM program, within the context of supporting the MCWD's mission, staff assessed PMLM's goals and priorities, identified how technology solutions will support PMLM objectives, and mapped the allocation of staff resources needed to maintain MCWD's capital project investments.

The purpose of this memo is to provide the Operations and Programs Committee (OPC) a brief recounting of the history of operations and maintenance at MCWD, and describe the approach being taken to analyze the current PMLM program. At the August 13, 2020 OPC meeting, staff will provide a presentation further detailing the analysis undertaken and provide insights gained through the process.

Background:

MCWD's 2017 (RES 17-007) Strategic Plan identified the MCWD's overarching organizational strategy of implementing high-impact capital projects, and developing policy to improve the integration of land use and water planning. Over the last ten years this emphasis on integrating MCWD's work with the built environment through multi-jurisdictional partnerships has expanded the MCWD's project portfolio, increasing both the volume and complexity of capital project investments MCWD must maintain with its partners in perpetuity.

Focused efforts within the Minnehaha Creek subwatershed and Six Mile Creek – Halsted Bay subwatershed includes a broad suite of natural resource elements including streams, wetlands, fishery management, and a variety of innovative stormwater management solutions beyond stormwater ponds. Many of these projects are integrated with the built environment, to establish place and provide public access, and therefore contain elements that expand maintenance requirements beyond natural systems (e.g. trails and bridges). By virtue of MCWD's model of collaboration, all of these projects require ongoing coordination of operation and maintenance with public and private partners.

MCWD's evolution in mission has required all programming to evolve in parallel to support this new focus. Recognizing the shift in project volume, scale, complexity and partnership diversity, the PMLM program has identified limitations in service delivery under the current operational framework.

In order to diagnose and understand current PMLM limitations, staff reviewed the history of the program and evaluated current program priorities, workflow and resource allocation to identify an action plan that will improve alignment and mission success related to capital project maintenance.

Summary:

Program History

To understand the current program status, and begin mapping a clear direction forward, staff explored the history of the PMLM program. MCWD built its first capital project in 1979 with the construction of the Gray's Bay Outlet Control Structure. Since that time, MCWD has constructed over 70 additional capital projects. As projects have evolved over time to keep pace with innovations in natural resource planning and technology, so has MCWD's approach to inspecting and maintaining its investments throughout the years.

Until 2000, the operation of the Gray's Bay Dam and routine inspection and planned maintenance of watershed projects were managed by MCWD consultants. Maintenance work was planned and implemented, largely on an annual basis and in response to the results of field inspections. In 2000, to improve MCWD's ability to systematically evaluate, plan and manage its capital project investments, Wenck was contracted to develop an Operations & Maintenance (O&M) Manual which inventoried and outlined the operations and maintenance requirements for MCWD's existing 32 capital projects.

This O&M Manual was used to systematize and insource the routine inspection and operations of MCWD capital projects, with oversight of planned maintenance remaining outsourced to consultants. In subsequent years, as MCWD inspections increased, it was observed that contracted vegetation maintenance was not meeting MCWD standards. This led to the development of clear vegetation maintenance standards, policies, and an increased emphasis on contractor accountability in maintaining the aesthetic and vegetative quality of MCWD projects. In May 2003, MCWD amended its Operations and Maintenance policy to include routine planned vegetation management for ten capital project sites. At that time the oversight of this work was moved from consultants to MCWD project planning staff, to address Board concerns.

In 2009, following consistent improvements in the vegetative quality of MCWD project sites, the Board authorized the hiring of a dedicated full-time O&M position, tasked with developing a program, policies, and operational systems to routinely inspect all project sites and oversee vegetation maintenance contracts for 10 capital project locations.

In 2011 the O&M program insourced the evaluation of stormwater pond efficacy and overseeing planned pond dredging projects. Shortly thereafter, in 2012, the O&M program absorbed the inspection and management of MCWD land holdings (fee and easement totaling over 1,000 acres) as the MCWD's Land Conservation program was absorbed into the Planning department.

In 2015, MCWD contracted with Wenck to update and improve the 2000 O&M Manual with a revised inventory of MCWD projects and lands, agreements and obligations, a projected schedule of routine maintenance activities, and lifecycle costs. Additionally in 2015, the O&M program established working partnerships with the National Weathers Service, Hennepin County Emergency Management, and the U.S. Geological Survey to increase the data available to help inform Gray's Bay Dam operations and communicate water level impacts.

In 2016 – 2017, MCWD's strategic plan and the subsequent human resource plan:

- Acknowledged that planning and project initiatives represent the largest capital outlays for MCWD, and comprise the most visible work in the community, requiring the most sophisticated level of partnership, and therefore constitute the most significant point of risk for the organization.
- Documented the need to improve the prediction of mid-term project priorities and expectations; and to develop funding, partnership and human resource strategies to support those project objectives.
- Identified the need to improve the measurement and documentation of project outcomes.
- Identified an opportunity to leverage the use of technology and GIS in its management.
- Renamed the program Project Maintenance and Land Management (PMLM) to recognize the assimilation of land management responsibilities.

- Aligned PMLM within Project Planning with one (1) FTE – PMLM Technician, and limited oversight from the Project & Land Manager.

Program Analysis Need

The primary purpose of the PMLM program is to operate and maintain MCWD capital projects and investments as designed and constructed – to ensure the designed project benefits continue to accrue within the watershed. MCWD’s recent strategic shift towards building more high impact capital projects has resulted in both an increase in the number of projects being constructed and an increase in the complexity of project elements requiring long term maintenance.

Historically, the PMLM program was initiated to focus heavily on vegetation maintenance, and evolved more recently into stormwater pond maintenance. However, as MCWD’s strategic shift is now being realized, PMLM must evolve to meet the demands of a program with a higher volume of projects and land that have increasingly complex natural resource improvement systems to maintain (sand-iron filters, fisheries management infrastructure, flocculation systems), along with infrastructure and operational considerations related to public access and safety (bridges and boardwalks), and a growing diversity of public and private partners with a stake in the lifecycle maintenance of these investments.

Program Analysis

With the organization’s emphasis on capital project delivery, PMLM’s principal purpose is to maintain designed natural resource benefits within the watershed in perpetuity. To understand how this mission will be accomplished, PMLM’s work can be broken into the following key tactics – summarized in more detail in Attachment 1:

- Inspection/Evaluation
- Maintenance Implementation
- Gray’s Bay Dam Operations
- Project Planning
- Program Management

In order to ensure each of these tactics are working to support MCWD’s mission objectives, staff’s analysis:

- Defined the purpose and priority of each tactic as it relates to PMLM’s core objective of maintaining MCWD investments as designed
- Assessed the workflows and operational systems of each tactic to identify weaknesses and inefficiencies
- Developed action steps the PMLM program can take over the next 36 months to implement the realignment of the program to best support MCWD’s ongoing priority of project implementation
- Outlined the resources needed to implement revised workflows and operational systems around reprioritized program goals.

August 13, 2020 OPC Meeting

At the August 13, 2020 Operations and Programs Committee meeting, staff will provide a presentation further detailing the analysis undertaken, the insights gained through the process, and facilitate a discussion with the committee regarding the priorities and work flow of the PMLM program and the proposed next steps.

Supporting documents:

- Attachment 1: Project Maintenance & Land Management Program Work Areas

PMLM Program
Goal: Maintain projects to design standards

Inspection/Evaluation

Capital Projects
70+ projects

District Lands
1000+ acres

Public Ditches

Maintenance Implementation

Infrastructure Maintenance
Boardwalks, weirs, buildings, etc.

Stormwater Ponds
28 sites

Vegetation Maintenance
30 sites

Gray's Bay Dam Operations

Daily Operations

Water level communications

Project Planning

CIP Design Input

Technical Expertise

Restoration Plan/O&M Plan Development

Program Management

Project Agreements

Partner Coordination & Mtgs

O&M Manual

O&M Reinvestment CIP