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NOTICE OF DECISION

REGARDING THE ENVIRONMENTAL ASSESSMENT WORKSHEET (EAW) FOR THE WEST VADNAIS LAKE OUTLET PROJECT

The Vadnais Lake Area Water Management (VLAWMO) Board of Directors (Board) approved Res. 05-2019 making a Negative Declaration regarding the West Vadnais Lake Outlet Project EAW on Wednesday, October 23, 2019.

The Board has reviewed the EAW, the agency and public comments received and the responses, and has held a public hearing to allow for further public input into the consideration of the EAW.

The information contained in the EAW regarding the Project is complete and sufficient to allow the Board to make a declaration concerning the need for an EIS.

A. copy of the written comments received regarding the EAW, and the responses to each substantive comment timely submitted, were provided to the Board and are incorporated herein by reference; and

The Board has considered the Project and its potential environmental impacts against the criteria set out in Minnesota Rules, part 4410.1700, subpart 7 and finds that the Project does not have a potential for significant environmental impacts that would require the preparation of an EIS.

The Record of Decision for the West Vadnais Lake Outlet Project EAW will consist of this Notice, the minutes of the Oct. 23, 2019 Board meeting including Resolution 05-2019, the Comments and Responses document and the EAW.

Submitted

A handwritten signature in cursive script that reads "Stephanie McNamara".

Stephanie McNamara, Administrator,

October 25, 2019

Vadnais Lake Area Water Management Organization



RESOLUTION 05-2019
Of the Vadnais Lake Area Water Management Organization (VLAWMO)

October 23, 2019

The Board of Directors of the Vadnais Lake Area Water Management Organization met in a regular meeting at the Vadnais Heights City Hall on Wednesday, the 23rd day of October 2018 at 7:00 o'clock p.m.

The following members were present:

Jim Lindner, City of Gem Lake
Dan Jones, City of White Bear Lake ,
City of Lino Lakes
Patricia Youker, City of Vadnais Heights
Ed Prudhon, Town of White Bear
Marty Long, City of North Oaks

The following members were absent:

Rafferty, Lino Lakes

Director Prudhon introduced the following resolution and moved its adoption:

RESOLUTION 05-2019

A RESOLUTION MAKING A NEGATIVE DECLARATION REGARDING THE NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT PER MINNESOTA RULE 4410.1700 ON THE MATTER OF WEST VADNAIS LAKE OUTLET PROJECT

WHEREAS, the Board of Directors (“Board”) of the Vadnais Lake Area Water Management Organization (“VLAWMO”) is designated the Responsible Government Unit (“RGU”) for most of West Vadnais Lake, which will be affected by the proposed West Vadnais Lake Outlet Project (“Project”); and

WHEREAS, the Ramsey Washington Metro Watershed District is the project proposer and intends to undertake the Project to alleviate flooding in areas of its watershed; and

WHEREAS, the size of the Project, which includes West Vadnais Lake, triggered a mandatory environmental assessment worksheet (“EAW”) under Minnesota Rules, part 4410.4300; and

WHEREAS, Barr prepared an EAW for the Project, which is dated August 2019 and is incorporated herein by reference; and

WHEREAS, the EAW was appropriately noticed and published with comments received and responses available prior to this meeting; and

WHEREAS, the Board, as the RGU, is tasked with determining whether sufficient information is available to determine the appropriate level of environmental review, including whether an Environmental Impact Statement (“EIS”) is needed to provide adequate review of the Project; and

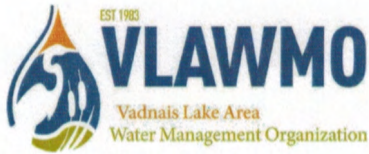
WHEREAS, the Board has considered the EAW prepared for the Project and finds and determines as follows:

- a. The Board has reviewed the EAW, the agency and public comments received and the responses, and has held a public hearing to allow for further public input into the consideration of the EAW;
- b. The information contained in the EAW regarding the Project is complete and sufficient to allow the Board to make a declaration concerning the need for an EIS;
- c. A copy of the written comments received regarding the EAW, and the responses to each substantive comment timely submitted, were provided to the Board and are incorporated herein by reference; and
- d. The Board has considered the Project and its potential environmental impacts against the criteria set out in Minnesota Rules, part 4410.1700, subpart 7 and finds that the Project does not have a potential for significant environmental impacts that would require the preparation of an EIS.

NOW, THEREFORE, BE IT RESOLVED, by the Board, based upon the information contained in the EAW, the Board’s record, and the findings contained herein as follows:

1. The Project does not have a potential for significant environmental effects and the Board hereby issues, pursuant to Minnesota Rules, part 4410.1700, a negative declaration regarding the need for an EIS for the Project.
2. VLAWMO staff is hereby authorized and directed to distribute this decision as required in Minnesota Rules, part 4410.1700, subpart 5 and to take all other actions as may be required to satisfy the Board’s obligations as the RGU regarding this negative declaration and to otherwise carry out the intent of this Resolution.

The motion for adoption of the foregoing resolution was duly seconded by member Director Jones and upon vote being taken thereon, the following voted in favor thereof:



Directors:

All aye.

and the following voted against the same:

None

Whereupon the resolution was declared passed and adopted.



James Lindner, Chair

10-24-19
Date

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION

I, the undersigned, Administrator of the Vadnais Lake Area Water Management Organization, hereby certify that I have carefully compared and attached the foregoing extract of minutes of a regular meeting of the Board of Directors of said watershed held on the 23rd day of October 2019, with the original thereof on file in my office.

WITNESSED BY the Watershed Administrator this 23th day of October 2019.


Stephanie McNamara, Administrator



MINUTES OF THE BOARD OF DIRECTORS
 October 23, 2019

Attendance		Present	Absent
Jim Lindner, Chair	City of Gem Lake	X	
Dan Jones	City of White Bear Lake	X	
Rob Rafferty, Secretary-Treasurer	City of Lino Lakes		X
Ed Prudhon	White Bear Township	X	
Marty Long, Vice Chair	City of North Oaks	X	
Patricia Youker	City of Vadnais Heights	X	
Stephanie McNamara	Administrator	X	
Brian Corcoran	Water Resources Mgr.	X	
Dawn Tanner	Program Development Coord.	X	
Nick Voss	Education & Outreach Coord.	X	
Tyler Thompson	GIS Watershed Tech.	X	

Others in attendance: Paul Duxbury (VLAWMO TEC commissioner & rep.); Kurt Carpenter, WBL resident

I. Call to Order

The meeting was called to order at 7:01 pm by Chair Lindner.

II. Approval of Agenda

The agenda for the meeting was presented with no changes proposed.

A motion was made by Prudhon and seconded by Jones to approve the meeting agenda as presented. Vote: all aye. Motion passed.

III. Visitors and Presentations

A. October TEC Report to the Board and October 2019 Finance Report,

Duxbury presented the TEC's operations and recommendations to the Board. There were 3 recommendations for approval the TEC moved at their October meeting: the Otter Project equipment funding, selection of SEH for the Vadnais-Sucker RFP, and to submit for the CWP restoration grant for 4th & Otter. McNamara presented the October Finance Report.

IV. Consent Agenda

A. Approval of Minutes

The minutes from the August 28th, 2019 Board meeting are placed on the consent agenda for approval, as presented.

B. Project update reports

Staff has completed a list updates to report on projects and programs not up for discussion on the Board meeting agenda. These updates were included in the October Board packet and may be discussed if any Directors would so choose.

Discussion: none.

A motion was made by Long and seconded by Youker to approve the October 23, 2019 meeting consent agenda, including the August 28, 2019 Board meeting minutes, as presented, and staff project update reports. Vote: all aye. Motion passed.

V. **Business**

A. **Administration**

1. EAW: Public Hearing and determination consideration, Res. 05-2019

McNamara presented that agency comments have been received and responded to by Barr Engineering, Ramsey Washington Metro Watershed District's engineer regarding the proposed West Vadnais Lake Outlet Project. A Summary of Comments & Responses and Findings of Fact have been supplied to the VLAWMO Board of Directors for their review, discussion, and consideration of Resolution 05-2019. The Board was asked to consider Resolution 05-2019, EAW comments and responses, along with findings of fact to be a sufficient environment review, and whether the record of decision be a either a negative or positive determination for further review via an Environmental Impact Statement. McNamara noted 2 later comments: The Office of the State Archaeologist realizes the area of work has already been disturbed on several occasions, but for the contractor to be vigilant and wary of any possible artifacts that may be uncovered. Also, the Vadnais Heights City Engineer provided comments questioning whether further modeling may be necessary to ensure the project will be effective, once installed. McNamara noted that Barr Engineering has responded to these comments.

At 7:11 pm Chair Lindner officially opened the Public Hearing for the EAW regarding the West Vadnais Lake outlet elevation change. There was no comment. The Chair officially closed the public hearing at 7:12 pm.

Discussion: Youker stated the City's concerns of drawing down of West Vadnais Lake and questions what other efforts are being performed upstream outside of the Watershed, as well as what is included in terms of a partnership. McNamara outlined physical processes such as berming and pumping, but also that watersheds work together to solve common issues. McNamara will forward further EAW responses and explanations.

A motion was made by Prudhon and seconded by Jones for approval of Resolution 05-2019, resulting in a negative determination for further environmental review, and accepting the EAW and its appendices for the lowering of the West Vadnais Lake outlet and OHW. Vote: all aye. Motion passed.

2. Approval of storm sewer utility certification lists for 2020, Res. 06-2019

McNamara presented that the parcel lists that are generated annually as a combination of staff and consultant work to determine the list of non-exempt parcels within VLAWMO's boundary for payment and funding in 2020 have been prepared and are ready for certification.

Discussion: Long questioned why golf course SSU fees are so large, and asked for further explanation for 2021 fees. McNamara and Lindner responded that each land use type has a specific calculation formula, but more in-depth explanation can be had.

A motion was made by Long and seconded by Jones for approval of Resolution 06-2019, certifying the storm sewer utility parcel lists in Ramsey and Anoka Counties for VLAWMO's 2020 storm sewer utility fees. Vote: all aye. Motion passed.

3. MPCA/Minnesota CWP Revenue Bond, Res. 07-2019

Tanner reported that the final step in release of CWP loan funding is for VLAWMO to authorize sending the Revenue Bond Note to the MPCA. After further analysis and engineering, SEH has determined that the estimate of sheetpile replacement will be above previous estimated costs. Staff has discussed this with the MPCA and an amendment to the loan amount will likely begin in spring 2020 after a bidder has been selected for

construction. **Staff recommends the Board authorize submittal of the Revenue Bond Note to the MPCA.**

Discussion: None.

A motion was made by Prudhon and seconded by Youker for authorization to submit the CWP Revenue Bond Note to the MPCA for allowance of fund distribution. Vote: all aye. Motion passed.

B. Goose Lake

1. Board review and recommendation regarding alum treatment and boating restrictions

VLAWMO staff was present for the October 8th White Bear Lake City Council meeting where formal boating restrictions on East Goose Lake were first presented for discussion. Staff was also present at the October 22nd Council Meeting where a short presentation was given and a drafted boating restriction ordinance was brought and discussed for adoption.

Discussion: Jones gave an overview of the proceedings of the October 22nd White Bear Lake City Council meeting, regarding the presentation and discussion of potential boating restrictions on East Goose Lake. Jones discussed that general sentiment regarding an ordinance was not favored by Council members, and further discussion or motion was tabled for a January meeting. McNamara questioned if there was direction that the Board would give staff until the awarding of the grant is announced in January. Prudhon and Long discussed that the Board already gave VLAWMO's recommendation to the City at the August meeting, so any action or decision is now the responsibility of the City. Lindner and Jones discussed that an alum treatment is still the best economical option for nutrient reduction in East Goose Lake, and VLAWMO should still be involved. The directors agreed that staff has provided more than a sufficient amount of information to the City for their consideration, and should not be hindered by further efforts at this time. Tanner mentioned that several misleading and misinformed discussion points were made at the Council meeting and a list of responses has been composed. Tanner asked the Board to consider if these responses should be sent to Council members and the Mayor. The Board agreed these clarifying points would be beneficial for distribution (Attachment 1 to minutes).

A motion was made by Prudhon and seconded by Long for staff to distribute a list of clarifying points regarding East Goose Lake at the October 22nd White Bear Lake City Council meeting to City Council members and the Mayor. The letter would also be attached to these minutes for the record. Vote: all aye. Motion passed.

C. Wetlands

1. Vadnais-Sucker Park RFP

Corcoran presented that Request for Proposals (RFP) for the Vadnais/Sucker subwatershed, Phase I wetland assessment were sent to 7 consulting/delineation firms, of which, 4 firms submitted proposals and bid estimates. Proposals ranged from \$16,000 to \$74,950 to complete tasks outlined in the RFP. The lowest responsible bidder was S.E.H. and was recommended by staff to the TEC at their October meeting for recommendation to the Board to enter into contract with S.E.H. for the proposal. **The TEC accepted and, along with staff, is recommending to the Board the selection of the lowest responsible bidder, S.E.H., for entering into contract for the Phase I: Vadnais/Sucker Wetland Assessment, at the cost of \$16,000.**

Discussion: Lindner asked if any suggested price was solicited before the RFP was sent out. Corcoran addressed that no, there were none solicited before issuing the RFP. Youker asked about the extras column and that SEH had none listed and asked for clarification on this. Corcoran clarified that this was an area where firms may include optional extra items on top of required items included in the RFP.

A motion was made by Jones and seconded by Youker to accept the bid and enter into contract with S.E.H. at the cost of \$16,000 for the Phase I: Vadnais/Sucker Wetland Assessment. Vote: all aye. Motion passed.

2. Conservation Partners Legacy (CPL) Grant Proposal

Tanner presented that as part of the 4th & Otter Project, restoration of the area where the project is taking place, along with the adjacent parcel, newly-acquired by the City of White Bear Lake, will apply to the goals of the Clean Water Fund grant. The grant proposal is for replanting with a native shady woodland seed mix for a total of \$8,636. If awarded, there is a local match of 10%. The TEC recommended the application for submittal of the grant application at their October meeting. **Staff is seeking authorization from the Board to submit the CPL grant proposal for the total of \$8,636.**

A motion was made by Prudhon and seconded by Long to authorize staff to submit the application for the CPL grant proposal in the amount of \$8,636. Vote: all aye. Motion passed.

3. Otter Project Equipment Request

At the August 2019 meeting, the Board authorized entering and being a partner to an otter study within VLAWMO. Partners include the MN Zoo and departments from the University of MN. The MN Zoo proposal (\$5,000) is in to the Zoo Committee and includes vet time and time and equipment for disease and heavy metal sampling/analysis and tracker implementation, along with hiring of an animal trapper. The U of M will be conducting scat parasite load at the Vet Diagnostic Lab. The Fisheries, Wildlife, and Conservation club will be submitting a proposal during the spring 2020 semester to fund ~\$2,500 of related vet equipment. Tanner is proposing purchasing radio telemetry equipment to begin prepping for the 2020 project at a cost of \$1,815 for a receiver, 5 transmitters (2 initially and 3 later), and an antenna. This was brought to the TEC at their October meeting and approved for recommendation to the Board for funding authorization. **Staff and TEC recommends purchasing telemetry equipment and testing over the winter. Staff proposes an expense of \$1239 now, and the remaining \$576 if and when additional transmitters are needed (fall 2021 would be the earliest additional transmitters might be needed).**

Discussion: Long commented he liked this and questioned how this benefits the Watershed and accomplishes its goals towards water quality. Tanner responded that the project studies animals that are indicator species of water quality and monitors pollutants such as heavy metals. Jones commented that the project also provides public relations benefits.

A motion was made by Long and seconded by Prudhon to authorize funding in the amount of \$1,815 for the purchase of telemetry equipment for testing and implementation in the Otter Project. Vote: all aye. Motion passed.

VIII. Discussion

Jones posited a discussion about the possibilities of offering either guidance or assistance to member municipalities in leveraging funding for offsetting the purchasing of new equipment that includes innovative salting technology.

IX. Administration Communication

1. MN Association of Watershed Districts (MAWD)

McNamara mentioned the annual meeting is coming up and asked if a Board member would be interested attending MAWD as a delegating member on December 6th.

2. Nov. 14th vlawmo celebration and end of year recap

3. North Oaks Local Water Management Plan (LWMP)

X. Adjourn

A motion was made by Youker and seconded by Prudhon to adjourn at 8:03 pm. Vote: all aye. Motion passed.

Minutes compiled and submitted by Tyler Thompson.

**Attachment 1: Follow-up Notes to October 10, 2019 White
Bear Lake City Council Meeting**

DRAFT

October 23, 2019

City of White Bear Lake
Mayor and Councilmembers

From VLAWMO Staff and VLAWMO Board of Directors:

VLAWMO would like to respond to statements made during the Council meeting on October 23, 2019, and clarify points that may not have been clear during the presentation.

- **Algae blooms: Status**

Algae blooms are occurring continually on Goose Lake, starting in late spring through fall. VLAWMO has not received reports of dramatic blue-green blooms since 2013. However, Chlorophyll a levels on East Goose Lake show a lake that is dominated by algae. Algae has gotten worse since the TMDL (Total Maximum Daily Load) was published. At the time, there were still some plants present on East Goose Lake. Algae have completely shaded out plants so that the lake is now devoid of plants. This was documented in the plant survey this summer by the Ramsey County Soil and Water Conservation Division (RCSWCD). Algae in the lake include blue-green algae, also documented on the vegetation survey. Blue-green algae can produce toxins that are harmful to humans, pets, livestock, and wildlife.

Ongoing monitoring is not done for harmful algal blooms because the algae can be present and not produce toxins, and they can produce toxins when they are not especially thick nor apparent to observers of a lake. Harmful algal blooms are a health concern. A harmful algal bloom was documented on Pleasant Lake in the Vadnais Lake Area Watershed during summer 2019. A dog became sick, and the algae bloom was reported to the Minnesota Pollution Control Agency (MPCA). Both the MPCA and Minnesota Department of Health have increased efforts to document, alert, and educate about the threat of toxic algal blooms. The Centers for Disease Control has a short information page that cover the most important points. They recommend not going into water that looks like has abundant algae, “When in Doubt, Keep Out”:

<https://www.cdc.gov/habs/be-aware-habs.html>

- **The connection between TMDL load reductions and MS4 waste load allocations may have been unfamiliar to some councilmembers**

The VLAWMO TMDL (Total Maximum Daily Load) is a study completed in partnership with and approved by the MPCA and the EPA. It identifies how much improvement is needed for each impaired water and how that improvement effort will be divided among NPDES MS4 permit holders. The Implementation Plan further identified strategies to address the impaired waters. MS4 agencies are through their

NPDES permit with annual reporting through the SWPPPs. The City of White Bear Lake has an assigned phosphorus reduction of 64.7 lb/yr in East Goose Lake and 7.3 lb/yr in West Goose Lake. That is a total reduction of 72 lb/yr in the Goose Lake subwatershed.

If the City chooses to pursue the 3 next-best, non-alum treatment options to improve stormwater treatment in the subwatershed, that would come at a cost of \$500,000 and only provide a 60-pound reduction. That would not meet the required target.

If the City chooses to pursue an alum treatment on East Goose Lake, that would treat 800 lb/yr of phosphorus and allow the City to exceed the target by 728 lb/yr at a cost of \$170,000. Side note on the currently submitted grant proposal: VLAWMO increased the funds requested in the grant proposal to \$190,000 to allow for possible fish harvest and an increase in costs since the feasibility study was completed.

There is also an additional social cost of removing boat activity of 4 boats for 3 years. We recognize that the Council is weighing that. The removal of boating could likely be reduced to 2 full growing seasons (full season after a fall treatment + the summer after a follow-up spring treatment).

- **Half Moon Lake was presented as a case study of a similar lake that did not work**

The Barr report cited by residents regarding Half Moon Lake was from the 1990s. That lake has been under intense management efforts since that time with different goals. The alum treatment was effective, and the council, park board, and others passed an ordinance and did remove boats to protect the alum treatment. There was also considerable study done to directly measure the effects of boats at ski jump sites and at other sites around the lake prior to the decision to remove boats.

Half Moon continues to have high nutrient load from external sources. Stormwater practices around the lake have not been totally effective and feature a number of overloaded swales. Those swales are not doing the job of pre-treatment. Managers are also working to keep the lake below 30 µg/L, which is well below the shallow lake standard (60 µg/L). They are using a more frequent regimen for alum treatment to keep the lake below 30 µg/L.

There was a published recommendation for Half Moon Lake to continue to treat on a 3-5 year cycle. That was incorrectly understood by residents as pertaining to East Goose Lake, which it does not. VLAWMO has published papers and unpublished reports covering a wide span of time on Half Moon if councilmembers would like to review more about this lake.

- **How long will an alum treatment last on East Goose?**

The East Goose Lake alum treatment, calibrated to lake sediments, the specific P load in those sediments, and lake morphometry characteristics is projected to last 10-15 years using best practices of appropriate dosing and protecting the bottom from disturbance during the floc settling phase. Shallow

lakes analyzed in the literature including early treatments that did not perform well show have an average lifespan of 5.7 years. When lakes with improved conditions (best practices) are reviewed, they last an average of 15 years.

- **A councilmember asked if not treating East Goose would make the nutrient situation worse downstream. That was later interpreted to mean that there would be no downstream effects.**

Downstream effects are already apparent. There are high nutrient loads in Lambert Creek and associated wetlands. These areas are also the target of VLAWMO projects, including a remainder of the ditch at Lambert Lake to remove nutrients and bacteria. High nutrient loads flowing from East Goose Lake do affect waterbodies downstream. However, there is also filtration occurring along the way from East Goose Lake to East Vadnais Lake. We do not see high nutrient levels in East Vadnais. Low levels of toxins from upstream algae blooms are documented. They pose only a moderate threat. The water utility does not conduct additional treatment for algae because it is not needed at this time.

- **A persistent issue that has been mentioned and would likely remain an issue if the alum treatment were to go forward is the view of optimal lake condition. Would rooted emergent plants be acceptable in part or all of Goose Lake?**

Shallow lakes in our area have two alternate stable states: clear water with plants or murky water with algae. An alum treatment would make the water clear and allow plants to grow again. Residents on the lake view these as weeds and a nuisance in need of control. VLAWMO and other state agencies view them as the optimal, healthy condition, providing habitat for fish and other wildlife. Fish management without aquatic vegetation is not sustainable, as vegetation is a necessary component of healthy habitat. Aquatic vegetation also uptakes nutrients, decreasing algae and clarifying the water. If plants don't use the nutrients, algae will. Algae provide poor nutrition, and predator fish higher up the food chain often don't survive. East Goose Lake contains many stunted (food-limited) Black bullhead and sunfish.

From the TMDL: *The abundance and diversity of native aquatic plants drive the health of shallow lake ecosystems and are critical to keeping shallow lakes in a clear state. They provide spawning areas and cover for fish, habitat for macroinvertebrates, refuge for prey, and stabilization of sediments.*

VLAWMO would not seek to control native plant species on the lake. VLAWMO would make it priority to actively work to control invasive species that may become present in the lake once water-quality conditions improve and promote colonization of native species. Curly-leaf pondweed is an invasive species, often spread by boat activity, that is present on West Goose. There are examples of cost-share options in neighboring watersheds that support harvest of aquatic vegetation with appropriate permitting and at levels approved by the MN DNR. That could be a possibility for future management on East Goose Lake.

Environmental Assessment Worksheet (EAW) - RESPONSE TO COMMENTS

Oct-19

WEST VADNAIS LAKE OUTLET PROJECT

Commenter	Comment	Response
MN Dept of Administration - Office of the Archaeologist - Jennifer Tworzyanski	Recommends a qualified archaeologist survey the area of any ground disturbing activities. The shoreline of Vadnais Lake has the potential for being the site of encampments.	While the EAW rightly indicates the project area affects the whole of West Vadnais, the actual construction area is limited to the outlet. The outlet already exists and the channel to the outlet has been maintained by dredging. A new pipe in of the same size as the existing outlet pipe but 0.8 feet lower is proposed. Eventually, during dry years, this could have the effect of a slightly lower water level in West Vadnais. No land will be disturbed that was not already disturbed but it will be roughly a foot deeper than before.
MN Dept. of Admin. State Historic Preservation Office, Sarah J. Beimers	Recommends a qualified archaeologist conduct a Phase 1 Archaeological survey the area of any ground disturbing activities.	See above response.
MN Pollution Control Agency - Karen Kromar, Env. Review Unit	<p>The amount of land disturbing area needs to be clarified. Greater than 1 ac above the OHW will need an NPDES construction permit.</p> <p>W. Vadnais has a construction related impairment - above 50 ac disturbed will also need a SWPPP submitted for review & approval.</p> <p>Proximity to surface waters require redundant down gradient sediment control. Soils will be stabilized within 7 days of activity ceasing.</p> <p>Because the purpose of the project is provide more stormwater storage capacity, the proposer is encouraged to promote volume reduction practices such as raingardens, pervious pavement and other green practices upstream of West Vadnais.</p> <p>MPCA recommends that construction equipment be muffled and work be done during daytime hours.</p>	<p>The final design will clarify permit needs and all required permits requested.</p> <p>The final design will clarify permit needs and all required permits requested.</p> <p>All appropriate control measures will be taken.</p> <p>RWMWD has a cost-sharing program for such practices offered to residents. In addition, RWMWD's permitting program requires volume reduction considerations for construction and development projects; however, these practices alone would not be sufficient to address the purpose and need of the project.</p> <p>Thank you for your comment.</p>

<p>MN Dept. of Natural Resources - Rebecca Horton, Reg. Env. Assessment Ecologist</p>	<p>The boundary of public water West Vadnais Lake is inaccurately depicted without the small section west of Rice Street. Any channel in the triangular southern basin that is excavated should be included in the Public Waters permit application.</p>	<p>Thank you for the correction. All area of construction impact that occur in the revised public waters boundaries will be included in the Public Waters application</p>
	<p>Some of the wetland delineated are part of W. Vadnais Lake, DNR Public water. An accurate depiction of public waters and wetland areas within the construction zone will be needed to determine permitting authorities.</p> <p>Please provide information to confirm that the increased volume of flow downstream will not impact structures downstream of the project.</p> <p>Construction dewatering exceeding 10,000 gal./day or 1,000,000 gal/year will need a DNR Water appropriation permit. This includes water flow from W.Vadnais that is diverted out of the current channel.</p> <p>Based on a target project time of Jan-Feb 2020 the potential impact to wetland habitat is minimal, however this could cause a winterkill of several aquatic species if water drops lower than expected. Contingency plans should be if the water drop further than planned to minimize winter kill.</p>	<p>Thank you for your comment. This will be done in the permitting phase once project design and construction methods have been confirmed.</p> <p>Modeling, including effects on downstream areas, has been completed to support the proposed project; modeling results will be refined as project design progresses and will be included in permitting.</p> <p>Thank you for your comment. This will be addressed in the permitting phase.</p> <p>Thank you for your comment. This will be addressed in the permitting phase.</p>
<p>MN Dept. of Transportation - Jennifer Wiltgen, Principal Planner</p>	<p>No comments. The need for a MnDOT permit is identified in the EAW.</p>	<p>Thank you for your comment.</p>
<p>Metropolitan Council - Angela Torres, Manager Local Planning</p>	<p>Thank you for acknowledging Vadnais-Snail and Vadnais Sucker Park users as beneficiaries of the project as well as noting Ramsey County work to clean culverts in the area to help address flooding problems.</p>	<p>Thank you for your comment.</p>

<p>Ramsey County Public Works - Al Rupnow, Env. Res. Specialty</p>	<p>They favor the project as providing flooding relief. He also notes that. American White Pelicans (<i>Pelecanus erythrothynchos</i>), a MN Species of Concern has been observed using West Vadnais Lake.</p>	<p>Thank you for your comment.</p>
<p>St. Paul Regional Water Service - Jeremy Erickson, Water Qual Spec.</p>	<p>They are satisfied that the proposed project will mitigate the local flooding concerns</p>	<p>Thank you for your comment.</p>
<p>Vadnais Heights - Jessie Farrell, City Engineer</p>	<p>The current outlet elevation of 881.8 is already lower than the OHWL of 882.6 and is considerable lower than the recent higher levels experienced in 2019. This suggests that the elevation of the outlet is not the primary issue, nor the most effective solution. Before lowering the outlet elevation, it'd be useful to understand what impact the lower outlet would have had in 2019.</p> <p>Lowering the lake level 0.8' during periods of drought represents 10% of the lakes maximum dept, which is significant. It would be useful to see a table that compares various lake level reductions (0.1', 0.2', 0.3', ...1.0') to corresponding 2019 high water levels. Perhaps a less impactful lake level reduction, for example 0.4' would provide nearly as much benefit as 0.8'. Conversely, perhaps a larger reduction, e.g. 1.2 would provide greater benefit. A better understanding of the proposed lower outlet elevation versus 2019 peak elevations would be useful to evaluating the modification.</p>	<p>As shown in Figure 6 of the EAW, West Vadnais Lake is often above its outlet elevation. Lowering the pipe will have no effect on West Vadnais Lake levels until the lake naturally drops to its current outlet elevation (881.8), at which time, more water will be let out of the lake through the 15" outlet until the lake reaches an elevation of 881.0 (the elevation of the lowered outlet). Project implementation will not hasten a drawdown - it will simply take advantage of a natural drawdown to shift the lake to a bounce regime that is 0.8' lower than its current one. This means the next time a wet period arrives, the lake will have 0.8' more live storage, providing more resilience to infrastructure in the area.</p> <p>See response to the previous comment.</p>

Are there alternative improvements either upstream or downstream that would be more effective? Lowering a different outlet or adjusting a capacity that could be more cost-effective.

Since 2016, other flood alternatives aimed at lowering the level of West Vadnais Lake have been investigated and ruled out for the reasons described below:

One alternative evaluated the possibility of pumping water from West to East Vadnais Lake, where it could be used as a source of drinking water for the City of St. Paul. Given that the water quality of West Vadnais Lake is significantly poorer than that of East Vadnais Lake (which is the current drinking water supply for the City of St. Paul), this option would require treating West Vadnais Lake water to drinking water standards before discharging to East Vadnais Lake. It would require treatment to be incorporated into the pump station required to move the water from West to East Vadnais Lake. Due to significant cost and the high level of coordination with SPRWS that would be required, this alternative was eliminated from further consideration. The technical memo describing this alternative's feasibility study and its outcomes can be obtained from RWMWD.

Another set of feasibility studies evaluated whether SPRWS could operate East Vadnais Lake at a lower elevation to reduce the potential for seepage from East Vadnais Lake into West Vadnais Lake, or to promote the seepage of water from West Vadnais Lake into East Vadnais Lake through the berm that separates the two waterbodies. Geotechnical investigations of the berm between West and East Vadnais Lakes revealed the berm is not conducive to passing flow between the two waterbodies. Also, given that the water quality of West Vadnais Lake is significantly poorer than that of East Vadnais Lake (which is the current drinking water supply for the City of St. Paul), creating a more permeable berm was deemed unacceptable. The technical memo describing these alternatives' feasibility studies and their outcomes can be obtained from RWMWD.

<p>What management strategies should be in place during drought conditions when water levels in W. Vadnais are lower? How would augmentation of connected water bodies be managed during these conditions?</p>
<p>The lowest section of Rice Street was recently raised 0.5'. Commentary on the revised impacts to Rice Street would be useful.</p>
<p>The secondary outlet is characterized as "unintentional". More information on that characterization would be useful. A historic summary of how West Vadnais Lake has drained in the past, highlighting modifications or other changes, would be helpful in evaluating proposed modifications.</p>
<p>An agreement for operation of the existing outlet is referenced on Page 8. It would be useful for this agreement to be included as an Appendix item and commentary provided in regards to how the proposed modifications would impact the agreement's stakeholders.</p>
<p>Table 1 is a Project Magnitude Summary that list the total project acreage as 238.3 acres, which is presumably the entire lake. There are residential and commercial properties with waterfront that would be impacted by this project – should they be counted within this table?</p>

<p>East Vadnais Lake receives flow via a chain of lakes (not including Grass and West Vadnais Lake); geotechnical evaluations indicate that seepage through the berm between East Vadnais Lake and West Vadnais Lake is minimal. Therefore, the impact of augmentation in surrounding water bodies is considered negligible during drought periods. It is also important to note that during drought periods, West Vadnais Lake flows into Grass Lake when water elevations allow. It is only recently that Grass Lake levels have been higher than West Vadnais Lake levels (as shown in Figure 5 and Figure 7 in the EAW).</p>
<p>Thank you for your comment; in time, the proposed Project is expected to reduce the potential for Rice Street flooding.</p>
<p>Thank you for your comment; historic drainage and drainage improvements have been considered in the development of the proposed Project.</p>
<p>Thank you for your comment; stakeholder engagement continues to be on-going as the Project develops.</p>
<p>Thank you for your comment; no commercial or residential properties would be affected by the Project. The surrounding area is primarily parkland and roadways.</p>

<p>Table 2 is a Summary of Cover Types before and after the proposed project. Wouldn't lowering the lake by 0.8' during periods of drought reduce the amount of deep water in the site?</p>	<p>Thank you for your comment; based on bathymetric data collected for this Project, the proposed Project would not have a notable permanent effect on deep water at the site. During times of drought, there could potentially be less areas of deep water in the lake; however, approximately the same amount of deep water habitat would be present in normal and wet years.</p>
<p>The stated original purpose of the 24" pipe should be explored and explained in greater detail. It is a perplexing position that a 24" pipe was built to serve less drainage area than a 15" pipe. In contrast, the 24" pipe appears to have functioned in a useful matter during periods of extreme hydrologic conditions. Further analysis and explanation of the 24" pipe's purpose would be useful.</p>	<p>Thank you for your comment. The 24" inch pipe described in the EAW as acting as an "unintentional, secondary outlet" is not a RWMWD pipe meant to convey flows from West Vadnais Lake to Twin Lake. Rather - it is a pipe meant to carry flow from the low lying area owned by SPRWS. It is only recently that West Vadnais Lake has been high enough to access this area through a breach in an earthen berm along the western edge of West Vadnais Lake. This pipe has been in place for decades and was never permitted by the RWMWD.</p>
<p>The City of Vadnais Heights 2040 Comprehensive Plan endorses "minimizing surface water issues and enhancing the natural environment" – lowering West Vadnais Lake is likely not consistent with those goals. Additional commentary on the impacts to the lake, especially during period of drought, would be useful.</p>	<p>Potential impacts to the lake during periods of drought are addressed in Section 11.b.iv.a and Section 11.b.iv.b of the EAW.</p>
<p>By design, the live load capacity of stormwater ponds accept greater volumes of water, faster. This means less upstream detention times and subsequent water quality treatment. Commentary on the reduced water quality entering Grass Lake and West Vadnais Lake would be useful.</p>	<p>Thank you for your comment. When Grass lake and West Vadnais Lake are high as they are now, the flow restriction through the 15" outlet is sufficient to provide extended detention, which also provides water quality treatment for both Grass and West Vadnais Lake. When Grass Lake and West Vadnais Lake are at lower stages, West Vadnais Lake is expected to flow both into Grass Lake (particularly as Grass Lake seepage rates return to more normal levels) as well as out of the 15" outlet (as described in Figure 5 of the EAW). In the meantime, lowering the outlet is not expected to significantly change the water quality of flows into Grass Lake or West Vadnais Lake.</p>
<p>To further establish compatibility of the proposed project with land use plans, further explanation of the reduced flood risks would be useful.</p>	<p>The proposed Project's compatibility with land use plans is described in Section 9.b of the EAW, and the benefits of reduced flood risks are discussed throughout the EAW document.</p>

Expanded commentary on current and historic hydrologic connections between East and West Vadnais Lake and Twin Lake would be useful. It is my understanding that the East and West Vadnais Lakes were historically connected. Inspection of topography indicates that historic overflow into Twin Lake likely occurred in past periods of extreme hydrologic conditions.

The historic hydrologic connection between East and West Vadnais Lakes is described in Section 11.a.1 of the EAW. West Vadnais Lake is physically separated from East Vadnais Lake by an earthen berm; there is currently only minimal flow or seepage between the two lakes through the berm. East Vadnais Lake's stage is controlled as part of SPRWS's operations. In 2018, geotechnical investigations of the berm between West and East Vadnais Lakes revealed the berm is not conducive to passing significant flow between the two waterbodies. A detailed description of the overflow routes from West Vadnais Lake into Twin Lake can be found in a technical memo included in the RWMWD's June 2019 Board Packet, available on www.rwmwd.org or by request.