

**MEETING DATE:** April 25, 2019

**TITLE:** Authorization to execute a contract with Wenck Associates to draft a white paper synthesis on the evaluation of surface and groundwater interactions in South Minneapolis

**RESOLUTION NUMBER:** 19-051

**PREPARED BY:** Tiffany Schaufler

**E-MAIL:** tschaufler@minnehahacreek.org

**TELEPHONE:** 952-641-4513

**REVIEWED BY:**  Administrator  Counsel  Program Mgr.: Michael Hayman  
 Board Committee  Engineer  Other

**WORKSHOP ACTION:**

<input type="checkbox"/> Advance to Board mtg. Consent Agenda.	<input type="checkbox"/> Advance to Board meeting for discussion prior to action.
<input type="checkbox"/> Refer to a future workshop (date):_____	<input type="checkbox"/> Refer to taskforce or committee (date):_____
<input type="checkbox"/> Return to staff for additional work.	<input type="checkbox"/> No further action requested.
<input checked="" type="checkbox"/> Other (specify): Final action requested on April 25, 2019 Board Meeting	

**PURPOSE or ACTION REQUESTED:**

Authorization to execute a contract with Wenck Associates to draft a white paper synthesis on the evaluation completed to date regarding surface water and groundwater interactions in South Minneapolis.

**PROJECT/PROGRAM LOCATION:**

South Minneapolis, MN

**PROJECT TIMELINE:**

May 2019: Begin assembling information  
June – August 2019: Review draft/meetings with the University of Minnesota & inter-agency team  
August – September 2019: Preliminary draft  
September 2019: Review preliminary draft with University of Minnesota & inter-agency team  
October – November 2019: Final draft

**PROJECT/PROGRAM COST:**

Fund name and number: Planning, 200-2002-4320  
Current Budget: \$55,000 (for 2019 contract services)  
Expenditures to date: \$200 (for 2019 contract services)  
Requested amount of funding: \$31,500

**PAST BOARD ACTION:**

February 14, 2019 - RES 19-018: Authorization to execute a contract with the University of Minnesota to assist in the evaluation of surface and groundwater interactions in South Minneapolis

## **SUMMARY:**

### Background (see attached FAQ Handout)

Since November 2017, the Minnehaha Creek Watershed District (District) has been participating in an evaluation to understand South Minneapolis resident concerns over high groundwater levels near Solomon Park and Lake Nokomis, and its impact on public and private infrastructure as well as residential structures. Because groundwater and surface water management in Minneapolis falls under several jurisdictions, an inter-agency team was formed to work in partnership to evaluate and understand what is happening. Agencies participating in this effort include the District, MN Department of Natural Resources (DNR), the city of Minneapolis (City), the Minneapolis Park and Recreation Board (MPRB), and Hennepin County. The inter-agency team has also coordinated with the MN Department of Transportation, the Metropolitan Airports Commission, the Metropolitan Council, the city of Richfield, and the U.S. Geological Survey to better understand the regional significance of groundwater changes.

Throughout the past year, staff from the inter-agency team have met over 20 times to review existing data and identify data gaps where more information is needed. After reviewing the data, the inter-agency team concluded that the Twin Cities has experienced the wettest six-year period (2013-2018) since record keeping began in the 1870s. This record rainfall is occurring outside of the growing season, when soils are thawed but vegetation is not growing and therefore not able to uptake water, which results in an increase of groundwater recharge rates. Shallow bedrock geology in this area, coupled with the higher volumes of precipitation infiltrated into the shallow groundwater, is causing interaction of that groundwater with public and private infrastructure and private property.

Through its work the inter-agency team also concluded that additional groundwater observation wells would be helpful to better understand the area's groundwater. Beginning in fall 2017, six additional observation wells were installed. The water level data provided by this network of observation wells has helped the inter-agency team understand the groundwater system and how different aquifers may be interacting with each other and with surface waters.

Data from these wells has allowed the inter-agency team to conclude that Minnehaha Creek and Lake Nokomis water levels are not principal drivers in the groundwater issues being experienced because they are not impeding the groundwater gradient. Moreover, a significant number of impacted homes west of Lake Nokomis are estimated to be at elevations up to 18 feet above the local water table. This is evidence of a potentially perched water table, which is separate from shallow groundwater connected to Lake Nokomis.

### University of Minnesota Third Party Review

The District uses sound science to guide all of its planning and implementation decisions, which led the District into its current collaboration with the University of Minnesota (UMN) to review the inter-agency team's working conclusions. In February 2019, the Board approved a contract with the UMN to conduct an independent third-party review of the work completed to date by the inter-agency team. The District and UMN have a history of collaboration and in 2013 partnered with the Mississippi Water Management Organization (MWMO) to explore opportunities to improve base flow in Minnehaha Creek via stormwater infiltration. [This multi-year research project](#) examined the interaction between Minnehaha Creek and shallow groundwater reservoirs to determine where the creek is receiving groundwater and where it is not. In an effort to continue building on this knowledge, the District approved the UMN third party contract in February 2019 with a focus on:

- Review and edit the white paper synthesis drafted by the inter-agency team;
- Define questions related to groundwater concerns and gather the data needed to answer them;
- Identify any data gaps that remain and provide suggestions on how to acquire the appropriate data.

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**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.  
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

As noted above, part of the UMN's independent third-party review includes reviewing and editing a white paper synthesis drafted by the inter-agency team. The details of the proposed white paper synthesis are discussed in more detail below.

### White Paper Synthesis on the evaluation of surface and groundwater interactions in South Minneapolis

Collectively, the inter-agency team has reviewed over 70 studies and resources, held over 20 inter-agency team meetings, participated in five meetings with policy makers and members of the public, and invested over \$140,000 through the installation of six new wells. The evaluation of surface and groundwater interactions in South Minneapolis is a good example of how a governance structure can be formed to effectively and efficiently evaluate existing data, gather new data, and draw working conclusions. In an effort to capture the work done to date by the inter-agency team, a white paper synthesis is being proposed to summarize:

- What/where are the concerns that have been identified;
- Who is examining the concerns;
- What data has been examined and what does it tell us;
- What are the working conclusions developed to-date;
- What additional data could be collected to help fill data gaps;
  - Include a scope, schedule, and budget for the data collection.

### Wenck Scope of Work – Drafting of the White Paper Synthesis

As part of the inter-agency team, the District has offered to take the lead in drafting the white paper synthesis. To assist the District with this task, staff have asked the District engineer, Wenck Associates, to prepare a scope of work for the drafting of said white paper. Wenck's scope of work is attached and includes preparing a preliminary draft of the white paper, coordination meetings with the District, inter-agency team, and UMN to review the working draft, and production of a final draft of the white paper. As noted in the scope of work, Wenck has allotted up to 14 meetings with staff from District, UMN, and the inter-agency team. The purpose of these meetings is to allow for close coordination, cohesion, collaboration, and review of the white paper as it is being developed.

MCWD governance policies state that the Administrator will not enter into a professional services contract exceeding \$25,000 without using a competitive process. Staff has not obtained competitive quotes in this case under the rationale that Wenck is uniquely qualified for this project based on its history of work for the MCWD and inter-agency team on this evaluation, its unique knowledge of the hydrologic and hydraulic behavior of the Minnehaha Creek watershed, and its knowledge on the organizational goals of the District. For the reasons outlined above, the Administrator recommends that the Board proceed without a competitive selection process.

Wenck is proposing to begin this work in May 2019 and finish the white paper by the end of October 2019 for an estimated total cost of \$31,500. To assist the inter-agency team with the drafting of the white paper, District staff is recommending authorization to execute a contract with Wenck Associates for the drafting of a white paper synthesis on the evaluation of surface and groundwater interactions in South Minneapolis.

### **ATTACHMENTS:**

1. Handout: Nokomis Area Groundwater & Surface Water Evaluation FAQs
2. Wenck Associates scope of work

## RESOLUTION

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**RESOLUTION NUMBER:** 19-051

**TITLE:** **Authorization to execute a contract with Wenck Associates to draft a white paper synthesis on the evaluation of surface and groundwater interactions in South Minneapolis**

WHEREAS, the Minnehaha Creek Watershed District (MCWD) has been participating in an inter-agency team effort with the MN Department of Natural Resources (DNR), the City of Minneapolis (City), the Minneapolis Park and Recreation Board (MPRB), and Hennepin County, to better understand South Minneapolis resident concerns over higher groundwater levels near Solomon Park and Lake Nokomis; and

WHEREAS, the inter-agency team has met over 20 times during the past year to review existing data, identify data gaps where more information is needed, and is proposing to synthesize and summarize all of the information assembled over the past year into one comprehensive document known as a “white paper”; and

WHEREAS, MCWD and the University of Minnesota (UMN) have a history of collaboration, including the 2013 partnership to examine base flow conditions in Minnehaha Creek and the interaction between flow regimes in Minnehaha Creek and shallow groundwater, and University partners have a strong understanding of surface and groundwater systems within the region; and

WHEREAS, on February 14, 2019, the Board of Managers approved a contract with the UMN to build on the existing inter-agency teams efforts with a focus on:

- Review, edit and expansion of the inter-agency team’s synthesis and conclusions;
- Define additional questions related to groundwater concerns and gather the data needed to answer them;
- Identify data gaps that remain and provide suggestions on how to acquire the appropriate information;

WHEREAS, the District requested a scope of work from Wenck Associates to assist the inter-agency team in the drafting of the white paper synthesis; and

WHEREAS, Wenck has submitted a scope of work that details specific tasks necessary to draft the white paper, including coordination meetings with the inter-agency team and UMN to review and collaborate as the white paper is being developed; and

WHEREAS, MCWD governance policy requires written quotes or a qualification based selection process for professional services in excess of \$25,000; and

WHEREAS, staff is recommending deviation from this policy based on a proposal to develop the white paper that has been provided by Wenck, who, given their role as the District engineer, previous technical work on the surface and groundwater interactions in South Minneapolis, and unique knowledge of the hydrologic and hydraulic behavior of the Minnehaha Creek watershed and the organizational goals of the District, is uniquely qualified to perform the proposed work.

NOW, THEREFORE, BE IT RESOLVED that the Minnehaha Creek Watershed District Board of Managers hereby authorizes the District Administrator to execute a contract with Wenck Associates, on advice of counsel, to draft a white paper on the evaluation of surface and groundwater interactions in South Minneapolis for an amount not to exceed \$31,500, and authorizes the District Administrator to use an additional contingency of 20 percent of the not-to-exceed as in his judgment circumstances require.

Resolution Number 19-051 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_.  
Motion to adopt the resolution \_\_\_ ayes, \_\_\_ nays, \_\_\_ abstentions. Date: \_\_\_\_\_.

\_\_\_\_\_  
Secretary Date: \_\_\_\_\_

# NOKOMIS AREA GROUNDWATER & SURFACE WATER EVALUATIONS FAQS

Photo credit: Saar Hodne

## WHAT IS THE CONCERN?

Property owners near Lake Nokomis have noted higher levels of groundwater and standing water in previously dry areas, such as Solomon Park and Lake Nokomis Park. Additionally, the City of Minneapolis has heard concerns about deteriorating private sewer laterals (the lines that run from the street to a house) and groundwater impacts to basements and foundations. The Minneapolis Park and Recreation Board has also observed high water levels in Lake Nokomis, which have impacted beaches and shorelines.

## WHAT ARE WE WORKING TO UNDERSTAND?

In response to these concerns, we are working to understand the following:

- Are surface water and groundwater levels near Lake Nokomis, particularly south and west of the lake, rising?
- To what extent do groundwater levels interact with surface water levels in this area?
- What are potential impacts to public and private infrastructure from rising water levels?
- If groundwater and/or surface water levels are rising, why and what can be done about it?

## WHO IS WORKING TO UNDERSTAND THE CONCERNS?

Because groundwater and surface water management in Minneapolis falls under several jurisdictions, a group of agencies is working in partnership to evaluate and understand what's happening and how to address observed problems. Agencies participating in this effort include the MN Department of Natural Resources (DNR), the city of Minneapolis, the Minneapolis Park and Recreation Board (MPRB), the Minnehaha Creek Watershed District (MCWD), and Hennepin County. These agencies are also coordinating with the MN Department of Transportation (MnDOT), the Metropolitan Airports Commission (MAC), the city of Richfield, and the U.S. Geological Survey (USGS).

## HOW ARE THESE AGENCIES WORKING TOGETHER?

Staff from DNR, the city of Minneapolis, MPRB, MCWD, and Hennepin County are working together in a technical team to understand the questions noted above, while coordinating with other technical partners (noted above) as needed.

The work of the technical team has included installing new shallow groundwater wells, reviewing groundwater elevation data from existing monitoring wells, understanding soil characteristics and geology underlying the area, summarizing precipitation data, modeling groundwater recharge rates, looking at the Lake Nokomis water levels, and reviewing the operation of the Nokomis weir.



## WHAT HAS THE TECHNICAL TEAM LEARNED SO FAR?

### General Location of Affected Properties:

- There is a cluster of properties southwest of Lake Nokomis that have experienced impacts to basements and another cluster near Solomon Park which have experienced impacts to backyards.
- Most of the properties in this area that have impacts to basements are located more than 10-30 feet above the Lake Nokomis water level, which suggests that groundwater levels are likely the issue, rather than the Lake Nokomis water level.

### Precipitation:

The Twin Cities area is currently on track to have the wettest decade on record with the highest average annual precipitation and the most daily rainfalls of 1-inch or more. This includes an increase of precipitation in the month of April, when soils are usually thawed, but vegetation is not growing and cannot take up additional water. This has led to increasing groundwater recharge rates and primes the area for flooding.

- 2013 – 2018 will finish as the wettest six-year period on record (since the 1870s) with an extra year's worth of precipitation falling during that time
- 2014 had the wettest Jan. 1 – Jun. 30 on record; Jun. 2014 was the wettest month ever on record for the state
- 2016 was the wettest year on record
- 2016 – 2018 had more 1-inch daily rains than any other 3-year period on record
- April 2018 was the snowiest month on record

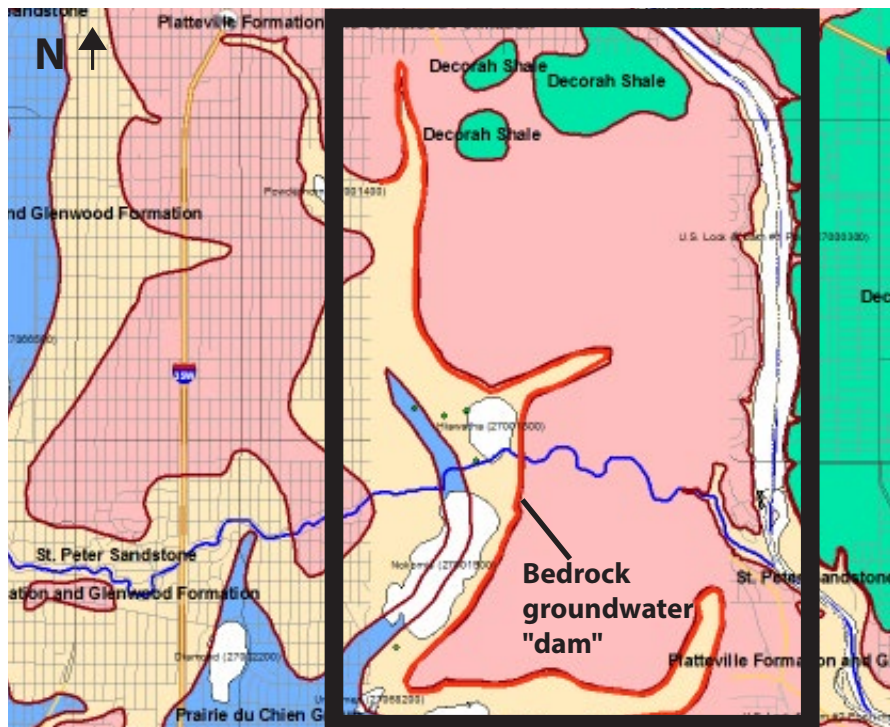
### Underlying Soil and Geology:

The geology of the shallow water table aquifer underneath this area varies and includes karst and peat features. The bedrock elevation rises at the north and east end of Lake Nokomis and along Minnehaha Creek. The water table enters the bedrock aquifer east of Lakes Hiawatha and Nokomis, but before Minnehaha Falls. It is possible that the rise in the bedrock may be acting like a dam to the groundwater (*see map, noted in red*), causing it to flow up and over the bedrock dam. This could be causing higher groundwater levels near Lake Nokomis.

### Groundwater Modeling & Recharge Rates:

Preliminary findings show that across the Twin Cities metro, including around Lake Nokomis, groundwater recharge rates have increased 3-4 inches per year in the past four years when compared to the last 25 years:

- Average recharge in 1988 - 2011: 10.1 - 12.0 inches per year
- Average recharge in 2012 - 2016: 14.1 - 16.0 inches per year



*Bedrock geology by Lake Nokomis. The red line shows the bedrock "dam." Groundwater flows west to east toward the Mississippi River.*

## Monitoring Wells:

To better understand surface and groundwater interactions in the area, the interagency partners installed six groundwater monitoring wells in the area (*figure reference*). Two shallow wells were constructed in 2017 in Solomon Park and Nokomis Park, that monitor the level of the local water table. Four additional wells built in 2018 and 2019 monitor levels of deeper aquifers.

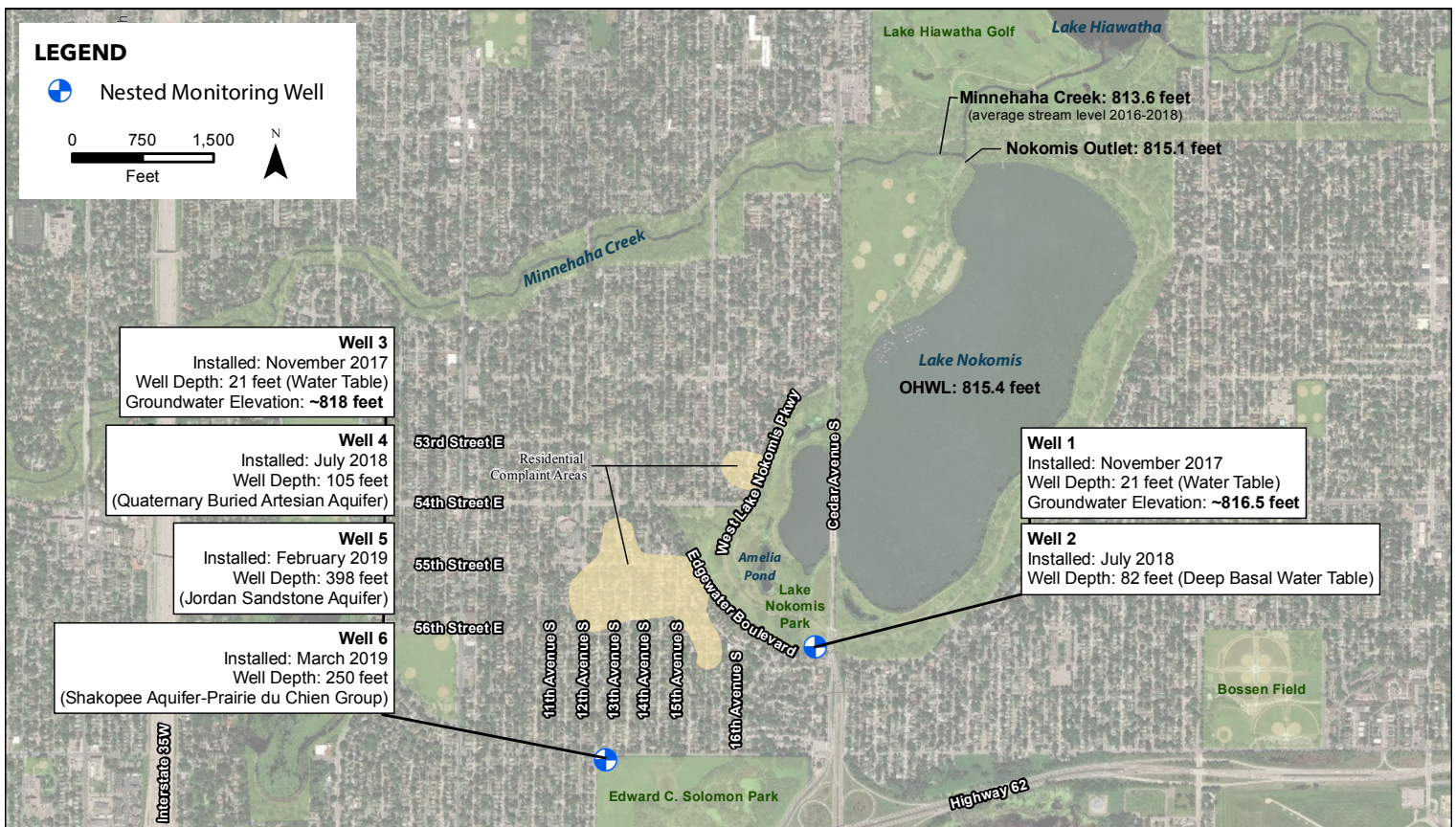
Concern has been raised that Minnehaha Creek is responsible for high groundwater in this area. To assess this concern, groundwater elevations were assessed against lake and creek elevations.

Data from the shallow wells reveals average elevations in Solomon Park of 818 feet, and in Nokomis Park of 816.5 feet. The DNR established Ordinary High Water Level (OHWL) of Lake Nokomis is 815.4 feet. The low “runout” elevation of the Lake Nokomis outlet is a 1931 concrete spillway located at 815.1 feet.

For Minnehaha Creek to impede groundwater flow in this area, the Creek would need to remain consistently higher than the Lake Nokomis low outlet elevation of 815.1 feet. 2016 – 2018 monitoring data for Minnehaha Creek shows that the Creek remained below 815.1 feet 97.4% of the time, and only exceeded 815.1 feet 28 days during this time period.

This demonstrates that Minnehaha Creek is not impeding the groundwater gradient in the area.

Moreover, a significant number of impacted basements west of Lake Nokomis are estimated to be at elevations between 825 and 835 feet, up to 18 feet above local water table elevations. This is evidence of a potentially perched water table, that is separate from shallow groundwater connected to Lake Nokomis.



Locations of monitoring wells



## WORK TO DATE



*Shallow water table well installed 2017*



*Information sharing open house, October 2018*

Since November 2017, work that has been completed includes:

### Interagency Coordination:

- 12 leadership team meetings
- 7 technical team meetings
- Over 70 studies and resources reviewed

### Investments:

- Six wells installed (*see previous*)
- \$159,259 invested
  - \$8,400: two shallow water table wells
  - \$34,000: two basal water table wells
  - \$100,000: two bedrock wells (in progress)
  - \$16,859: independent third-party review

### Outreach:

- 5 public meetings
- 4 email updates
- Dedicated webpage and email address

## NEXT STEPS

The University of Minnesota (UMN) Water Resources faculty will conduct an independent third-party review of the work completed to date by the interagency partners.

This assessment and any resulting recommendations are anticipated to be completed in 2019.

## CONTACT

To view technical data, technical team meeting notes, and presentations, please visit the City of Minneapolis' website: [www.ci.minneapolis.mn.us/publicworks/stormwater/nokomisgroundwater](http://www.ci.minneapolis.mn.us/publicworks/stormwater/nokomisgroundwater).

For updates, please sign up for the Nokomis Area Groundwater and Surface Water emails at <https://bit.ly/20gg02R>. For additional questions or concerns, please email [nokomisgroundwater@minneapolismn.gov](mailto:nokomisgroundwater@minneapolismn.gov).



April 18, 2019

**Ms. Tiffany Schaufler**

Project & Land Manager  
Minnehaha Creek Watershed District  
15320 Minnetonka Blvd  
Minnetonka, MN 55345

RE: Proposal to Prepare Lake Nokomis-Area Surface Water & Groundwater Evaluation  
"White Paper"

**Dear Ms. Schaufler:**

The purpose of this letter is to provide the Minnehaha Creek Watershed District (District) with a proposal to create a "white paper" that documents, explains, and recommends next steps regarding high groundwater concerns in the Lake Nokomis area. Wenck understands that many residents in the Lake Nokomis area have experienced high groundwater levels in recent years. The high groundwater has resulted in wet, flooded basements and increased infrastructure maintenance for residents and the City of Minneapolis.

To address the concerns, the District and several partners have been working to identify, study and interpret data and resources pertaining to high groundwater near and surrounding Lake Nokomis. Among other activities, the District and its partners have reviewed dozens of area-related studies; installed groundwater monitoring wells; and engaged citizens and policy-makers at public meetings. Therefore, the white paper will synthesize issues, technical data, and findings previously established by the District and its partners into one document; if necessary, it will also provide next steps for further study or implementation activities.

**Scope of Work**

With the background outlined above in mind, Wenck presents the following Scope of Work to prepare the Lake Nokomis-Area white paper.

Task 1 – Prepare Preliminary Draft. Wenck will prepare an approximately 20-page white paper following the outline prepared by the District (dated April 12, 2019). The white paper will contain the following components and will follow a similar format to the District Watershed Management Plan:

- Executive summary;
- Identify the locations of groundwater concerns;
- Describe who has examined the concerns (to be prepared by the District and provided to Wenck);
- Describe data that has been examined and what the data indicates:

- Precipitation,
- Groundwater recharge rates,
- Well data,
- Underlying Lake Nokomis geology,
- Assumed elevations of problem areas,
- BMPs installed by LGUs, and
- Remaining data needs, if any.
- Up to five infographics and photo-references of Minnehaha Creek hydrographs, if available; and
- Offer recommendations and next steps.

Although Wenck will serve as the primary author of the white paper, we will collaborate at the meetings described in Task 2 (below) with partner agencies: MN Department of Natural Resources (DNR), City of Minneapolis, Minneapolis Park & Rec Board (MPRB), Hennepin County, the Metropolitan Council, and the U.S. Geological Survey. More specifically, we will coordinate with Barr Engineering, on behalf of the MPRB, and the University of Minnesota (U of M). Barr has extensive knowledge in the area due to their groundwater and hydrologic study of the Hiawatha Golf Course for the MPRB.

Wenck understands the U of M has also been hired by the District to conduct a “third-party” study of the white paper. As described in Task 2, we will collaborate with the U of M throughout development of the white paper to streamline their review and concurrence with the white paper data and next steps. In addition, this will ensure alignment of paper topics, tone, and structure are consistent with partner agency expectations.

We believe the use of infographics will be key to effectively showing readers key information. Therefore, we have developed the following questions/protocol to use with the District staff to clearly understand the intended story for each infographic.

- What is the story the graphic is trying to tell?
- How should the graphic look?
  - Realistic? Cartoonish? Real scale or Conceptual?
  - Example graphics to emulate?
- What information is most pertinent to show?
  - Elevations, scale, groundwater, etc.
  - Where is the real location?
  - Neighborhood? Lake? Stream?
- Who is the audience the graphic is intended for?
  - Decision makers? Government agency? General Public?
- What type of graphic best show the story?
  - Plan, Section, rendering
- Storyboard the ideas to ensure all the information is discussed
  - Create a quick sketch version in the meeting to make sure everyone is on the same page and adjust as necessary
  - Colors wanted/unwanted?
  - Fonts desired?
- Title
- Information to exclude

Three infographics have already been prepared, so our scope includes creating up to five new graphics, refining the three that were recently completed, and collaborating with District staff that may develop their own graphics for the white paper.

Task 2 – Meetings. Wenck will attend up to 14 meetings during preparation of the white paper. These meetings will ensure close coordination with the District, U of M, and the inter-agency “Technical Team.”

- District Progress Meetings (8) – The Wenck Project Manager will meet with District staff two times per month between May and August to review progress and set interim goals/milestones for the next progress meeting.
- U of M Collaboration Meetings (3) – The Wenck Project Manager and a Wenck water resources engineer will meet with the District and U of M. Wenck will “divide” the preliminary draft into thirds, and then provide the new third of the white paper approximately one week before each meeting so that the District and U of M can review prior to the meeting.
- Technical Team Collaboration Meetings (3) – The Wenck Project Manager will meet with the inter-agency Technical Team to report on draft progress and discuss agency comments. We anticipate that each Technical Team meetings will be held after each U of M meeting so as to also report U of M comments on the draft paper progress.

Task 3 – Revise and Prepare Final Draft. Wenck assumes that the District, the U of M, and Technical Team agencies will conduct a thorough review of the Preliminary Draft and that comments from all will be provided to Wenck in a written/typed format. Wenck will cooperate with District staff to catalog all comments and prepare responses to clearly show how each comment was addressed, if necessary. We will then revise and prepare the Final Draft to the District for issuance to its study partners.

### Budget, Schedule, and Project Team

Wenck will complete Tasks 1, 2 and 3 for a cost of \$31,500. The Scope of Work will be executed according to our master services contract and 2019 fee schedule. A detailed breakdown of our budget is provided in the table below. We will not exceed the authorized budget without obtaining written prior approval.

Phase and/or Task Code	Task Description	Total Cost	Meehan	Shoemaker	Anderson	Cannan	Zhang	Mathern	Travel
		\$	Enter hours (not \$) below						\$
1	Preliminary Draft	15,802	3	17	25	49	9	15	
2	Meetings	12,980		56			12		\$ 508
3	Revised & Final Drafts	2,718	2	4	4	8			
<b>Total</b>		<b>\$ 31,500</b>	<b>5</b>	<b>77</b>	<b>29</b>	<b>57</b>	<b>21</b>	<b>15</b>	<b>508</b>

The approximate project schedule is noted below. However, we recognize that this schedule will be dictated by meeting schedules and Technical Team availability.

- Week of April 29, 2019 – Notice to Proceed
- May 24, 2019 – U of M Meeting #1

Ms. Tiffany Schaufler  
MCWD  
April 18, 2019



- June 7, 2019 – Technical Team Meeting #1
- June 21, 2019 – U of M Meeting #2
- July 12, 2019 – Technical Team #2
- August 2, 2019 – U of M Meeting #3
- August 23, 2019 – Technical Team Meeting #3
- August 30, 2019 – Complete Preliminary Draft
- September 27, 2019 – Deadline for Written Comments by District, U of M, Technical Team
- October 31, 2019 – Issue Final Draft to District

Wenck's team for this project is:

- Project Manager & Author – Todd Shoemaker
- Senior Engineer & QA/QC – Chris Meehan
- Contributing Authors
  - Chad Anderson, Environmental Specialist
  - Cat Cannan, Hydrogeologist
  - Lu Zhang, Environmental Engineer
- Infographics – Alex Mathern

On behalf of the 300+ employee-owners of Wenck, thank you for this opportunity to work with you. Should you have any questions or need clarification of anything presented in the attached proposal, please do not hesitate to call me at 651-294-4585.

Sincerely,

A handwritten signature in blue ink that reads 'Todd Shoemaker'.

Todd Shoemaker, PE (MN, IA), CFM  
Wenck Associates, Inc.  
Principal, Water Resources Engineer

A handwritten signature in blue ink that reads 'Chris Meehan'.

Chris Meehan, PE (MN), CFM  
Wenck Associates, Inc.  
Principal, District Engineer

Please sign below to accept the terms of this proposal.

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Signature  
Minnehaha Creek  
Watershed District

Printed Name, Title and Date