



**Title:** Authorization to Execute Memorandum of Understanding (MOU) with the City of Edina

**Resolution number:** 21-051

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**Reviewed by:** Name/Title: Brian Beck, Research and Monitoring Program Manager

**Recommended action:** Authorize execution of a Memorandum of Understanding (MOU) between MCWD and the City of Edina

**Schedule:** Early September 2021 – Release pilot model RFP  
 Mid October 2021– Select consultant and begin pilot model build  
 Early September 2022 – Complete pilot model assessment

**Budget considerations:** N/A

**Past Board action:** Res # 14-056 Title: Authorization to execute Memorandum of Understanding (MOU) with the City of Edina  
 Res # 21-024 Title: Authorization to submit proposal to LCCMR for development of a 2D watershed model

**Summary:**

Background

Climate change is measurably changing the distribution, frequency and intensity of rainfall in Minnesota. The Minnehaha Creek Watershed has experienced the wettest seven years ever recorded. Over the past 10 years, Minnesota has experienced both record flood conditions and statewide drought that has negatively impacted aquatic ecology, stressed stormwater infrastructure and created billions in property damage. To successfully adapt to the increasingly volatile extremes in weather, Minnehaha Creek Watershed District (MCWD) and communities must be able to identify what landscape interventions are needed, where they are needed, and how much investment is needed.

MCWD is uniquely positioned to answer many of these questions since our borders are formed on hydrologic boundaries instead of geopolitical boundaries. However, this means watersheds encompass many municipal and regional entities who manage their own stormsewer networks. For example, MCWD contains 29 cities and two counties that maintain unique stormsewer infrastructure datasets. Combining these unique stormsewer infrastructure datasets into a unified watershed model has historically been labor-intensive, prohibitively expensive, and nearly impossible to maintain at a watershed scale.

Building a hydrology and hydraulics (H&H) model that incorporates high resolution municipal stormsewer information at the watershed scale requires MCWD to develop an automated process due to the sheer magnitude of stormwater infrastructure data in each city. Building this automated infrastructure data processing pipeline and watershed wide model will require a new level of partnership with each city to ensure that the model build is successful.

Over the past year District staff have taken time to identify, characterize, and limit potential areas of risk related to building a state-of-the-art H&H model for MCWD. One way to limit potential technical and relational risk is to develop a small-scale pilot model that would answer two important questions, which include:

- Determining which modeling software platform best meets the District needs, which will allow District staff to make decision based on multiple real world options
- Determining if the automated data processing scripts can be incorporated into different modeling platforms. This will ensure that the District will have the option to switch modeling platforms in the future, but continue to use the automated data processing workflow.

Edina – MCWD Memorandum of Understanding:

The City of Edina was a clear choice to test a small-scale pilot model due to their strong history of collaboration with the District, recent efforts to build 2D models, strong technical understanding of modeling, and robust stormwater infrastructure dataset. The City and District recently began exploring opportunities to build a pilot model to help inform the District's full scale watershed model build and provide the City with useful information about flooding within their jurisdiction.

Attached to this resolution is a memorandum of understanding (MOU) that outlines each party's broad interest in collaborating. Specific areas of interest include:

- Data Sharing Approach
- Model Development Methodology
- City Feedback on District Modeling Approach

**Supporting documents (list attachments):**

1. Memorandum of Understanding with the City of Edina



**MINNEHAHA CREEK**  
**WATERSHED DISTRICT**  
 QUALITY OF WATER, QUALITY OF LIFE

**RESOLUTION**

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**Title:** Authorization to Execute Memorandum of Understanding (MOU) with the City of Edina

- WHEREAS, climate change is measurably changing the distribution, frequency and intensity of rainfall in Minnesota;
- WHEREAS, these shifting precipitation patterns are stressing our natural and built environments, impacting pollutant loading, stream channel erosion, wetland functions, surface and surficial groundwater interactions, habitat, and homes, businesses and public infrastructure;
- WHEREAS, watershed managers, in partnership with local communities, must accelerate efforts to monitor, evaluate and adapt to these changes in order to fulfill shared goals of managing flood risk and improving water quality;
- WHEREAS, City and District staff’s ability to manage water resources is limited by the scale or granularity of their hydrologic and hydraulic (H&H) models due to limitations of industry standard one dimensional (1D) H&H models;
- WHEREAS, the District has identified the need to develop a watershed-wide two dimensional (2D) model that incorporates high resolution stormwater infrastructure geospatial data to improve our ability to inform current and future water resource management decisions in the face of changing climate;
- WHEREAS, the District seeks to develop a pilot model in order to answer outstanding technical questions related to building a 2D H&H model for the entire District, which include assessment of modeling software that best meet District needs, development of a repeatable process for municipalities to share stormsewer infrastructure data with the District, and identifying important data gaps for 2D watershed model development;
- WHEREAS, the attached Memorandum of Understanding outlines opportunities to collaboratively develop a 2D model within the boundaries of the City to inform future model development for both organizations.

NOW, THEREFORE, BE IT RESOLVED that the MCWD Board of Managers hereby authorizes the District Administrator to execute the Memorandum of Understanding in its final form between MCWD and the City of Edina.

Resolution Number 21-051 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_. Motion to adopt the resolution \_\_\_ayes, \_\_\_nays, \_\_\_abstentions. Date: 8/26/2021

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

## MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made between the City of Edina, a Minnesota municipal corporation ("City"), and the Minnehaha Creek Watershed District, a watershed district and political subdivision with powers at Minnesota Statutes Chapters 103B and 103D ("District").

### Background

1. Elements of our water conveyance systems have been built for stable climate patterns. These patterns increasingly are disrupted by extreme events and shifts in precipitation patterns that place stress on natural and built environments, affecting pollutant loading, stream erosion, wetland function, surface and groundwater interaction, ecological stability, and the safety and integrity of homes, businesses and public infrastructure.
2. The District maintains a hydraulic and hydrologic (H&H) modeling capacity that it uses to assist its municipalities in understanding water movement for water quality, flood management and other beneficial purposes. However such capability traditionally has been challenging to maintain. The District model rests importantly on local stormwater conveyance and storage data, land cover data and other local information. Higher-resolution local data need to be integrated with the District's lower-resolution watershed-wide model. Also, local data are not consistent in format across the District's municipalities, and are difficult to keep current.
3. With the increasing importance of H&H modeling capability to predict the impact of changes in precipitation and land use, enhance infrastructure planning, and assess potential water quality, flood management and other beneficial projects, the District is seeking to consolidate advances in data handling and model processing capacity to develop an enhanced "two-dimensional" (2D) H&H model that can integrate data from municipalities across the District and, in turn, produce outcomes that serve their differing needs. District and municipal needs include:
  - a. Characterizing pre-development hydrologic conditions in major subwatersheds
  - b. Understanding the location, frequency, magnitude, type (e.g., surface water, conveyance system, groundwater), and duration of current and future flood events
  - c. Assessing public safety, property damage and financial risks for future flood events
  - d. Running short-term flood scenarios that inform emergency management and inform the public
  - e. Assessing the water quality and volume impacts of projects on downstream waterbodies
  - f. Identifying policies and projects to mitigate climate change impacts

g. Assessing the effects of regulation under current and future scenarios

4. The City is a municipality within the District that is essentially fully developed, has a strong technical understanding of its infrastructure systems, and finds value in the enhanced modeling capacity described above as a tool to plan for water resource and flood management within the City.

5. The District has applied for a grant from the Legislative-Citizen Commission on Minnesota Resources (LCCMR) for grant funds to advance its 2D H&H modeling program on a watershed basis. Its work on a local scale with a committed partner will offer model development and proof-of-concept benefits in advance of an LCCMR-supported effort on a broader scale.

6. Therefore, the City and the District agree to work together in this pilot effort, and to fulfill the mutual commitments stated herein, to achieve the purposes outlined above. This MOU is not legally binding, but relies on the good faith efforts of both parties to achieve the common goals set forth herein.

### Terms

1. The District, at its election and with the City's engagement as described herein, will prepare a scope of work ("Scope") to be performed by a retained technical consultant to perform a pilot 2D H&H project within the City, and a request for proposals (RFP) to select the engineer. The Scope will include the following subjects:

- a. Review and characterize the City's data and data structure; identify missing but needed data
- b. Acquire identified needed data
- c. Select two model software packages or platforms to be used
- d. Develop data processing scripts to convert city data into necessary formats
- e. Develop models
- f. Test models through QA/QC, scenario runs and other proof-of-concept methods
- g. Model specifically identified scenarios and produce outputs
- h. Identify model limitations and deficiencies; assess potential solutions
- i. Examine expansion to trans-municipal scale; identify and assess scalability considerations
- j. Examine how to integrate models across municipal boundaries, including how to reconcile differing levels of data, and differing data formats and structures
- k. Review range of model outputs that may be desired by municipalities and other partners, and assess the ability to provide such outputs
- l. Develop protocols for the City, and partners generally, to share data

2. The Scope will concern that part of the City described in Attachment A hereto.

3. In the District's preparation of the Scope and RFP, the City and District will consult to identify the data that the City possesses about its built and natural water conveyance and storage systems, soils, groundwater, land use and any other data relevant to the Scope and RFP. The City promptly will advise the District as to the extent of the data, their format, their availability to the retained consultant, and any other information relevant to the Scope or RFP.

4. The District Board of Managers ("Board") will approve the final Scope and RFP, the solicitation and evaluation process, and the award of contract. Within the framework established by the Board, District and City staff will collaborate in review of the draft Scope and RFP, and the City will participate in any technical committee used to evaluate proposals. The District and City each will engage their engineers to provide technical contribution to the review of the documents.

5. The principal purpose of the scope is to demonstrate modeling proof-of-concept, not to produce outputs of modeling scenarios. Nevertheless, during Scope development, the City will advise the District of modeling scenarios that lie within the Scope, and outputs for which the City would find to be of value. The District will use best efforts to incorporate those scenarios into the proof-of-concept work identified in the Scope.

6. The Scope will contain the process for the retained consultant's performance of the work. The City will advise the District of its preferences for consultation during the work, which the District will make best efforts to accommodate.

a. Specifically but not exclusively, the City, by its staff and engineer, will have specific engagement in the following areas:

- Identifying and characterizing the City's data and data characteristics
- Selecting the two model software platforms that the retained consultant will utilize
- Selecting model scenarios and runs to be used for proof of concept
- Examining the goals and requirements to integrate a trans-municipal model across municipal boundaries, and across differing data systems and structures
- Assessing how to accommodate differing modeling product preferences among municipalities
- Formulating protocols to update the model with city and other changing data

b. The City will make a meaningful commitment of in-kind resources, through staff and the city engineer, to provide the engagement in paragraph 6.a and, generally, to support the performance of the Scope. The City will promptly provide City data, input and review as reasonably requested by the District or its retained consultant.

7. The District will be responsible to award a contract and to manage the performance of the Scope by the retained consultant. The District will keep the City advised of the progress of the

work and will afford the City the ability to review work product, and the right to review deliverables identified in the Scope before the District accepts them. The parties intend that the Scope be performed on a schedule that provides for completion by Fall 2022.

8. The District will bear the cost of the retained consultant. Each party will bear its own costs, including the cost of its engineer's participation, related to its activities under this MOU. Each party will bear its own subscription costs that may apply to its retention of any work product under the MOU.

9. The District will own all work product from the performance of the Scope, except for product that is identified in the consultant contract as consultant's instruments of service. The City will have a non-exclusive, perpetual license to hold District-owned work product that concerns 2D H&H modeling within City boundaries, and to distribute it without fee, and may create and own derivative products therefrom.

10. If the City receives a request for data pursuant to the Data Practices Act, Minnesota Statutes chapter 13 (DPA), that may encompass data (as that term is defined in the DPA) the City obtained from the District under this MOU, it will inform the District immediately and transmit a copy of the request. The City will be responsible to determine whether it is legally required to respond to the request and otherwise what its legal obligations are, but will notify and consult with the District and its legal counsel before replying. Nothing in the preceding sentence supersedes the City's obligations under this agreement with respect to protection of District data, property rights in data or confidentiality.

11. Except to perform the Scope, or except by written permission, the City and the District each will not disclose, and will hold in confidence, any and all proprietary materials owned or possessed by, and so denominated by, the other.

12. Any output provided to the City under the Scope is for demonstration purposes only, and comes with no representation or warranty by the District to the City, whatsoever. The City holds the District harmless with respect to any claim, cause of action, cost or damage resulting from alleged or actual defective work of the retained consultant in performing the Scope. This MOU is not a joint powers agreement, and neither party hereto agrees to be responsible for the acts or omissions of the other within the meaning of Minnesota Statutes §471.59, subdivision 1a. Nothing herein waives or diminishes any immunity, defense or liability limit that either party enjoys under law with respect to any third party.

13. The following individuals will be the primary District and City contacts for matters concerning this MOU. Either party may change the designated contact by notifying the other party:

City

Ross Bintner  
Engineering Services Manager  
City of Edina  
7450 Metro Blvd.  
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MCWD

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14. This MOU is effective on execution by both parties, and terminates on December 31, 2022.

**CITY OF EDINA**

By:   
Scott Neal, City Manager

**MINNEHAHA CREEK  
WATERSHED DISTRICT**

By: \_\_\_\_\_  
James Wisker, District Administrator