



Title: Approval to Continue Joint Funding Agreement with the USGS for Gauging Stations and Technical Assistance in 2020 and 2021

Resolution number: 20-019

Prepared by: Name: **Kailey Cermak**
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Reviewed by: Name/Title: **Brian Beck/R&M Manager**

Recommended action: **Approval to continue joint funding agreement with the United States Geological Survey**

Schedule: USGS Fiscal Year:
10/1/19 - 9/30/20
10/1/20 - 9/30/21

Budget considerations: Fund name and code: R&M Contracted Services 500-5001-4320
Fund budget: **\$180,620**
Expenditures to date: **\$7915.65**
Requested amount of funding: **Not to exceed \$49,444 per year**

Past Board action:

Res #: 18-017	Title: Approval of Continuing MCWD and USGS Agreement for Joint Funding of O&M of Gage Stations near Minnehaha Falls and Grays Bay Dam for 2018 and 2019
Res #: 16-048	Title: Approval of Continuing MCWD and USGS Agreement for Joint Funding of O&M of Gage Station near Minnehaha Falls and Grays Bay Dam for 2016 and 2017
Res #: 15-007	Title: Authorization to enter into a Joint Funding Agreement with the USGS for the O&M of a Stage Gage on Lake Minnetonka

Summary:

Minnehaha Creek Watershed District (District) staff are tasked with managing the water quantity, quality, and ecological integrity within the District's legal boundary. The District's role in managing water quantity requires obtaining and curating information about how water moves through the watershed. There are two locations within Minnehaha Creek Watershed District that are critically important for managing water quantity, which include Grays Bay Dam and the outlet of Minnehaha Creek Watershed District into the Mississippi River. The water level at Grays Bay Dam and the outlet of Minnehaha Creek in Minneapolis are used to inform our dam management, understanding the District's water budget, and calculating pollutant loads. In 2005, District staff initiated a partnership with the United States Geological Survey (USGS) at the Hiawatha gauging station on Minnehaha Creek. The USGS is the national leader in the field of discharge measurement

and water level gauging techniques, which ensures that critical flow measurement accuracy and precision is held to the highest standard.

The monitoring partnership remained a joint project where each agency pays a portion of the cost for operation, maintenance, and distribution of the data. Following record flooding in 2014, the partnership between the District and USGS was extended to include an additional gauge on Lake Minnetonka at the Grays Bay Dam. The District's partnership with USGS to obtain highly accurate water level and flow data have allowed District staff to improve dam management, forge partnerships with other agencies on water quantity management, and communicate current water level conditions to the public.

The benefits of this partnership agreement extend beyond the stream gauging stations. As key initiatives like the real-time sensor network, groundwater studies, and the new District model are carried forward, staff foresee utilizing the expertise available at the USGS. The contract, in addition to the routine stream gauging work, now includes line items for the following tasks:

1. Sediment particle distribution analysis to inform 325 Blake Rd. project design
2. Real-time sensor network (RESNET) equipment placement/operation
3. Rating curve development/maintenance for calculating flow at multiple monitoring locations
4. Groundwater monitoring/modeling assistance

Projected costs for the gauging stations and technical support tasks are outlined in Table 1. Costs associated with the two gauging stations are required and include operations and maintenance, daily discharge computation, continuous specific conductance and water temperature, and stormwater collection and analysis. The USGS contributes funds toward the gauging stations, lowering the cost for the District. Optional technical support dollars can be utilized on an as-needed basis; the District is not obligated to spend any of those dollars during the two-year contract cycle.

Table 1. Annual Cost Breakdown

Task	MCWD Share	USGS Matching Funds
Required Spending		
Grays Bay Station	\$4,225	\$1,550
Minnehaha Creek at Hiawatha Ave. station	\$21,005	\$13,350
Sub-total	\$25,230	\$14,900
Optional Technical Support (not to exceed)		
Sediment Analysis	\$8,374	\$0
RESNET Instrumentation	\$4,560	\$0
Rating Curve Development	\$5,640	\$0
Groundwater Monitoring/Modeling	\$5,640	\$0
Sub-total	\$24,214	\$0
Annual Total	\$49,444	\$14,900

The Joint Funding Agreement between MCWD and the USGS needs to be renewed once every two years. 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 the USGS is uniquely qualified for this scope of work based on their status as national leaders within the area of flow measurement, extensive track record of effective collaboration, and willingness to defray portions of the cost. For the reasons listed above District staff recommend that the Board proceed without a competitive selection process.

The agreement renewal, which continues funding by USGS and MCWD is for the following timeframe: October 1, 2019 through September 30, 2020 and October 1, 2020 through September 30, 2021. MCWD's portion of the contract will not exceed \$49,444 annually.

Supporting documents (list attachments): USGS Contract & Statement of Work



RESOLUTION

Resolution number: 20-019

Title: Approval to Continue Joint Funding Agreement with the USGS for Gauging Stations and Technical Assistance in 2020 and 2021

- WHEREAS, the Minnehaha Creek Watershed District (District) staff are tasked with managing water quantity, quality, and ecological integrity;
- WHEREAS, the District’s role in managing water quantity requires obtaining and curating information about how water moves through the watershed;
- WHEREAS, the United States Geological Survey (USGS) is the leader in the field with regards to stream gauging techniques;
- WHEREAS, the District has partnered with the UGGS in the management, operations, and publishing of stream gauging information since 2005;
- WHEREAS, continuing the operation of the Hiawatha Avenue and Grays Bay Dam gauging stations is critical for dam operations, nutrient load calculations, and future model development;
- WHEREAS, staff also foresee utilizing the expertise at the USGS for additional services on an as-needed basis to help carry key initiatives forward and have included technical support into the scope of services;
- WHEREAS, the joint funding agreement between MCWD and the USGS needs to be renewed every two years;
- WHEREAS, MCWD governance policies specify a competitive process for selection of professional services for a scope exceeding \$25,000, however, the USGS is uniquely qualified for this scope of services based on its history of effective collaboration with the District, its status as national leaders in regards to gauging techniques, and their willingness to defray costs;

NOW, THEREFORE, BE IT RESOLVED that the Minnehaha Creek Watershed District Board of Managers authorize the Administrator to extend a joint funding agreement with the USGS for services from October 1, 2019 through September 30, 2021 with a total cost not to exceed \$49,444 annually.

Resolution Number 20- **019** was moved by Manager _____, seconded by Manager _____. Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date:

Secretary Date: _____



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Upper Midwest Water Science Center

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Mounds View, MN 55112
763.783.3100

Wisconsin Office
8505 Research Way
Middleton, WI 53562
608.828.9901

Michigan Office
5840 Enterprise Drive
Lansing, MI 48911
517.887.8903

March 5, 2020

Kailey Cermak
Minnehaha Creek Watershed District
15320 Minnetonka Blvd.
Minnetonka, MN 55345

Dear Ms. Cermak,

Attached is our standard joint-funding agreement for the 3 surface-water monitoring stations (including head- and tail-water stage gages at Lake Minnetonka Dam in Grays Bay and streamgaging and water-quality monitoring at Minnehaha Creek at Hiawatha Avenue), during the period October 1, 2019 through September 30, 2020 in the amount of \$49,444 from your agency. U.S. Geological Survey contributions for this agreement are \$14,900 for a combined total of \$64,344. Please sign and return one fully-executed original to Lisa L Syde-Hagen at the address above.

This is a fixed cost agreement to be billed quarterly via Down Payment Request (automated Form DI-1040). Please allow 30-days from the end of the billing period for issuance of the bill. If you experience any problems with your invoice(s), please contact Angela Hughes at email at amhughes@usgs.gov.

The results of all work performed under this agreement will be available for publication by the U.S. Geological Survey. We look forward to continuing this and future cooperative efforts in these mutually beneficial water resources studies.

Sincerely,

**JOHN
WALKER**

John F. Walker
Center Director

Digitally signed by
JOHN WALKER
Date: 2020.03.05
17:24:37 -06'00'

**Form 9-1366
(April 2015)**

**U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations**

**Agreement#: 20NKJFA203
Customer#: 6000001447
Project #: NK00LZN, 001MV,LZNL2
TIN #: 41-1311180
USGS DUNS #: 091721100**

Fixed Cost Agreement YES[X] NO[]

THIS AGREEMENT is entered into as of the October 1, 2017, by the U.S. GEOLOGICAL SURVEY, Minnesota Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the Minnehaha Creek Watershed District party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation the 3 surface-water monitoring stations (including head- and tail-water stage gages at Lake Minnetonka Dam in Grays Bay and streamgaging and water-quality monitoring at Minnehaha Creek at Hiawatha Avenue), herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of \$0.00

- (a) \$14,900 by the party of the first part during the period October 1, 2019 to September 30, 2020
- (b) \$49,444 by the party of the second part during the period October 1, 2019 to September 30, 2020
(\$24,214 will only be billed if Task 3-6 are needed)

- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of :

Description of the USGS regional/national program:

- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request; be furnished by the party of the first part; at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties.

9. USGS will issue billings utilizing Department of the Interior Bill for Collection (form DI-1040). Billing documents are to be rendered quarterly. Payments of bills are due within 60 days after the billing date. If not paid by the due date,

**U.S. Geological Survey
Statement of Work
In Cooperation with
Minnehaha Creek Watershed District**

2020 Federal Fiscal Year (October 1, 2019 through September 30, 2020)

1) At Lake Minnetonka Dam in Grays Bay

The U.S. Geological Survey will operate and maintain a gaging station for publication of continuous water level (stage) for head and tail-water pools at Grays Bay Dam. Both provisional and published data will be posted online. Specifically, by USGS Station Name and Identifier:

- (A) Lake Minnetonka at Grays Bay outlet in Minnetonka, MN (station ID 05289000)
https://waterdata.usgs.gov/nwis/inventory/?site_no=05289000
- (B) Minnehaha Cr below Grays Bay Dam in Minnetonka, MN (station ID 05289100)
https://waterdata.usgs.gov/nwis/inventory/?site_no=05289100

2) Minnehaha Creek at Hiawatha Avenue

The U.S. Geological Survey will maintain a streamgage for computation of continuous streamflow, specific conductance, and water temperature; and collect and analyze water-quality samples from streamflow runoff.

- (A) Streamgage operation and maintenance and streamflow computation

A streamgage will be maintained and operated. Discharge measurements will be made to define changes to the stage-discharge rating over the range of flows that occur to compute an accurate record of streamflow.

- (B) Continuous specific conductance and water temperature

In-stream sensors will be maintained and operated to provide a record of continuous specific conductance and water temperatures. Sensors will be cleaned and calibrated monthly or as needed to ensure an accurate record of data.

- (C) Runoff-triggered auto-samples (8)

A refrigerated autosampler will be used to collect samples from 6 runoff events. For each event, a discharge-weighted sample that is composited from discrete samples obtained during the rising limb and peak of the runoff hydrograph, will be analyzed for the constituents in table 1. To minimize nutrient degradation, chilled samples will be processed, preserved, and shipped to the laboratory within 48-72 hours of initial sample collection. The MCWD may authorize additional samples through an amended agreement at a cost of \$1,200 per sample.

Table 1. Laboratory analyses and physical measurements to be obtained from composited samples

Laboratory Analyses	
Nutrients	Dissolved chloride
Total phosphorus	Total suspended solids
Dissolved phosphorus	Volatile suspended solids
Dissolved ortho-phosphosphate	Suspended sediment concentration
Total ammonia plus organic nitrogen	Physical measurements from composite samples
Dissolved ammonia nitrogen	Specific conductance
Dissolved nitrite plus nitrate nitrogen	pH
Dissolved nitrite nitrogen	--

Data Publication - Provisional and approved data will be published on USGS NWISWeb at http://waterdata.usgs.gov/mn/nwis/nwisman/?site_no=05289800 and

U.S. Geological Survey
Statement of Work
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If requested by MCWD staff, the activities described below under tasks items (3)-(6) are to be undertaken. The Geological Survey is to be paid for performing the activities that are completed. Costs for services will be negotiated prior to work request. Below are estimates for services.

3) Laboratory analysis of suspended sediment samples

The U.S. Geological Survey will maintain a streamgage for computation of continuous streamflow, specific conductance, and

4) Technical assistance for surface-water site installations and equipment set up

5) Technical assistance for streamflow stage-discharge ratings and hydrologic record computation

6) Technical assistance for hydrologic groundwater issues

Table 2. Tasks and Costs, Federal Fiscal Year 2020

Task Number	Task	Total	USGS Matching Funds	MCWD Share
1-A	Lake Minnetonka at Grays Bay (station 05289000): -Stage sensor O&M and publication of stage data	\$3,875	\$1,050	\$2,825
1-B	Minnehaha Cr below Grays Bay Dam (station 05289100): -Stage sensor O&M, publication of stage data and 1-3 discharge measurements during inspection visit	\$1,900	\$500	\$1,400
2-A	Minnehaha Cr at Hiawatha Ave (station 05289800) -Streamgage O&M and data publication	\$16,800	\$7,900	\$8,900
2-B	-Continuous specific conductance & water temperature	\$7,290	\$3,450	\$3,840
2-C	-Storm runoff sampling by autosample (8 samples)	\$10,265	\$2,000	\$8,265
3-A	Laboratory analysis of up to 32 samples for 5-point size distribution of suspended sediment samples	\$6,784	\$0	\$6,784
3-B	Staff-time for sediment data tracking , site(s) set up, shipping, correspondence, posting. 3-person days USGS GS-6	\$1,590	\$0	\$1,590
4	Staff-time for surface-water site and instrumentation assistance as requested; up to 5-person days of USGS GS-11	\$4,560	\$0	\$4,560
5	Staff-time for ratings and hydrologic record assistance, as requested; up to 5-person-days of USGS GS-12.	\$5,640	\$0	\$5,640
6	Staff-time for groundwater assistance, as requested; up to 5-person-days of USGS GS-12.	\$5,640	\$0	\$5,640
	TOTAL	\$64,344	\$14,900	\$49,444