LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday, April 21, 2021

Agenda Item
Item 6. H. - Education & Outreach

Prepared By
Linda Loomis, Administrator

Summary

i. **Citizen Advisory Committee (CAC) Bylaws**
The CAC met on Tuesday, April 6, 2021. They have agreed to meet monthly on the first Tuesday of each month at 9:00am. At the meeting, the CAC elected officers and approved the bylaws for the CAC. A report from the Education and Outreach Coordinator, Jen Dullum is attached.

The bylaws must be approved by the Board and are attached. The Board should review the bylaws. If changes are warranted, the Board should so advise the CAC. Otherwise, the Board should approve the bylaws.

ii. **Schools & NGO Partnership Assessment**
The LMRWD Education & Outreach Coordinator, Jen Dullum, has researched opportunities to partner with schools and Non-governmental Organizations (NGOs). A report is attached for the Board review. This report is for the Board's information and no action is recommended.

iii. **LMRWD Signage Review & Recommendations**
The LMRWD Education & Outreach Coordinator, Jen Dullum, has investigated locations for signage to inform the public of the resources within the boundaries of the LMRWD. A report is attached. This report is for the Board's information and no action is recommended.

Attachments
Citizen Advisory committee update and bylaws memo dated April 14, 2021
LMRWD School and Non-governmental Organization Partnership Assessment memo dated April 14, 2021
LMRWD Signage Review and Recommendation memo dated April 14, 2021

Recommended Action
Motion to approve CAC bylaws

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, Administrator
Lower Minnesota River Watershed District

From: Jen Dullum, Education and Outreach Coordinator
Della Schall Young, PMP, CPESC

Date: April 14, 2021

Re: LMRWD Citizen Advisory Committee—Updates

The Lower Minnesota River Watershed District Citizen Advisory Committee (CAC) held its first official meeting on April 6, 2021. The following officers were elected, and the attached bylaws, which were drafted by Young Environmental Consulting Group (Young Environmental), were endorsed by the CAC, pending approval by the board of managers before adoption:

- Craig Diederichs, chair
- Jenny Karkowski, vice-chair
- Theresa Kuplic, secretary

Recommendation

Young Environmental recommends the Board review and approval of the attached CAC-endorsed bylaws.

CITIZEN ADVISORY COMMITTEE

Bylaws

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Original April 6, 2021

Acknowledgements

Citizen Advisory Committee:
Judy Berglund
Craig Diederichs, Chair
Greg Genz
Jenny Karkowski, Vice-Chair
Theresa Kuplic, Secretary

Lower Minnesota River Board of Managers:
Jesse Hartmann, President
David Raby, Secretary/Treasurer
Lauren Salvato, Secretary

Date of CAC Endorsement: April 6, 2021
Date of LMRWD Board Approval: TBD
Date of CAC Adoption: TBD

ARTICLE I: AUTHORITY

The Lower Minnesota River Watershed District (LMRWD) Citizen Advisory Committee (CAC) is hereby established with such powers and duties as are delegated to the CAC by the LMRWD Board of Managers (Board).

ARTICLE II: RESPONSIBILITIES

Per the Board and as outlined in the LMRWD Plan, the responsibilities of the CAC include the following:

a) Acting as a liaison between the LMRWD and residents.
b) Increasing public awareness by educating LMRWD residents about actions necessary to protect and improve water resources and habitat within its boundary.
c) Advising the Board and staff on issues important to residents.

ARTICE III: MEMBERSHIP

CAC members are appointed by the Board. The CAC consists of a minimum of five members who are District residents, as required by Minnesota Statutes 103D.331 (Appendix C). In addition, the Board may appoint interested and technical persons who are not District residents to the CAC to serve in an ex-officio capacity. CAC members are appointed to two-year terms.

ARTICLE IV: CONFLICT OF INTEREST

Prior to deliberation on an issue, a member who feels that they have a potential financial conflict of interest shall disclose that information to the Chair and members. Members may also report other members' potential conflicts of interest to the Chair and members. A majority vote of members present will determine whether the conflict of interest is sufficiently substantial to exclude the member from voting on the issue. All conflicts of interest disclosures and subsequent determination of whether to exclude a member from a vote shall be noted in the minutes.

ARTICLE V: PARTICIPATION

To ensure the CAC's efficiency, regular attendance at meetings is necessary. Any member may be removed for repeated, unexcused absences from CAC meetings. The Chair or LMRWD staff if directed by the Chair must notify the Board president when any member has three or more consecutive unexcused absences or when a member's sporadic attendance prevents meaningful participation in CAC matters.

An absence shall be deemed excused if the member notified the Chair, another CAC member, or District staff prior to the meeting. Excused absences shall be noted in the minutes of the meeting.

Any member may be removed from office for just cause and on written charge by a majority vote of the Board.

Members may request a leave of absence from the CAC by sending a letter to the Board president. The Board may grant a leave of absence for a period of no less than three months and up to a maximum of one year. While a member is on leave of absence, they shall not be eligible to vote and shall not be counted toward the quorum.

Members shall communicate their intention to resign in writing to the CAC Secretary, who in turn will notify members and the Board president.

Members are encouraged to attend Board meetings and District functions.

ARTICLE VI: VACANCIES

The Chair will notify the Board president of vacancies in membership. The Board will act in good faith to fill vacancies within 60 days from the date that the Board is notified of the vacancy.

ARTICLE VII: OFFICERS

Officers shall be elected for a one-year term. Elections shall be held during the first CAC meeting of the calendar year. The officers shall be chair, vice-chair, and secretary.

Duties of the officers are as follows:

1. The chair will do the following:
    a. Preside at all meetings of the CAC.
    b. Lead meetings in an efficient and orderly fashion.
    c. Plan meeting agendas in cooperation with staff.
    d. Encourage participation by all members at meetings.
    e. Serve as the primary contact to the Board.
    f. Appoint members to serve on subcommittees and task forces, as appropriate.
2. The vice-chair shall perform the duties of the chair in the chair's absence.
3. The secretary administers the paperwork at each meeting, prepares and distributes meeting minutes, handles all CAC correspondence, maintains a CAC file of pertinent information, and coordinates with the education and outreach coordinator and the District administrator.

Any officer whose membership ceases prior to the expiration of his/her term as an officer shall be replaced for the balance of his/her term by a special election of the CAC. Such special elections shall be held during the second regular meeting of the CAC immediately following termination of the officer's membership.

ARTICLE VIII: MEETINGS

The CAC will meet regularly pursuant to a schedule established by the CAC. Regular meetings shall be held on the first Tuesday of the month at 9:00 a.m. Members present at the prior regularly scheduled meeting may change this meeting schedule by a majority vote. Notice of the date, time, place, and proposed agenda of the meeting shall be published on the District's website at least seven days before the meeting.

The CAC will be subject to the Open Meeting Law, Minnesota Statute 13D (Appendix C). A quorum of at least half the members plus one CAC member must attend regularly scheduled meetings to vote on action agenda items or to vote on motions made during regularly scheduled meetings.

All CAC meetings shall be public. Public participation at meetings will, to the extent possible, be for the purpose of presenting information or providing comments that were not previously available to the CAC.

The CAC may utilize technology, including a conference call or web-based participation for members, presenters, or other necessary participants when feasible.

ARTICLE IX: VOTING

Each member is entitled to one vote. The CAC will function by a majority vote of the members present. A quorum must be present to vote. A tie vote by the CAC constitutes an impasse, and the result in question will remain a tie and be reported to the Board as a tie.

ARTICLE X: OFFICIAL MINUTES

The minutes of the CAC will be recorded by the secretary and will include the time, date, and place of the meeting; the attendance of the members and guests; the topics of the meeting and actions taken, or findings made; the results of roll-call votes; and a narrative or summary of pertinent discussions. A copy of the minutes for each meeting will be made available to members of the Board and the CAC.

ARTICLES XI: RULES AND RESPONSIBILITIES

The CAC will use Robert's Rules of Order to govern its meetings and business transactions. See Appendix D.

ARTICLE XII: COMMITTEES

To accomplish its prescribed responsibilities, the CAC may create committees of its members to study and report on projects, plans, and programs under consideration by the Board. Such committees will operate under the bylaws and rules of the full CAC.

The chair may appoint nonmembers who have expressed an interest in the topic or who have specialized expertise to a subcommittee or taskforce as appropriate.

If a regularly scheduled meeting is canceled, or if a quorum is not available to conduct business at a regularly scheduled meeting, a subcommittee or task force may meet during the time of the regularly scheduled meeting without providing 24-hour notice.

ARTICLE XIII: STAFF SUPPORT

Education and outreach coordinator, the District administrator, or a representative is expected to attend each CAC meeting unless otherwise directed by the Board; other District staff attendance will be overseen by the District Administrator. Staff will be responsible for the following:

- Preparing agendas with input from the Board, CAC Chair, and CAC priorities.
- Recording minutes, as requested.
- Assisting the CAC Chair in matters related to running the meetings.
- Preparing background information for items requiring CAC action.
- Coordinating attendance by consultants and other staff, as needed.
- Preparing memorandums to communicate CAC recommendations to the Board.

ARTICLE XIV: AMENDMENTS TO THE BYLAWS

Any member may offer a motion to amend the bylaws. The motion must receive a second before a vote on an amendment will be scheduled. All proposed amendments must be read before the CAC at a regularly scheduled meeting. Voting on any amendment will be held at the first meeting after a motion to amend has been made and seconded. Amendments to the bylaws will require a majority vote of those present at the meeting.

Bylaws and any changes thereto shall be submitted to the Board for comment prior to adoption.

ARTICLE XV: SEPARABILITY PROVISIONS

Should any article of these bylaws be considered unconstitutional or void, the remaining provisions will remain in full effect.

ARTICLE XVI: EFFECTIVE DATE

These bylaws will take effect upon approval by the Board.

Signed: _____ Date: _____

Citizen Advisory Committee Chair

Signed: _____ Date: _____

Board President

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, District Administrator
Lower Minnesota River Watershed District

From: Jen Dullum, Education and Outreach Coordinator
Della Schall Young, PMP, CPESC

Date: April 14, 2021

Re: LMRWD Education and Outreach – Schools and Nongovernmental Organizations Partnership Assessment Update

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As presented in the approved Lower Minnesota River Watershed District (District) education and outreach plan, Young Environmental Consulting Group (Young Environmental) completed an assessment of existing public and private K–12 schools and nongovernmental organizations (NGOs; e.g., Boy and Girl Scouts of America) for collaborative District education and outreach programming opportunities. The following details the process and outcomes of the assessment.

Young Environmental identified all public and private K–12 schools within the District. Along with identification, we researched current after-school programming and school-sponsored clubs that could benefit from District watershed education and outreach resources. The list of schools and programs can be viewed in Attachment A. Because of the vast differences in schools, their curricula, and programming, Young Environmental reviewed Minnesota Academic Standards for ways to incorporate watershed education. A summary of the respective K–12 standards can be found in Attachment B. Realistically, the District would develop materials regarding unique water resources features or management objectives to augment current academic science, mathematics, and social studies K–12 standards. In Attachment C, Young Environmental presents watershed education curricula already developed for K–12 education. These curricula are specific to Minnesota water resources and, in many cases, meet Minnesota Academic Standards. We plan to identify three schools (one elementary, one junior high, and one high school) within the District to explore opportunities to enhance their curricula to incorporate water resources education while still meeting state standards.

Young Environmental identified the following NGOs and private organizations and companies with established programs in which collaboration would be mutually

beneficial. Additional investigation is underway to identify specific partnership opportunities.

- Friends of the Minnesota Valley
- Conservation Partners of America
- Minnesota River Valley Audubon Chapter
- Minnesota Valley National Wildlife Refuge—Bloomington Education and Visitor Center (temporarily closed)
- Dodge Nature Center (outside District)
- Richardson Nature Center (temporarily closed)
- McColl Pond Environmental Learning Center
- Girl Scouts of Minnesota and Wisconsin River Valleys
- Boy Scouts 250 Northern Star Council
- Fort Snelling (currently not hosting field trips)
- Cargill
- Minnesota Valley Refuge Friends
- Minnesota Valley Trust
- 3 River Fishing Adventure

The areas researched are dependent on others to recognize the partnership opportunities the District presents. As such, we are investigating the development and promotion of independent, District-specific, in-person, or virtual outreach activities such as public events (e.g., Earth Day and fall cleanup programs) and home activities (e.g., nature bingo, Adopt-A-Drain). We understand that public events have been curtailed over the last year and are undergoing programmatic changes; however, direct engagement will provide the most effective platform for the District to promote its mission and message. Young Environmental will explore renting, borrowing, or purchasing displays and exhibit options for socially distanced events being held with local partners to further develop outreach plans for 2021–2022.

Young Environmental will continue to investigate sustainable programming that will advance the District toward meeting engagement goals. The goal will be to ensure whatever is recommended will align with watershed management plan Policy 9.1 and Strategy 9.1.2, which suggest developing an education outreach program to familiarize the public with District activities.

Attachment A–Schools within the Lower Minnesota River Watershed District

Bloomington

Westwood Elementary | 3701 West 108th Street
- Kids' SAFARI before- and after-school program

Olson Elementary | 4501 West 102nd Street
- Kids' SAFARI before- and after-school program

Oak Grove Elementary | 1350 West 106th Street
- Kids' SAFARI before- and after-school program

Indian Mounds Elementary | 9801 11th Avenue
- Kids' SAFARI before- and after-school program

Olson Middle School | 4551 West 102nd Street
- Galaxy – after-school program with City of Bloomington as joint sponsor
- Environmental Peace Club

Oak Grove Middle School | 1300 West 106th Street

Thomas Jefferson High School | 4001 West 102nd Street
- Community Service Letter
- Earth Corps

Burnsville

Burnsville High School | 600 State Highway 13
- Science Club
- Environment Club
- Women in Engineering

Shakopee

Sweeney Elementary | 1001 Adams Street South
- YMCA School-Age Care

Red Oak Elementary | 7700 Old Carriage Court
- YMCA School-Age Care

Eagle Creek Elementary | 6855 Woodward Avenue
- YMCA School-Age Care

West Middle School | 200 10th Avenue East

East Middle School | 1137 Marschall Road South

Tokata Learning Center | 1110 Shakopee Town Square Mall

Chaska

Carver Elementary | 1717 Ironwood

Guardian Angels School | 217 West 2nd Street

Angel Club before- and after-school care

St. John's Lutheran | 300 East 4th Street

Before- and after-school care

Attachment B – K–12 Minnesota Academic Standards

Draft Science: 2019 (standards will be implemented by the 2023–2024 school year)

- Grade 1 Communicating Reasons, Arguments, and Ideas to Others. Benchmark: 1E.4.1.2.1 Construct an argument with evidence to evaluate multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- Grade 1 Communicating Reasons, Arguments, and Ideas to Others. Benchmark: 1E.4.2.1.1 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- Grade 4 Exploring Phenomena or Engineering Problems. Benchmark: 4E.1.2.1.1 Make observations and measurements to provide evidence of the effects of weathering or the rate of erosion by the forces of water, ice, wind, or vegetation.
- Grade 4 Obtaining, Evaluating and Communicating Information. Benchmark: 4E.4.2.2.1 Obtain and combine multiple sources of information about ways individual communities, including Minnesota American Indian Tribes and communities and other cultures, use evidence and scientific principles to make decisions about the uses of Earth's resources.
- Grade 6 Developing Possible Explanations of Phenomena or Designing Solutions to Engineering Problems. Benchmark: 6E.3.2.1.2 Construct a scientific explanation based on evidence for how the uneven distribution of Earth's mineral, energy, or groundwater resources is the result of past geological processes.
- Grade 6 Developing Possible Explanations of Phenomena or Designing Solutions to Engineering Problems. Benchmark: 6E.3.2.1.3 Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.
- Grades 9–12 Exploring Phenomena or Engineering Problems. Benchmark: 9E.1.2.1.1 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.
- Grades 9–12 Developing Possible Explanations of Phenomena or Designing Solutions to Engineering Problems. Benchmark: 9E.3.2.2.1 Evaluate or refine a technological solution to reduce the human impacts on natural systems and base the evaluations or refinements on evidence and analysis of pertinent data.

Mathematics: 2007 (standards review was postponed in 2015 and will not be reviewed until 2021–2022)

- Grade 7 Data, Analysis, and Probability. Benchmark: 7.4.1.1 Design simple experiments and collect data. Determine mean, median, and range for quantitative data and from data represented in a display. Use these quantities to draw conclusions about the data, compare different data sets, and make predictions.
- Grade 7 Data, Analysis, and Probability. Benchmark: 7.4.1.2 Describe the impact that inserting or deleting a data point has on the mean and the median of a data set. Know how to create data displays using a spreadsheet to examine this impact.
- Grade 8 Data, Analysis, and Probability. Benchmark: 8.4.1.1 Collect, display, and interpret data using scatterplots. Use the shape of the scatterplot to informally estimate a line of best fit and determine an equation for the line. Use appropriate titles, labels, and units. Know how to use graphing technology to display scatterplots and corresponding lines of best fit.
- Grade 8 Data, Analysis, and Probability. Benchmark: 8.4.1.2 Use a line of best fit to make statements about approximate rate of change and about values not in the original data set.
- Grade 8 Data, Analysis, and Probability. Benchmark: 8.4.1.3 Assess the reasonableness of

predictions using scatterplots by interpreting them in the original context.

- Grades 9–11 Data, Analysis, and Probability. Benchmark: 9.4.1.1 Describe a data set using data displays, including box-and-whisker plots; describe and compare data sets using summary statistics, including measures of center, location, and spread. Measures of center and location include mean, median, quartile, and percentile. Measures of spread include standard deviation, range, and inter-quartile range. Know how to use calculators, spreadsheets, or other technology to display data and calculate summary statistics.
- Grades 9–11 Data, Analysis, and Probability. Benchmark: 9.4.1.3 Use scatterplots to analyze patterns and describe relationships between two variables. Using technology, determine regression lines (line of best fit) and correlation coefficients; use regression lines to make predictions and correlation coefficients to assess the reliability of those predictions.
- Grades 9–11 Data, Analysis, and Probability. Benchmark: 9.4.1.4 Use the mean and standard deviation of a data set to fit it to a normal distribution (bell-shaped curve) and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
- Grades 9–11 Data, Analysis, and Probability. Benchmark: 9.4.2.3 Design simple experiments and explain the impact of sampling methods, bias, and the phrasing of questions asked during data collection.
- Grades 9–11 Data, Analysis, and Probability. Benchmark: 9.4.2.1 Evaluate reports based on data published in the media by identifying the source of the data, the design of the study, and the way the data are analyzed and displayed. Show how graphs and data can be distorted to support different points of view. Know how to use spreadsheet tables and graphs or graphing technology to recognize and analyze distortions in data displays.

Social Studies: 2011 (final draft standards will not be complete until Fall 2021, with implementation at the earliest in 2025)

- Grade 2 Economics. Benchmark: 2.2.4.5.1 Classify materials that come from nature as natural resources (or raw materials); tools, equipment, and factories as capital resources; and workers as human resources.
- Grade 2 Geography. Benchmark: 2.3.1.1.3 Use maps, photos, or other geographic tools to identify and locate major landmarks or major physical features of the United States.
- Grade 2 Geography. Benchmark: 2.3.1.1.4 Use maps, photos, or other geographic tools to answer basic questions about where people are located.
- Grade 2 Geography. Benchmark: 2.3.4.9.1 Identify causes and consequences of human impact on the environment and ways that the environment influences people.
- Grade 3 Economics. Benchmark 3.2.4.5.1 Explain that producing any good or service requires resources; describe the resources needed to produce a specific good or service; explain why it is not possible to produce an unlimited amount of a good or service.
- Grade 4 Geography. Benchmark 4.3.3.6.1 Explain how geographic factors affect population distribution and the growth of cities in the United States and Canada.
- Grade 4 Geography. Benchmark 4.3.4.9.1 Explain how humans adapt to and/or modify the physical environment and how they are in turn affected by these adaptations and modifications.
- Grade 4 Geography. Benchmark 4.3.4.10.1 Describe how the location of resources and the distribution of people and their various economic activities have created different regions in the United States and Canada.
- Grade 4 Geography. Benchmark 4.3.4.10.2 Analyze the impact of geographic factors on the

development of modern agricultural regions in Minnesota and the United States.

- Grade 6 Geography. Benchmark 6.3.3.6.1 Locate, identify, and describe major physical features in Minnesota; explain how physical features and the location of resources affect settlement patterns and the growth of cities in different parts of Minnesota.
- Grade 6 History. Benchmark 6.4.4.18.1 Describe how and why the United States claimed and settled the upper Mississippi River region in the early nineteenth century; explain the impact of steamboat transportation and settlement on the physical, social, and cultural landscapes. (Expansion and Reform: 1792–1861).
- Grade 6 History. Benchmark 6.4.4.20.1 Analyze how the rise of big business, the growth of industry, the use of natural resources, and technological innovation influenced Minnesota's economy from 1860 to 1920 (Development of an Industrial United States: 1870–1920).
- Grade 6 History. Benchmark 7.4.4.20.1 Explain the impact of the US Industrial Revolution on the production, consumption, and distribution of goods (Development of an Industrial United States: 1870–1920).
- Grade 8 Geography. Benchmark 8.3.2.3.1 Use appropriate geographic tools to analyze and explain the distribution of physical and human characteristics of places.
- Grade 8 Geography. Benchmark 8.3.3.5.1 Describe the locations of human populations and the cultural characteristics of the United States and Canada.
- Grade 8 Geography. Benchmark 8.3.3.6.1 Describe how the physical and environmental features of the United States and Canada affect human activity and settlement.
- Grade 8 Geography. Benchmark 8.3.4.10.1 Explain how the changing patterns of industrialization and trade between the United States and Canada or Mexico have resulted in close connections between the countries in terms of manufacturing, energy, and finance.
- Grades 9–12 Geography. Benchmark 9.3.1.2.2 Use geospatial technologies to develop plans for analyzing and solving local and regional problems that have spatial dimensions.
- Grades 9–12 Geography. Benchmark 9.3.2.4.1 Apply geographic models to explain the location of economic activities and land use patterns in the United States and the world.
- Grades 9–12 Geography. Benchmark 9.3.4.9.1 Analyze the interconnectedness of the environment and human activities (including the use of technology) and the impact of one upon the other.

Attachment C – Educational Curriculum for Consideration by the LMRWD

Education Curriculum

- City of Lakeville – Meets state standards
- City of Lakeville – Distance Learning
- Minnehaha Creek Watershed District – Meets state standards
- Project WET – Meets state standards
- Metro Area Children's Water Festival – Meets state standards (4th grade)
- We All Need Food and Water
    - Defenders of the Future: Tackle Today's Water Troubles (4th grade)
    - Ejected: The Story That Solves the Climate Crisis

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, District Administrator
Lower Minnesota River Watershed District

From: Jen Dullum, Education and Outreach Coordinator
Della Schall Young, PMP, CPESC

Date: April 14, 2021

Re: LMRWD Signage Review and Recommendations

The approved Lower Minnesota River Watershed District (LMRWD or District) 2020–2022 Public Education and Outreach Plan work plan includes a review of potential signage locations at river crossing and high-value resource areas. The following outlines Young Environmental Consulting Group's (Young Environmental's) review, evaluation methods, and recommendations.

Young Environmental considered two types of signs: 1) crossing signs (e.g., Minnesota River, Credit River), and 2) interpretive signs denoting District projects and high-value resource areas (e.g., Eagle Creek, East Chaska Creek Stabilization Project).

I. Crossing Signs

Young Environmental first explored crossing signs in both directions on roads traversing the Minnesota River. Below is a summary of the communications Young Environmental received from the Minnesota Department of Transportation (MNDOT) regarding the existing signs and the potential for more on state-controlled transportation corridors:

- Interstate 35W and Truck Highway (TH) 77 have signs in both directions on each side of the river.
- TH 494 has a sign in the westbound direction but does not have a sign in the eastbound direction.
- TH 62,101, 169, and 494 eastbound do not have signs because of all or some of the following:
    - Complex intersection geometry
    - Lack of available space for post-mounted signs

  - Cost, structural design, and maintenance issues associated with attaching signs to bridges

Based on the information received, additional crossing signs on major interstate corridors and other transportation systems along the Minnesota River that MNDOT mentioned should be rendered complete, and no other locations will be considered. As such, we suggest looking at Minnesota River, Credit River, Eagle Creek, and Assumption Creek crossings on minor trunk highway or county roads at the following locations (Figure 1):

- MNDOT Jurisdiction
  - Minnesota River at TH 41 in Chaska, MN
  - Eagle Creek at TH 13 in Savage, MN
  - Credit River at TH 13 in Savage, MN

MNDOT is in the process of designing a sign renewal project and will consider adding signs to the locations noted above. Young Environmental will continue to coordinate with MNDOT as it moves through its project.

- Carver County Jurisdiction
  - East Chaska Creek at County State Aid Highway (CSAH) 61, Chaska, MN
  - Assumption Creek at CSAH 61/ Flying Cloud Drive, Chanhassen, MN

Young Environmental is waiting on more information from Carver County.

It is important to note that all road crossing signs (e.g., MNDOT, CSAH) must be in conformance with the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD).

II. Interpretive Signs

Interpretive signs provide residents and visitors background information on sensitive resources and projects managed or completed by LMRWD or with LMRWD support. As such, Young Environmental used the following criteria to identify viable locations for interpretive signs:

1. Publicly accessible locations, including publicly owned parks, trails, and natural areas
2. Resource value consists of high-value (e.g., fens and trout waters) or unique landscape features
3. Projects completed by or funded by LMRWD

Because of cost considerations, Young Environmental proposes completing the fabrication and installation of three to four interpretive signs annually. For the 2021

calendar year, we are proposing signs at the following locations (see location in Figure 1):

Locations in Chaska, MN

- East Chaska Creek Stabilization Project
    - Placement is near project site on city-owned property.
    - Messaging could focus on highlighting erosion and the effect sediment has on water resources and habitat while describing the project and solution to reduce sediment to the Minnesota River.
- Seminary Fen/Assumption Creek combination
    - Placement is at Hazeltine Bluff Park on city-owned property, just outside of the District.
    - Messaging could focus on increasing awareness and knowledge about unique resources within the District by describing the unique features of calcareous fens, the habitat requirements that create suitable environment for trout, and the restoration and stabilization project that reduced sediment contributions to Seminary fen and why that is important. If this site is not suitable because of its location, an interpretive sign could be developed by the District in partnership with the Minnesota Department of Natural Resources (DNR) for potential placement at the Seminary Fen Scientific and Natural Area.
- There are the requirements for sign placement on city-owned property: City approval for signs located on public property is required as is submittal of a Permanent Sign Permit Application along with a $125.00 nonrefundable permit fee.

Location in Savage, MN

- Eagle Creek/Boiling Springs combination
    - Placement is along Independence Avenue near trailhead to Boiling Springs.
    - Messaging could describe the habitat requirements that create suitable environment for trout, the efforts to protect Boiling Springs, and the environmental conditions that create the boiling effect from the underground spring.
    - Requirements for sign placement on city-owned property: We have contacted the city for information and are waiting to hear back.

Location in Bloomington, MN

- Dredge Site near river mile post 14
    - Placement is along the Minnesota Valley State Trail off Normandale Boulevard on DNR property.
    - Messaging would focus on describing the dredging process and why it is necessary.
    - Requirements for sign placement on DNR property: The DNR process, which could take up to a year, includes the following:
        - A potential resource assessment
        - A potential archeological investigation
        - A Joint Powers Agreement or Memorandum of Agreement (or other partnership agreement)
        - Formal request for signage with the DNR Sign Committee

Additionally, for the interpretive signs, Young Environmental is proposing that the project overview be combined with educational information about the local habitat or ecosystem, including trout stream habitat, calcareous fen ecosystems, river management, and recreation. Partnerships and funding sources will be noted on each sign.

III. Recommendations

Young Environmental recommends Board consideration and approval of the locations specified and the following next steps for the crossings and interpretive signs, respectively:

Crossing Signs

1. Work with Carver County and MNDOT traffic engineers on the process for river crossing sign location.
2. Solicit design and fabrication firms for quote for crossing signs.
3. Draft contract with design and fabrication firm.
4. Bring contract forward to Board for review and approval consideration.
5. Proceed with design and fabrication if the Board approves.
6. Work with Carver County and MNDOT on installation if the Board approves.

Interpretive Signs

1. Work with local entities on process for interpretive sign location approval.

2. Solicit design and fabrication firms for quote for interpretive signs.
3. Draft contract with design and fabrication firm.
4. Bring contract forward to Board for review and approval consideration.
5. Proceed with design and fabrication if the Board approves.
6. Work with local partners on installation if the Board approves.

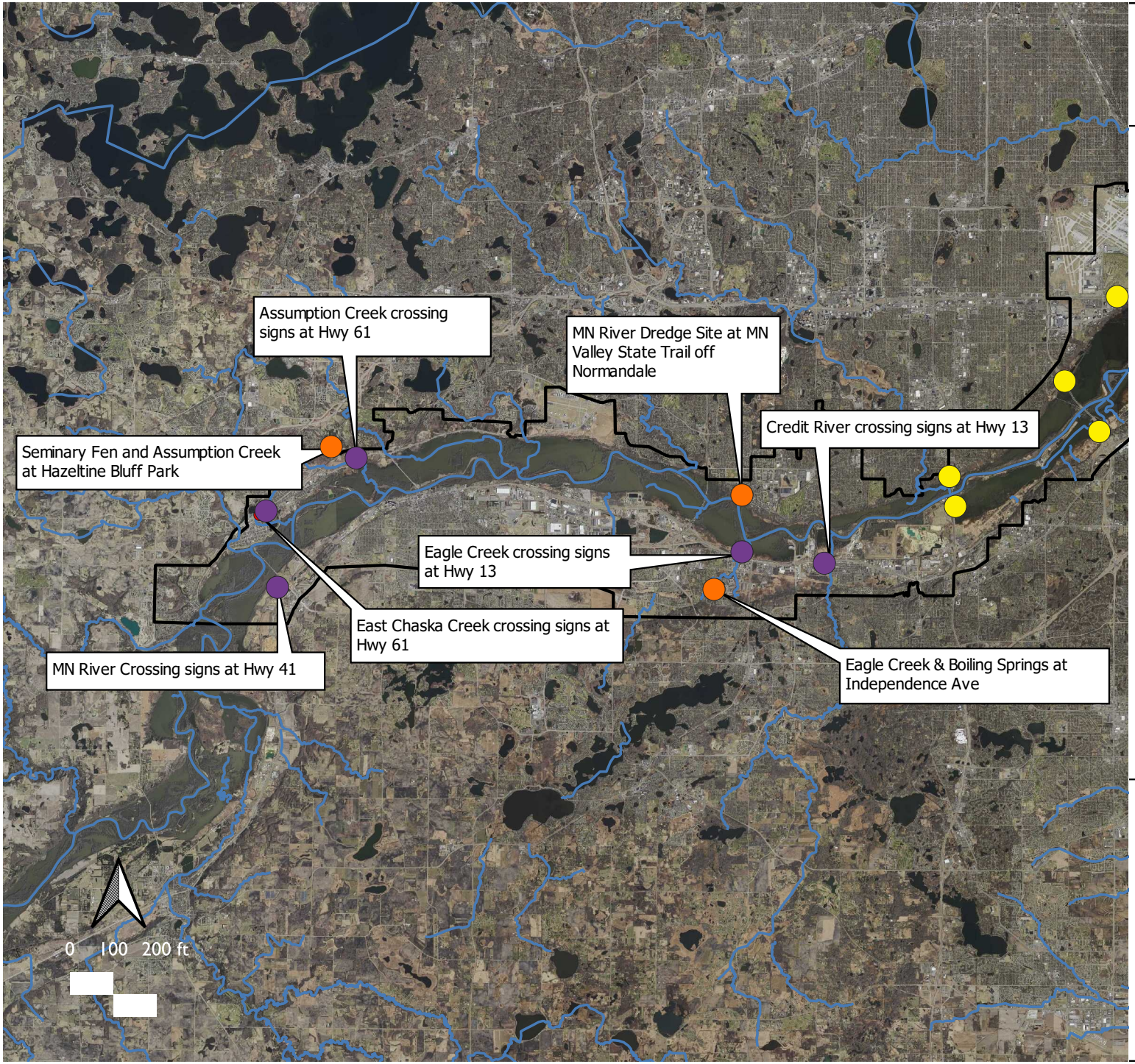

Figure 1: Existing and Potential Signage Locations

LEGEND

- Existing Signage
- Interpretive Sign
- River Crossing Sign
- Public Waters
- LMRWD Boundary

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Young Environmental Consulting Group, LLC

signage locations v1.qgz