CITY OF HERMANTOWN
AGENDA

Pre-Agenda Meeting Monday, May 18, 2026 Immediately Following Closed Session
Council Chambers, City Hall - Hermantown Governmental Services Building

City Council Meeting Monday, May 18, 2026 at 6:30 pm
Council Chambers, City Hall - Hermantown Governmental Services Building

1. **CALL TO ORDER**

2. **CLOSED SESSION (4:30 p.m.)**

   A. Motion to close the meeting of the Hermantown City Council pursuant to Minnesota Statutes § Section 13D.05 Subd. 3 (b) per the attorney-client privilege for discussions with the City's litigation team regarding the lawsuits relative to Hermantown Road Assessments. Following this closed session, the Hermantown City Council will re-convene in an open session.

   (motion, roll call)

3. **PLEDGE OF ALLEGIANCE**

4. **ROLL CALL**

5. **ANNOUNCEMENTS**
   Council Members may make announcements as needed.

6. **COMMUNICATIONS**

   A. Correspondence 26-207 through 26-326 placed on file

7. **PRESENTATIONS**

   A. **2025 Audit Presentation**
   Clifton Larson Allen LLP
   (Pre-Agenda Only)

8. **PUBLIC COMMENT**
   This is the time for individuals to address the Council about any item not on the agenda. The time limit is three minutes per person. Speakers who wish to comment at this time or later on agenda items should be signed up prior to the start of the meeting. A sign-up sheet is available in the lobby prior to the meeting for verbal remarks. As always, written comments may be submitted to the City Clerk before the end of the meeting.

9. **MOTIONS**

   A. Motion to approve or deny the following new Liquor License(s), contingent upon all

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paperwork being received, and background checks being successful:

Hermantown Tavern, LLC | 4767 W. Arrowhead Road | On-Sale Intoxicating/Sunday

(motion, roll call)

10. **CONSENT AGENDA**

All items on the Consent Agenda are items which are considered routine by the City Council and will be approved by one motion via voice vote. There will be no discussion of these items unless a Council Member or citizen requests, in which event the item will be removed from the Consent Agenda and considered at the end of the Consent Agenda.

A. **Minutes** - Approval or correction of May 4, 2026 City Council Continuation Minutes

B. **Accounts Payable** - Approve general city warrants from May 1, 2026 through May 15, 2026 in the amount of $705,005.95

11. **RESOLUTIONS**

Roll call will be taken only on items required by law and items requiring 4/5's votes, all others can be done by voice vote.

A. **2026-48 Resolution Accepting Large Specific Project Scoping Document and Authorizing The Preparation Of The Draft Alternative Urban Areawide Review (AUAR) Document For The Section 31 Hermantown Industrial Project**

(motion, roll call)

B. **2026-49 Resolution Clarifying Motion To Table Resolution 2026-45**

(motion, roll call)

C. **2026-50 Resolution Authorizing The Purchase Of A Towmaster T-16T Trailer In The Amount Of $25,920**

(motion, roll call)

D. **2026-51 Resolution Authorizing And Directing Mayor And City Clerk To Execute An Acceptance Of Easement Agreement To The City Of Hermantown For Parcel 395-0010-04405 To From Minnesota Power For The Hermantown Lightning Drive Improvements And Trail Project**

(motion, roll call)

E. **2026-52 Resolution Receiving Preliminary Engineering Report And Calling For A Public Hearing For Road Improvement District No. 548 (The Reconstruction Of Stebner Road (MSAS 103) Between Morris Thomas Road And Maple Grove Road In Sections 23-26)**

(motion, roll call)

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F. **2026-53 Resolution Approving Preliminary And Final Plat Of Hawkline Business Park And Imposing Conditions On The Final Plat**

(motion, roll call)

G. **2026-54 Resolution Authorizing And Directing Mayor And City Clerk To Execute And Deliver Purchase Agreement For Fireworks From Flashing Thunder Fireworks**

(motion, roll call)

12. **RECESS**

This agenda has been prepared to provide information regarding an upcoming meeting of the Hermantown City Council. This document does not claim to be complete and is subject to change at any time.

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
4/30/2026	26-207	Jonathan Grieco, jgrieco001@yahoo.com	Alissa McClure, City Clerk	Appeal Market Value of Property 395-0010-01700	4/30/2026
4/30/2026	26-208	Heather & Neal Grothe, 5023 White Pine St.	Alissa McClure, City Clerk	Appeal Market Value of Property 395-0113-00060	4/30/2026
4/30/2026	26-209	Saundra Monson, 4313 Lavaque Rd.	Hermantown Board of Appeals & Equalization	Appeal Market Value of Property 395-0140-00085	4/30/2026
4/30/2026	26-210	Jayson Sundvall, 5589 Miller Trunk Hwy.	Hermantown Board of Appeals & Equalization	Appeal Market Value of Property 395-0101-00040	4/30/2026
4/30/2026	26-211	Brea Schminski, bschminski@gmail.com	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
4/30/2026	26-212	Judy Avis Granmo, 5460 Morris Thomas Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Opinion Regarding Data Center	4/29/2026
4/30/2026	26-213	Courtney Kerns, Cohasset, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Revised AUAR	4/29/2026
4/30/2026	26-214	Susan Clandon, susanclandon47@gmail.com	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Proposed Data Center in Hermantown	4/29/2026
4/30/2026	26-215	Hannah Dineley, 3927 Ugstad Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comment on the AUAR Scoping Document	4/29/2026
4/30/2026	26-216	Ryan Marquez, 3927 Ugstad Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comment on the AUAR Scoping Document	4/29/2026
4/30/2026	26-217	Dave Thornton, 5861 Hermantown Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comment on Updated Hermantown Industrial AUAR-Scoping Document	4/29/2026
4/30/2026	26-218	Barbara Opal, 328 N 53rd Ave. W, Duluth	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR More Comments	4/29/2026
4/30/2026	26-219	Matt Salminen	AUAR Comment Inbox, AUARcomments@hermantownmn.com	No Data Center	4/29/2026
4/30/2026	26-220	Andrea Thorstensen	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Data Center AUAR Public Comment	4/29/2026
4/30/2026	26-221	Anna Estep, 5861 St. Louis River Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comment	4/29/2026
4/30/2026	26-222	Allison Klement	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comments on Revised AUAR Scoping Document - Google Hermantown Hyperscale Data Center	4/29/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
4/30/2026	26-223	Ramona Radosevich	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Costs Too High for Google Data Center	4/29/2026
4/30/2026	26-224	Jennifer Hewitt	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Data Center	4/29/2026
4/30/2026	26-225	Angela Scott	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comment on New AUAR	4/29/2026
4/30/2026	26-226	Dawn LaPointe	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Scoping Document Comments	4/29/2026
4/30/2026	26-227	John Lenczewski, MN Trout Unlimited	AUAR Comment Inbox, AUARcomments@hermantownmn.com	MN Trout Unlimited's Comments Regarding the Updated Hermatnown Industrial AUAR Scoping Documen	4/29/2026
4/30/2026	26-228	Allison Hafften, 5971 St. Louis River Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments - Inadequacy of AUAR AH	4/29/2026
4/30/2026	26-229	Emma Richtman	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/29/2026
4/30/2026	26-230	Cathy Kohlmeier	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Scoping Comments	4/30/2026
4/30/2026	26-231	Jennifer Kinler, Cook, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Hermantown's Data Center Comment	4/30/2026
4/30/2026	26-232	Peter Leete, Starry Skies North	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comments on Updated Hermantown Industrial AUAR	4/30/2026
4/30/2026	26-233	Leanna Goose	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Google Data Center Public Comment-Hermantown	4/30/2026
4/30/2026	26-234	Gail Garrick	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Need for a Full Environmental Review vs. an AUAR	4/30/2026
4/30/2026	26-235	Jennie Lindberg, 1207 Minneapolis Ave., Duluth	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Regarding Proposed Google Data Center	4/30/2026
5/1/2026	26-236	Amy K Hadiaris, MN Pollution Control Agency	Alissa McClure, City Clerk	No Association Determination Arrowhead Refinery Co - Scannell Properties	4/30/2026
5/1/2026	26-237	Amy K Hadiaris, MN Pollution Control Agency	Alissa McClure, City Clerk	No Association Determination Arrowhead Refinery Co - FedEx	4/30/2026
5/1/2026	26-238	Julie O'Leary, W.J. McCabe Chapter IWLA	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comment submission on updated AUAR scoping document	4/30/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
5/1/2026	26-239	Minnesota Pollution Control Agency	Eric Johnson, Comm. Dev. Dir.	Updated Hermantown Industrial AUAR	4/30/2026
5/1/2026	26-240	Minnesota Department of Natural Resources	Eric Johnson, Comm. Dev. Dir.	Updated Hermantown Industrial Alternative Urban Areawide Review (AUAR)	4/30/2026
5/1/2026	26-241	1854 Treaty Authority, 4428 Haines Road, Duluth	Eric Johnson, Comm. Dev. Dir.	City of Hermantown Industrial Project (Data Center) AUAR Scoping Document	4/30/2026
5/1/2026	26-242	Fond du Lac Band of Lake Superior Chippewa - Reservation Business Committee	Eric Johnson, Comm. Dev. Dir.	Fond du Lac Band of Lake Superior Chippewa Scoping Document Comments for Google Data Center, Hermantown Minnesota	4/30/2026
5/1/2026	26-243	CURE, 117 S First St, Montevideo MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	CURE Scoping Document - Google Data Center Hermantown AUAR	4/30/2026
5/1/2026	26-244	Minnesota Center for Environmental Advocacy	AUAR Comment Inbox, AUARcomments@hermantownmn.com	MCEA Updated Scoping EAW for Hermantown Industrial	4/30/2026
5/1/2026	26-245	Ava Corey-Gruenes, Health Professionals for Healthy Climate	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comments - Hermantown AUAR Scoping Document & Draft Order for an Updated AUAR	4/30/2026
5/1/2026	26-246	Bruce Hafften, 30820 Mattson Ln., Chisago City, MN 55013	AUAR Comment Inbox, AUARcc	AUAR Comment	4/30/2026
5/1/2026	26-247	Peter Hafften	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comment	4/30/2026
5/1/2026	26-248	Carol Walch	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
5/1/2026	26-249	Judith Derauf, 3422 E 1st St., Duluth, MN 55804	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comment Regarding Proposed Hyper Scale Data Center	4/30/2026
5/1/2026	26-250	Bruce Derauf, 3432 East 1st St., Duluth, MN 55804	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Google Data Center	4/30/2026
5/1/2026	26-251	Sue Browne, Grand Rapids, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Stop the Data Center	4/30/2026
5/1/2026	26-252	Kirk Deen, 328 N 53rd Ave. W, Duluth, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
5/1/2026	26-253	Jared Schminski	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
5/1/2026	26-254	Jeremy Thompson, Rice Lake, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comment on Revised AUAR for a Full EIS on the Proposed Data Center	4/30/2026
5/1/2026	26-255	Ava Point	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Proposed Hermantown Data Center Concerns	4/30/2026
5/1/2026	26-256	Kandise Garrison,3935 Solway Rd., Duluth, MN 55810	AUAR Comment Inbox, AUARcomments@hermantownmn.com	E-waste	4/30/2026
5/1/2026	26-257	Dorian Levine	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Infrasound Pollution Concern	4/30/2026
5/1/2026	26-258	Richard Hilton	AUAR Comment Inbox, AUARcomments@hermantownmn.com	H-Town Resident AUAR Comment	4/30/2026
5/1/2026	26-259	Sarah Lofald, 5502 Hermantown Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comments on the Updated AUAR Scoping Document	4/30/2026
5/1/2026	26-260	Chris Moir	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR	4/30/2026
5/1/2026	26-261	Sarah Shelerud, Esko, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comments for Revised AUAR	4/30/2026
5/1/2026	26-262	RaeAnn Nordwall Johnson, 4234 Ugstad Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comment	4/30/2026
5/1/2026	26-263	Shelby Capacio, Taproot Media	AUAR Comment Inbox, AUARcomments@hermantownmn.com	No AI Datacenters Near Lake Superior	4/30/2026
5/1/2026	26-264	Emily Helgeson	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
5/1/2026	26-265	Lisa Fitzpatrick, Duluth, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comment on Hermantown Data Center AUAR	4/30/2026
5/1/2026	26-266	Grace Aho	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comment on Proposed Date Center	4/30/2026
5/1/2026	26-267	Nancy Sobczak	AUAR Comment Inbox, AUARcomments@hermantownmn.com	H'town Google Data Center	4/30/2026
5/1/2026	26-268	Andrew Ensign	AUAR Comment Inbox, AUARcomments@hermantownmn.com	No AI Datacenters Near Lake Superior or Anywhere	4/30/2026
5/1/2026	26-269	Brea Schminski	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comment	4/30/2026
5/1/2026	26-270	Brea Schminski	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comment	4/30/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
5/1/2026	26-271	Lois Aho	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Hermantown Data Center	4/30/2026
5/1/2026	26-272	Thomas Bates, 5369 Morris Thomas Rd.	Eric Johnson, Comm. Dev. Dir.	Hermantown Data Cetner AUAR	4/30/2026
5/1/2026	26-273	Jim Phillips, 4924 Wildrose Tr.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments/Need for Full EIS	4/30/2026
5/1/2026	26-274	Stacy Swanstrom, 6322 Rose Rd., Duluth, MN 55810	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Request for Greater Environmental Oversight of the Propsed Hermantown Data Center Project	4/30/2026
5/1/2026	26-275	Kate Moran	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Against Data Center	4/30/2026
5/1/2026	26-276	John Swanstrom, 6322 Rose Rd., Duluth, MN 55810	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Request for Greater Environmental Oversight of the Propsed Hermantown Data Center Project	4/30/2026
5/1/2026	26-277	Brian Dourn	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Data Center	4/30/2026
5/1/2026	26-278	Peter Taylor	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comments on AUAR Scoping	4/30/2026
5/1/2026	26-279	Julie Mauer	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comment on Hermantown Datacenter AUAR	4/30/2026
5/1/2026	26-280	Colten Dalenski	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Stop the Hermantown Data Center	4/30/2026
5/1/2026	26-281	Marshall Boone, Duluth, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
5/1/2026	26-282	Lisa Parks	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Hermantown Data Center Public Comment	4/30/2026
5/1/2026	26-283	Lee Werner, 701 N 20th Ave. E, Duluth, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Lee Werner - Comment on the Revised AUAR	4/30/2026
5/1/2026	26-284	Rachel Poppe	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Public Comment on AUAR Scoping Document	4/30/2026
5/1/2026	26-285	Elizabeth Weigler, 2044 Dunedin Ave., Duluth, MN 55803	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
5/1/2026	26-286	Alyssa Burr	AUAR Comment Inbox, AUARcomments@hermantownmn.com	No Data Center	4/30/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
5/1/2026	26-287	Susan Dordin, Duluth, MN 55808	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Public Comment	4/30/2026
5/1/2026	26-288	Anita F	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Hermantown Data Center	4/30/2026
5/1/2026	26-289	Emily Gustafson	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Data Center	4/30/2026
5/1/2026	26-290	Matt & Mary Butorac, 4089 Lavaque Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comments	4/30/2026
5/1/2026	26-291	Lindsey Ploetz	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Against Data Center	4/30/2026
5/1/2026	26-292	Ethan Kilburg	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Please Help Protect the Midway River Watershed	4/30/2026
5/1/2026	26-293	nfbecher@gmail.com	nfbecher@gmail.com	Data Center	4/30/2026
5/1/2026	26-294	Jackie Dolentz, jackeod@proton.me	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Scoping Doucment (SD) Comments	4/30/2026
5/1/2026	26-295	Joeleen Hacker, 3604 Lindahl Rd.	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR Comment	4/30/2026
5/1/2026	26-296	Melissa King	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Google Data Center Comment	4/30/2026
5/1/2026	26-297	Brian Ruggle	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Please Don't Allows a Data Center in Hermantown	4/30/2026
5/1/2026	26-298	Allison Hafften, 5971 St. Louis River Rd., Proctor, MN 55810	AUAR Comment Inbox, AUARcomments@hermantownmn.com	AUAR SD Comments - Incompatible Project Area AH	4/30/2026
5/1/2026	26-299	John Amst	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Data Center	5/1/2026
5/1/2026	26-300	Jana Roach, ijkrfan@yahoo.com	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comment - AUAR for Google's Hyper Scale Data Center	4/30/2026
5/1/2026	26-301	Diana Deming, Duluth, MN	AUAR Comment Inbox, AUARcomments@hermantownmn.com	Comments on Updated Hermantown Industrial AUAR - Scoping Document	5/1/2026
5/1/2026	26-302	Nicole Charles	Eric Johnson, Comm. Dev. Dir. and City Councilors	Stop Hermantown Data Center	5/1/2026
5/1/2026	26-303	Alex Breilein	Eric Johnson, Comm. Dev. Dir.	Data Center	4/26/2026
5/1/2026	26-304	Samuel	Eric Johnson, Comm. Dev. Dir.	Data Center	4/27/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
5/1/2026	26-305	Tyler Bonam, 4005 W 8th St., Duluth, MN	Eric Johnson, Comm. Dev. Dir. and City Councilors	Data Center	5/1/2026
5/1/2026	26-306	Chris Rourke, 623 N 39th Ave. W, Duluth, MN 55807	Eric Johnson, Comm. Dev. Dir. and City Councilors	Data Center	5/1/2026
5/1/2026	26-307	Name not Legible	Eric Johnson, Comm. Dev. Dir. a	Data Center	4/27/2026
5/1/2026	26-308	Bean Baker, Duluth, MN	Eric Johnson, Comm. Dev. Dir.	Data Center	4/26/2026
5/1/2026	26-309	Evan Hawbaker, 2867 W 6th St., Duluth, MN 55806	Eric Johnson, Comm. Dev. Dir. and City Councilors	Data Center	5/1/2026
5/1/2026	26-310	Andy	To Whom it May Concern	Data Center	4/27/2026
5/1/2026	26-311	Hannah Plourd, 4005 W 8th St., Duluth, MN 55807	To Whom it May Concern	Data Center	4/29/2026
5/5/2026	26-312	Don Romano, @dululth700@gmail.com	Wayne Boucher, Mayor and Joe Wicklund, Asst. City Admin	Google Tax Abatements	4/30/2026
5/5/2026	26-313	Nicole Anderson, 5737 Hermantown Rd.	Wayne Boucher, Mayor, Council Members, Eric Johnson, Comm. Dev. Dir., and Joe Wicklund, Asst. City Admin.	Allowing for Country Living?	5/4/2026
5/5/2026	26-314	Stop the Hermantown Data Center	Wayne Boucher, Mayor	Google Tax Abatement and Development Agreements	5/4/2026
5/5/2026	26-315	Michael Jugovich, St. Louis County Commissioner	City of Hermantown	Thank you	5/3/2026
5/5/2026	26-316	Brian Bergeron, 5164 Country Ln.	Wayne Boucher, Mayor	Google Tax Abatement	5/5/2026
5/5/2026	26-317	Rachel Johnson, rachel@apexgetsbusiness.com	Wayne Boucher, Mayor	Support for Google's Hermantown Data Center Project	5/5/2026
5/5/2026	26-318	Matt Baumgartner, mbaumgartner@duluthchamber.com	Wayne Boucher, Mayor and City Council	Public Hearing May 4 - Google Meeting	5/5/2026
5/6/2026	26-319	Cindy Olson, 6278 W Bowman Lk. Rd.	Wayne Boucher, Mayor and City Council	Follow up on Tonight's City Council Meeting	5/6/2026
5/6/2026	26-320	Lisa Munger, lisasmunger@gmail.com	Wayne Boucher, Mayor	Data Center Decision Making	5/6/2026
5/8/2026	26-321	Jeremy Thompson, Rice Lake, MN	Wayne Boucher, Mayor, City Council and Eric Johnson, Comm. Dev. Dir.	Proposed Data Center	5/6/2026
5/11/2026	26-322	Matthew Piede, matthew.piede@essentiahealth.org	Wayne Boucher, Mayor and City Council	Citizen Perspective: Support for Google Data Center Investment	4/21/2026
5/11/2026	26-323	Randy Overby, roverby01@gmail.com	Wayne Boucher, Mayor and City Council	May 4 Council Meeting	5/6/2026
5/11/2026	26-324	Debra Thorstensen, 5784 Hermantown Rd.	Wayne Boucher, Mayor and City Council	Data Center	5/7/2026

2026 CORRESPONDENCE

DATE	LOG #	FROM	TO	REGARDING	FILED
5/11/2026	26-325	Derek Misiewicz, 4329 Sugar Maple Dr.	Wayne Boucher, Mayor and City Council	Request for Reconsideration of Resolution 2026-046 - 3711 Sugar Maple Dr.	5/8/2026
5/13/2026	26-326	Eric Johnson, Comm. Dev. Dir.	Board of Appeals & Adjustments	Dan & Jeff Miller,Variance	5/12/2026

We'll get you there.

CPAs | CONSULTANTS | WEALTH ADVISORS

City of Hermantown, Minnesota Audit Presentation

Year Ended December 31, 2025

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Investment advisory services are offered through CliftonLarsonAllen Wealth Advisors, LLC, an SEC-registered investment advisor.

Agenda



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Audit Team

- Your audit team consisted of the following professionals with extensive experience in governmental accounting and auditing:
  - Christopher Knopik – Principal (20 years)
  - Grace Trocinske – Director (5 years)
  - Frost Bowen-Bailey – Senior (4 years)

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Audit Results

- Unmodified (i.e., “clean”) opinion on the financial statements
- Internal Controls over Financial Reporting – 1 Material Weakness
- Minnesota Legal Compliance – No exceptions noted

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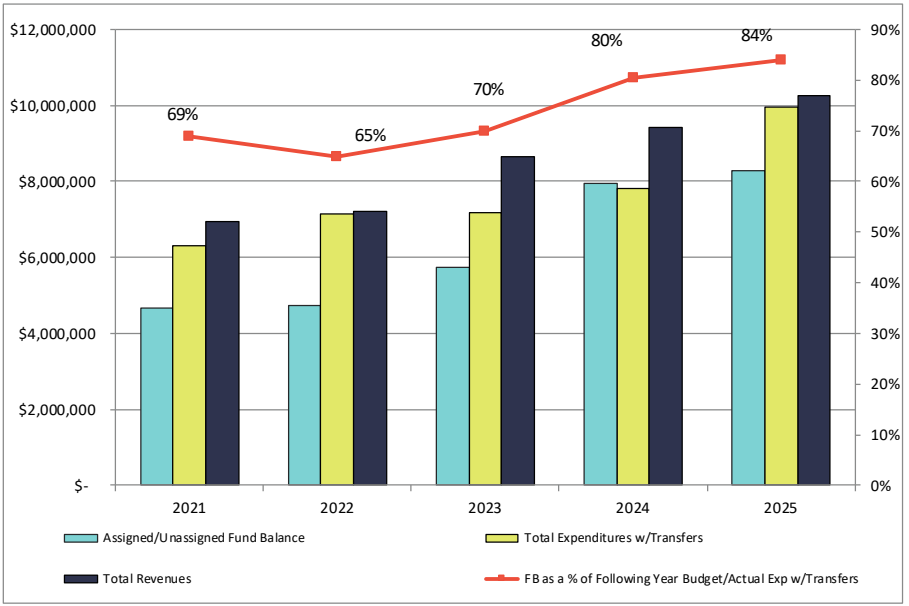
Required Communications

- Audit provides reasonable assurance, not *absolute* assurance
- Significant accounting estimates
  - The most sensitive estimate affecting the financial statements was management's estimate of the City's liability for other post employment benefits.
- Uncorrected misstatements
  - None
- Corrected misstatements
  - None
- Difficulties performing the audit
  - None
- Disagreements with management
  - None

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General Fund Financial Results

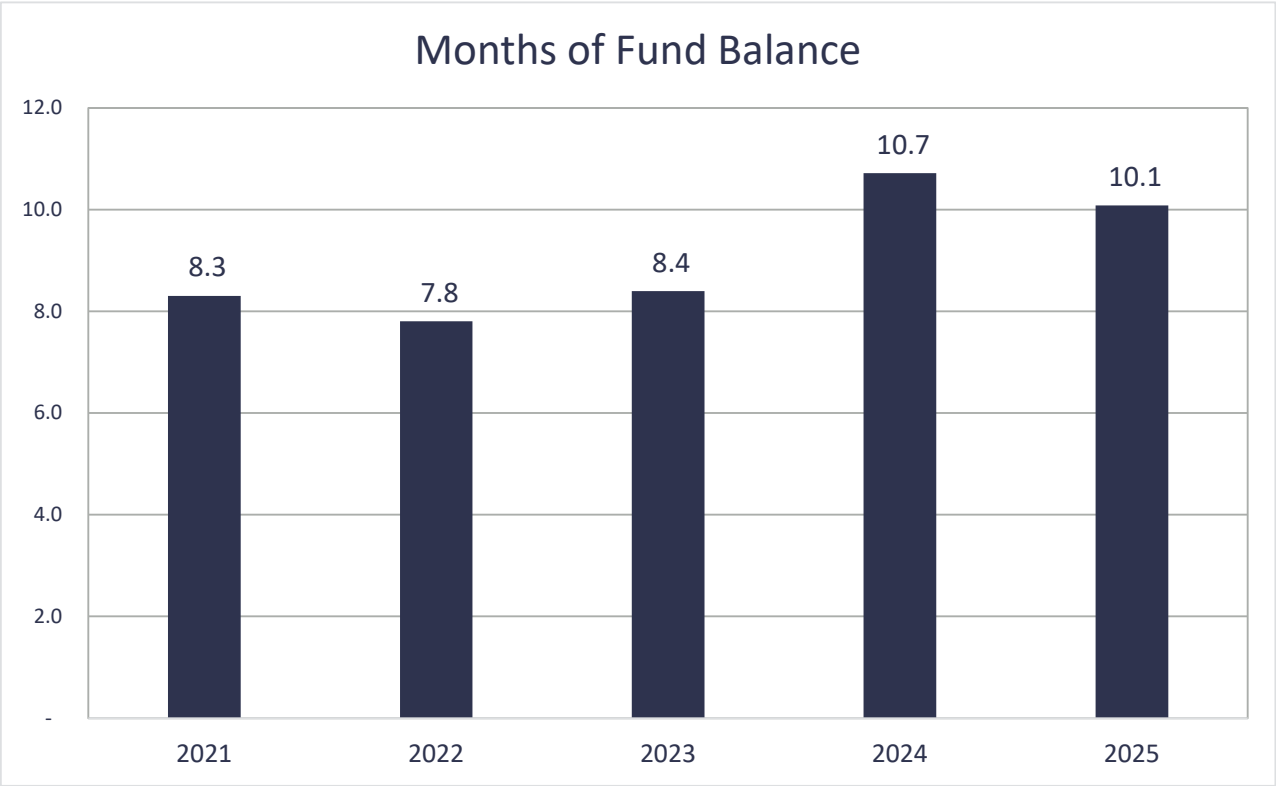
General Fund Revenues, Expenditures, and Fund Balance



- Revenues - $1.4M (15.4%) over budget
  - Property Taxes, Licenses and Permits, Intergovernmental, and Investment Income
- Expenditures - $66K (0.7%) under amended budget
  - Contingency and Streets and Highways
- $360K increase in fund balance for 2025

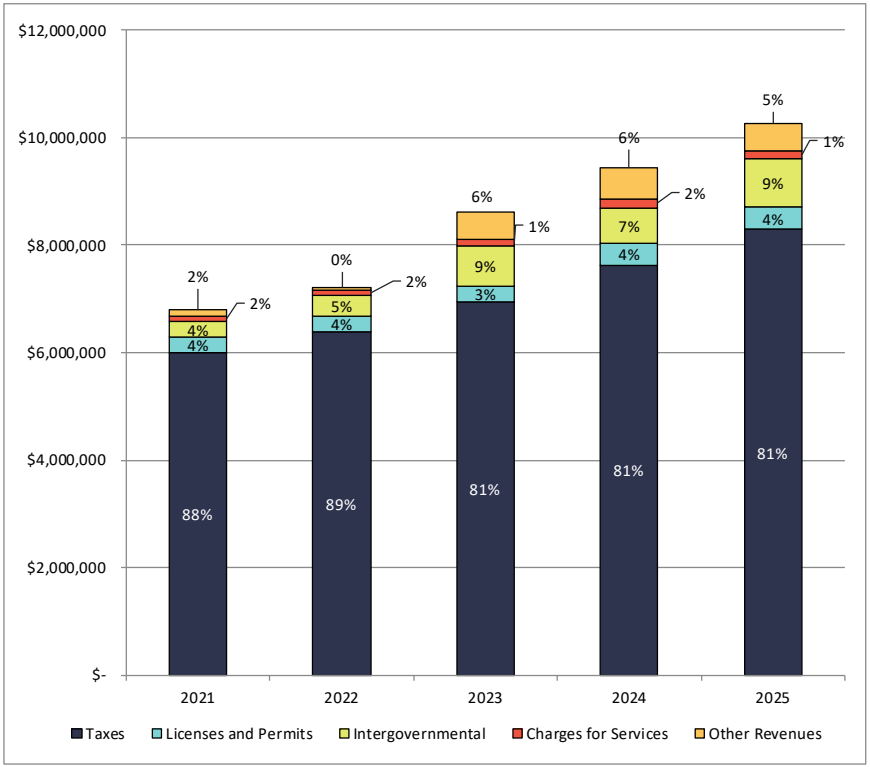
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General Fund Financial Results



©2026 CliftonLarsonAllen LLP

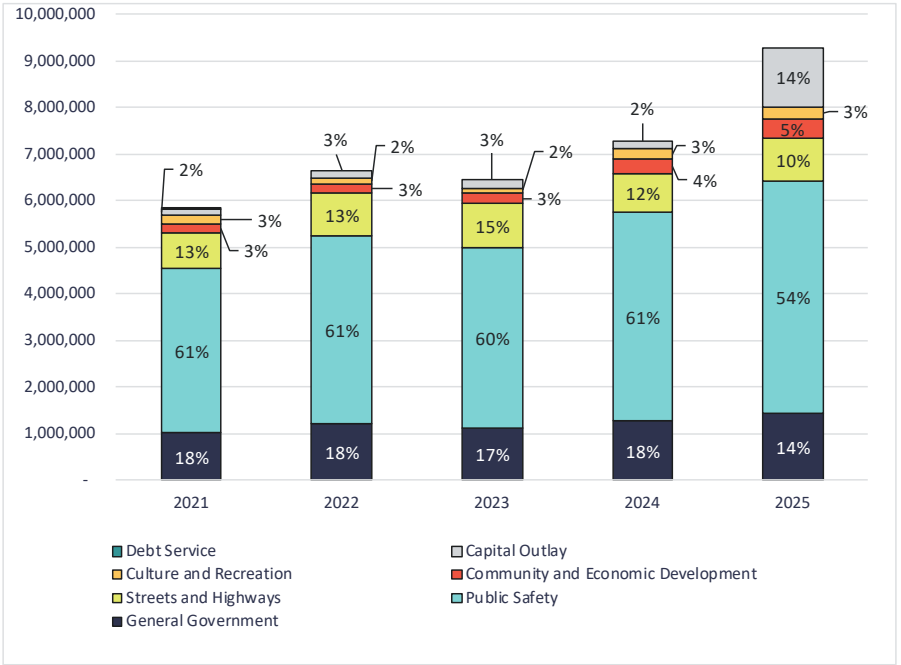
General Fund Financial Results



- GF Revenues are up $824K or 8.7%, as compared to 2024.
- Property taxes 81%.
- Charges for services 1%
- Licenses and permits 4%.
- Intergovernmental 9%
- Other 5%

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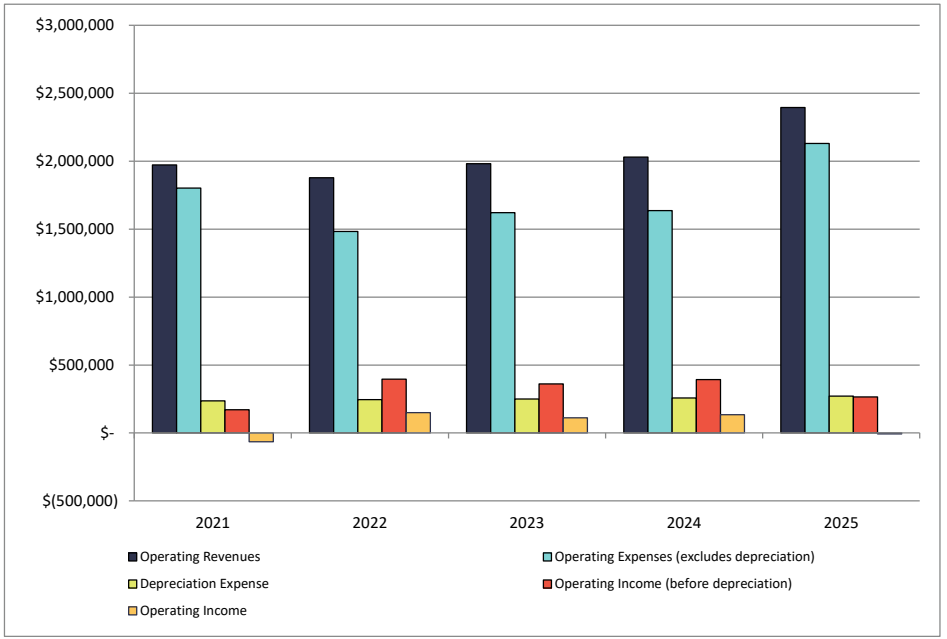
General Fund Financial Results



- GF Expenditures are up $2M or 27.7%, as compared to 2024.
- Gen Govt – 14%
- Public Safety – 54%
- Streets – 10%
- Comm & Econ Development – 5%
- Culture & Rec – 3%
- Capital Outlay – 14%

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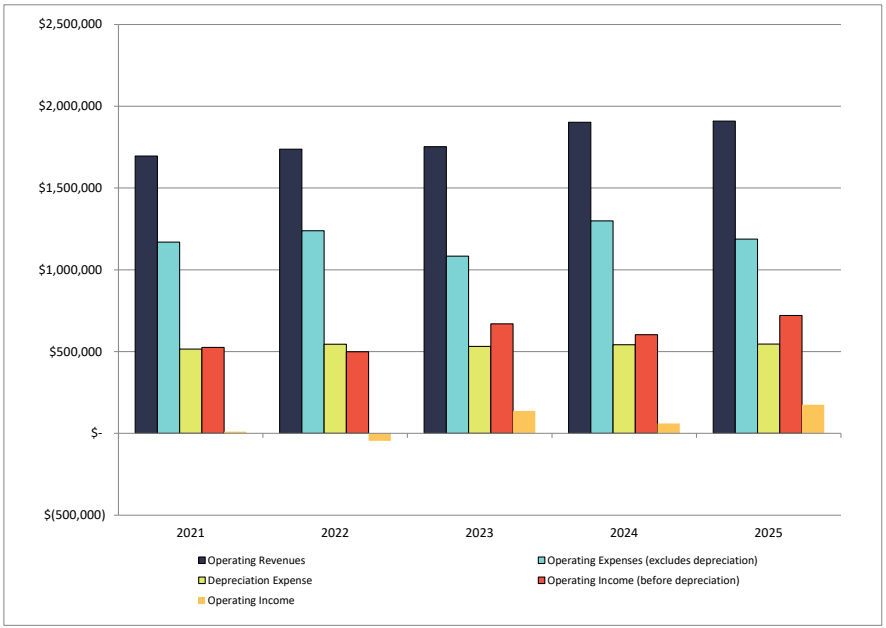
Water Utility Fund Financial Results



- Operating revenues increased 18% from prior year
- Operating expenses increased 30.1% from prior year
- Total cash and cash equivalents balance of $6.7M at 12/31

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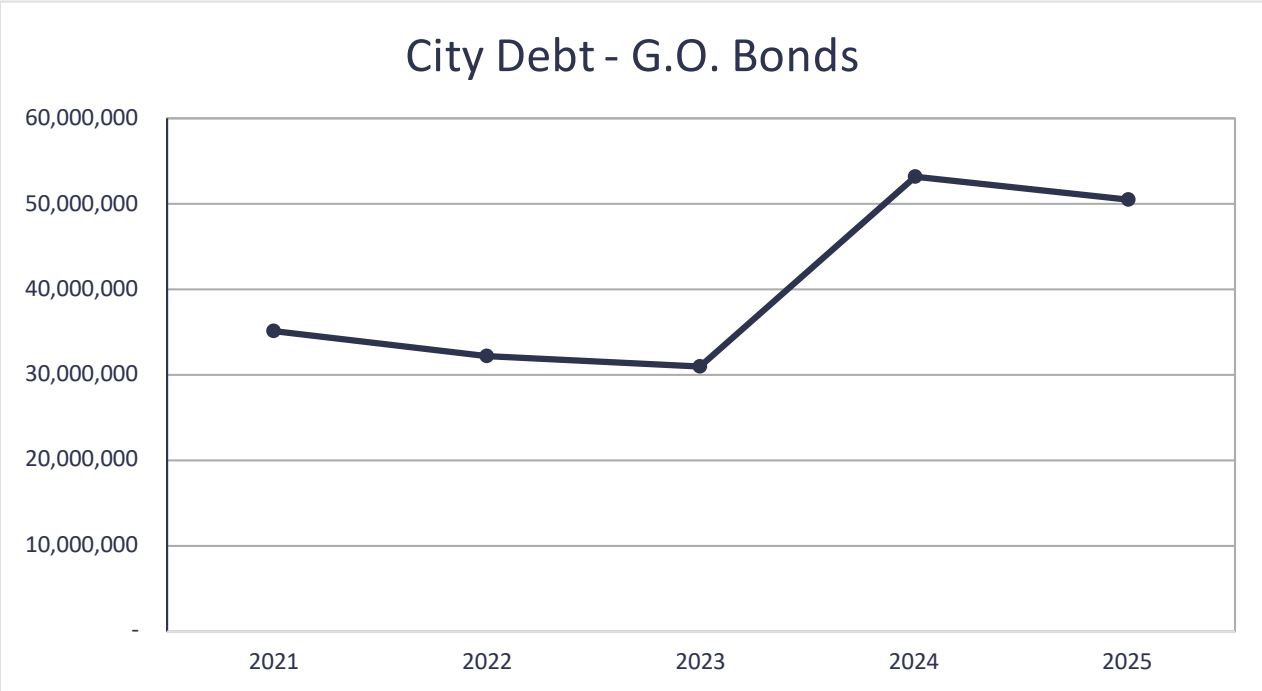
Sewer Disposal Fund Financial Results



- Operating revenues increased 0.3% from prior year
- Operating expenses decreased 8.6% from prior year
- Total cash and cash equivalents balance of $8.9M at 12/31

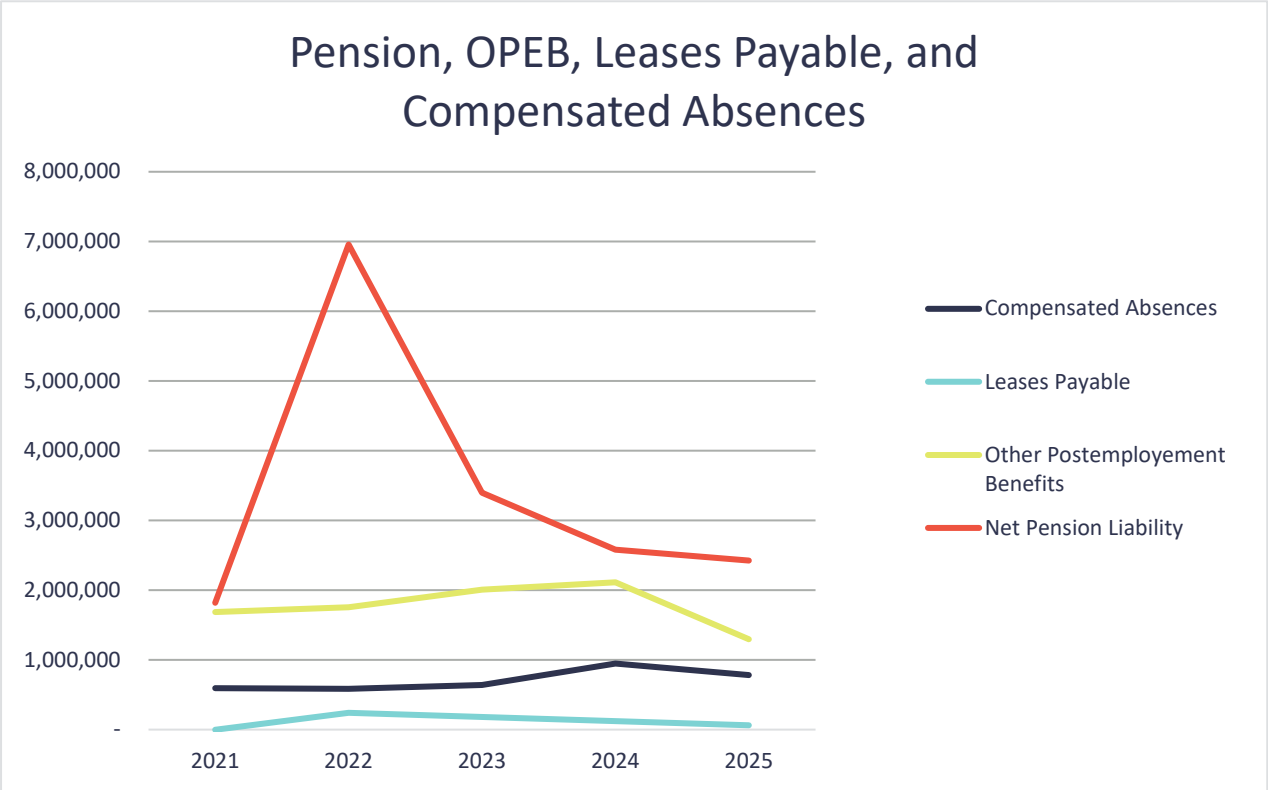
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Financial Results – City Debt



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Financial Results – Other Liabilities



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Other Financial Highlights

- Financial statements and the required OSA Financial Reporting form submitted to the required state agency before the deadline of June 30, 2026.

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Emerging Issues

- Statement No. 103 – Financial Reporting Model Improvements
  - December 31, 2026
  - Will impact the Management Discussion & Analysis and the layout of the Statement of Changes in Net Position – Proprietary Funds and budgetary comparison schedules
- Statement No. 104 – Disclosure of Certain Capital Assets
  - December 31, 2026
  - Will impact the presentation in the footnotes of certain capital assets
- Statement No. 105 – Subsequent Events
  - December 31, 2027
  - Updates and clarifies the accounting and disclosure requirements for subsequent events.

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Thank you to all for helping to get this audit completed timely and for allowing us to serve you!

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CLAconnect.com

CPAs | CONSULTANTS | WEALTH ADVISORS

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CITY OF HERMANTOWN
City Council Meeting
Monday, May 4, 2026
6:30 PM Central

MEETING CONDUCTED IN PERSON

Mayor Wayne Boucher: Present

Councilor John Geissler: Present

Councilor Andy Hjelle: Present

Councilor Brian LeBlanc: Present

Councilor Joseph Peterson: Present

CITY STAFF: John Mulder, City Administrator; Eric Johnson; Community Development Director; Joe Wicklund, Assistant City Administrator; Chad Ronchetti, Economic Development Director; Jim Crace, Director of Public Safety; Zach Graves, Fire Chief; David Bolf, City Engineer; Gunnar Johnson, City Attorney

VISITORS: 102

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **ROLL CALL**
4. **ANNOUNCEMENTS**
5. **PRESENTATIONS**
   A. **Hermantown Data Center – Fiscal Impacts**
   Todd Hagen, Ehlers
   B. **Section 14 Update**
   David Bolf, City Engineer
   (Pre-Agenda Only)
   C. **First Quarter Financials**
   Kevin Orme, Director of Finance & Administration
   (Pre-Agenda Only)
6. **PUBLIC HEARING**
   A. Public Hearing regarding a proposed tax abatement

   This public hearing opened at 6:50 p.m. and closed at 10:27 p.m. with the following public comments:

Jack Carlson, 8482 Swan Lake Road, Hermantown, MN – Spoke in support of the proposed resolution. He discussed the union trade job opportunities that would come with it the proposed data center project.

Joe Pike, 3729 Johnson Road, Hermantown, MN – Spoke in support of the proposed resolution. He discussed the potential benefits outweighing the potential downsides.

Chris Adatte, 4907 Lightening Drive, Hermantown, MN – Spoke in support of the proposed resolution. He shared that he wants to see the data center project happen as a part of a global infrastructure and economy.

Laura Krollman, 2783 Lauren Road, Duluth, MN – Spoke in support of the of the proposed resolution. She shared her excitement for school district revenue.

Brian Hanson, 2731 Jefferson Street, Duluth, MN – Spoke in support of the proposed resolution. He discussed support for the proposed data center project site and jobs produced.

Dan Nordling, 4238 Lavaque Road, Hermantown, MN – Spoke in support of the proposed resolution. Shared his perspective on the proposed data center project as a Hermantown resident, employee of Minnesota Power, and a parent with children in the Hermantown school district.

Kim Parmeter, 5590 Stark Road, Midway, MN – Spoke in support of the proposed resolution on behalf of the Hermantown Area Chamber of Commerce. She discussed city taxes and a healthy economic cycle.

Keith Musolf, 4914 Radar Road, Hermantown, MN – Spoke support of the proposed resolution. He spoke about the proposed data center project bringing growth and jobs to the region.

Dillon Messick, 23 W Owatonna Street, Duluth, MN – Spoke in support of the proposed resolution. He discussed the lack of opportunities in the region as a UMD graduating senior and the need for growth.

Eric Palmer, 3712 Linda Road, Hermantown, MN – Spoke in support of the proposed resolution. He discussed the future opportunities the project can create for future generations in Hermantown

Hannah Ballavance, 5491 Hermantown Road, Hermantown, MN – Spoke in support of the proposed resolution. She discussed the benefit of funding for Hermantown School district.

Chris Aepelbacher, 4382 Sugar Maple Drive, Hermantown, MN – Spoke in support of the proposed resolution. He spoke about reviewing the agreements and support for school district funding.

David Lislegard, 720 Arrowhead Street, Aurora, MN – Spoke in support of the proposed resolution on behalf of Jobs for Minnesotans. He discussed how the proposed abatement and agreement will benefit Hermantown.

Roger Anderson, 6000 South Pike Lake Road, Duluth, MN – Spoke in support of the proposed resolution. He discussed the opportunity it will bring to the region in similarity to the Duluth papermill and a data center previously built in the region.

Emma Richtman, 5215 Chris Drive, Hermantown, MN – Spoke in opposition to the proposed resolution. She discussed lack of information provided and urged Council to vote no or table agreements as a concerned Hermantown resident.

Dawn Lapointe, 4731 Portland Road, Hermantown, MN – Spoke in opposition to the proposed resolution. She discussed her concerns regarding the proposed development agreement and abatement agreement.

Nicole Karnowski, 5907 Cant Road, Duluth, MN – Spoke in support of the proposed resolution. She discussed importance of keeping an open mind and no rejecting new opportunities.

Rachel Johnson, 5702 Oneida Street, Duluth, MN – Spoke in support of the proposed resolution. She spoke about the main benefits of the agreements and how it would benefit Councils constituents.

Mickey Pearson, Duluth, MN – Spoke in support of the proposed resolution. He discussed what Hermantown can gain from the proposed agreements.

Jackie Dolentz, 5842 Old Hwy 2, Hermantown, MN – Spoke in opposition to the proposed resolution. She questioned Council and city staff regarding the proposed agreements and presentations.

Allison Hafften, 5971 Saint Louis River Road, Proctor, MN – Spoke in opposition to the proposed resolution. She discussed the presentations given and proposed agreements.

Todd Pelkey, 3609 Midway Road, Hermantown, MN – Spoke in support of the proposed resolution. He discussed the site location being ideal for the project and support for union trade jobs.

Rick Davis, 3915 Lindahl Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He discussed his concerns regarding the location and effects of the proposed data center.

Owen Lyons, 5143 W. Arrowhead Road, Hermantown, MN Spoke in opposition to the proposed resolution. He questioned Council about the workings of construction and union trade jobs for the proposed project and discussed additional concerns.

Rebecca Gramdorf, 4198 Solway Road, Hermantown, MN – Spoke in opposition to the proposed resolution. She discussed concerns regarding the AUAR, lack of EIS, and waste water.

Sarah Lofald, 5502 Hermantown Road, Hermantown, MN – Spoke in opposition to the proposed resolution. She discussed concerns regarding public transparency, open lawsuits against the City, and the proposed agreements.

Richard Hilton, 5502 Hermantown Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He discussed his concerns with the proposed agreements, lack of information, and urged Council to vote no or table the resolution.

Don Romano, 5555 Saint Louis River Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He expressed he was strongly against proposed tax abatements or financial incentives for companies involved.

Eric Enberg, 5425 Morris Thomas Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He discussed his concerns regarding an unsettled AI atmosphere and the proposed development and abatement agreements.

Tim Resberg, 3646 Midway Road, Hermantown, MN – Spoke in opposition to the proposed data center project. He expressed concerns regarding effects on water and zoning language for a residential area.

Jeff Richtman, 5215 Chris Drive, Hermantown, MN – Spoke in opposition to the proposed resolution. He discussed lack of information and short comings in the development agreement.

Jim Klukkert, 206 N 11 Ave West, Duluth, MN – Spoke in opposition to the proposed resolution. He shared to not trust larger corporations and project the rural environment.

Alicia Navetta, 5219 Wadena Street #2, Duluth, MN – Spoke in opposition to the proposed resolution. She discussed concerns regarding job longevity, sound pollution, and need for future infrastructure.

Matt Butorac, 4089 Lavaque Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He discussed concerns and questioned Council regarding the proposed agreements.

David Thornton, 5861 Hermantown Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He urged Council to not enter any agreements with Google.

Lisa Fitzpatrick, 5229 Peabody St, Duluth, MN – Spoke in opposition to the proposed resolution. She shared concerns about Lake Superior water usage and AI technology.

Sarah Winter, 3659 Birch Road, Hermantown, MN – Spoke in opposition to the proposed resolution. She expressed concerns for residents, as well as the proposed project and agreements.

Kaia Winter, 3659 Birch Road, Hermantown, MN – Spoke in opposition to the proposed resolution. She shared that the data center will drive more individuals away from staying in or returning to Hermantown.

Christina Gallup, 2512 Hammond Avenue, Superior, WI – Spoke in opposition to the proposed resolution. She discussed concerns for residents of Hermantown and environmental concerns.

JoAnne Bates, 5369 Morris Thomas Road, Hermantown, MN – Spoke in opposition to the proposed resolution. She urged Council to listen to the community and why they should not enter the proposed agreements with Google.

Tom Bates, 5369 Morris Thomas Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He shared his concerns for noise pollution.

Cindy Olson, 6278 W Bowman Lake Road, Duluth, MN – Spoke in opposition to the proposed resolution. She discussed clarifications on revenue for the Hermantown School District

Georgia Lane, 4873 Trails End Drive, Hermantown, MN – Spoke in opposition to the proposed resolution. She expressed concerns that Google does not know what the community needs.

Michael Koppy, 5124 Beaver Creek Road, Hermantown, MN – Spoke in opposition to the proposed resolution. He discussed the number of data centers in the US and their negative impacts.

Lisa Bodine, 2001 Hartley, Duluth, MN – Spoke in support of the proposed resolution. She shared support for Google and positive impacts of the proposed project.

I. **2026-45 Resolution Approving A Development Agreement And A Tax Abatement Agreement With Harmony Group, LLC For The Hermantown Data Center Project**

(motion, roll call)

The Council discussed needing more time to know more about legal aspects of the proposed agreements as well wanting to see a cleanup of language and exhibits in the proposed agreements. Council asked questions and had discussion regarding drilling of wells and how funds for the school district will work.

Motion to table 2026-45 Resolution Approving A Development Agreement And A Tax Abatement Agreement With Harmony Group, LLC For The Hermantown

Data Center Project. This motion, made by Councilor Geissler and seconded by Councilor LeBlanc, Carried.

Councilor John Geissler: Yea

Councilor Andy Hjelle: Yea

Councilor Brian LeBlanc: Yea

Councilor Joseph Peterson: Yea

Mayor Wayne Boucher: Yea

Yea: 5, Nay: 0

7. **COMMUNICATIONS**

A. Correspondence 26-120 through 26-206 placed on file

8. **MOTIONS**

A. Motion made to move "Public Comment" to the final item on the agenda. This motion, made by Councilor LeBlanc and seconded by Councilor Geissler, carried.

Councilor John Geissler: Yea

Councilor Andy Hjelle: Yea

Councilor Brian LeBlanc: Yea

Councilor Joseph Peterson: Yea

Mayor Wayne Boucher: Yea

Yea: 5, Nay: 0

9. **CONSENT AGENDA**

A. **Minutes** - Approval or correction of April 20, 2026 City Council Continuation Minutes and the April 27, 2026 City Council Work Session Minutes

B. **Accounts Payable** - Approve general city warrants from April 16, 2026 through April 30, 2026 in the amount of $724,216.63

Motion to the approve the Consent Agenda. This motion, made by Councilor Geissler and seconded by Councilor Hjelle, Carried.

Councilor John Geissler: Yea

Councilor Andy Hjelle: Yea

Councilor Brian LeBlanc: Yea

Councilor Joseph Peterson: Yea

Mayor Wayne Boucher: Yea

Yea: 5, Nay: 0

10. **RESOLUTIONS**

A. **2026-46 Resolution Approving Special Use Permit For Construction Of An Accessory Structure In Excess Of 1,200 Square Feet In The R-3 Zoning District At 4311 Sugar Maple Drive (395-0134-00250) And Imposing Conditions Thereon**

(motion, roll call)

Monica Prom, 4341 Sugar Maple Drive, Hermantown, MN – Spoke in opposition of the proposed resolution. She expressed concerns regarding land use compatibility, precedence, and long-term character of the community.

Derek Misiewicz, 4329 Sugar Maple Drive, Hermantown, MN – Spoke in opposition of the proposed resolution. He shared a timeline of events including the purchasing and clearing of the property.

Jerid Prahl, 4311 Sugar Maple Drive, Hermantown, MN – Spoke in support of the proposed resolution. He shared the actions taken to get the project approved through the HOA and the Planning and Zoning Commission.

Walt Prahl, 5152 2nd Ave, Fredenberg, MN – Spoke in support of the proposed resolution. He shared that the project had received HOA approval.

Councilors and City staff discussed if there were previously any SUPs that were similar to this project and if a precedence would be set by approving this resolution. Councilors and City staff also discussed utility easements and if a fill permit was done.

Motion to approve 2026-46 Resolution Approving Special Use Permit For Construction Of An Accessory Structure In Excess Of 1,200 Square Feet In The R-3 Zoning District At 4311 Sugar Maple Drive (395-0134-00250) And Imposing Conditions Thereon. This motion, made by Councilor LeBlanc and seconded by Councilor Peterson, Carried.

Councilor John Geissler: Yea

Councilor Andy Hjelle: Yea

Councilor Brian LeBlanc: Yea

Councilor Joseph Peterson: Yea

Mayor Wayne Boucher: Yea

Yea: 5, Nay: 0

B. **2026-47 Resolution Authorizing And Directing The Mayor And City Clerk To Execute And Deliver Utility Agreement With Michael And Kenrea Perell**

(motion, roll call)

Motion to approve 2026-47 2026-47 Resolution Authorizing And Directing The Mayor And City Clerk To Execute And Deliver Utility Agreement With Michael And Kenrea Perell. This motion, made by Councilor Hjelle and seconded by Councilor Geissler, Carried.

Councilor John Geissler: Yea

Councilor Andy Hjelle: Yea

Councilor Brian LeBlanc: Yea

Councilor Joseph Peterson: Yea

Mayor Wayne Boucher: Yea

Yea: 5, Nay: 0

11. **PUBLIC COMMENT**

Sarah Loflad, 5502 Hermantown Road, Hermantown, MN – Spoke in opposition to the proposed data center project. She expressed concerns regarding creation of jobs and the effects of the proposed tax abatement

Richard Hilton, 5502 Hermantown Road, Hermantown, MN – Spoke in opposition to the proposed data center project. He expressed concerns about the proposed tax abatement agreement with Google, and stated employment differences between data centers and large employers in the area.

Dawn LaPointe, 4731 Portland Road, Hermantown, MN – Spoke in opposition to the proposed data center project. She shared knowledge regarding working with contracts and expressed concerns with how things could be done differently with the proposed agreements.

Jackie Dolentz, 5842 Old Hwy 2, Hermantown, MN – Spoke in opposition to the proposed data center project. She expressed frustrations surrounding the handling of the proposed development and tax abatement agreements.

Emma Richtman, 5215 Chris Drive, Hermantown, MN – Spoke in opposition to the proposed data center project. She expressed disappointment that Council would still approve the proposed agreements from the public hearing if they get cleaned up.

12. **RECESS**

Motion to recess at 11:29 p.m. This motion, made by Councilor Hjelle and seconded by Councilor LeBlanc, Carried.

Councilor John Geissler: Yea

Councilor Andy Hjelle: Yea

Councilor Brian LeBlanc: Yea

Councilor Joseph Peterson: Yea

Mayor Wayne Boucher: Yea

Yea: 5, Nay: 0

ATTEST:

_____
Mayor

_____
City Clerk

CITY OF HERMANTOWN

CHECKS #73086-73115
05/01/2026 - 05/15/2026

PAYROLL CHECKS	
Electronic Checks - #-62489-62535	$109,717.41
Electronic Checks - #-62434-62481	$117,630.02
LIABILITY CHECKS	
Electronic Checks - #-62536-62538	$109,384.68
Electronic Checks - #-62483-62488	$86,095.05
Electronic Checks - #-62428-62433	$91,807.37
Checks - #73115	$1,642.58
PAYROLL EXPENSE TOTAL	**$422,827.16**
ACCOUNTS PAYABLE	
Checks - #73086-73113	$95,617.58
Electronic Payments #-97289-97319	$186,561.21
ACCOUNTS PAYABLE TOTAL	**$282,178.79**
TOTAL	**$705,005.95**

Fund	Account	Department	Vendor Name	Description	Amount	Check #
101	421100	Police Administration	NORTHEAST SERVICE COOPERATIVE	Health Ins May - Clinton Jones	821.77	-97319
101	421100	Police Administration	NORTHEAST SERVICE COOPERATIVE	Health Ins May - Kristi Hansen	883.04	-97319
101	134000	Retiree Insurance/Telephone Reimb.	NORTHEAST SERVICE COOPERATIVE	Health Ins May - Clinton Jones	91.31	-97319
101	134000	Retiree Insurance/Telephone Reimb.	NORTHEAST SERVICE COOPERATIVE	Health Ins May - Kristi Hanse	98.12	-97319
101	217450	Employee Flexplan	WEX HEALTH INC	Claim Reimbursement	858.31	-97318
101	217450	Employee Flexplan	WEX HEALTH INC	Claim Reimbursement	311.30	-97318
101	217450	Employee Flexplan	WEX HEALTH INC	Claim Reimbursement	110.21	-97318
101	217450	Employee Flexplan	WEX HEALTH INC	Claim Reimbursement	1,977.96	-97318
101	415300	Administration & Finance	DELUXE	Checks	1,513.49	-97317
602	494900	Sewer Administration and General	AT&T MOBILITY	Cell Phones/Tablets-PW/CH	215.87	-97316
101	431100	Street Department	AT&T MOBILITY	Cell Phones/Tablets-PW/CH	159.77	-97316
601	494400	Water Administration and General	AT&T MOBILITY	Cell Phones/Tablets-PW/CH	403.59	-97316
101	419901	City Hall & Police Building Maintenance	AT&T MOBILITY	Cell Phones/Tablets-PW/CH	48.68	-97316
101	421100	Police Administration	AT&T MOBILITY	Cell Phones PD	1,628.42	-97316
101	422100	Fire Administration	AT&T MOBILITY	Cell Phones FD	264.13	-97316
101	415300	Administration & Finance	AT&T MOBILITY	Cell Phones/Tablets-PW/CH	311.59	-97316
101	421100	Police Administration	GREATAMERICA FINANCIAL SERVICES	Copier Lease/Konica C300 & C33	119.58	-97315
101	415300	Administration & Finance	GREATAMERICA FINANCIAL SERVICES	Copier Lease/Konica C300i	103.55	-97315
101	415300	Administration & Finance	GREATAMERICA FINANCIAL SERVICES	Copier Lease/Konica C458 Mar 2	117.87	-97315
101	422100	Fire Administration	KWIK TRIP EXTENDED NETWORK	Gas FD	1,088.19	-97314
101	419901	City Hall & Police Building Maintenance	KWIK TRIP EXTENDED NETWORK	Gas Building	129.02	-97314
601	494300	Water Distribution	KWIK TRIP EXTENDED NETWORK	Gas Utility 60%	412.52	-97314
602	494500	Sewer Maintenance	KWIK TRIP EXTENDED NETWORK	Gas Utility 40%	275.02	-97314
101	424100	Building Inspection	KWIK TRIP EXTENDED NETWORK	Gas Building Offical	114.47	-97314
101	424100	Building Inspection	KWIK TRIP EXTENDED NETWORK	Car Wash BI	14.00	-97314
101	421100	Police Administration	KWIK TRIP EXTENDED NETWORK	Gas PD	5,541.61	-97314
101	431100	Street Department	KWIK TRIP EXTENDED NETWORK	Gas Street	656.33	-97314
101	421100	Police Administration	KWIK TRIP EXTENDED NETWORK	Car Wash PD	326.00	-97314
275	452200	Community Building	MEDIACOM	EWC - Dedicated Internet	490.00	-97313
101	452200	Community Building	MN ENERGY RESOURCES CORP	Natural Gas Old CH	484.20	-97312
275	452200	Community Building	MN ENERGY RESOURCES CORP	Natural Gas EWC - Apr	6,469.79	-97312
101	419901	City Hall & Police Building Maintenance	MN ENERGY RESOURCES CORP	Natural Gas - CH/PD	885.96	-97312
101	422901	Firehall #1 Maple Grove Road	MN ENERGY RESOURCES CORP	Natural Gas - FH #1	1,082.85	-97312
602	494900	Sewer Administration and General	MN ENERGY RESOURCES CORP	Natural Gas Lightning Dr - 03/	163.99	-97312
101	419901	City Hall & Police Building Maintenance	MN ENERGY RESOURCES CORP	Natural Gas CH/PD	746.67	-97312
101	431901	City Garage	MN ENERGY RESOURCES CORP	Natural Gas Old CH	53.70	-97312
601	494400	Water Administration and General	MN ENERGY RESOURCES CORP	Natural Gas Lightning Dr - 03/	262.39	-97312
101	431901	City Garage	MN ENERGY RESOURCES CORP	Natural Gas Comm Building - 03	170.60	-97312

Fund	Account	Department	Vendor Name	Description	Amount	Check #
101	431901	City Garage	MN ENERGY RESOURCES CORP	Natural Gas Lightning Dr - 03/	229.59	-97312
475	431150	Street Improvements	BOLTON & MENK, INC.	Hermantown/Lightning Dr Recons	26,891.00	-97311
101	411100	Council	CIT	Microsoft NCE Office 365 - 2/2	5.72	-97310
101	419100	Community Development	CIT	Microsoft NCE Office 365 - 2/2	2.14	-97310
101	417200	Communications	CIT	Microsoft NCE Office 365 - 2/2	4.28	-97310
101	422100	Fire Administration	CIT	Microsoft NCE Office 365 - 2/2	8.57	-97310
601	494400	Water Administration and General	CIT	Microsoft NCE Office 365 - 2/2	2.14	-97310
602	494900	Sewer Administration and General	CIT	Microsoft NCE Office 365 - 2/2	1.43	-97310
101	431100	Street Department	CIT	Microsoft NCE Office 365 - 2/2	5.72	-97310
101	424100	Building Inspection	CIT	Microsoft NCE Office 365 - 2/2	2.85	-97310
101	415300	Administration & Finance	CIT	Microsoft NCE Office 365 - 2/2	14.28	-97310
101	421100	Police Administration	CIT	Microsoft NCE Office 365 - 2/2	41.44	-97310
101	413100	Mayor	CIT	Microsoft NCE Office 365 - 2/2	1.43	-97310
101	422100	Fire Administration	CM2 SUPPLY	Oxygen Bottles Refilled	233.45	-97309
230	465100	HEDA	CREATIVE ARCADE	Website Monthly Maintenance	250.03	-97308
101	421100	Police Administration	DRYER & PETERSON, P.C.	Prosecution Services Apr 2026	6,772.99	-97307
601	494400	Water Administration and General	GOPHER STATE ONE-CALL INC	Apr 26 Locates	68.04	-97306
602	494900	Sewer Administration and General	GOPHER STATE ONE-CALL INC	Apr 26 Locates	45.36	-97306
415	465200	Community Development	DSGW ARCHITECTS, INC.	Hermantown Arena	15,847.61	-97305
101	431901	City Garage	HARTEL'S/DBJ DISPOSAL CO LLC	Yard Trash Disposal Mar 2026 -	204.10	-97304
101	419901	City Hall & Police Building Maintenance	HARTEL'S/DBJ DISPOSAL CO LLC	Garbage Recycling Apr 2026-129	474.04	-97304
101	415300	Administration & Finance	INNOVATIVE OFFICE SOLUTIONS, LLC	Paper Returned	-11.00	-97303
101	421100	Police Administration	INNOVATIVE OFFICE SOLUTIONS, LLC	Notary Stamp - Johnson, Anna	43.34	-97303
101	415300	Administration & Finance	INTEGRATED OFFICE SOLUTIONS	Copy Overage Konica C458/C300i	347.40	-97302
101	431100	Street Department	INTER CITY OIL CO INC	Fuel	2,147.46	-97301
101	431100	Street Department	INTER CITY OIL CO INC	Fuel	1,548.61	-97301
101	416100	City Attorney	KENNEDY & GRAVEN, CHARTERED	Hermantown Road Special Assess	1,092.00	-97300
101	416100	City Attorney	KENNEDY & GRAVEN, CHARTERED	Hermantown Road Special Assess	1,440.00	-97300
101	416100	City Attorney	KENNEDY & GRAVEN, CHARTERED	Hermantown Road Special Assess	1,274.00	-97300
101	421100	Police Administration	KIESLER'S POLICE SUPPLY, INC.	Holster	83.71	-97299
101	431100	Street Department	LINDE GAS & EQUIPMENT INC.	Cylinder Rent/Safe Env fee 03/	67.66	-97298
101	422100	Fire Administration	MACQUEEN EQUIPMENT, LLC	Spike Strip - SQD 19	167.25	-97297
101	421100	Police Administration	MACQUEEN EQUIPMENT, LLC	Decommission Patrol Vehicle	19,742.38	-97297
601	494300	Water Distribution	MENARD INC	Marking Paint	14.78	-97296
101	431100	Street Department	MENARD INC	Oil Dry/Shackles/Chain	43.95	-97296
601	494300	Water Distribution	MENARD INC	Masonry Drill bit	11.16	-97296
101	431100	Street Department	MENARD INC	Flex Coupler	3.89	-97296
101	431901	City Garage	MENARD INC	Flap Disc Pads	29.97	-97296

Fund	Account	Department	Vendor Name	Description	Amount	Check #
101	419901	City Hall & Police Building Maintenance	MENARD INC	Blood Meal/EVRGRN Spikes	24.97	-97296
101	431100	Street Department	MENARD INC	2 Wire Connector	5.99	-97296
601	494300	Water Distribution	MENARD INC	Masonry Drill Bit	3.29	-97296
101	431100	Street Department	NORTHERN ENGINE & SUPPLY INC	Air Hose Couplers	44.05	-97295
240	432510	Trunk Sewer Construction	NORTHLAND CONSULTING ENGINEERS L.L.P.	Reinke Road Utilities	390.00	-97294
101	214500	Escrow Deposits Payable	NORTHLAND CONSULTING ENGINEERS L.L.P.	Peyton Property Development	190.00	-97294
412	419100	Community Development	NORTHLAND CONSULTING ENGINEERS L.L.P.	Keene Creek Trail - Segment #3	337.50	-97294
412	419100	Community Development	NORTHLAND CONSULTING ENGINEERS L.L.P.	Hermantown Trail Project	2,405.00	-97294
475	431150	Street Improvements	NORTHLAND CONSULTING ENGINEERS L.L.P.	Lightning Drive - SID # 452	1,560.00	-97294
402	431150	Street Improvements	NORTHLAND CONSULTING ENGINEERS L.L.P.	Stebner Road PER & Feasibility	4,390.00	-97294
101	424100	Building Inspection	NORTHLAND CONSULTING ENGINEERS L.L.P.	Maple Field Mobile Home Park	780.00	-97294
101	431130	City Engineer	NORTHLAND CONSULTING ENGINEERS L.L.P.	City Council Meetings	7,372.50	-97294
602	494500	Sewer Maintenance	SJE-RHOMBUS, INC.	SCADA Monitoring Apr-Jun 2026	1,264.50	-97293
101	419901	City Hall & Police Building Maintenance	STATE CHEMICAL SOLUTIONS	Concrete Patch	396.27	-97292
101	490000	Miscellaneous Functions	TERCH & ASSOCIATES CONSULTING, LLC	Apr 26 HR Services	1,137.50	-97291
101	419901	City Hall & Police Building Maintenance	VIKING AUTOMATIC SPRINKLER COMPANY	April Annual Monitoring (Centr	600.00	-97290
602	494500	Sewer Maintenance	WLSSD	APR Wastewater Charges 043026H	57,101.00	-97289
101	421100	Police Administration	ANIMAL ALLIES HUMANE SOCIETY	Apr 2026 Boarding	565.00	73086
603	441100	Storm Water	ARMOR EQUIPMENT	Rental - Sweeper	15,000.00	73087
101	421100	Police Administration	ASPIRUS INC.	Blood Draw - Moss, Alayna Luci	34.00	73088
101	431100	Street Department	BOBCAT OF DULUTH INC	Power Broom Bristles	74.94	73089
101	452100	Parks	BOBCAT OF DULUTH INC	Kobota Mower Parts	45.19	73089
101	419901	City Hall & Police Building Maintenance	CEDAR BRIDGE CONSULTING LLC	Special Consultant for Long Te	13,500.00	73090
602	494500	Sewer Maintenance	CENTRAL PENSION FUND	Training Per Contract	118.04	73091
601	494300	Water Distribution	CENTRAL PENSION FUND	Training Per Contract	118.04	73091
101	431100	Street Department	CENTRAL PENSION FUND	Training Per Contract	118.05	73091
101	422903	Firehall #3 Midway Road	CENTURYLINK	Internet FH3 04/22/26-05/21/26	86.99	73092
101	431901	City Garage	CINTAS CORPORATION	Mats/Supplies	42.55	73093
101	431100	Street Department	CINTAS CORPORATION	Uniforms	7.92	73093
101	431100	Street Department	CINTAS CORPORATION	Uniforms	7.92	73093
101	431100	Street Department	CINTAS CORPORATION	Uniforms	84.47	73093
101	431901	City Garage	CINTAS CORPORATION	1st Aid Cabinets	109.63	73093
101	431901	City Garage	CINTAS CORPORATION	Mats/Supplies	71.21	73093
101	431100	Street Department	CINTAS CORPORATION	Uniforms	66.67	73093
101	415300	Administration & Finance	CIVICPLUS, LLC	CivicPlus Media Annual Fee	5,406.72	73094
603	441100	Storm Water	CIVICPLUS, LLC	CivicPlus Media Annual Fee	1,351.68	73094
602	494900	Sewer Administration and General	CIVICPLUS, LLC	CivicPlus Media Annual Fee	2,764.80	73094
601	494400	Water Administration and General	CIVICPLUS, LLC	CivicPlus Media Annual Fee	2,764.80	73094

Fund	Account	Department	Vendor Name	Description	Amount	Check #
602	494900	Sewer Administration and General	CLIFTONLARSONALLEN LLP	YR 2025 Audit Services	3,439.80	73095
601	494400	Water Administration and General	CLIFTONLARSONALLEN LLP	YR 2025 Audit Services	3,402.95	73095
101	415300	Administration & Finance	CLIFTONLARSONALLEN LLP	YR 2025 Audit Services	13,632.25	73095
101	490000	Miscellaneous Functions	COSTIN GROUP MN	City Lobbyist	1,500.00	73096
602	494900	Sewer Administration and General	CUSTOMER ELATION INC	04/07/26 - 05/04/26 Answering	26.30	73097
601	494400	Water Administration and General	CUSTOMER ELATION INC	04/07/26 - 05/04/26 Answering	39.45	73097
101	452100	Parks	DAIRYLAND FENCE CO INC	Fencing - Fichtner Field	18,400.00	73098
230	214500	Escrow Deposits Payable	DLA PIPER LLP (US)	Loon Development Contract Revi	886.50	73099
101	419100	Community Development	HERMANTOWN STAR LLC	BOA - Property Assessments	115.50	73100
101	415300	Administration & Finance	HERMANTOWN STAR LLC	PH - Proposed Property Tax Aba	131.00	73100
101	415300	Administration & Finance	HERMANTOWN STAR LLC	Apr 6 & 16, 2026 Minutes	49.50	73100
101	421100	Police Administration	HOLIDAY COMPANIES	Car Washes - Apr 2026	55.00	73101
101	419901	City Hall & Police Building Maintenance	INTERSTATE ALL BATTERY CENTER	Batteries for equipment	279.90	73102
101	419100	Community Development	JOHNSON, ERIC	AutoCAD LT Renewal	540.00	73103
101	422100	Fire Administration	MN FIRE SERVICE CERTIFICATION BOARD	Instructor I testing x 6 peopl	861.00	73104
101	422901	Firehall #1 Maple Grove Road	MN TELECOMMUNICATIONS	May 2026 Internet	90.00	73105
101	419901	City Hall & Police Building Maintenance	MN TELECOMMUNICATIONS	May 2026 Internet	360.00	73105
101	431100	Street Department	NAPA AUTO PARTS	Radiator Hose	38.97	73106
101	431901	City Garage	NAPA AUTO PARTS	Oil Spill Pads	307.81	73106
101	431901	City Garage	OXYGEN SERVICE COMPANY	Acetylene Gas Bottle Rent	22.16	73107
101	421100	Police Administration	SHEL/DON GROUP INC	Missing Delivery Payment	7.50	73108
101	421100	Police Administration	ST LOUIS COUNTY AUDITOR	2026 Shield Fee	2,864.08	73109
101	431100	Street Department	ST LOUIS COUNTY AUDITOR	Brine Solution March 2026	1,125.60	73110
101	421100	Police Administration	STREICHER'S	360 First Defense MK-5 Stream	17.60	73111
101	421100	Police Administration	STREICHER'S	Supplies	1,300.00	73111
101	421100	Police Administration	TROY'S SERVICE CENTER	Tires - SQD 12	910.87	73112
101	421100	Police Administration	TROY'S SERVICE CENTER	Condenser Repair - SQD 18	1,630.47	73112
101	421100	Police Administration	TROY'S SERVICE CENTER	Oil & Filter - SQD 13	91.75	73112
101	419901	City Hall & Police Building Maintenance	UHL COMPANY INC	Alarm Issues on BAS	1,153.00	73113

Totals: **143 records printed** **282,178.79**

CITY COUNCIL MEETING DATE: May 18, 2026

TO: Mayor & City Council

FROM: Eric Johnson, Community Development Director

SUBJECT: Accepting Large Specific Project Scoping Document and authorizing preparation of Draft Alternative Urban Areawide Review (AUAR) for Section 31 Hermantown Industrial Project

---

☒ **RESOLUTION:** 2026-48 ☐ **ORDINANCE:** ☐ **OTHER:**

REQUESTED ACTION

Accepting Large Specific Project Scoping Document and authorizing Kimley Horn to prepare the Draft Alternative Urban Areawide Review (AUAR) for Section 31 Hermantown Industrial Project.

BACKGROUND

The City is working with Kimley Horn to prepare an Alternate Urban Areawide Review of the properties in the Section 31 Hermantown Industrial project. There are several steps in this process, with the public comment period for the Scoping AUAR Scoping document being completed on April 30, 2026. There were five comments received from 5 governmental agencies and 235 comments received by the public.

Kimley Horn grouped the comments from the public into common themes in order to provide a response. These themes include the following:

- Environmental Impacts (Climate change, Hazardous waste; Air quality; Light conditions; Utilities and infrastructure)
- Water Resources and Wildlife (Water supply, use, groundwater and protection; Water quality and contamination; Wetland impacts; and Wildlife)
- Noise Impacts (Operational noise; Construction noise and duration)
- Cultural Resources (Request for an EIS; Lack of project clarity; Desire for additional evaluation; Language, labeling and process; Study area and scope)
- Land Use (Compatibility and location; Long term conditions and post-operational considerations)
- Transparency
- Public Engagement and Process Concerns
- Broader Social, Technological or Ethical Topics (AI and technology; Corporate influence; Future development; Trends and comparisons)
- Economic Impacts and Community Benefits (Unjustified public cost; Community protections and benefits; Neighborhood impacts)
- Comments Proposing Alternatives
- Energy Demand and Grid Impacts
- Sustainability and Resource Availability

- Expressions of Support or Opposition

In addition, commenter agencies and/or names are provided and references which theme their comments were placed under.

The next step is to authorize Kimley Horn to proceed with the preparation of the Draft AUAR document and mitigation plan. A portion of this work has already been completed with the Scoping Document. It is anticipated that the Draft AUAR document will be published in the EQB Monitor, which in turn will start a 30 day comment period running through early or mid July 2026.

The anticipated completion and City contemplation of adoption of the Final AUAR document is September 2026.

SOURCE OF FUNDS (if applicable)

230-214500 Proj 321

ATTACHMENTS

- Resolution
- Scoping Document
- Scoping Document Comment Responses
- Comment Letters
- Draft Authorization Letter

Resolution No. 2026-48

Resolution Accepting Large Specific Project Scoping Document and Authorizing The Preparation Of The Draft Alternative Urban Areawide Review (AUAR) Document For The Section 31 Hermantown Industrial Project

WHEREAS, the Hermantown City Council desires to consider the construction of the Section 31 Hermantown Industrial project (Project") within the City of Hermantown and as shown on Exhibit A attached hereto; and

WHEREAS, the City Council has received the AUAR Large Specific Project Scoping document for the Project; and

WHEREAS, the AUAR Large Specific Project Scoping document, was submitted to the Minnesota Environmental Quality Board's EQB Monitor for publication on March 31, 2026, for public review and comment as part of the AUAR process as described in Minnesota Rules 4410.3610, Subp. 5.A.; and

WHEREAS, at the conclusion of the 30-day public comment period on April 30, 2026 the RGU had received comments from 5 government agencies and 235 public comments, and

WHEREAS, the City, as the Responsible Governmental Unit (hereinafter referred as the "RGU"), has ordered that an Alternative Urban Areawide Review (hereinafter referred to as the "AUAR") is required for the Project per Minnesota Rules 4410.3610 (described below); and

WHEREAS, the Project is approximately 278 areas (Study Area); and

WHEREAS, Project proposes to construct multiple buildings of varying sizes, totaling up to 1,800,000 square feet of new buildings. The proposed uses of the newly constructed buildings would be for a data center technology campus; and

WHEREAS, the end user within the Study Area and the AUAR is Harmony Group, LLC, a subsidiary of Google, who will use as the document as a planning and environmental review document for future project specific individual plans and uses within the Study Area; and

WHEREAS, pursuant to Minnesota Rules 4410.3610, subpart 5.a (D), the RGU must adopt a Final Order for Review for the preparation of a draft AUAR and mitigation plan (based on the development scenario presented in the AUAR Large Specific Project Scoping document) to analyze the individual and cumulative potential effects from the Project possible and lot configurations with consideration given to existing natural resources, planning and zoning requirements, market trends, and infrastructure needs, and

THEREFORE, BE IT RESOLVED, the City Council directs City staff to proceed with the preparation of the draft AUAR and mitigation plan for the development scenario.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such resolutions was seconded by Councilor _____ and, upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

and the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown, St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-48 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____
Alissa McClure, City Clerk

Appendix A:
Final Scoping Document

Updated Hermantown Industrial AUAR

FINAL SCOPING DOCUMENT

MAY 2026

PREPARED FOR:

PREPARED BY:

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Appendix A: Final Scoping Document

Appendix B: Comment Responses

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Final Scoping Document

This Environmental Assessment Worksheet (EAW) form is being used to delineate the issues and analyses to be reviewed in an Alternative Urban Areawide Review (AUAR). Where the AUAR guidance provided by the Minnesota Environmental Quality Board (EQB) indicates that an AUAR response should differ notably from what is required for an EAW, the guidance is noted in *italics.*

1. PROJECT TITLE

Updated Hermantown Industrial AUAR

2. PROPOSER

Proposer: Harmony Group LLC
Contact Person: Margot Wickman
Address: 60 S. 6th Street, Suite 3400
City, State, ZIP: Minneapolis, MN 55402-4018
Phone: 612-334-5017
Email: Margot.Wickman@KutakRock.com

3. RGU

RGU: City of Hermantown
Contact Person: Eric Johnson
Title: Community Development Director
Address: 5105 Maple Grove Road
City, State, ZIP: Hermantown, MN 55811
Phone: 218-729-3600
Email: AUARcomments@hermantownmn.com

4. REASON FOR PREPARATION

AUAR Guidance: Not applicable to an AUAR.

The City of Hermantown and project proposer are voluntarily preparing an updated AUAR to provide the public with additional opportunities to comment on newly available project details on a reduced Study Area and to provide the City of Hermantown with additional analysis about environmental impacts from the proposed project.

An AUAR is an appropriate process for environmental review because at 1.8 million square feet of light industrial use, the project may be reviewed using an AUAR. *See* Minn. R. 4410.3610, subp. 1: "A local unit of government may use the procedures of this part . . . to review anticipated . . . light industrial development and associated infrastructure in a particular geographic area within its jurisdiction . . . ". The proposed development scenario meets the State's mandatory requirements for an environmental review process based on Minnesota Rules 4410.4400. Minnesota Rule 4410.3610 allows for an alternative form of review through an AUAR for qualifying projects, including this scenario.

5. PROJECT LOCATION

County: St. Louis County
City/Township: Hermantown
PLS Location (¼, ¼, Section, Township, Range): Section 31, Township 50N, Range 15W
Watershed (81 major watershed scale): MW# 3 - St. Louis River
Tax Parcel Numbers: 395-0010-09100, 395-0010-09102, 395-0010-09103, 395-0010-09090, 395-0010-09095, 395-0010-09131, 395-0010-09135, 395-0010-09140, 395-0010-09155, 395-0010-09160, 395-0010-09170, 395-0010-09182, 395-0010-09110, 395-0010-09120, 395-0010-09130, 395-0010-09150, 395-0010-09161, 395-0010-09180, 395-0010-09305, 395-0010-09310, 395-0010-09320, 395-0010-09330, 395-0010-09340, 395-0010-09300, 395-0010-09302, 395-0010-09080.

At a minimum, attach each of the following to the AUAR:

- **US Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries** (See Figure 1)
- **Map depicting the boundaries of the AUAR and any subdistricts used in the AUAR analysis** (see Figure 2 and Figure 3)
- List of data sources, models, and other resources (from the Item-by-Item Guidance: Climate Adaptation and Resilience or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the project during the life of the project (as detailed below in Item 7)
- **Cover type map as required for Item 8** (See Figure 6)
- **Land use and planning and zoning maps as required in conjunction with Item 10** (See Figure 7, Figure 8, and Figure 9)

Figure 1: USGS Map

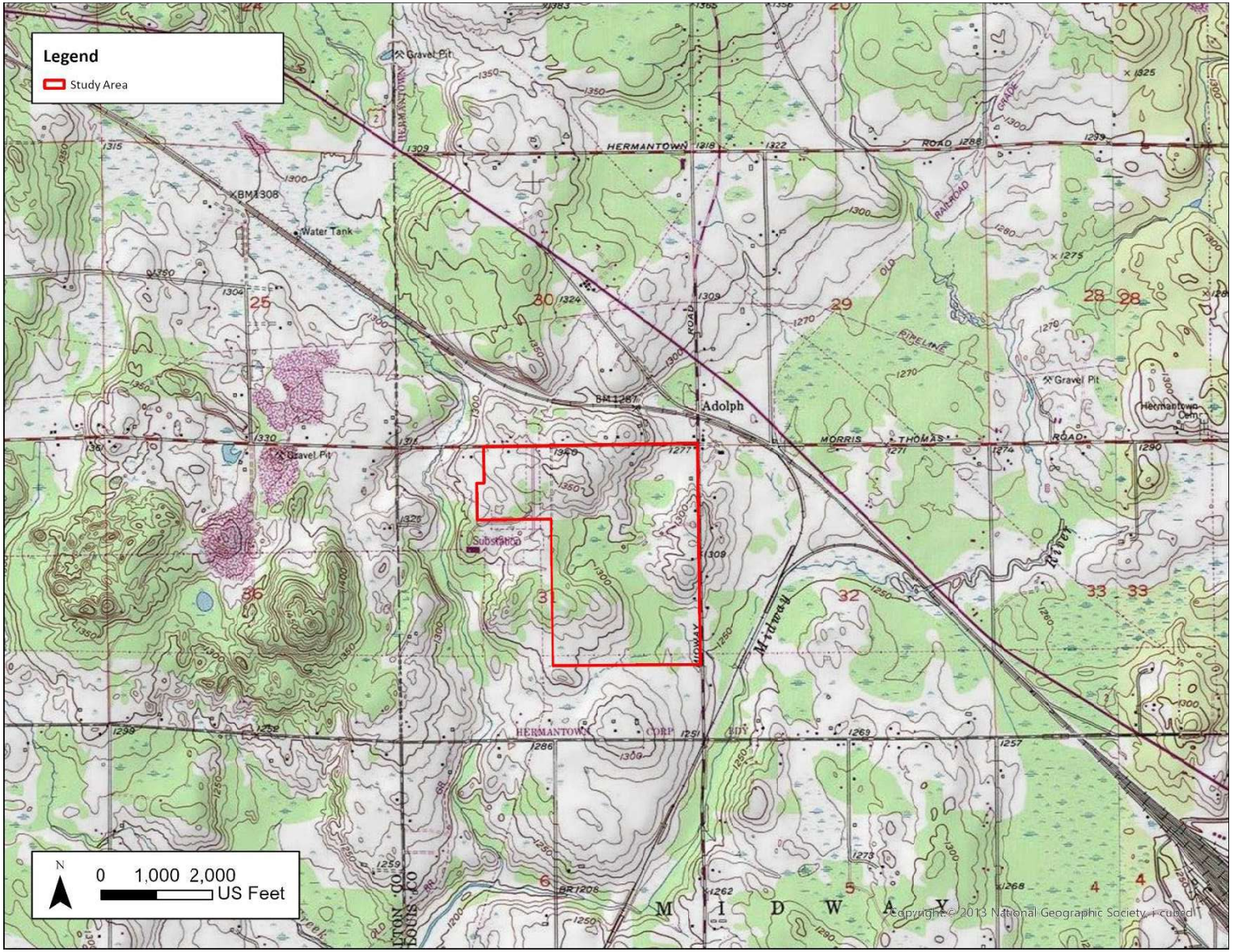
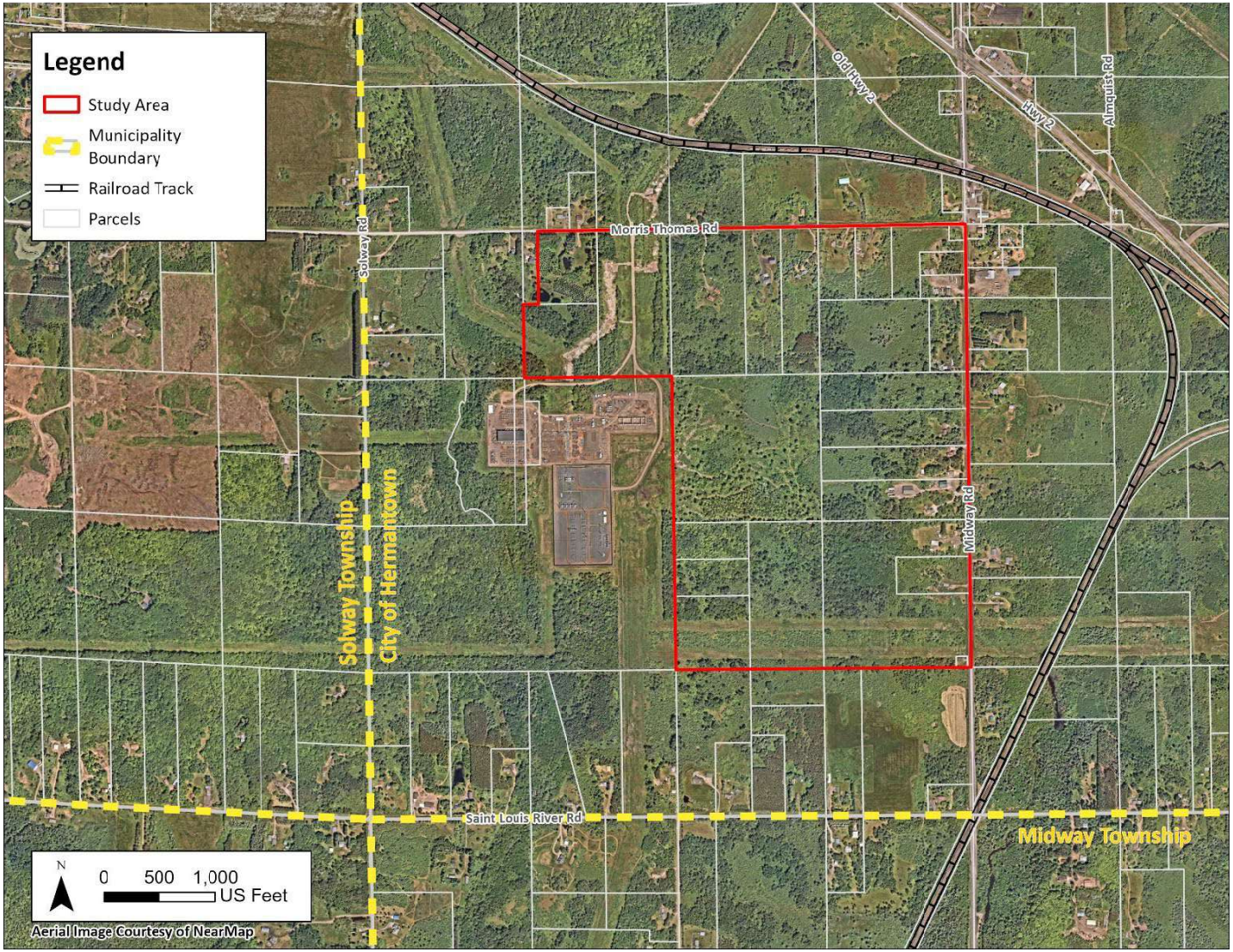


Figure 2: AUAR Study Area Boundary



6. PROJECT DESCRIPTION

AUAR Guidance: Instead of the information called for on the EAW form, the description section of an AUAR should include the following elements for each major development scenario included:

- *Anticipated types and intensity (density) of residential and commercial/warehouse/light industrial development throughout the AUAR area.*
- *Infrastructure planned to serve development (roads, sewers, water, stormwater system, etc.). Roadways intended primarily to serve as adjoining land uses within an AUAR area are normally expected to be reviewed as part of an AUAR. More "arterial" types of roadways that would cross an AUAR area are an optional inclusion in the AUAR analysis; if they are included, a more intensive level of review, generally including an analysis of alternative routes, is necessary.*
- *Information about the anticipated staging of various developments, to the extent known, and of the infrastructure, and how the infrastructure staging will influence the development schedule.*

Existing Conditions

The AUAR Study Area encompasses an area totaling approximately 278 acres on 26 parcels in the City of Hermantown, St. Louis County, Minnesota (shown on Figure 1 and Figure 2). Since the 2025 AUAR was published, an end user for the development has been identified and intends to own and operate a data center. With those additional design specifics, the Study Area boundary has been reduced by two parcels (excluding the existing substation) from 403 to 278 acres. The Study Area is bounded to the north by Morris Thomas Road, to the east by Midway Road, and to the west by Solway Road. The southern boundary of the Study Area extends parallel to Saint Louis River Road, approximately 0.25 miles to the north.

Proposed Development

This updated AUAR evaluates a data center campus (defined as Communication Services in the Hermantown zoning code) that includes multiple buildings, constructed in distinct sequential phases, for a total of 1.8 million square feet of proposed light industrial development. Up to four data center buildings are proposed, each one story tall (see Figure 3 for the conceptual layout). The data center buildings will use non-evaporative mechanical cooling equipment. Several utility pads are proposed for overhead electric line connections that will be located at the areas indicated on Figure 3 as substations. The areas labeled as equipment yards would house electrical and cooling equipment as well as backup generators; however, the specific number of equipment yard areas needed, as well as the number of backup generators and locations, will be determined as site planning advances. The campus also includes several office and storage buildings.

The data center development will be supported by new roadways, parking areas, utilities, landscaping, stormwater, perimeter fencing, and other associated infrastructure; including substations, transmission lines and mechanical/electrical equipment.

Additionally, new public infrastructure would be required for City water service, sanitary sewer, stormwater management, streets, and utilities extending from or upgrading existing publicly-owned systems to accommodate the new development. A new private driveway access will be needed on the northwest side of the Study Area from Morris Thomas Road that will include a shared access with the parcels on the western half of the Study Area as well as a construction staging area. No development is anticipated near the southern portions of the Study Area where the existing transmission lines are located.

Construction Activities and Timing

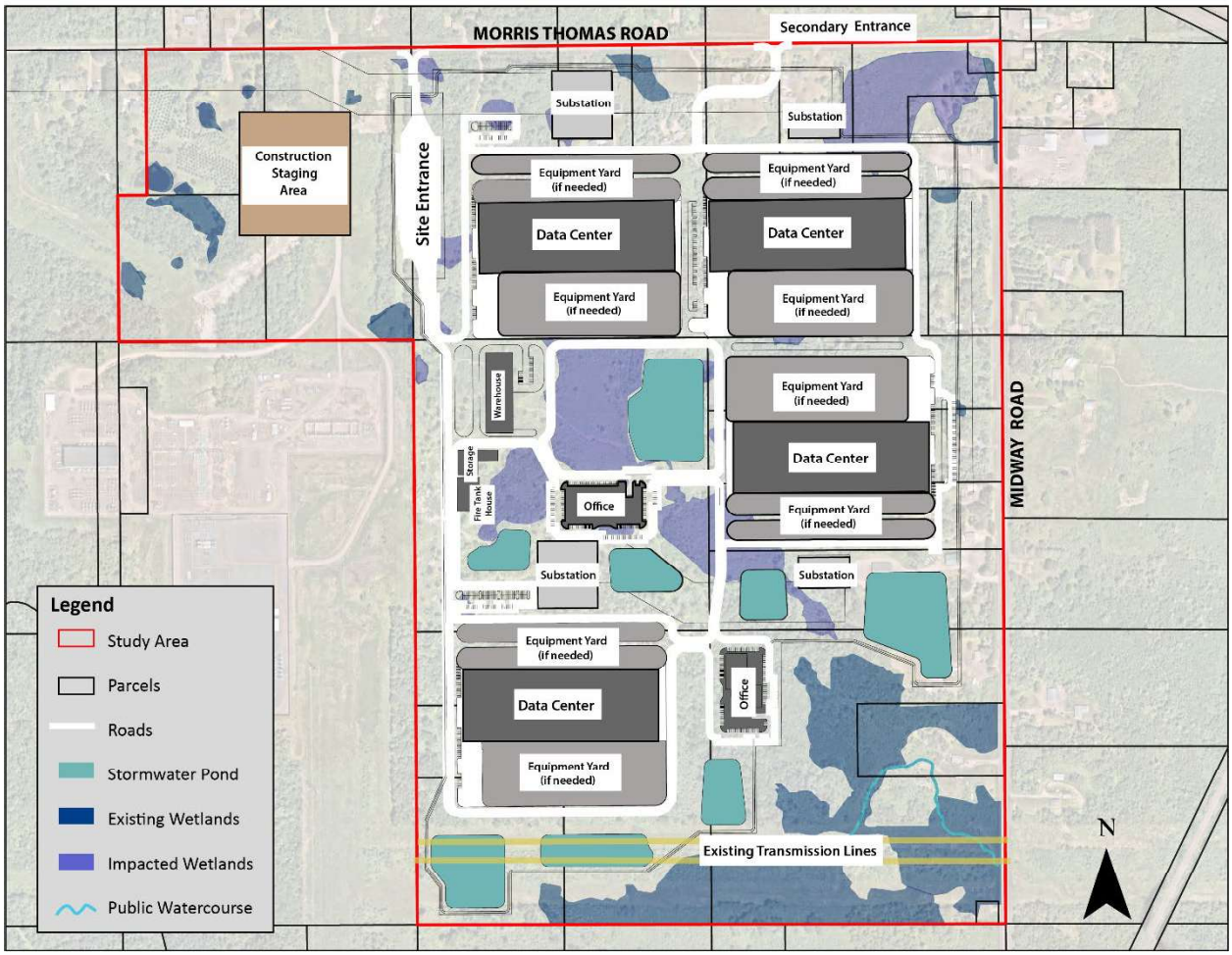
Construction activities would include the construction of buildings, structures, access roadways, parking areas, and infrastructure improvements. Site preparation would include grading, excavation, and vegetation removal. A staging area for construction is planned to be located on the northwest portion of the Study Area. Preliminary construction work (i.e. tree clearing) is anticipated to begin as early as fall 2026 or early 2027. Mass grading activities could start as early as spring 2027; however, this is dependent on permitting approvals. The campus will be constructed in distinct sequential phases, with the full master-planned campus anticipated to take more than 5 years to complete. Construction on public utility extensions, including sanitary sewer and water, is anticipated to start as early as spring 2027 and will take approximately two years to complete.

This AUAR will address all components or stages for which permits or approvals are sought from the City of Hermantown (*See* Minn. R. 4410.1000, subp. 4). The proposed development includes elements that may be subject to separate permitting and/or separate environmental review by other RGUs, depending on final design and applicable thresholds (e.g., certain utility-scale transmission improvements, backup generation, fuel storage, battery energy storage, or other air-permitted equipment - *See* Minn. R. 4410.3610, subp. 1). The updated AUAR will (i) identify such elements to the extent reasonably known at the time of AUAR preparation, (ii) explain the basis for the AUAR's treatment of those elements (included, bounded, or addressed as cumulative effects), and (iii) describe how subsequent environmental review—if required—will incorporate the AUAR analysis and will evaluate the remaining elements with sufficient detail for the applicable.

Table 1: Development Scenario

Component	Scenario 1
Industrial Building Area (square feet)	1,800,000
Total Project Area (acres)	**278 acres**

Figure 3: Conceptual Development Scenario Site Layout



Potential On-Site Energy Storage or Backup Generation

The Proposer anticipates that some combination of battery energy storage and/or emergency backup generation may be required to support data center reliability. At the time of scoping; however, the type, number, capacity, location, operating profile, and fuel storage volumes for any backup generation are not final and may vary based on final interconnection requirements, reliability standards, and equipment selection.

The updated AUAR will therefore:

1. **Describe** backup power concepts to the extent reasonably available for environmental review purposes;

2. **Analyze potential environmental effects** using reasonable worst-case or envelope assumptions where sufficient information exists to do so; and
3. **Identify circumstances under which additional environmental review may be required** for backup generation, fuel storage, or associated air emissions, and describe how those components would be evaluated at that time.

7. CLIMATE ADAPTATION AND RESILIENCE

a. Describe the climate trends in the general location of the project (see guidance: Climate Adaptation and Resilience) and how climate change is anticipated to affect that location during the life of the project.

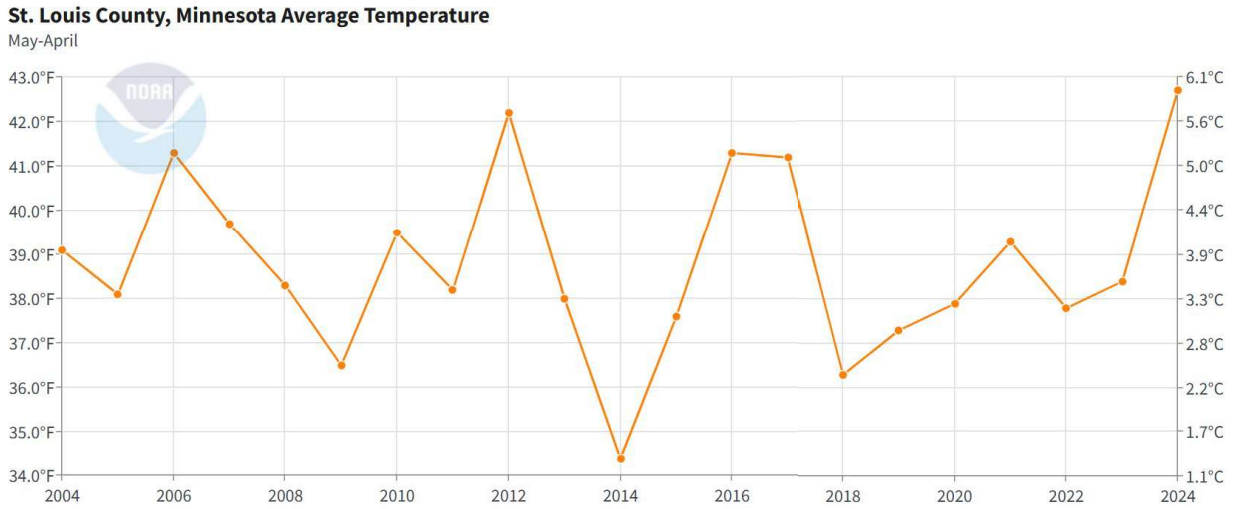
Trends in temperature, precipitation, flood risk, and cooling degree days are described below for the general project location. Some of the climate projections summarized below use shared socioeconomic pathways (SSPs), which are greenhouse gas concentration scenarios used by the Intergovernmental Panel on Climate Change. The SSPs reflect assumptions about how industrialization, fossil fuel dependence, land use, and population density evolve in the future. The assumptions are based on population growth, urbanization, economic growth, technological advances, greenhouse gas and aerosol emissions, energy supply and demand, land-use changes, and more. SSP 245 is an intermediate scenario in which emissions decline after peaking around 2040, and SSP 370 is a high-emission scenario in which emissions continue to rise through the 21st Century.

Temperature

According to the National Centers for Environmental Information (NCEI), the historical average temperature in St. Louis County between 2004 and 2024 was approximately 38.8°F, with the lowest average in 2014 (34.4°F) and the highest average in 2024 (48.°F).[1] According to the Minnesota Climate Mapping and Analysis Tool, the annual daily average temperature in the Study Area is projected to increase to 52.8°F from 2040 to 2059 under an intermediate emissions pathway (SSP 245). In 2080-2099, the annual daily average temperature is projected to further increase to 55.7°F and 57.8°F under an intermediate (SSP 245) and high emissions pathway (SSP 370), respectively.[2]

[1] National Centers for Environmental Information, National Oceanic and Atmospheric Administration. *County Time Series*. Available at: https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series.
[2] Minnesota CliMAT. University of Minnesota. Available at https://app.climate.umn.edu/?output_type=modelVal&scenario=ssp370_2080-2099&model=ensemble&variable=tmax-degF&time_frame=yearly&aoi=none#intro_pane

Figure 4: NCEI County Time Series - Average Temperature in St. Louis County



Urban Heat Island

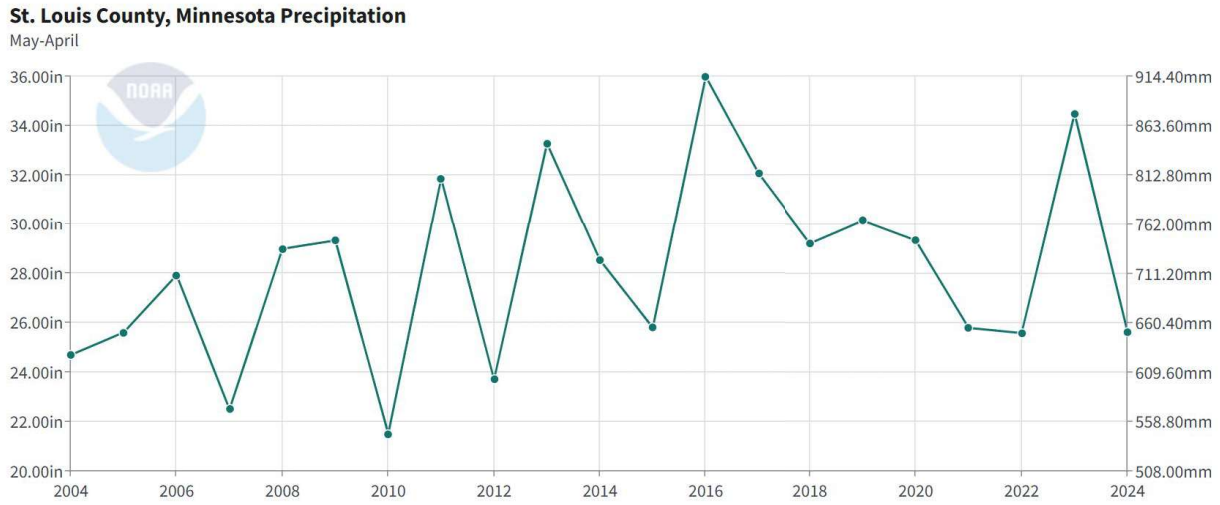
Surfaces and structures such as roads, parking lots, and buildings absorb and re-emit more heat from the sun than natural landscapes. This can significantly raise air temperature and overall extreme heat vulnerability in urban areas where there are dense concentrations of these surfaces. This is referred to as the urban heat island effect. According to the University of Minnesota's Heat Vulnerability Map Tool, the AUAR Study Area is located in an area of low heat vulnerability.[3]

Precipitation

According to the National Centers for Environmental Information (NCEIS), historic average annual precipitation in St. Louis County between 2004 and 2024 was approximately 28.2 inches, with the lowest average in 2010 (21.52 inches) and the highest average in 2016 (36 inches). Average annual precipitation under an immediate emissions pathway (SSP 245) in St. Louis County from 2040-2059 is projected to be 33.2 inches. From 2080-2099, average annual precipitation is projected to be 33 inches under RCP 4.5 and 32.7 inches under an intermediate (SSP 245) and high emissions pathway (SSP 370), respectively.

[3] Heat Vulnerability in Minnesota. University of Minnesota. Available at https://maps.umn.edu/climatehealthtool/heat_app/

Figure 5: NCEI County Time Series - Average Precipitation Trends in St. Louis County



Flood Risk

In many places, climate change is exacerbating the frequency and intensity of extreme rainfall events and associated flooding. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (panels 27137C3743E, effective on 3/25/2025 and 27137C3744E, effective on 3/25/2025), the entirety of the AUAR Study Area is located outside of the FEMA 100-year flood zones (see Figure 12).

Cooling Degree Days

As defined by the National Weather Service, cooling degree days, which are often used as a proxy to estimate cooling needs for buildings, can be examined as a baseline and projected exposure indicator under the RCP 4.5 and RCP 8.5 scenarios. Cooling degree days are indexed units, not actual days, which roughly describe the demand to heat or cool a building. Cooling degree days accumulate on days warmer than 65°F when cooling is required. For example, if a weather station recorded an average daily temperature of 78°F, cooling degree days for that station would be 13.

According to Heat Vulnerability in Minnesota,[4] the number of cooling degree days in 2019 for St. Louis County was 73. The number of cooling degree days in 2050 for St. Louis County is projected to be 142 and 214 for RCP 4.5 and RCP 8.5, respectively.

For each resource category in the table below, describe the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.

[4] Heat Vulnerability in Minnesota. Minnesota Department of Health and the University of Minnesota. Available at https://maps.umn.edu/climatehealthtool/heat_app/.

Table 2: Interaction of Proposed Activities with Each Climate Trend and Projection Listed in 7a

Resource Category	Climate Trends and Climate Projections	Project Components	Potential Environmental Effects	Adaptation Strategies
Project Design	In the coming decades, the location of the Study Area is anticipated to experience: • Increased annual temperatures • Increased annual precipitation and more frequent heavy rainfall events	To be discussed in AUAR	To be discussed in AUAR	To be discussed in AUAR
Land Use	Reduction of tree cover may lead to more intense stormwater runoff, increased urban heat island effect, loss of shade for protection during extreme heat, and potential reduction in air quality.	To be discussed in AUAR	To be discussed in AUAR	To be discussed in AUAR
Water Resources	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence water resources such as extreme storm events, drought, groundwater depletion.	To be discussed in AUAR	To be discussed in AUAR	To be discussed in AUAR

Resource Category	Climate Trends and Climate Projections	Project Components	Potential Environmental Effects	Adaptation Strategies
Contamination / Hazardous Materials/ Wastes	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence the potential environmental effects of the generation/use/storage of hazardous waste and materials.	To be discussed in AUAR	To be discussed in AUAR	To be discussed in AUAR
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence the local species and suitable habitat.	To be discussed in AUAR	To be discussed in AUAR	To be discussed in AUAR

8. COVER TYPES

AUAR Guidance: The following information should be provided:

- *A cover type map, at least at the scale of a USGS topographic map, depicting:*
  - *Wetlands (identified by Circular 39 type)*
  - *Watercourses (rivers, streams, creeks, ditches)*
  - *Lakes (identify public waters status and shoreland management classification)*
  - *Woodlands (break down by classes where possible)*
  - *Grassland (identify native and old field)*
  - *Cropland*
  - *Current development*
- *An overlay map showing anticipated development in relation to the cover types. This map should also depict any "protection areas," existing or proposed, that will preserve sensitive cover types. Separate maps for each major development scenario should be generally provided.*

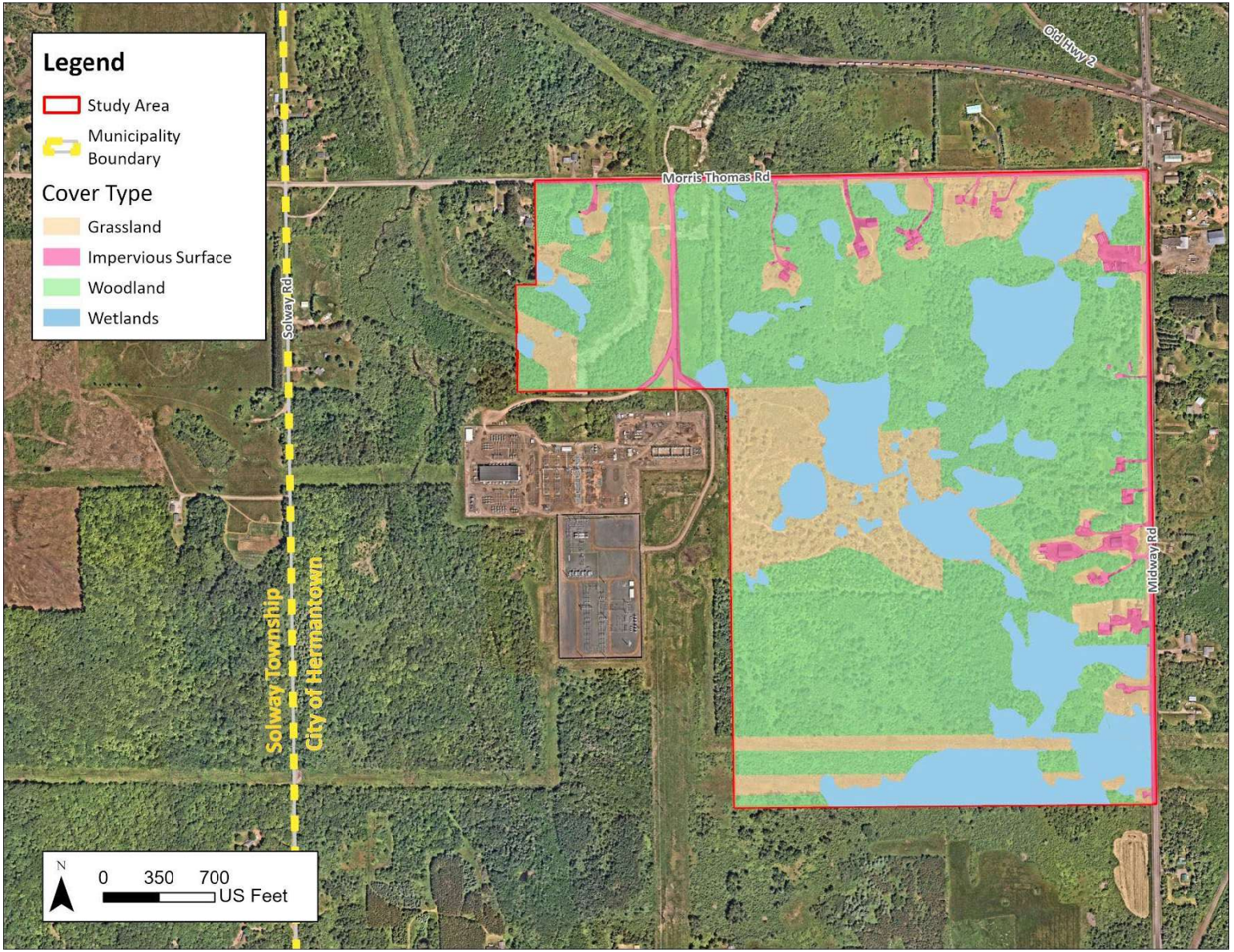
The AUAR Study Area is approximately 278 acres of woodland, wetland, grassland, and impervious surface. There are several structures within the Study Area. These existing cover types were determined by reviewing recent aerial photography (see Figure 6).

The AUAR will identify proposed land cover types, green infrastructure, and tree cover for the development scenarios. The AUAR will include specific information on proposed cover type changes and mitigation measures.

Table 3: Existing Cover Types

Cover Type	Existing (Acres)	Proposed
Woodland	142	TBD
Grassland/Landscaping	67	TBD
Wetlands	58	TBD
Impervious Surface	11	TBD
Stormwater	0	TBD
Total	**278**	**278**

Figure 6: Existing Cover Types



9. PERMITS AND APPROVALS REQUIRED

AUAR Guidance: A listing of major approvals (including any comprehensive plan amendments and zoning amendments) and public financial assistance and infrastructure likely to be required by the anticipated types of development projects should be given for each major development scenario. This list will help orient reviewers to the framework that will protect environmental resources. The list can also serve as a starting point for the development of the implementation aspects of the mitigation plan to be developed as part of the AUAR.

Approvals and Decisions Intended to be Supported by the AUAR. The updated AUAR is intended to support the City of Hermantown's environmental review obligations for City approvals that implement the development scenario analyzed in the AUAR, including as applicable: preliminary/final plat approvals, light industrial development permits, site plan approvals, conditional/special use permits, development agreements, and City-issued grading/erosion control/stormwater approvals (see Table 4). The updated AUAR will identify the specific City approvals anticipated for the current proposal and will explain how the AUAR's mitigation plan will be implemented and enforced through those approvals.

Approvals Not Supported / Other RGUs. Certain permits or approvals may be issued by other state or federal agencies and may require additional environmental review depending on final design and applicable thresholds (e.g., certain air permits; certain utility or transmission approvals; large fuel storage; or other mandatory thresholds). The updated AUAR will identify these potential approvals and describe how AUAR information may be used to inform such reviews, while recognizing that the scope and RGU for any additional review will be determined by applicable rules and final project details.

Public Finance Assistance. The project proposer has applied for public financial assistance in accordance with the City of Hermantown's adopted Business Subsidy Policy. The City is conducting a financial analysis to determine the viability of providing potential tax abatement. City approvals for public financial assistance and the corresponding development obligations would be implemented and enforced by Development Agreement and Tax Abatement Agreement.

The updated AUAR will identify reasonably anticipated public infrastructure improvements associated with the development scenario and will describe any known public actions related to those improvements at the time of AUAR publication.

Table 4: Anticipated Permits and Approvals[5]

Unit of Government	Type of Application	Status
Federal		
US Army Corps of Engineers	Section 404 Permit	To be applied for
U.S. Fish & Wildlife Service	Section 7 Endangered Species Act Consultation	To be applied for, if applicable
State		
Minnesota Public Utilities Commission	Certificate of Need	To be applied for, if applicable
	Site Permit	To be applied for, if applicable
Minnesota Pollution Control Agency	Section 401 Water Quality Certification	To be applied for, if applicable
	Sanitary Sewer Extension Permit	To be applied for
	Construction Contingency Plan and Response Action Plan approval	To be completed, if applicable
	Notice of Intent of Demolition	To be applied for
	Industrial Wastewater Permit	To be applied for, if applicable
	Construction Stormwater General Permit	To be applied for
	Fuel Storage Tank	To be applied for, if applicable
	Air Permit	To be applied for, if applicable
	Wastewater Discharge Permit	To be applied for, if applicable
Minnesota Department of Natural Resources	Temporary Water Appropriation Permit for Construction Dewatering	To be applied for, if applicable
Minnesota Department of Health	Watermain Installation Permit	To be applied for
	Notification of Intent to Perform a Demolition	To be applied for
	Notification of Asbestos Related Work	To be applied for, if applicable
	Well and Boring Sealing Record	To be applied for
Minnesota Department of Labor	Industrial plumbing review and electrical permit	To be applied for
Minnesota Department of Transportation	Right-of-Way Permit	To be applied for, if applicable
	Utility Permit	To be applied for, if applicable

[5] Additional environmental review may be necessary should potential improvements and supporting infrastructure for the development scenario exceed mandatory environmental thresholds. In addition to the permits and approvals listed in Table 6 that are the responsibility of either the city or the project proposer, the local utility company will design and obtain site or route permit and approvals needed for any potential grid infrastructure projects that may be required through the MN Public Utilities Commission (PUC).

Unit of Government	Type of Application	Status
County		
St. Louis County	Street and Utility Permits	To be applied for, if applicable
	Right-of-Way Permit	To be applied for, if applicable
City		
City of Hermantown	Preliminary/Final Plat	To be applied for
	Sign Permit	To be applied for
	Site Plan Approval	To be applied for
	Building Permit	To be applied for
	Erosion Control, Grading, and Stormwater Permit	To be applied for
	Right-of-Way permit	To be applied for, if applicable
	Wetland Conservation Act (Boundary & Type, Exemption, Replacement Plan) Review and Approval	To be applied for
	Wetland Buffer Zone Management Plan approval	To be applied for
	Zoning Map Amendment	To be applied for
	Demolition Permit	To be applied for, if applicable
	Sewer Connection Permit	To be applied for
	Utility Permit	To be applied for
	Water Connection Permit	To be applied for
	Commercial Industrial Development Permit	To be applied for
	Special Use Permit	To be applied for

10. LAND USE

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, and prime or unique farmlands.

The AUAR Study Area is located in a semi-rural area in the southwest corner of Hermantown, Minnesota. The Study Area consists of 26 existing parcels. According to the City's existing land use map[6], the majority of the Study Area is designated as vacant, utility, and single-family residential (see Figure 7). An electrical substation is located west of the Study Area and associated transmission lines are within the southern portion of the Study Area. Existing land uses adjacent to the Study Area also include agricultural land to the east and south, and residential land to the east, south, and north.

There are no existing parks within or adjacent to the Study Area. According to the Natural Resources Conservation Service (NRCS), 62.4% of the Study Area is considered

[6] Source: https://hermantownmn.com/wp-content/uploads/2025/03/Hermantown-Comprehensive-Plan-Update_20250305_reduced.pdf

farmland of statewide importance (see Table 6); however, there are no active or fallow farmland uses within the Study Area.

ii. Planned land use as identified in comprehensive plans (if available) and any other applicable plan for land use, water, or resource management by a local, regional, state, or federal agency.

Hermantown 2045 Comprehensive Plan

The Hermantown 2045 Comprehensive Plan is used to guide the city's housing, transportation, community facilities, parks, and land use planning over the next 20 years. According to this plan, the Study Area is designated as Business and Light Manufacturing (BLM).[7] (see Figure 9).

Table 5: Hermantown 2045 Comprehensive Plan designations within the AUAR Study Area

Future Land Use Designation	Purpose
Business and Light Manufacturing	Land guided for the integration of commercial and industrial land uses which are compatible with each other, including office, light industrial, and retail/service uses. The intent of this land use category is to provide additional flexibility that supports the creation of significant employment centers, generally characterized by a broader diversity of jobs, higher development densities and jobs per acre, higher quality site and architectural design, and increased tax revenues.

St. Louis River Comprehensive Watershed Management Plan

The St. Louis River Comprehensive Watershed Management Plan[8] is used to guide and prioritize projects that will protect the watershed's natural resources and solve water quality issues. The watershed is split into five sub-planning areas, with the Study Area being part of the Duluth Urban Area and Lake Superior Streams. The primary concerns for the area are high-quality resource protection and restoration. The AUAR will include a discussion on the project in relation to the St. Louis River Comprehensive Watershed Management Plan's goals.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical areas, agricultural preserves, etc.

AUAR Guidance: Water-related land use management districts should be delineated on appropriate maps, and the land use restrictions applicable in those districts should be described. If any variances or deviations from these restrictions within the AUAR area are envisioned, this should be discussed.

[7] Source: https://hermantownmn.com/wp-content/uploads/2025/03/Hermantown-Comprehensive-Plan-Update_20250305_reduced.pdf

[8] Source: https://www.nslswcd.org/wp-content/uploads/2025/02/A_StLouis-Comprehensive-Watershed-Management-Plan-Final-11032022.pdf

Existing Zoning

The Study Area parcels are zoned as BLM and the parcels surrounding the Study Area are BLM and Rural Residential (S-1) as shown on Figure 8. According to Hermantown's City Code[9], the BLM zoning regulation is designed mainly for businesses that need substantial facilities, like warehouses, to operate and S-1 zoning is intended to provide suitable areas within the community for one and two family residential dwellings.

FEMA National Flood Hazard

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (panels 27137C3743E, effective on 3/25/2025 and 27137C3744E, effective on 3/25/2025), the entirety of the AUAR Study Area is located outside of the FEMA 100-year flood zones (see Figure 12). The floodplain mapped east of the Study Area generally aligns with the Midway River and the floodplain mapped to the west of the Study Area generally aligns with West Rocky Run Creek.

Other Special Districts and Zoning Overlays

There are no other special districts or zoning overlays within the AUAR Study Area.

iv. If any critical facilities (i.e., facilities necessary for public health and safety, those storing hazardous materials, or those housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.

No critical facilities are proposed in floodplain areas. No hazardous materials are proposed to be stored in floodplain areas.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

AUAR Guidance: The extent of conversion of existing farmlands anticipated in the AUAR should be described. If any farmland will be preserved by special protection programs, this should be discussed.

If development of the AUAR will interfere or change the use of any existing designated parks, recreation areas, or trails, this should be described in the AUAR. The RGU may also want to discuss under this item any proposed parks, recreation areas, or trails to be developed in conjunction with development of the AUAR area.

The AUAR must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at Minnesota Rules, part 4410.3610, subpart 1. The AUAR document should discuss the proposed AUAR area development in the context of the comprehensive plan. If this has not been done as part of the responses to Items 6, 9, 11, 18, and others, it must be addressed here; a brief synopsis should be presented here if the material has been presented in detail under other items. Necessary amendments to comprehensive plan

[9]Source: https://hermantownmn.com/government/city-ordinances/

elements to allow for the development scenario should be noted. If there are any management plans of any other local, state, or federal agencies applicable to the AUAR area, the document must discuss the compatibility of the plan with the development scenario studied, with emphasis on any incompatible elements.

There are no existing active or fallow farmlands within the Study Area. The AUAR will discuss the project's compatibility with nearby land uses, zoning, parks and trails, and other relevant plans. In considering compatibility with other land uses, the AUAR will consider visual impacts, including lighting impacts, and noise from the proposed project. The AUAR will also include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at Minnesota Rules, part 4410.3610, subpart 1.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The proposed development scenario is anticipated to be compatible with planned land use in the project vicinity. The AUAR will identify measures to mitigate any potential incompatibilities.

Figure 7: Existing Land Use

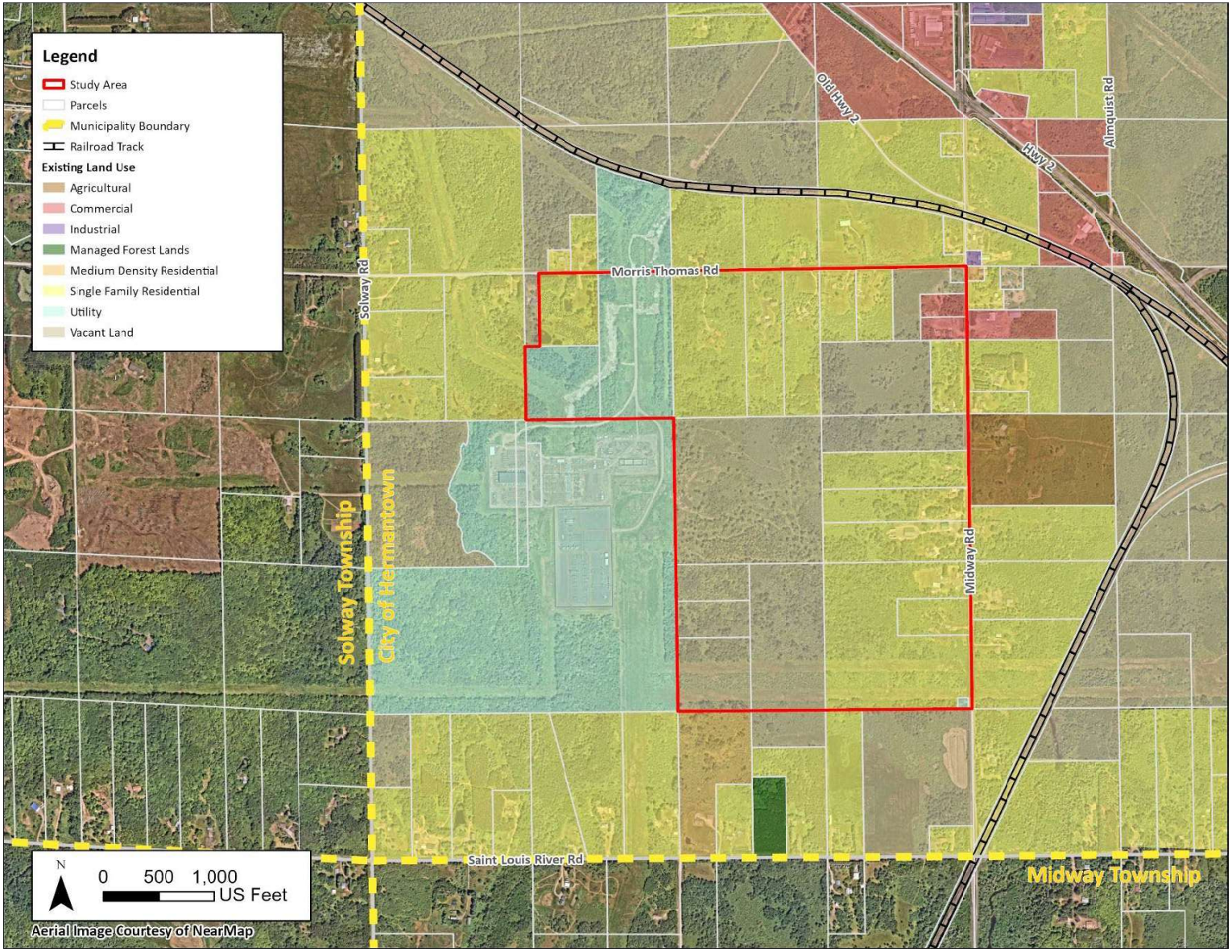


Figure 8: Existing Zoning

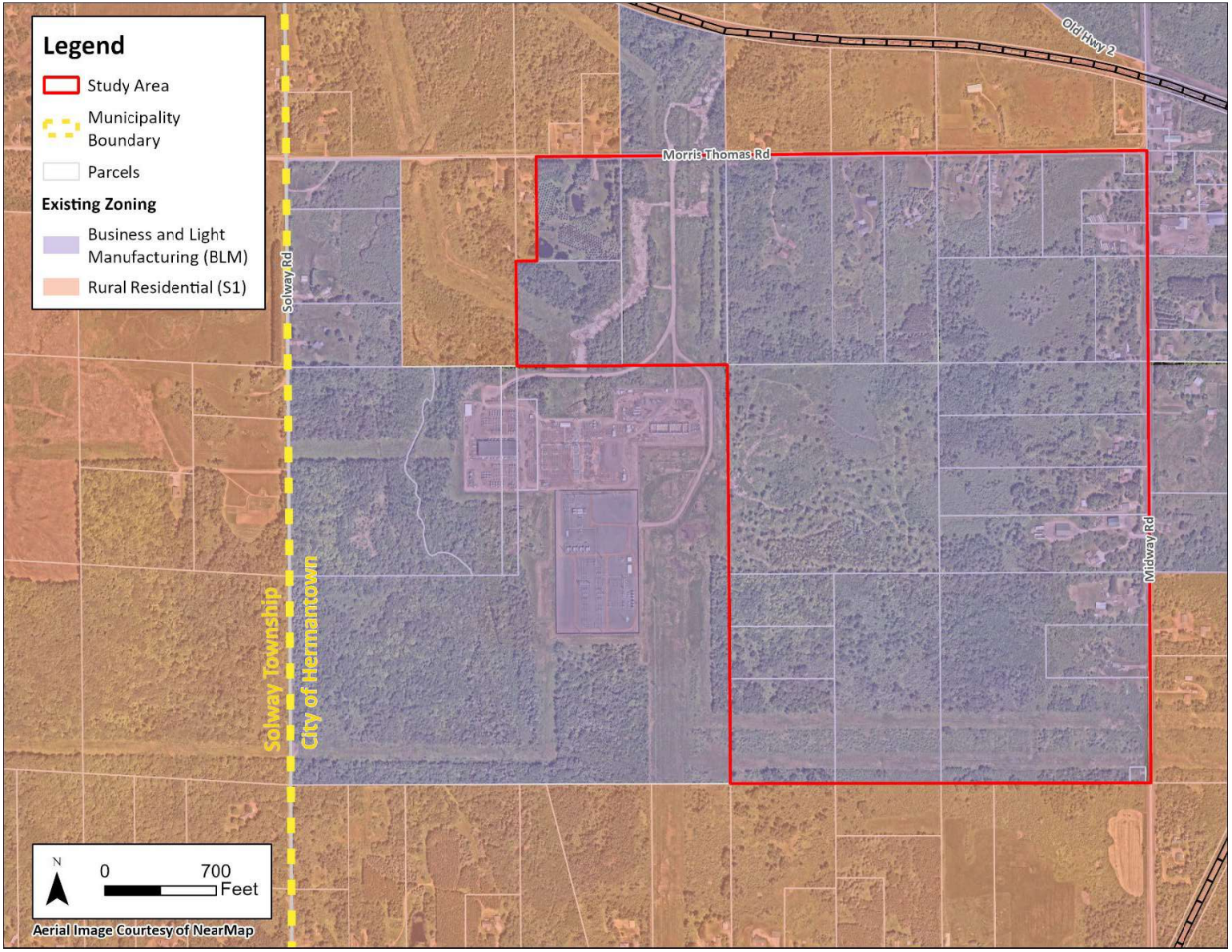
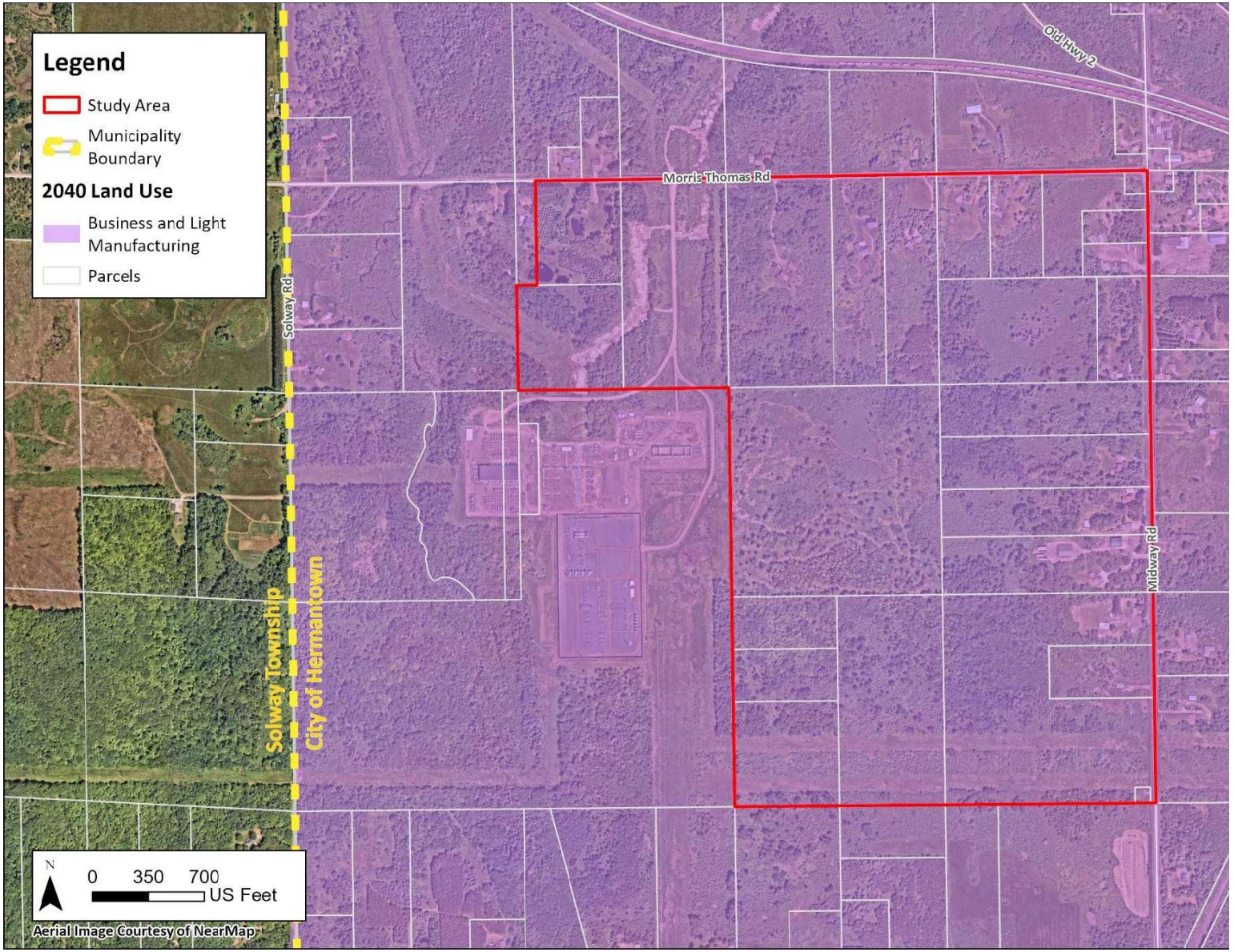


Figure 9: Future Land Use



11. GEOLOGY, SOILS, AND TOPOGRAPHY/LANDFORMS

a. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

AUAR Guidance: A map should be included to show any groundwater hazards identified.

According to the Geologic Atlas of St. Louis County (Minnesota Geological Survey, 2020), the AUAR Study Area is underlain by glacial till. The mean depth to bedrock is approximately 50-250 feet below ground surface. Bedrock is composed of basalt, slate, and graywacke. In descending order, the upper formations are the Ely's Peak basalts and the Virginia and Thompson formations.

There are no known sinkholes, shallow limestone formations, or unconfined/shallow aquifers located within the AUAR Study Area. There are no known karst conditions located within the Study Area or within approximately 500 feet from the Study Area.

The AUAR will discuss the geology of the area, any possible issues, and mitigation.

b. Soils and Topography – Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability, or other soil limitations, such as steep slopes or highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections, or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

AUAR Guidance: The number of acres to be graded and number of cubic yards of soil to be moved need not be given; instead, a general discussion of the likely earthmoving needs for development of the area should be given, with an emphasis on unusual or problem areas. In discussing mitigation measures, both the standard requirements of the local ordinances and any special measures that would be added for AUAR purposes should be included. A standard soils map for the area should be included.

According to the NRCS Web Soil Survey, the area is comprises of 11 different soil types. Soil information is included in Table 6 and Figure 10. The erosion hazard rating included in Table 6 indicates the hazard of soil loss from off-road areas after the soil surface is exposed from disturbance activities. Within the Study Area, approximately 69% of the soil surface is mapped with a "moderate" erosion rating, indicating that some erosion is likely in these areas and that erosion control measures may be needed. Less than 1% of the Study Area, roughly 0.1 acres

along its northern border, is mapped with a "very severe" erosion rating, indicating that erosion is expected, soil productivity will likely be lost, off-site damage is probable, and erosion-control measures are both costly and generally impractical. The remaining 31% of the Study Area that is mapped was not rated or was mapped with a “slight” rating, meaning that erosion is unlikely under ordinary climatic conditions.

Topography within the Study Area varies from 1,256 feet in elevation in the southeast corner of the site to 1,360 feet in elevation in the northwest portion of the site. The site generally drains to the south and east.

The AUAR will include a general discussion of the likely earthmoving equipment and will identify measures to minimize erosion and identify short-term and long-term best management practices.

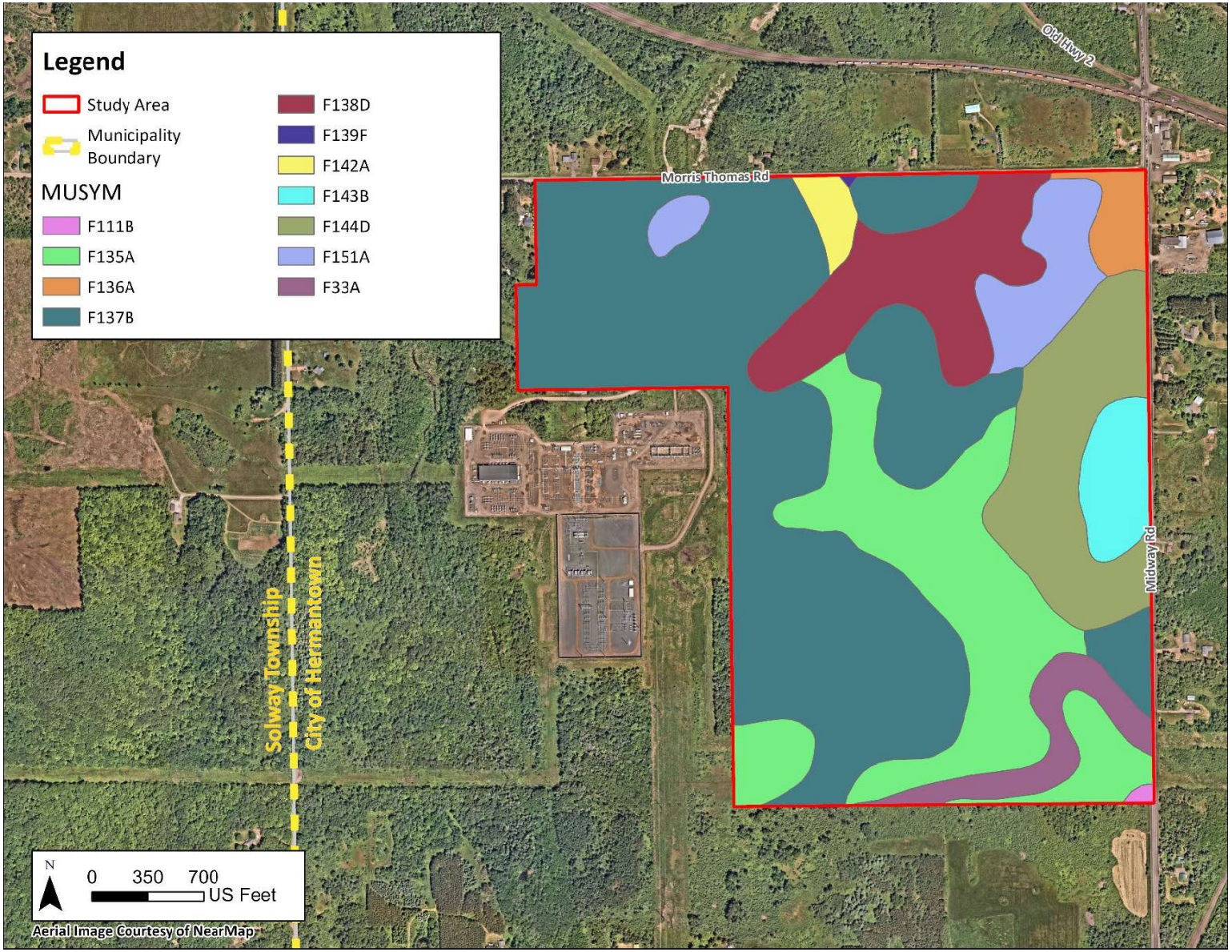
Any additional information provided by the developer will be utilized to supplement the information provided above.

Table 6: Soil Types

Map unit symbol	Map unit name	Acres in AOI	Percent of AOI	Farmland Rating	Hydric Rating	Hydrologic Soil Group	Erosion Hazard Rating
F33A	Cathro muck, depressional, dense substratum, 0 to 1 percent slopes	9.9	3.5%	Not prime farmland	Hydric soil	B/D	Slight
F111B	Augustana-Hegberg complex, 1 to 8 percent slopes	0.4	0.1%	Farmland of statewide importance	Predominantly non-hydric soil	B/D	Slight
F135A	Hermantown-Canosia-Giese, depressional, complex, 0 to 3 percent slopes	54.5	19.5%	Farmland of statewide importance	Partially hydric soil	C/D	Slight
F136A	Hermantown silt loam, 1 to 3 percent slopes	5.1	1.8%	Farmland of statewide importance	Predominantly non-hydric soil	C/D	Slight

Map unit symbol	Map unit name	Acres in AOI	Percent of AOI	Farmland Rating	Hydric Rating	Hydrologic Soil Group	Erosion Hazard Rating
F137B	Normanna-Canosia-Hermantown complex, 0 to 8 percent slopes	127.4	45.6%	Farmland of statewide importance	Predominantly non-hydric soil	B/D	Moderate
F138D	Ahmeek-Normanna-Canosia complex, 0 to 18 percent slopes	25.9	9.3%	Not prime farmland	Predominantly non-hydric soil	C	Moderate
F139F	Ahmeek-Canosia complex, 0 to 45 percent slopes	0.1	0.0%	Not prime farmland	Predominantly non-hydric soil	C	Very Severe
F142A	Canosia loam, 0 to 2 percent slopes	3.2	1.2%	Not prime farmland	Predominantly hydric soil	C/D	Slight
F143B	Normanna-Aldenlake-Canosia complex, 0 to 8 percent slopes	8.8	3.2%	Farmland of statewide importance	Predominantly non-hydric soil	B/D	Moderate
F144D	Aldenlake-Ahmeek complex, 8 to 18 percent slopes	29.6	10.6%	Not prime farmland	Predominantly non-hydric soil	A	Moderate
F151A	Tacoosh mucky peat, dense substratum, 0 to 1 percent slopes	14.4	5.1%	Not prime farmland	Hydric soil	A/D	Slight

Figure 10: Soil Types



12. WATER RESOURCES

AUAR Guidance: The information called for on the EAW form should be supplied for any of the infrastructure associated with the AUAR development scenario, and for any development expected to physically impact any water resources. Where it is uncertain whether water resources will be impacted depending on the exact design of future development, the AUAR should cover the possible impacts through a "worst case scenario" or else prevent impacts through the provisions of the mitigation plan.

a. Describe surface water and groundwater features on or near the site below.

i. Surface Water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within one mile of the project. Include MnDNR Public Waters Inventory number(s), if any.

A comprehensive level 2 field wetland delineation was completed for the Study Area in September and October of 2024, and in June and September of 2025 (see Figure 11). Within the Study Area, the level 2 field wetland delineation identified 36 wetlands, 1 wet ditch, 7 ephemeral streams, and 1 erosional feature. Of the ephemeral streams delineated, the southeastern channel was identified as a segment of a Minnesota Department of Natural Resources (MnDNR) public watercourse (ID: S-002-010-003.4-001), designated trout stream, and is mapped in the National Hydrography Dataset (NHD) as a flowline. Coordination with the MnDNR regarding the jurisdiction and classification of this feature is ongoing. There are no waters designated as impaired by the Minnesota Pollution Control Agency (MPCA) within the Study Area.

Additional surface water resources were identified outside, but within the immediate vicinity of the Study Area. West Rocky Run Creek is mapped flowing parallel to the western border of the Study Area. West Rocky Run Creek is identified as a NHD flowline, a MnDNR trout stream and public watercourse (S-002-010-003), and a 2024 MPCA impaired stream due to E. coli. The Midway River is mapped east of the Study Area as an NHD flowline and a MnDNR Public Water and Trout Stream. National Wetlands Inventory (NWI) features are mapped in all directions of the Study Area vicinity. The AUAR will analyze potential impacts on the West Rocky Run Creek and the Midway River and the tributaries to the Midway River. Any additional water resources or surface water constraints identified during the wetland delineation will be discussed in the AUAR.

Runoff from the Study Area generally drains west and south towards offsite streams including West Rocky Run Creek and the Midway River respectively.

Figure 11: Surface Water Resources

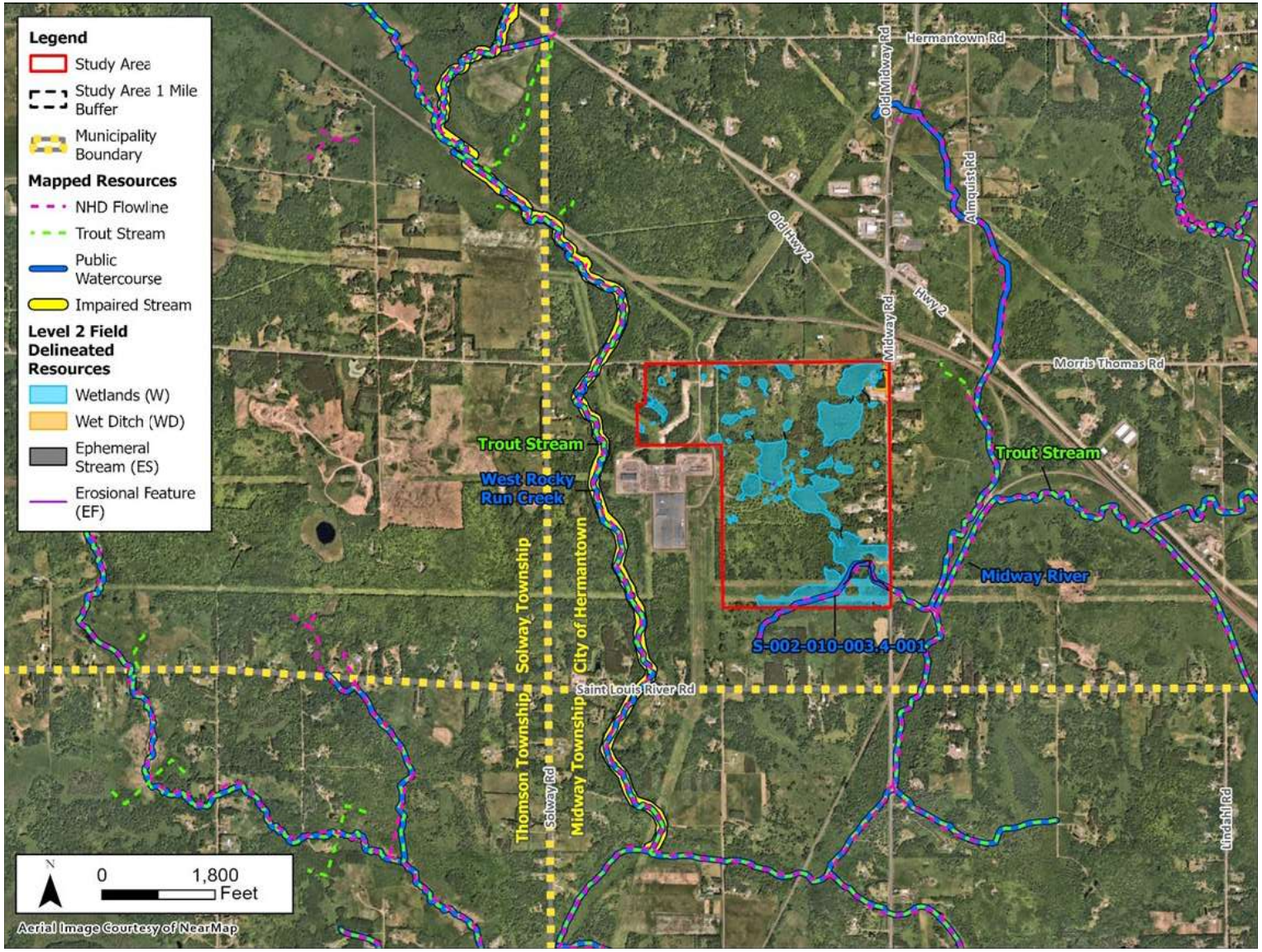
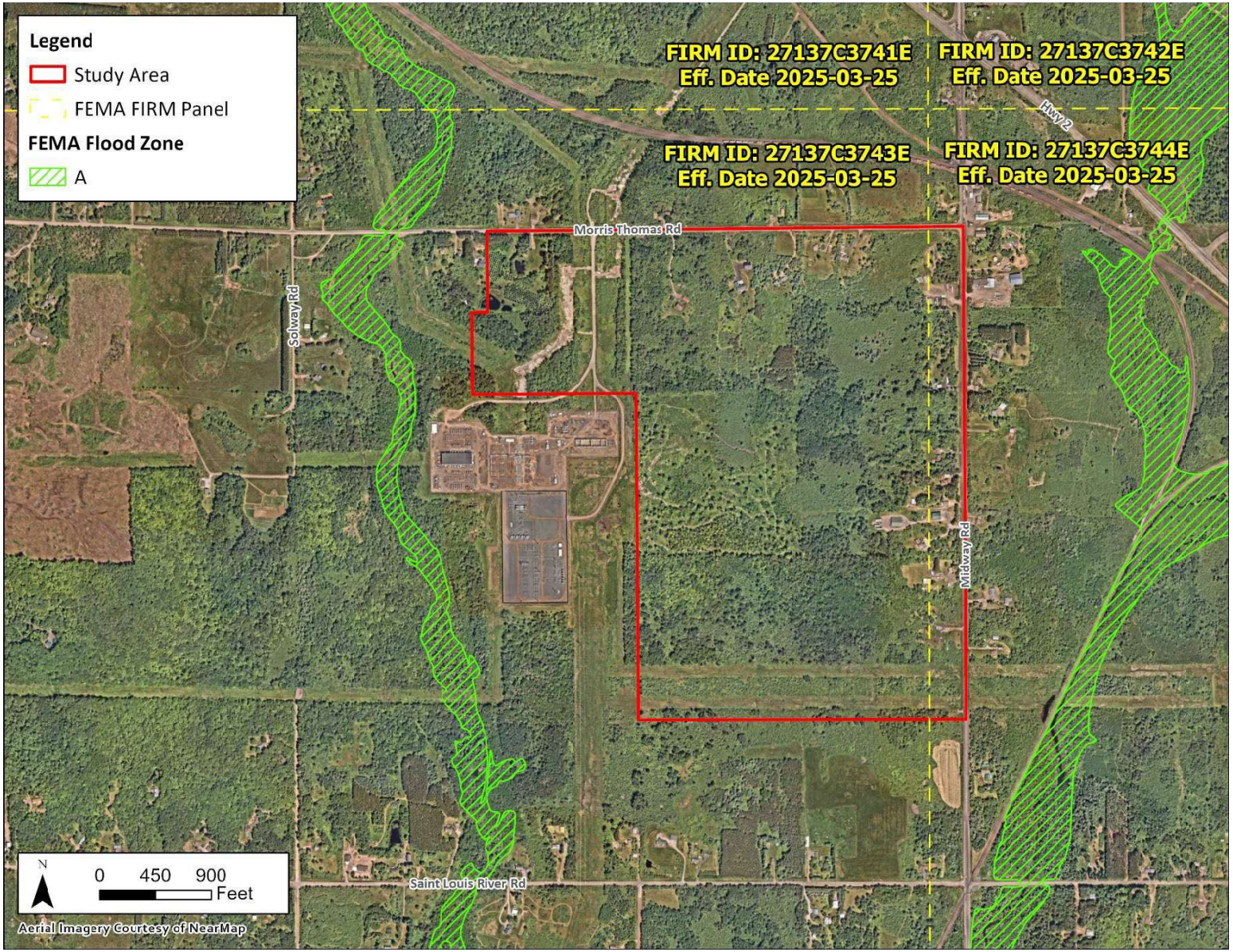


Figure 12: FEMA Floodplain Map



ii. Groundwater – aquifers, springs, and seeps. Include 1) depth to groundwater; 2) if project is within a MDH well protection area; and 3) identification of any onsite and/or nearby wells, including unique numbers and well logs, if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

According to the Minnesota Spring Inventory there are no known springs or seeps within the Study Area. The proposed development will be evaluated in the AUAR with consideration of hydrogeologic conditions characteristic in this area. Although no mapped groundwater discharge features have been identified within the Study Area, the potential for such features to occur will be incorporated into the project's impact assessment and design approach.

Geotechnical soil tests conducted within the Study Area indicate that groundwater was typically present 7-44 feet beneath the current ground surface.

Based on the MDH Minnesota Well Index (MWI), there are four wells located within the AUAR Study Area and six wells within 250 feet of the AUAR Study Area (see Table 7, Table 8 and Figure 13). Wells located within the Study Area would be properly sealed by a licensed well contractor prior to development within the Study Area per MPCA and MDH well sealing requirements. Additional analysis of the surrounding wells near the Study Area will be provided in the AUAR.

The Study Area is not located within a wellhead protection area or Drinking Water Supply Management Area (DWSMA).

The AUAR will include a discussion on groundwater, existing wells, and construction related impacts.

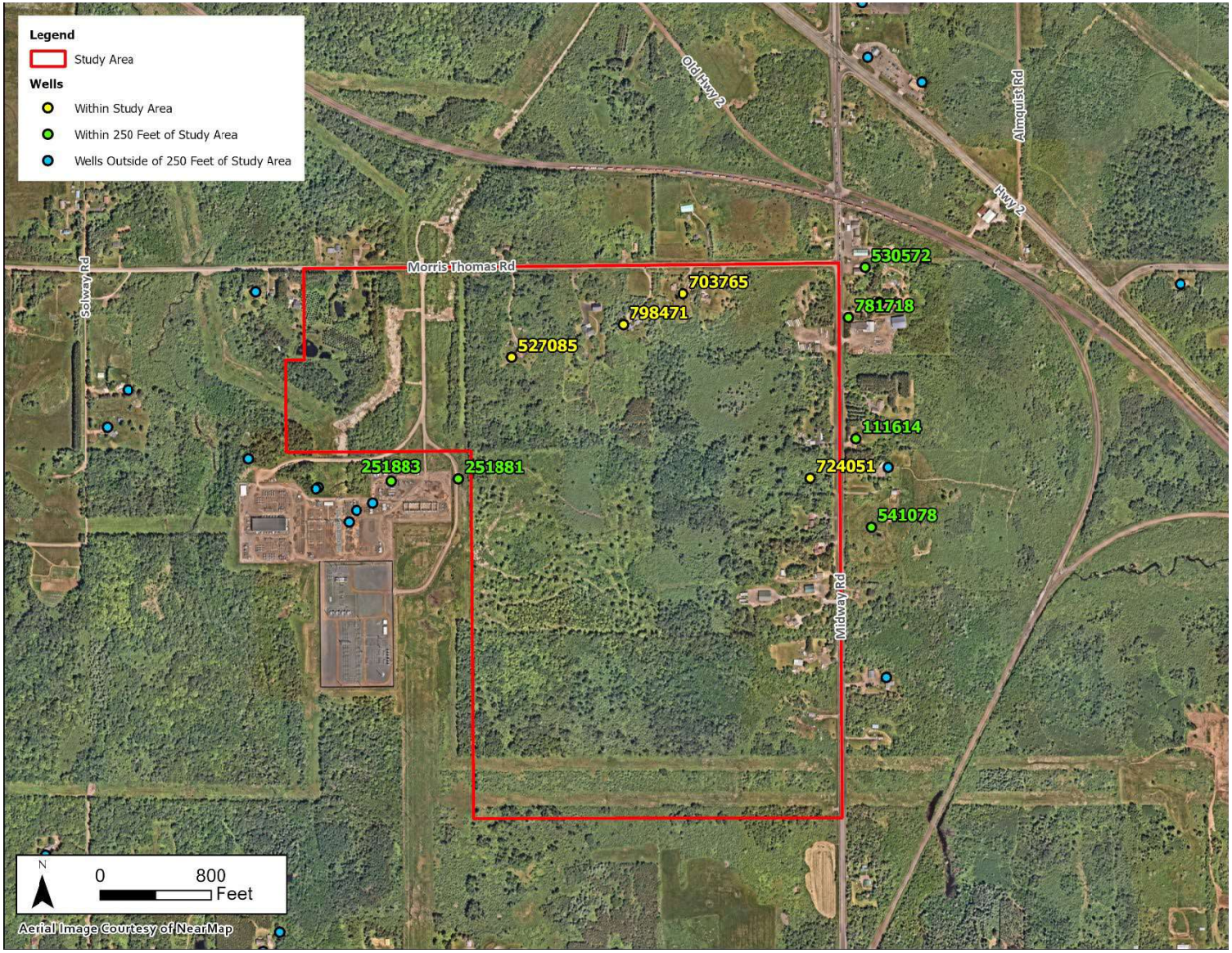
Table 7: MWI Wells within the AUAR Study Area

Well ID Number	Index Status	Well Use	Well Diameter (inches)	Well Depth (feet)
527085	Active	Domestic	6	155
703765	Active	Domestic	6	99
724051	Active	Domestic	6	92
798471	Active	Domestic	6	79

Table 8: MWI Wells within 250 feet of the Study Area

Well ID Number	Index Status	Well Use	Well Diameter (inches)	Well Depth (feet)
111614	Active	Domestic	6	86
251881	Active	Industrial	6	152
251883	Active	Industrial	6	92
530572	Active	Domestic	6	47
541078	Active	Domestic	6	92
781718	Active	Industrial	6	52

Figure 13: Groundwater Resources



b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects below.

i. Wastewater – For each of the following, describe the sources, quantities, and composition of all sanitary, municipal/domestic, and industrial wastewaters projected or treated at the site.

AUAR Guidance: Observe the following points of guidance in an AUAR:

- *Only domestic wastewater should be considered in an AUAR—industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process*
- *Wastewater flows should be estimated by land use subareas of the AUAR area; the basis of flow estimates should be explained*
- *The major sewer system features should be shown on a map and the expected flows should be identified*
- *If not explained under Item 6, the expected staging of the sewer system construction should be described*
- *The relationship of the sewer system extension to the RGU's comprehensive sewer plan and (for metro area AUARs) to Metropolitan Council regional systems plans, including MUSA expansions, should be discussed. For non-metro area AUARs, the AUAR must discuss the capacity of the RGU's wastewater treatment system compared to the flows from the AUAR area; any necessary improvements should be described.*
- *If on-site systems will serve part of the AUAR, the guidance in the February 2000 edition of the EAW Guidelines on page 16 regarding item 18b under Residential development should be followed.*

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Wastewater from the proposed development scenario will be primarily wastewater from domestic sources. Data centers require cooling systems to operate. The development will use non-evaporative mechanical cooling, which may use a closed-loop water system that has infrequent drain/fill requirements for maintenance. The AUAR will study wastewater discharges from domestic sources and a closed-loop cooling system, and the mitigation plan will include a condition to cap wastewater discharges to the conditions studied in the AUAR.

Wastewater will be discharged to the City of Hermantown collection system. The existing Hermantown collection infrastructure would need to be extended to the Study

Area. The Hermantown collection system discharges to the Western Lake Superior Sanitary District (WLSSD). The facility treats an average daily flow of approximately 36 million gallons per day (MGD). The city is limited by a user agreement to the quantity and concentration of pollutants discharged to the facility. The AUAR will identify maximum flows and characterize the wastewater concentrations, determine any pretreatment measures, if applicable, and address any anticipated infrastructure needs for the scenario.

2) If the wastewater discharge is to a subsurface sewage treatment system (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

No SSTS are anticipated within the AUAR Study Area for the proposed development scenario.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods, discharge points, and proposed effluent limitations to mitigation impacts. Discuss any effects to surface or groundwater from wastewater discharges.

No wastewater discharge to surface waters is anticipated for the proposed development scenario.

ii. Stormwater – Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post-construction, including how the project will affect runoff volume, discharge rate, and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity, and amount with this discussion. For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.

AUAR Guidance: For an AUAR the following additional guidance should be followed in addition to that in EAW Guidelines:

- *It is expected that an AUAR will have a detailed analysis of stormwater issues*

- *A map of the proposed stormwater management system and of the water bodies that will receive stormwater should be provided*
- *The description of the stormwater systems would identify on-site and "regional" detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where on-site ponds will be used but have not yet been designed, the discussion should indicate the design standards that will be followed.*
- *If present in or adjoining the AUAR area, the following types of water bodies must be given special analyses:*
    - *Lakes: Within the Twin Cities metro area, a nutrient budget analysis must be prepared for any "priority lake" identified by the Metropolitan Council. Outside of the metro area, lakes needing a nutrient budget analysis must be determined by consultation with the MPCA and DNR staffs.*
    - *Trout streams: If stormwater discharges will enter or affect a trout stream, an evaluation of the impacts on the chemical composition and temperature regime of the stream and the consequent impacts on the trout population (and other species of concern) must be included.*

Existing stormwater runoff from the Study Area generally drains west to West Rocky Run Creek and east to a tributary of Midway River. The proposed development is anticipated to maintain the existing drainage patterns.

There is currently minimal impervious surface area and no existing permanent stormwater management features within the Study Area. The total amount of impervious surface under the development scenario will be documented in the AUAR. The AUAR will evaluate how impervious surface runoff and reduced infiltration could impact groundwater that feeds nearby trout streams.

The AUAR will address stormwater rates, water quality, and volumes for the AUAR Study Area, and temporary and permanent stormwater best management practices. The AUAR will include a detailed hydrogeological analysis in relation to the wetlands to the southeast and northeast of the Study Area. An existing and proposed conditions analysis will be completed showing the locations of the temporary and permanent stormwater best management practices. The AUAR will also analyze de-icing and chloride management during winter months.

West Rocky Run Creek is listed as an impaired water body on the 2024 MPCA impaired waters list. Additionally, both West Rocky Run Creek and Midway River are designated as trout streams. As part of the AUAR process, a temperature and nutrient analysis of stormwater discharges to these receiving waters is expected to be required by MPCA via the National Pollution Discharge Elimination System (NPDES) general Construction

Stormwater permit application. The AUAR will identify and evaluate mitigation measures to reduce impacts on these water bodies and will consider ways to address the existing E. coli impairment, through Low Impact Development (LID) techniques and enhanced construction-phase erosion and sediment control. Trout stream protections and mitigation measures will be included in the AUAR. Because both receiving waters are either impaired or classified as special waters under the Construction Stormwater Permit, the project will implement stringent BMPs and follow the enhanced requirements outlined in the NPDES Construction Stormwater Permit.

The NPDES permit, City of Hermantown Municipal Separate Storm Sewer System (MS4), and regulatory requirements will be considered in the AUAR analysis.

Based on the results of the climate trends analysis and flooding risk assessment, additional volume and rate control needed for stormwater management will be discussed in the AUAR. Stormwater management strategies including any proposed green infrastructure will be documented in the AUAR. Considerations for proposed stormwater basins will be identified based on soils and depths to groundwater and bedrock. According to desktop resources, the Study Area contains poor infiltrating soils so infiltration will not be an option; however, there are no known areas of shallow bedrock or shallow groundwater within the Study Area that would limit the location of proposed stormwater basins.

iii. **Water Appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use, and purpose of the water use and if a MnDNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.**

AUAR Guidance: If the area requires new water supply wells, specific information about that appropriation and its potential impacts on groundwater levels should be given; if groundwater levels would be affected, any impacts resulting on other resources should be addressed.

The City of Hermantown purchases all potable water from the City of Duluth. Lake Superior is the source of drinking water for the cities of Hermantown, Duluth, Proctor,

and Rice Lake. The project will purchase water supply from the City of Hermantown. The AUAR will evaluate the existing and proposed infrastructure needs.

Wells located within the Study Area would be properly sealed by a licensed well contractor prior to development within the Study Area per MPCA and MDH well sealing requirements. Additional analysis on the long-term groundwater impacts and surrounding wells near the Study Area will be provided in the AUAR.

No permanent dewatering is proposed. Handling of any required temporary construction dewatering discharge will be addressed in the AUAR. A closed loop air cooling system is proposed so water will not be needed for data center cooling. The AUAR will discuss the volume of domestic/potable water anticipated to be used on an annual basis (average and maximum) as well as daily average and daily maximum for the site and the existing water system capacity. Mitigation strategies or system improvements, if applicable, will be identified in the AUAR.

iv. Surface Waters

1) Wetlands – Describe any anticipated physical effects or alterations to wetland features, such as draining, filling, permanent inundation, dredging, and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.

Wetlands were identified during level 2 wetland delineation in fall 2025. The delineation including wetland type and boundary have been submitted for approval by the Technical Evaluation Panel and is pending approval at the time of this assessment. Surface water alterations, including wetland impacts and mitigation strategies, will be discussed in the AUAR.

2) Other surface waters – Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal, and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how

the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

AUAR Guidance: Water surface use need only be addressed if the AUAR area would include or adjoin recreational water bodies.

Other surface water features such as streams are present within the AUAR Study Area. Surface water alterations will be discussed in the AUAR.

13. CONTAMINATION/HAZARDOUS MATERIALS/WASTES

a. Pre-project Site Conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site, such as soil or groundwater contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize, or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A Phase 1 Environmental Site Assessment was completed for the Study Area in January 2026. Based on a database review obtained from the Environmental Risk Information Services (ERIS), the following sites were identified.

Within the Study Area

- A petroleum tank release (Leak #4518) was reported at the 3687 Midway Road parcel in 1991. Petroleum impacted soil and groundwater were documented at the parcel. Approximately 685 cubic yards of petroleum impacted soils were excavated during the removal of one underground storage tank (UST) in September of 1991. The MPCA closed the file in 1995.
    - MPCA's letter to the property owner dated November 14, 1995 notes that the Minnesota Pollution Control Agency (MPCA) Tanks and Emergency Response Section (TERS) staff determined that the site investigation and/or cleanup has adequately addressed the petroleum tank release at the site. TERS staff closed the release site file. Closure of the file means that the TERS staff does not require any additional investigation and/or cleanup work at this time or in the foreseeable future. The letter closure does not necessarily mean that all petroleum contamination has been removed from this site. However, the TERS staff has concluded that any remaining contamination, if present, does not appear to pose a threat to public health or the environment.
    - The documented soil and groundwater impacts at the parcel represent a REC for the Site in consideration of the proposed redevelopment of the Site.

Adjoining Properties

- *Minnesota Power - Transformer and Allete/Minnesota Power, 3646 Midway Road*

- *Minnesota Power Inc/Arrowhead HVDC Terminal, 5816-18 Morris Thomas Road*
- *Hill-Melvin Property (Gibbings) and Gibbings-Lundberg, 3598 Midway Road*
- *Michael Giddings Property, 3690 Midway Road*
- *Adolph Welding & Steel Sales, 3704 Midway Road*

Based on the field reconnaissance and interviews, no Controlled Recognized Environmental Conditions (CRECs) were identified for the Study Area. It was also determined that there were no significant data gaps identified for the Study Area. The AUAR will review the Phase I Environmental Site Assessment that was completed in January 2026 for the Study Area and discuss any environmental hazards and applicable next steps.

b. Project Related Generation/Storage of Solid Wastes – Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

AUAR Guidance: Generally, only the estimated total quantity of municipal solid waste generated and information about any recycling or source separation programs of the RGU need to be included.

The AUAR will provide information on the estimated quantity of municipal solid waste to be generated during construction and operational phases of the development scenario. The AUAR will identify types of potential hazardous materials associated with the development scenario and waste disposal.

The AUAR will include a discussion of e-waste.

c. Project Related Use/Storage of Hazardous Materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location, and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spills or releases of hazardous materials. Identify measures to avoid, minimize, or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

AUAR Guidance: Not required for an AUAR. Potential locations of storage tanks associated with commercial uses in the AUAR should be identified (e.g., gasoline tanks at service stations).

Any demolition activities must comply with state and federal regulations that require inspection of the structure for hazardous materials such as asbestos, lead based paint, light ballasts, thermostats, stored chemicals, and ozone depleting chemicals. The AUAR will identify any potential future storage tank locations anticipated as part of the proposed development scenario and if any existing storage tanks are anticipated to be used under the development scenario.

The development scenario will include backup generators for emergency use. Backup generation specific needs will be further evaluated outside of the AUAR as site planning advances. Depending on the capacity needed for fuel storage for backup generators, an EAW will be required for these components of the project per Minnesota Rules 4410.4300 Subp. 3 and either the PUC or MPCA will be the RGU in that case. For the purposes of evaluating noise from the generators in the AUAR, the generators are expected to be located near the truck docks of each building. Each of these generators will be designed to be capable of utilizing renewable diesel as a fuel and will be installed and maintained in compliance with applicable state regulations for aboveground storage tanks, including:

- New tanks and piping would be designed to applicable industry standards and guidance.
- Tank upgrades and repairs would follow applicable industry standards.
- Tank owners would clearly label all tanks and piping.
- Underground storage tanks of any size will not be used as above ground storage tanks.

b. Project Related Generation/Storage of Hazardous Wastes – Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of hazardous wastes including source reduction and recycling.

AUAR Guidance: Not required for an AUAR.

Not applicable.

14. FISH, WILDLIFE, PLANT COMMUNITIES, AND SENSITIVE ECOLOGICAL RESOURCES (RARE FEATURES)

a. Describe fish and wildlife resources as well as habitats and vegetation on or near the site.

AUAR Guidance: The description of fish and wildlife resources should be related to the habitat types depicted on the cover types map. Any differences in impacts between development scenario should be highlighted in the discussion.

There are no MnDNR designated Native Plant Communities (NPC), Sites of Biodiversity Significance (SBS), or Regionally Significant Ecological Areas (RSEA) within the Study Area. Most of the central portion of the Study Area is currently mixed forest, with areas of deciduous forest, boreal forest, grassland, and wetlands. Forest, grassland, and wetlands may provide habitat for wildlife. Wildlife that can be found within the Study Area include birds, mammals, and insects. There are several residences along the northern and eastern outside perimeter of the Study Area, and an industrial area with impervious surface in the western portion of the Study Area. The southern forested portion of the Study Area exhibits evidence of recent logging.

The AUAR will address the cover types for the existing conditions and the post-construction scenario.

b. Describe rare features such as state-listed (endangered, threatened, or special concern) species, NPC, Minnesota County Biological Survey SBS, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number and/or correspondence number (ERDB) from which the data were obtained and attach the Natural Heritage letter from the MnDNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe results.

AUAR Guidance: For an AUAR, prior consultation with the DNR Division of Ecological Resources for information about reports of rare plant and animal species in the vicinity is required. Include the reference numbers called for on the EAW form in the AUAR and include the DNR's response letter. If such consultation indicates the need, an on-site habitat survey for rare species in the appropriate portions of the AUAR area is required. Areas of on-site surveys should be depicted on a map, as should any "protection zones" established as a result.

State-Listed Species

Kimley-Horn reviewed the Natural Heritage Information System (NHIS) data per license agreement LA-2024-006 for state listed species within one mile of the project Study Area. The database includes known occurrences of any state endangered, threatened, or special concern listed species. One state-listed species, the American Goshawk (*Astur atricapillus*), was identified within one mile of the Study Area. The identification of this species is consistent with the Natural Heritage Review received from the MnDNR in 2025. A new Natural Heritage Review request has been submitted for the revised Study Area proposed in this Scoping Document and AUAR will be updated to reflect any changes, if needed. Any potential impacts to wildlife habitat, federally listed species, and state-listed species will be provided in the AUAR.

American Goshawk

There is a record for American goshawk, a state-listed species of special concern located within one mile of the Study Area. This is a species of bird that prefers large tracts of mature and older upland forest. Preferred cover types for hunting include aspen, paper birch, pine, and spruce forests, and nesting areas tend to have taller and larger diameter trees and fewer understory trees than hunting areas. The project may include disturbance to forested areas. Potential impacts to the American Goshawk will be discussed in the AUAR.

Federally-Listed Species

The U.S. Fish and Wildlife (USFWS) Service Information for Planning and Conservation (IPaC) tool was used to identify federally-listed species that may be present in the Study Area. This review identified two federally-listed threatened species, the Canada lynx (*Lynx canadensis*) and gray wolf (*Canis lupus*). This review also identified the proposed threatened monarch butterfly (*Danus Plexippus*) and proposed endangered Suckley's cuckoo bumble bee (*Bombus suckley*). While not included in the IPaC official species list, all of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota.

Canada Lynx

The Canada lynx (*Lynx canadensis*) was identified by the IPaC species list. The Canada lynx was classified as threatened in 2000. The Canada lynx generally inhabits boreal forested ecosystems but also extends south to subalpine forests in the western United States and boreal/hardwood transitional zones in the eastern United States. Lynx are most commonly found in areas that receive heavy snowfall and support populations of snowshoe hares, the species primary prey. The project may include disturbance to forest and grassland ecosystems. Potential impacts to the Canada lynx and mitigation measures will be discussed in the AUAR.

Gray Wolf

The gray wolf (*Canis Lupus*) was identified by the IPaC species list. The gray wolf was classified as threatened in 1978. Gray wolves are found in a wide range of habitats including temperate forests and grasslands. Wolves' habitat depends on availability of prey such as moose, elk, deer, and caribou. The project may include disturbance to forest and grassland ecosystems. Potential impacts to the gray wolf and mitigation measures will be discussed in the AUAR.

Monarch Butterfly

The monarch butterfly was identified by the IPaC species list and is classified as a proposed threatened species by the USFWS. The preferred habitat for this species is prairie where milkweed and flowers are present. According to the USFWS, there are many potential reasons for the butterfly's decline, including habitat loss at breeding and overwintering sites, disease, pesticides, logging at overwintering sites, and climate change. The project may include disturbance to grassland ecosystems. Potential impacts to the monarch butterfly and mitigation measures will be discussed in the AUAR.

Suckley's cuckoo bumble bee

Suckley's cuckoo bumble bee was identified by the IPaC species list and is listed as proposed endangered. Suckley's cuckoo bumble bee is typically found throughout northern America in prairies, grasslands, and meadows. It is considered a parasitic bee and lives primarily of nests of western bumblebees, which are typically found underground cavities but can also be seen in stumps and logs as well. Potential impacts to the bumble bee and mitigation measures will be discussed in the AUAR.

c. Discuss how the identified fish, wildlife, plant communities, rare features, and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Invasive Species

Invasive species are a major cause of biodiversity loss and are considered biological pollutants by the MnDNR. Invasive species can be moved on construction equipment, landscaping equipment, and other debris. The AUAR will include a discussion on best management practices to prevent the introduction and spread of invasive species during construction and operation.

Stormwater

Stormwater run-off can cause a number of environmental problems. When stormwater drains off a construction site, it can carry sediment and pollutants that harm lakes, rivers, streams, and wetlands which in turn may harm wildlife. Strategies for stormwater management and treatment of stormwater run-off within the Study Area will be discussed in Section 12 of the AUAR.

Impacts to protected species and habitats

The AUAR will further investigate the potential for impacts to any federally listed species, state-listed species, or protected wildlife habitats.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

The AUAR will address any mitigation measures identified by the MnDNR and USFWS to minimize and avoid potential adverse impacts to any protected species and wildlife habitats from the proposed development scenario.

15. HISTORIC PROPERTIES

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include 1) historic designations; 2) known artifact areas; and 3) architectural features. Attach letter received from the Minnesota State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

AUAR Guidance: For an AUAR, contact with the State Historic Preservation Office and State Archeologist is required to determine whether there are areas of potential impacts to these resources. If any exist, an appropriate site survey of high probability areas is needed to address the issue in more detail. The mitigation plan must include mitigation for any impacts identified.

According to the Minnesota Office of the State Archaeologist (OSA) Public Viewer, within Section 31, Township 50N, Range 15W, one archaeological site is present within the Study Area. According to the Minnesota Statewide Historic Inventory Portal, six historical sites were identified outside, but within one mile of the AUAR Study Area (see Table 9).

Table 9: Historic Properties

Address	Property Name	National Register Listing Status	Distance from Study Area
Lindahl Road over Midway River	Bridge 88790	Unevaluated	1 mile west of Study Area
5513 Highway 2	Parrott's Auto Shop	Not Eligible	0.9 miles west of the Study Area
Stark Junction Road over Midway River	Bridge 88789	Unevaluated	0.5 miles south of Study Area

Address	Property Name	National Register Listing Status	Distance from Study Area
Trunk Highway 2 from the Wisconsin state line in Duluth to the North Dakota state line in East Grand Forks	Trunk Highway 2	Unevaluated	1 mile northwest of Study Area
Extends from the Spirit Lake shoreline between 63rd Avenue West and approximately 75th Avenue West	Spirit Lake Transfer Railway Company/Duluth Missabe and Iron Range Railway Company	Unevaluated	0.12 miles southeast of the Study Area
Extends from the Mesabi Iron Range in northeastern Minnesota to the Duluth–Superior harbor on Lake Superior	Duluth Missabe and Northern Railway Company/Duluth Missabe and Iron Range Railway Company: Main Line	Not Eligible	0.1 miles northeast of the Study Area

The AUAR will discuss the results of this database review as well as a Phase I Archaeological Study completed for the Study Area. The AUAR will discuss any potential impacts on archaeological, historical, and/or architectural resources as well as any applicable mitigation strategies. SHPO, OSA and MIAC reviews are pending.

16. VISUAL

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

AUAR Guidance: Any impacts on scenic views and vistas present in the AUAR should be addressed. This would include both direct physical impacts and impacts on visual quality or integrity. EAW Guidelines contains a list of possible scenic resources.

If any non-routine visual impacts would occur from the anticipated development, this should be discussed here along with appropriate mitigation.

There are no scenic views or vistas in or near the Study Area. The AUAR will discuss any potential visual impacts of the proposed development scenario, including potential lighting impacts, on wildlife and the surrounding area and any applicable mitigation strategies.

17. AIR

a. Stationary Source Emissions – Describe the type, sources, quantities, and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air

pollutants, criteria pollutants, and any GHGs. Discuss effects to air quality including any sensitive receptors, human health, or applicable regulatory criteria. Include a discussion of any methods used to assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

AUAR Guidance: This item is not applicable to an AUAR. Any stationary air emissions source large enough to merit environmental review requires individual review.

The development scenario evaluated in the AUAR involves a data center use that will require backup generators. The backup generation needs will be identified through a separate environmental review process outside of this AUAR and the specifics will depend on a number of factors associated with the operational needs of the data center, which are not yet definitive.

The AUAR will not be used to support any Air Permits or Backup Generation Site Permits (if any) required from state agencies. If any potential generation produces emissions (e.g., from generators) above the threshold for an air quality permit/environmental review, then the backup generation would be subject to additional environmental review beyond what is evaluated in this AUAR. This would be a separate environmental review completed as design advances.

b. Vehicle Emissions – Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g., traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

AUAR Guidance: Although the MPCA no longer issues Indirect Source Permits, traffic-related air quality may still be an issue if the analysis in Item 18 indicates that development would cause or worsen traffic congestion. The general guidance from the EAW form should still be followed. Questions about the details of air quality analysis should be directed to MPCA staff.

The Minnesota Department of Transportation (MnDOT) has developed a screening method designed to identify intersections that will not cause a carbon monoxide (CO) impact above state standards. MnDOT has demonstrated that even the 10 highest traffic volume intersections in the Twin Cities do not experience CO impacts[10]. Therefore, intersections with traffic volumes lower than these 10 highest intersections will not cause a CO impact above state standards. MnDOT's screening method demonstrates that intersections with total daily approaching traffic volumes below 82,300 vehicles per day will not have the potential for causing CO air pollution problems. The AUAR will include an analysis of future traffic volumes for the intersections in the Study Area and will determine if any future conditions exceed the criteria that would lead to a violation of the air quality standards.

[10] Source: MnDOT CO Hot Spot Screening Method. https://www.dot.state.mn.us/project-development/subject-guidance/airquality/process.html#:~:text=The%20Twin%20Cities%20area%20has,carbon%20monoxide%20(CO)%20violations

c. Dust and Odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under Item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

AUAR Guidance: Dust and odors need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any dust control ordinances in effect.

The AUAR will include discussion of dust control ordinances, this would include best management practices that would be applicable during demolition and construction within the Study Area.

18. GREENHOUSE GAS (GHG) EMISSIONS/CARBON FOOTPRINT

a. GHG Quantification – For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.

About Greenhouse Gases (GHGs)

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are

believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming.[11]

Project Related GHG Emissions

The AUAR will include an estimated quantification of the following GHG emissions associated with the proposed scenario:

- Carbon dioxide (CO_2)
- Nitrous oxide (N_2O)
- Methane (CH_4)

The projected GHG emissions will be provided on an average annual basis using the CO_2 equivalent (CO_2e) and include the proposer's best estimate of average annual emissions over the proposed life/design service life of future development. The estimates will also include emissions from the construction and operating phases of the scenario. Emissions will be estimated using the were estimated using the Minnesota EQB's Climate Calculator Tool[12] and will be summarized by project phase (i.e., construction and operations) and source type (e.g., combustion from mobile equipment, off-site electricity).

b. GHG Assessment

i. Describe any mitigation considered to reduce the project's GHG emissions.

The AUAR will describe potential design strategies and sustainability measures for the proposed scenario to reduce emissions.

ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.

The AUAR will describe and quantify reductions from selected mitigation options.

iii. Quantify the proposed project's predicted net lifetime GHG emissions (total tons per number of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

The Next Generation Energy Act requires the state to reduce GHG emissions in the state by 80 percent between 2005 and 2050, while supporting clean energy, energy efficiency, and supplementing other renewable energy standards in Minnesota. The MPCA's biennial GHG emissions reduction report from 2021 identifies strategies for reducing emissions in the three economic sectors with the highest emissions – transportation, electricity generation, and agriculture, forestry, and land use.

The AUAR will discuss the expected lifespan of the project and calculate how many estimated metric tons of CO2 will be emitted over the project's lifespan. The proposer will evaluate implementing the sustainability measures described in the AUAR. To

[11] Summarized from U.S. EPA, Overview of Greenhouse Gases: https://www.epa.gov/ghgemissions/overview-greenhouse-gases

[12] Available at: https://www.eqb.state.mn.us/environmental-review/climate-assessments

reduce operational emissions to the extent practicable. The proposed development scenario will be built in compliance with state regulations and city code.

19. NOISE

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area; 2) nearby sensitive receptors; 3) conformance to state noise standards; and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

AUAR Guidance: Construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any construction noise ordinances in effect.

If the area will include or adjoin major noise sources, a noise analysis is needed to determine if any noise levels in excess of standards would occur, and if so, to identify appropriate mitigation measures. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of Item 18.

Existing Noise

The Study Area is currently single family residential, utility, and undeveloped forested land. Surrounding nearby receptors are single family residential homes to the east, west, and north of the Study Area.

The existing ambient noise sources in the Study Area consist mainly of the surrounding roadways. The AUAR will include an evaluation of existing sound measurements taken at 5 vertical feet above ground elevations because that is the typical height of the human ear.

A sound increase of 3 dBA is barely noticeable by the human ear, a 5 dBA increase is clearly noticeable, and a 10 dBA increase is heard as twice as loud.

Construction Noise

As stated in the AUAR guidelines, construction noise need not be addressed unless there is some unusual reason to do so. No unusual circumstances have been identified that would necessitate a detailed construction noise analysis. The City of Hermantown limits construction activities from 10 p.m. to 7 a.m.

Traffic Generated Noise

The AUAR will provide traffic volumes from the proposed development scenario to determine noise impacts related to changes in traffic levels attributable to the project.

The change in traffic noise levels is not anticipated to be readily perceptible.

Operational Noise

The main source of noise from the development scenario could include mechanical equipment, ventilation systems, heavy machinery, and the testing of generators which may also operate in the case of an emergency. Depending on manufacturer specifications for various pieces of operational

equipment, it is possible for low frequency noise to be emitted. The AUAR will include measured ambient dBC noise levels for the AUAR study area and modeled dBC and dBA noise levels from the project. Any equipment requirements to mitigate general or low-frequency noise will be addressed in the AUAR.

The State of Minnesota regulates noise from industrial operations in Chapter 7030 of the Minnesota Administrative Rules.[13] This chapter establishes thresholds for areas of frequent human by noise area classification, see Table 10. The City of Hermantown Zoning Code regulates mechanical noise using these state-determined thresholds. [14] The proposed development scenario will be required to comply with these thresholds. The AUAR will include a discussion of operational noise and identify potential operational noise mitigation measures based on a preliminary noise analysis.

Table 10: Minnesota Noise Standards

	Maximum Permissible Hourly Sound Pressure Levels (dBA)	
Noise Area Classification	Daytime/Nighttime	
	L_{10}	L_{50}
Residential Housing, religious activities, camping and picnicking areas, health services, hotels, educational services	65/55	60/50
Retail, business and government services, recreational activities, transit passenger terminals	70/70	65/65
Manufacturing, fairgrounds and amusement parks, agricultural and forestry activities	80/80	75/75
dBA: An A-weighted decibel is a unit for measuring sound levels that is adjusted to represent how the human ear hears sound L_{10}: sound level, in dBA, which is exceeded ten percent of the time for a one-hour survey L_{50}: sound level, in dBA, which is exceeded fifty percent of the time for a one-hour survey		

[13] Source: Minnesota Administrative Rules, Chapter 7030 accessed at https://www.revisor.mn.gov/rules/7030/

[14] Source: Hermantown Zoning Code, MN accessed at https://hermantownmn.com/government/city-ordinances/

20. TRANSPORTATION

a. Describe traffic-related aspects of project construction and operation. Include 1) existing and proposed additional parking spaces; 2) estimated total average daily traffic generated; 3) estimated maximum peak hour traffic generated and time of occurrence; 4) source of trip generation rates used in the estimates; and 5) availability of transit and/or other alternative transportation modes.

The information listed above will be provided in the traffic and transportation analysis that will be included in the AUAR. Coordination will occur with the City of Hermantown and St. Louis County to determine the scope and locations of the analysis for the traffic study. The trip generation will be calculated based on trip generation rates from existing sites which are similar to the development scenario's operational size and scope.

Transit

Currently, there are no transit routes serving the Study Area. It is not anticipated that there will be significant change in transit usage.

Bike and Pedestrian Infrastructure

There is currently no dedicated bike or pedestrian infrastructure serving the Study Area. Future City and County Bike and Pedestrian Plans will be reviewed as part of the AUAR.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the MnDOT's Access Management Manual, Chapter 5 (available at: http://www.dot.state.mn.us/accessmanagement/resources.html) or a similar local guidance.

AUAR Guidance: For AUAR reviews, a detailed traffic analysis will be needed, conforming to the MnDOT guidance as listed on the EAW form. The results of the traffic analysis must be used in the response to Items 16 and 17.

A traffic impact study will be completed as part of the AUAR because the trip generation is anticipated to exceed the 250-trip peak hour vehicle threshold. The traffic impact study will be summarized in the AUAR, including information on estimated traffic generation, traffic impacts, relevant information from relevant transportation plans and traffic studies, and potential improvements and mitigation measures. The analysis will be completed for the following scenarios:

- Existing Conditions
- Opening Year No-Build Conditions
- Opening Year Partial Buildout Conditions
- Peak Construction Traffic Conditions

- Horizon Year No-Build Conditions
- Horizon Year Buildout Conditions

The AUAR will include intersection capacity analyses for intersections adjacent to the Study Area and will include the review of intersection operations at site access points. St. Louis County staff were consulted, and the following intersections will be included in the analysis and are shown in Figure 14:

- US Highway 2 & Midway Road
- Midway Road & Morris Thomas Road
- Midway Road & St. Louis River Road
- US Highway 2 & St. Louis River Road
- US Highway 2 & Morris Thomas Road

Additionally, the following intersections will be included in the analysis but are not currently shown in Figure 12.

- Proposed Primary Access Intersection(s)
- Proposed Construction Access Intersection(s)

Construction Conditions Analysis

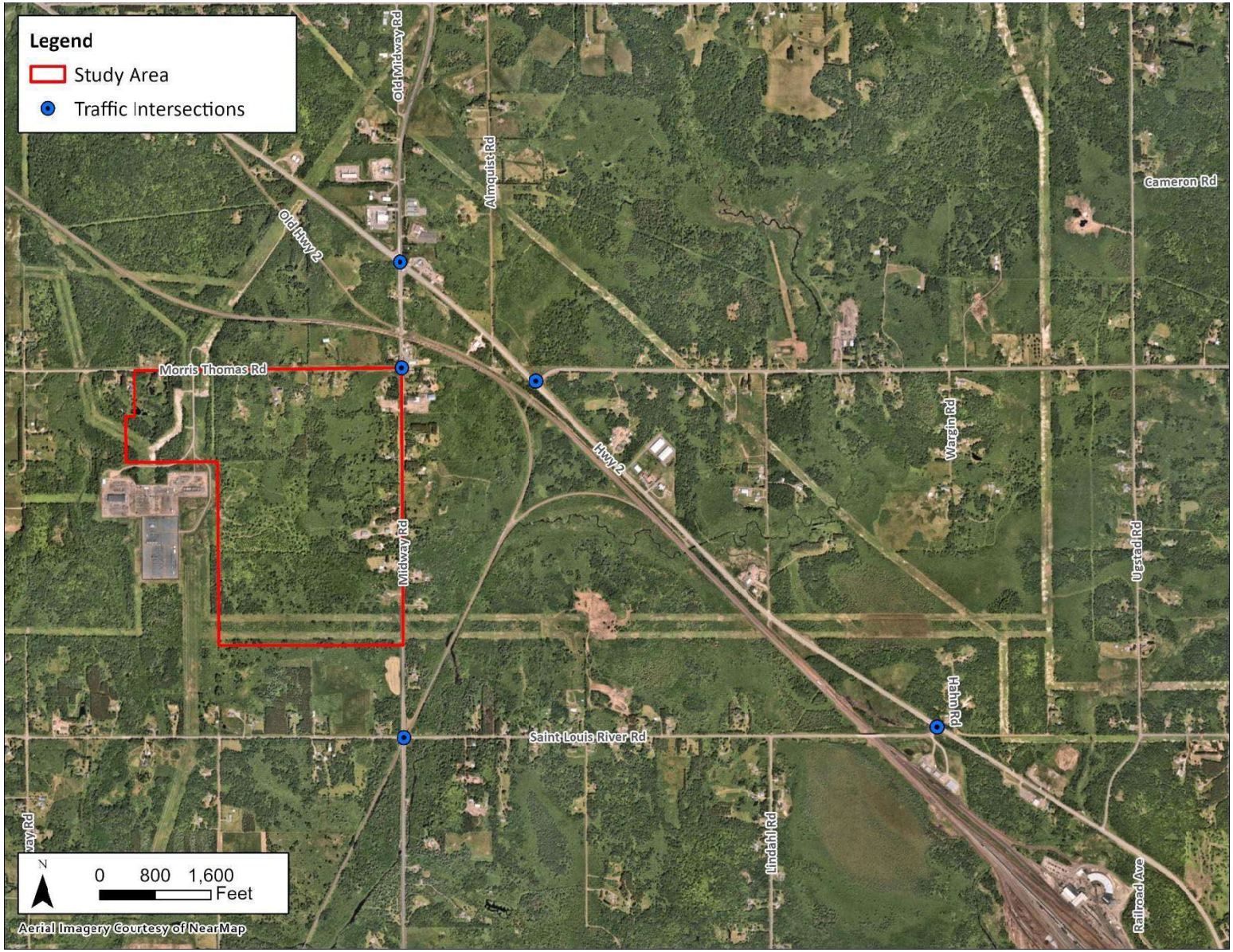
In addition to the traffic study, a construction conditions analysis will also be completed for the data center scenario as the construction period is anticipated to see significantly higher trip generation than what will occur at full build out during typical operations of this type of development.

Construction trip generation of the development will be estimated to determine the Peak Construction Conditions (2030) traffic volumes. A capacity analysis will be conducted for this scenario to determine the impacts of the projected construction traffic on the roadway network.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

The AUAR will address any mitigation measures identified through the traffic analysis.

Figure 14: Traffic Study Intersections



21. CUMULATIVE POTENTIAL EFFECTS

AUAR Guidance: Because the AUAR process by its nature is intended to deal with cumulative potential effects from all future developments within the AUAR area, it is presumed that the responses to all items on the EAW form automatically encompass the impacts from all anticipated developments within the AUAR area.

However, the total impact on the environment with respect to any of the items on the EAW form may also be influenced by past, present, and reasonably foreseeable future projects outside of the AUAR area. The cumulative potential effect descriptions may be provided as part of the responses to other appropriate EAW items, or in response to this item.

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

Cumulative effects are defined as the "effect on the environment that results from the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned or for which a basis of expectation has been laid, regardless of what person undertakes the other projects or what jurisdictions have authority over the projects."[15] Because the AUAR process is intended to evaluate future development within the Study Area, the updated AUAR will address cumulative effects both (i) within the Study Area (by analyzing buildout of the development scenario) and (ii) outside the Study Area where other projects may contribute to cumulative effects on shared resources. The timeframe considered includes projects that would be constructed in the reasonably foreseeable future (by 2030) by other private and public entities that have made future project plans and timelines publicly available.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The AUAR will identify any additional reasonably foreseeable and relevant projects that may interact with the environmental effects of the development scenario.

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

The AUAR will include a discussion of potential cumulative effects associated with nearby ongoing or planned projects. Regardless of whether additional environmental review is required for backup generation or energy storage, the updated AUAR will treat those elements, to the extent not fully analyzed, as cumulative potential effects or as part of the environmental context for the development scenario, consistent with Minn. R. 4410.0200, subp. 11a.

[15] Minnesota Rules, part 4410.0200, subpart 11a

22. OTHER POTENTIAL ENVIRONMENTAL EFFECTS

AUAR Guidance: If the project may cause any additional environmental effects not addressed by Items 1 to 19, describe the effects here, discuss how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

Energy Use

While AUAR Guidance does not require consideration of energy resources as a separate consideration, in light of heightened public interest in energy resources needed for a data center development, the AUAR will discuss energy use, including an estimate of peak electricity demand, and an explanation of the factors that go in to determining backup generation needs. The AUAR will also discuss the existing utility infrastructure in and adjacent to the Study Area and potential additions needed to serve the development scenario (i.e. new transmission or distribution infrastructure).

Electromagnetic Fields (EMF)

The AUAR will include a high-level overview of EMF potential effects from the scenario.

Heat Impacts

Potential heat emitted from project operations will be evaluated in the AUAR.

Fire Risk

The AUAR will include a discussion on fire risk. Data center failure prevention involves a layered approach focused on proactive maintenance, redundancy, and continuous monitoring. Building construction is permitted according to local regulations (City of Hermantown), and fire hazards are regularly evaluated. All fire protection systems and equipment are inspected, tested, and maintained in compliance with state legislation.

MITIGATION PLAN

AUAR Guidance: The draft and final AUAR documents must include an explicit mitigation plan. It must be understood that the mitigation plan is a commitment by the RGU to prevent potentially significant impacts from occurring from specific projects. It is more than just a list of ways to reduce impacts—it must include information about how the mitigation will be applied and assurance that it will. Otherwise, the AUAR may not be adequate and/or specific projects may lose their exemption from the individual review.

Mitigation Plan

A mitigation plan specifies the mitigation measures that will be imposed upon future development within the area in order to avoid or mitigate potential environmental impacts. Minn. R. 4410.3610, subp. 5(C). The AUAR will include a detailed and explicit mitigation plan, which is a commitment by the RGU to prevent potentially significant impacts from the proposed project. The mitigation plan

will include information about how the mitigation will be applied, and assurances that it will be applied.

ISSUES OUTSIDE THE SCOPE OF THE AUAR

The AUAR will not consider the following:

- Any alternative not specifically identified for study in this scoping decision.
- Indefinite potential future development, including environmental protections, approvals, and permits that are implemented and enforced through other agencies.
- Regional or global climate or electricity-grid-related impacts.
- Tax policy, incentive structures, and economic equity considerations for data centers.
- Societal effects of artificial intelligence, or other impacts from the types of data stored and processed at the data center project.

Appendix B:
Comment Responses

OVERVIEW

Pursuant to Minnesota Rules, part 4410.3610, subpart 5a(C), the purpose of the comments on a Scoping Document for an Alternative Urban Areawide Review (AUAR) is to suggest additional development scenarios and relevant issues to be analyzed in the review. Comments may suggest alternatives to the specific large project or projects proposed to be included in the review, including development at sites outside of the proposed geographic boundary. The comments must provide reasons why a suggested development scenario or alternative to a specific project is potentially environmentally superior to those identified in the Responsible Governmental Unit's (RGU's) draft order.

The 30-day Scoping Environmental Assessment Worksheet (EAW) comment period began March 31, 2026, and comments were accepted through April 30, 2026. During the public comment period, comments were received from 5 government agencies and 235 public comments. Responses to the agency comments are included in Table 1 and responses to the themes of the public comments are responded to in Table 2. Copies of the comment letters are included in Appendix C.

AGENCY COMMENTS

Table 1. Government Agency Comments and Responses

Comment	Response
1. South St. Louis Soil and Water Conservation District	
On behalf of the South St. Louis Soil and Water Conservation District (SWCD), I appreciate the opportunity to comment on the Updated Hermantown Industrial AUAR Scoping Document. I write to express concern regarding the potential impacts of the proposed development on West Rocky Run Creek, a designated trout stream that flows through the western portion of the AUAR study area. This creek is the highest quality coldwater fishery in the Hermantown/Duluth/Proctor metropolitan area and supports sensitive aquatic species dependent on clean, cold, well-oxygenated water. Protection of this resource is of critical importance to the region's ecological integrity and recreational value.	We appreciate and understand the South St. Louis SWCD's comments regarding the ecological significance of West Rocky Run Creek. The AUAR will study potential impacts on West Rocky Run and the tributaries to the Midway River and will provide details on the specific Best Management Practices (BMP) intended to protect the ecological and recreational value of these water resources.
At the same time, West Rocky Run Creek is listed on the Minnesota Pollution Control Agency's 303(d) list of impaired waters due to E. coli contamination, resulting in an impairment for aquatic recreation. This dual status, as both a high-value trout stream	This proposed development will be required to follow the construction stormwater permit methods and regulations for sites draining to impaired waters. The project proposer will comply with the

Comment	Response
and an impaired waterbody, makes it especially vulnerable to land use changes that may increase sediment, bacteria, nutrients, or thermal pollution.	NPDES Permit to comply with enhanced construction BMPs to reduce impacts to impaired waters. The MPCA NPDES Construction Stormwater Permit outlines requirements for discharge to trout streams that will also be followed. The permanent stormwater treatment system must minimize any increase in the temperature of trout streams resulting from the one and two year 24-hour precipitation events. In addition to construction related enhanced BMPs, proposed post construction stormwater will be held to the standards of the City of Hermantown. The City of Hermantown has strict standards for rate control, water quality, and volume control. The AUAR will provide more details on construction related BMPs and post construction stormwater.
The site in question is situated on top of deep glacial till soils that we assume are relatively permeable and allow precipitation to infiltrate, contributing to the cold, groundwaterfed baseflow that makes West Rocky Run Creek the highest-value trout stream in the area. Given the scale and potential intensity of the proposed 1.8 million square feet of industrial development on this glacial till deposit, and the amount of grading and infrastructure work that will be required, we urge the City of Hermantown to ensure the AUAR includes: • A detailed hydrologic analysis that models both pre- and post-development conditions to understand potential decreases in precipitation infiltration and increases in runoff volume, temperature, and pollutant loading to West Rocky Run Creek • Enhanced stormwater treatment and volume reduction practices, such as infiltration based systems, vegetated swales, and constructed wetlands that specifically account for the trout stream's sensitivity to thermal and pollutant inputs.	The geotechnical report indicates that the site contains silty soils, which are unsuitable for stormwater infiltration. To address this, the wetlands located closest to the tributary streams will be preserved, allowing for natural infiltration where feasible. The proposed stormwater management system will utilize BMPs that incorporate filtration systems with underdrains. These systems are designed to treat and regulate temperature of stormwater before it is discharged toward the adjacent wetlands and tributaries, thereby helping to protect water quality and ecological integrity in these sensitive areas.

Comment	Response
• Rigorous protection of riparian buffers and wetlands, particularly near the mapped DNR Public Watercourse segments and floodplain areas, to preserve natural filtration and shading functions. • A clear strategy to help address the existing E. coli impairment, potentially through Low lmpact Development (LlD) techniques and enhanced construction-phase erosion and sediment control. • Coordination with the MPCA and MNDNR to ensure compliance with anti-degradation policies and trout stream protections.	The AUAR will provide details on pre- and post-development hydrologic analysis, and discussion about mitigation to thermal loading. It is anticipated that all rate control and water quality metrics can be met using onsite filtration and pre-treatment. The project design will consider ways to address the existing E. coli impairment, through Low Impact Development (LID) techniques and enhanced construction-phase erosion and sediment control.
2. Minnesota Department of Natural Resources	
Environmental Review and Cumulative Effects Under Minnesota law, including updates enacted in 2025, large electric customers must meet various requirements, which may include: Filing or participating in an Electric Service Agreements (ESA), demonstrating compliance with applicable state statutes, and undergoing environmental review if specified thresholds are exceeded. This can help to ensure their electric service needs do not harm system reliability or other ratepayers. More information on environmental review and data centers is found on the Environmental Quality Board's website. On March 26, 2026, Minnesota Power submitted to the Minnesota Public Utilities Commission a Petition seeking approval of a new ESA between Harmony Group, LLC, a subsidiary of Alphabet, Inc. (i.e. "Google") and Minnesota Power. The Agreement establishes electric service for a new data center facility, to be built in Hermantown, Minnesota under the Company's Large Power Service Schedule with an initial term of 15 years. Minnesota Power has recently undergone planning for several projects requiring environmental review in the same geographic location/immediately adjacent to this project for the purpose of updating infrastructure and increasing energy transmission capabilities. Details on these projects are available on Minnesota Power's website.	Thank you for your review. The AUAR will include a cumulative potential effects analysis for the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects planned for. While AUAR Guidance does not require consideration of energy resources as a separate consideration, the AUAR will also discuss energy use, and a discussion on the existing and proposed utility infrastructure needed to serve the development scenario. The AUAR will include a discussion of the relevant projects in the Cumulative Potential Effects section.

Comment	Response
1.) *HVDC Modernization Project:* In August 2024, Minnesota Power proposed to modernize the Minnesota terminal of the existing Square Butte high voltage direct current (HVDC) line and implement the latest technology, new buildings and electrical infrastructure are proposed on a new site near the existing **Arrowhead Substation** in St. Louis County, MN**. The St. Louis County Substation will be connected to the existing Arrowhead Substation** by two parallel 230 kV HVTLs less than one mile in length. 2.) *ISA Project:* The Iron Range – St. Louis County – Arrowhead (ISA) Transmission Project is a proposed approximately 67.5-mile-long, 345-kV transmission line from Minnesota Power's **Iron Range Substation** near Grand Rapids, Minnesota, to its **St. Louis County Substation** near Hermantown, Minnesota, with a connection to American Transmission Company's nearby **Arrowhead Substation**. a. Note, a substantial expansion of the **Iron Range Substation** on the western terminus of the ISA is also underway as part of the Northland Reliability Project, which is just beginning Phase 1 of construction. Considering the current projects that are currently under review and construction by Minnesota Power in this geographic area, and the direct tie as indicated by the ESA between Minnesota Power and Google, it appears that there should be more robust information and analysis of cumulative effects for this project.	
Public Water Resources MNDNR determined that Hermantown's shoreland ordinance does not comply with state standards and criteria for shoreland management and sent a notice to the city to amend their ordinance within 1 year of that letter dated October 1st, 2025. If you have questions about this, please contact Area Hydrologist Bri Speldrich (Brianna.Speldrich@state.mn.us).	The City will coordinate with MNDNR on any potential changes to the city's shoreland ordinance.
A DNR public water (kittle # S-002-010-003.4-001) is present within the study area and is a tributary to the Midway River which is a designated trout stream. According to the DNR Watershed Health Assessment Framework (WHAF), this site is largely within the 0316400 catchment. The WHAF shows that the 2021 land cover class for this catchment was 12.8% developed (1.37 square miles) and 79.3% forest and wetland	Comment noted. The MPCA NPDES Construction Stormwater Permit outlines requirements for discharge to trout streams that will be followed. The permanent stormwater treatment system must minimize any increase in the temperature of trout

Comment	Response
(8.44 square miles). This proposal will significantly increase impervious surface in this catchment in a relatively short period of time and the WHAF shows that this catchment already has a low ecological health score for impervious cover. Increases in impervious cover can have cascading negative effects on stream water quality, connectivity, geomorphology, and biology.	streams resulting from the one and two year 24-hour precipitation events. In addition to construction related enhanced BMPs, proposed post construction stormwater will be held to the standards of the City of Hermantown. The City of Hermantown has strict standards for rate control, water quality, and volume control. The AUAR will address construction related BMPs and post construction stormwater to reduce impacts to aquatic ecosystems and maintain strict conformance with the MPCA NPDES General Construction Stormwater Permit.
The AUAR refers to the Minnesota Spring Inventory, however, this inventory is limited, and springs are a common occurrence in trout stream headwaters in this area. In August 2025, MPCA published a report titled Midway Watershed Protection Study. The report notes the presence of prominent groundwater springs in the vicinity of this site. Altering groundwater discharge areas could have unanticipated impacts on the nearby trout streams. It is unclear if an on-site survey for springs have been conducted. Please describe efforts that have occurred and that are planned to occur to survey in and around the project site for groundwater springs. Largescale land conversion also could alter groundwater recharge at the site. Please describe how this will be evaluated/ monitored at this site over time. A better understanding/evaluation of the interaction between the landscape, shallow groundwater, and trout streams adjacent to the site would inform whether the development has the potential to impact groundwater quality, quantity, and the nearby trout streams. Additional site data and investigations (wetland/groundwater monitoring, spring inventory, modeling, etc.) should be considered to determine how this development scenario will affect the environment.	On-site wetland delineations have been conducted for the Study Area and did not identify any springs. The AUAR will include a discussion on groundwater resources and a detailed stormwater management analysis.
Converting large swaths of land from wetland/forest to developed impervious surface in a relatively short period could have unanticipated effects on the adjacent trout streams. Trout streams are sensitive features that are highly vulnerable to the effects	We appreciate the MNDNR's comments regarding the ecological significance of the trout streams

Comment	Response
of climate change and urbanization. The AUAR briefly discussed the urban heat island affect, but it did not discuss how this phenomenon has been found to also increase the temperature of shallow groundwater in some areas. Infiltration of warm surface runoff from impervious surfaces can also transfer heat to shallow groundwater. This is a concern because shallow groundwater provides essential cool baseflow to trout streams. Brook trout, which are found within the watershed's trout streams, are physiologically dependent on cold water and increased water temperatures or reduced water quality can cause stress and mortality. It is unclear with the current data whether any other activities or underground infrastructure at the site have the potential to warm shallow groundwater. Please explain what additional monitoring is planned to address this concern.	nearby. The AUAR will study potential impacts on adjacent trout streams. Detailed discussions on stormwater management will be included in the AUAR as well as how this relates to climate trends in the area. Proposed filtration will help cool runoff from impervious surfaces and provide the opportunity for plant uptake prior to discharge to the wetlands for recharge.
Trout Stream Considerations The proposed development has several significant permitting concerns, given the proximity to public waters and associated cold-water resources (Midway River S-2-10 and West Rocky Run Creek S-2-10-3, in particular) that support naturally reproducing populations of Brook Trout. These areas should be considered as Areas of Environmental Sensitivity and should require stringent levels of regulatory protection. Restrictions should include fisheries work windows that would prohibit in-water work from Sept 15-June 30 annually and the implementation of natural stream channel design and fish passage considerations through constructed stream crossings. Water appropriation and industrial discharge plans appear to have had efforts to minimize impacts via plans to utilize municipal water and discharge to treatment facilities, according to "Scenario 1" detailed on page 51 of the original AUAR from October 2025. If another scenario, or changes are pursued that would utilize groundwater, discharge effluent to surface waters, create surface holding ponds or anything else substantially changes from Scenario 1, it is essential that DNR has an opportunity to review and provide additional comments as these change orders would likely be very detrimental to nearby sensitive aquatic natural resources. Stormwater management will require a higher-level infrastructure to be compliant with sedimentation, point source pollution, and thermal tolerances near protected	The AUAR will provide further detail on the specific Best Management Practices (BMP) intended to protect the ecological and recreational value of West Rocky Run and the tributaries to Midway River. Trout stream protections and mitigation measures will be included in the AUAR. Chloride conscious design will be considered to minimize salt usage by the development once operational. This could include considering potential locations of snow melting, ice formation, and tree shading. As the comment notes, a mitigation plan is required and will be included with the draft and final AUAR. The mitigation section on page 61 of the scoping document is presented only for scoping purposes.

Comment	Response
trout streams. Considerations regarding these concerns were discussed in post-construction stormwater management section of the AUAR. Numerous streams in the Duluth area are impaired for chloride, and Best Management Practices (BMPs) to reduce the likelihood of additional impacts to Rocky Run or Midway rivers should be implemented. A chloride management plan was mentioned as part of the original Hermantown AUAR but was not provided in this updated AUAR. Please provide the chloride management plan. The mitigation plan presented (page 61) is inadequate and suggests that the AUAR will include a detailed plan, but it was not provided in the updated AUAR. Please provide the mitigation plan. Instructions for both draft and final AUAR documents clearly state that an explicit mitigation plan is required. Please provide the Mitigation Plan. Additionally, given large change to impervious surfaces, proposed loss of existing wetlands performing important ecological functions, and sensitive nearby cold-water resources with relatively small watersheds, additional site data and hydrologic modeling should be collected into the future to help demonstrate to resource managers and the public that the proposed development will indeed effectively mitigate for sedimentation, temperature or other deleterious impacts and will not result in degradation of nearby biotic resources or stream stability	
Water Appropriation Considerations The scoping AUAR states the source of the water is the City of Hermantown, and Hermantown purchases their water from the City of Duluth. The DNR should be notified if that is not correct or if the situation changes. MN Statute103G.265 Subd. 5 strongly encourages that the project proposer contacts MNDNR if the proposed water use is greater than 100 million gallons per year to evaluate and coordinate water sustainability. MNDNR encourages the developer to incorporate water reuse systems wherever possible. Especially given the ecological context and proximity to trout streams. Water appropriation needs may require further coordination with MNDNR water appropriation hydrologist, Heidi Lindgren (Heidi.Lindgren@state.mn.us). The following items should be included in the final AUAR to ensure compliance with MN Statute 103G.271 Subd. 5b	Comment noted. Water will be sourced from the City of Hermantown through their purchase agreement with the City of Duluth. The project proposer will work with the city to coordinate with the MNDNR on any changes to water appropriations, if needed in the future. The AUAR will cover these items: o Volume of water anticipated to be used on an annual basis (average and maximum) as well as daily average and daily maximum.

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o Volume of water anticipated to be used on an annual basis (average and maximum) as well as daily average and daily maximum. o Volume of water that will be required for data center cooling needs. o Volume of water for sanitary needs and irrigation. o General cooling system type (i.e. closed loop, hybrid, etc.). o Water conservation measures that are being considered (efficient fixtures, water recycling, etc.).	o Volume of water that will be required for data center cooling needs - the project proposer is not intending to use water to cool. o Volume of water for sanitary needs and irrigation. o General cooling system type (i.e. closed loop, hybrid, etc.) – a closed loop, air cooling system is proposed. o Water conservation measures that are being considered (efficient fixtures, water recycling, etc.).
Rare Species Concerns West Rocky Run flows through the project area and into the Midway River. The Midway River has records of rare mussel species near the proposed project; we recommend the use of stringent erosion and sediment control measures, including evaluation and consideration as stormwater management plans are developed, to limit potential negative impacts to rare mussels. Please follow the recommendations outlined in your current NHIS letter. Please note that NHIS review is only valid for 1 year and should be re-assessed if work is completed beyond this timeframe.	Comment noted. Stringent erosion and sediment control measures will be considered for the project. The project proposer will apply for another NHIS review following the 1-year timeframe to continue consultation.
3. Minnesota Pollution Control Agency	
Watershed and project setting The headwaters areas of trout streams, especially in northeastern Minnesota, are critical components that provide the needed elements to maintain conditions for coldwater fish and aquatic insects to survive and thrive. The proposed AUAR is centered on and surrounded by important landscape and hydrologic features that are crucial for sustaining wild Brook Trout populations in surrounding trout streams. These include Midway River, multiple unnamed tributaries, and West Rocky Run. One only needs to look east of the project area to other trout streams, which have experienced significant changes driven by development. These include: • Loss of wetland functions through draining, filling or other degrading actions, which reduce temporary water storage, and reduce recharge of shallow groundwater;	Thank you for your review. We appreciate the MPCA's comments regarding the ecological significance of West Rocky Run Creek, Midway River, and its tributaries. We recognize its status as a premier coldwater fishery. The AUAR will study potential impacts on West Rocky Run and the tributaries to the Midway River, and will provide further details on the specific BMPs intended to protect the ecological and recreational value of West Rocky Run and the tributaries to Midway River.

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• Ditching and other alterations to stream channels, which can increase stream velocity, increase the potential for erosion and stream channel instability, and reduce bank storage of water; • Impeded aquatic passage through dams and deficient culverts, which restrict movement of aquatic organisms to meet their lifecycle needs; • Loss of connected floodplains and riparian areas, which reduce the buffering capacity of lands surrounding the stream, including loss of temporary water storage and loss of overhead canopy for shading; Land use and land cover changes that increase the intensity of uses associated with development and urbanization, which increase runoff volumes and timing of delivery, reduce temporary water storage and shallow groundwater recharge, and increase the volumes and types of pollutants in runoff (e.g., nutrients, metals, pathogens, sediment, and oxygen demanding substances); and • Impaired waters, which are the measured effects of the above stated changes. Water quality impairments include impairments to aquatic life beneficial uses that are identified through evaluating the numbers and types of fish and aquatic insects, including sensitive species in coldwater streams; and aquatic recreation impairments due to Escherichia coli bacteria. Without strong environmental controls by land use authorities, the natural resources such as the high quality and sensitive resources on the project site will continue to be slowly and incrementally degraded, with the diminished state often times being used to justify additional impacts. From a water quality perspective, the MPCA, partner agencies, and organizations collect water quality data to determine water quality conditions, identify stressors negatively affecting water quality, and develop strategies to further restore, improve and protect the quality of water resources. We rely on local partners and local units of governments to incorporate this information into their decision making, from protective land use controls to project-specific decisions. Extensive public funds have been and are being invested in northeastern Minnesota, including within the City of Hermantown, to restore and correct past actions that have degraded or diminished	

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quality and resiliency of water resources. It is in the public's interest for cost-effective use of public funds. Prevention of environmental degradation is the most cost-effective approach to maintaining water quality.	
Item #6, Project Description The project proposal has changed in size and configuration since the previous AUAR was completed, most notably reducing the AUAR area from approximately 403 acres to 278 acres. Alternatives to the proposed project should be discussed in the AUAR, including development sites outside of the proposed geographic boundary. There is no information provided in the AUAR that describes the preference from the project proposer for this location, versus other local, regional, or national locations. Please describe the analysis of alternative locations that have been conducted for other locations that could reasonably support such a proposal. The analysis should include an evaluation of potential environmental impacts for each location. Priority should be given to sites with less sensitive natural resources and fewer environmental constraints. Other alternatives to explore include alternative layouts for the proposed site to minimize the developed footprint (e.g., multistory buildings, smaller parking lots, etc.). A more detailed map is needed to depict the proposed impacts to water resources by the project. Figure 3 appears to obscure some of the water resources proposed for impact.	Alternative sites for this project were evaluated. This Study Area was selected as a priority over other project sites in the area due to its proximity to existing power infrastructure with the Arrowhead Substation, cohesive land within the city with availability to extend municipal water/sewer infrastructure to the site, the ability to minimize wetland and tree impacts compared to other sites, depth to bedrock, and close access to existing County/State highways for ease of construction and operational access. See also response in Public Comment response table with more information on alternative sites/uses under the category "Comments Proposing Alternatives". The AUAR will include a discussion and figure for potential water resource impacts.
Item 8, Cover Types Table 3 does not provide specific information on changes in cover types that may result from the proposed project. In addition to providing this information in the AUAR, a detailed evaluation of the potential environmental effects of the proposed land cover changes that may result should be included, along with discussion on mitigative actions taken to avoid and reduce those effects.	Comment noted. The AUAR will include specific information on proposed cover type changes and mitigation measures.
Item #10, Land Use	Comment noted. The AUAR will include a discussion on the project in relation to the St. Louis River

Comment	Response
The St. Louis River Comprehensive Watershed Management Plan (CWMP) is referenced in the AUAR as a plan applicable to the project area. The CWMP identifies priority issues and resource concerns, identifies goals to address priority issues and resource concerns, and identifies priority areas for restoration, protection, and improvement of water resources. Within this plan the Midway River Watershed, the sub-watershed in which the proposed project is located, is identified as a priority watershed. The CWMP includes specific actions to restore those conditions negatively affecting water quality within Midway River and tributary streams. Some examples include reducing pollutant sources, improving stream connectivity by removing barriers to passage of fish and aquatic insects, restoring riparian conditions, and protecting and restoring forested lands. The AUAR should discuss the proposed project in relation to this plan and demonstrate consistency with plan goals.	Comprehensive Watershed Management Plan's goals.
Item #12, Water Resources **Surface Water** The AUAR mentions potential impacts to two water resources located outside of the AUAR boundary, West Rocky Run and the Midway River. An additional spring-fed headwaters tributary to the Midway River, located north and east of the AUAR, needs to be added to the list of waterbodies that could be impacted by this development. This stream is commonly referred to as "Adolph Creek" and can be referenced by Minnesota Department of Natural Resources (MN DNR) Kittle #S-002-010-003.4. In addition, several partially unmapped groundwater-fed tributaries originate in Section 30, Township 50 North, Range 15 West, within 600 feet of the AUAR's northern boundary. These tributaries flow to the southeast, eventually joining the main stem of Adolph Creek in Section 32, Township 50 North, Range 15 West, immediately east of the AUAR boundary. Adolph Creek and several of its spring-fed tributary streams support a naturally reproducing population of brook trout. Recent MPCA fisheries and stream temperature data clearly show Adolph Creek provides high quality, reliable coldwater refugia and spawning/rearing habitat for Brook Trout inhabiting this portion of the Midway River Watershed. MPCA and MN DNR have studied these watersheds	Comment noted. The AUAR will discuss any potential impacts to aquatic resources as well as mitigation measures. The developer would apply for a permit for any aquatic resource impacts with the appropriate regulatory agencies according to the Wetland Conservation Act, Section 404 of the Clean Water Act, Minnesota Rules for Public Water Resources, and Minnesota Statutes for Waters of the State.

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extensively and possess robust background data necessary to detect degradation if the project is constructed without proper safeguards in place. MPCA's Midway River Watershed Protection Study, https://www.pca.state.mn.us/sites/default/files/wq-ws4-104p.pdf, documents much of this information and should be considered a resource for mitigative actions that could be taken within the Midway River watershed that will further protect, restore, or enhance the water resources of this area. Actions identified in the report include protecting lands surrounding coldwater source areas (e.g., springs and tributary streams), remeandering ditched stream segments, replacing deficient stream culverts, extending protections to unmapped stream segments and seasonal habitats, and restoring wetlands and riparian areas.	
Numerous groundwater springs were found within the Adolph Creek watershed that provide cold, well oxygenated water to this tributary and the Midway River. Increasing impervious surface coverage and removal of wetlands to construct a data center has the potential to reduce infiltration and alter groundwater pathways.	Comment noted.
Several wetlands within the AUAR boundary are proposed for impact, mostly through filling or excavation. Considering the proximity to the development, the remaining wetlands within the disturbed areas are at high risk for being degraded over time. What measures will be put in place to ensure the wetlands not proposed for impact will retain the predevelopment functions? One protective measure that could be undertaken is to place a permanent conservation easement on the lands in the southern and southeastern portion of the AUAR that contain wetlands and the unnamed tributary trout stream that drains to Midway River.	The AUAR will study effects on wetlands and will address mitigation measures that may be utilized in relation to these resources.
Groundwater The proposed location for the data center is in an area with scattered wetlands, shallow groundwater table, and numerous wells. MPCA's monitoring of this area identified several groundwater springs just outside of the AUAR boundary to the north (46.780832/-92.283513) and east (46.777229/-92.278448). In these areas, groundwater is being discharged into nearby surface waters supporting brook trout and other coldwater aquatic life. The AUAR states that "additional analysis on the surrounding wells" will be provided in the AUAR. Additional analysis of how the	Comment noted. Impacts to groundwater will be addressed in the AUAR. The proposed development will be evaluated in the AUAR with consideration of hydrogeologic conditions characteristic in this area, where shallow groundwater flow is often influenced by bedrock topography and discontinuous glacial deposits, and may locally discharge as seeps or springs along hillslopes and wetland margins. Although no mapped groundwater discharge

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development could impact groundwater springs adjacent to the proposed should be included.	features have been identified within the Study Area, the potential for such features to occur will be incorporated into the project's impact assessment and design approach.
Stormwater The stormwater section of the AUAR update contains contradictory statements. On page 32 (Groundwater Section) it states, "Minnesota Hydrogeology Atlas indicates groundwater is likely present between 0-10 feet below the ground surface within and surrounding wetlands within the study area." Then on page 37 (Stormwater section) it states, "there are no known areas of shallow bedrock of shallow groundwater within the study area that would limit the location of proposed stormwater basins." Please clarify this apparent discrepancy. Several stormwater ponds in Figure 3 are near or within areas delineated as wetlands. Constructing stormwater ponds in these areas may require excavation below the water table, which is between 0-10 ft in these areas based on sources cited in the AUAR. Under the NPDES Construction Stormwater General Permit (CSW Permit), infiltration basins will not work in areas where there is a lack of a 3-ft separation between the bottom of the basin to the seasonal water table. Under the CSW Permit, the use of wet sedimentation basins is not allowed for sites that discharge to trout streams. The permit requires filtration if infiltration is not feasible. If ponding is used, the design must include an appropriate combination of measures such as shading, vegetated swale discharges, or constructed wetland treatment cells that limit temperature increases. How will these site characteristics affect the design, maintenance, and treatment potential of the stormwater basins? Additional information is needed regarding the proposed placement and design of stormwater basins. If infiltration is not an option, where will the stormwater basins outlet to and where will the effluent leave the AUAR boundary? What are the receiving waters? The lack of existing stream channels within the build area present challenges in moving water off this landscape without digging new ditches and regrading. Additional information is needed to clearly show how stormwater will be controlled, stored, and eventually discharged from the data center site.	A geotechnical study was completed for the study area to confirm depth of the groundwater. The Final Order and Scoping document have been updated to remove the reference to the Minnesota Hydrogeology Atlas's data since the geotechnical study provides more accurate site-specific information. A detailed discussion on stormwater management will be included in the AUAR.

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Item #21, Cumulative Potential Effects Figure 2 depicts a largely developed property within the AUAR boundary. The AUAR should discuss future development within the AUAR boundary that represents a full build-out, along with discussion on the potential for expanding or modifying the proposed AUAR boundary. The AUAR needs to include analysis of potential future development within the greater project area, including those areas that utilities will be extended or upgraded. A recent report by University of Minnesota Duluth and associated news reports indicate the City of Hermantown is studying the southwest portion of the city for potential future development. Extension of utilities to the proposed data center may facilitate future development and should be further examined in the AUAR. The MPCA submitted comments on a previous version of this project in a letter dated August 26, 2025, and those comments and concerns are largely applicable to the updated project proposal. Additional information on water quality information for this area can be found in a series of reports on MPCA's St. Louis River Watershed web page: St. Louis River | Minnesota Pollution Control Agency.	Figure 2 depicts the full build out anticipated for development within the Study Area. The AUAR will be updated every 5 years or sooner if the assumptions documented in the AUAR deviate significantly. Potential future development outside the Project footprint will be studied in the AUAR if the development is sufficiently definite and within the environmentally relevant area in the Cumulative Potential Effects section.
4. Fond du Lac Band of Lake Superior Chippewa Reservation Business Committee	
The Fond du Lac Band of Lake Superior Chippewa ("Band") writes to urge the City of Hermantown to consider an EIS process due to the significant potential effects on the Environment which must be analyzed and disclosed from major actions. The scale of the Google Data Center project could potentially leave an extensive footprint on the landscape which alters sensitive areas. The project is 1.8 million square feet or 278 acres of alteration to the landscape, which is a high energy consuming facility. To call this light industrial or a warehouse is inexcusably disregarding the characteristics that this industrial facility will impact. An Alternative Urban Areawide Review (AUAR) is a tool used when local governments use their comprehensive plans to review multiple future development scenarios in advance. This process is a risk as it is only scenario based and can exempt qualifying future projects from individual review. An EIS is a comprehensive, public-facing analysis that protects shared resources and proposes	Thank you for your review and comments as well as continued coordination. The City of Hermantown and the project proposer are voluntarily preparing an updated AUAR to provide the public with additional opportunities to comment on newly available project details on a reduced Study Area and to provide the City of Hermantown with additional analysis about environmental impacts from the proposed project. This updated AUAR aims at addressing the same topics that would be covered in an EIS such as cumulative effects and outlines a mitigation plan.

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mitigation to reduce harm. An EIS involves evaluation of cumulative effects, mitigation, reduction of adverse effects, and a standalone review based on mandatory thresholds. The Band encourages a full EIS assessment and mitigation process for the proposed Hermantown Data Center.	To ensure compliance and accuracy, future development like this project must align with the AUAR's assumptions; otherwise, the AUAR must be updated. Additionally, the AUAR must be reviewed and updated every five years until all developments within the Study Area are complete.
Treaty Rights The Fond du Lac Band of Lake Superior Chippewa ("Band") is a federally recognized Indian tribe that occupies and governs Fond du Lac Reservation located 30 miles south of Lake Superior. Under the Treaty of La Pointe of 1854, the Fond du Lac Band ceded significant land to the United States government while expressly retaining rights to hunt, fish, and gather within the ceded territory. Those rights were never extinguished. Federal courts have repeatedly affirmed that treaty-reserved rights are the supreme law of the land and that they impose affirmative obligations on federal, state, and local governments to consult with, and avoid harm to, the sovereign interests of affected tribal nations. Treaties with the United State and the Band cover about 8 million acres and include the treaties of 1836, 1837, 1842, and 1854. Treaties are enshrined by the Constitution as the supreme Law of the Land. 1 U.S Const. Art. W, § 2. The Adolph corridor and the broader Hermantown area lie within the 1854 Ceded Territory. Waterways flowing from and through the proposed project site ultimately reach the St. Louis River watershed -waters the Fond du Lac Band actively monitors, manages, and harvests under our Integrated Resource Management Plan (IRMP) and our Treaty-based co-management responsibilities. Any development of this scale that alters surface water flow, groundwater dynamics, wetland hydrology, or downstream water quality in this watershed carries direct and serious consequences for the Band's treaty-protected resources. Because many, if not all, of these projects will have large impacts on treaty-protected rights and sovereign rights of the Fond du Lac Band from several existing treaties.	We have noted your commitment to maintaining the integrity of the water resources within and connected to this Study Area. We look forward to continued coordination on these topics. The project proposer and city welcome continued coordination and consultation with Tribes that have expressed interest in, or have cultural affiliation with, the Study Area throughout the remainder of the project development to continue to address these concerns.

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The best way forward for our Tribe and for all Tribes within Minnesota includes a full and frank consultation before these projects are authorized by any state or local unit of government. Consultation should occur both at the programmatic/landscape level, as well as project-by-project with any Tribe who may be impacted through their lands or resources, including ceded territories where treaty rights have been retained. Consultation should occur prior to and following full environmental review, which also should be done programmatically and project-by-project. Vital to treaty rights are available and healthy resources along with appropriate access. We are requesting consultation to better discuss potential impacts from Google Hyperscale Data Center (HSDC) to this ceded territory and our ability to maintain treaty rights for present and future generations.	
Wetland Impacts Fond du Lac also holds Treatment as State (TAS) status under the Clean Water Act: §§ 106 (water quality monitoring)3, 319 (nonpoint source pollution management), 303(c) (federally approved water quality standards), and 401 (water quality certification). It is important to note that according to the scoping document, 58 acres (2,526,480sqft) of the 278 acres of the proposed development are wetlands. In a state where wetlands have historically been damaged, drained, and fragmented by industry, it is important to fully consider the implications and cumulative effects of wetland loss for large scale projects. Wetlands are uniquely sensitive ecosystems that provide irreplaceable social and ecological functions, including water filtration, flood storage, groundwater recharge, and critical habitat for diverse plant and animal species. Even relatively small disturbances can trigger cascading effects. Currently, within the wetland section of the scoping document there is very little information regarding the avoidance, minimization, or mitigation of wetland impacts and how the increase in impervious surfaces will affect the long-term health of the surrounding wetlands and waterbodies. While the need for a 404 USACE permit is indicated, there is no mention of Minnesota for specific requirements and special considerations for the local watershed. This area has already been the focus of protection and restoration as outlined in a 2025 Minnesota Pollution Control Agency	The AUAR will discuss any potential impacts to aquatic resources. The developer would apply for a permit for any aquatic resource impacts with the appropriate regulatory agencies according to the Wetland Conservation Act, Section 404 of the Clean Water Act, Minnesota Rules for Public Water Resources, and Minnesota Statutes for Waters of the State. If there are wetlands under the jurisdiction of the United States Army Corps of Engineers (USACE), a Section 404 authorization will be required and a Section 401 Water Quality Certification would be obtained. If the project results in USACE-jurisdictional wetland impacts that exceed nationwide permit thresholds, an individual Section 401 Water Quality Certification would be obtained.

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(I\.f PCA) Study of Midway River Watershed. In that study, the MPCA identified pressure from urban development (especially in developing areas such as Hermantown) as a significant threat to headwater areas and describes the "West Rocky Run Watershed zone [as a] stronghold for native Brook Trout". Without a full EIS analysis of such studies and a holistic view of impacts through a more thorough environmental review, it is likely that compounding impacts will cause unforeseen harm. Lastly, based on the approximate area defined in the scoping document maps, the data center building envelopes alone would cover over 1,120,000 square feet, with much of that space over wetland areas. The wetland impacts alone could meet the Minnesota Rules threshold for a mandatory EAW. It could also potentially reach the gross floor space threshold of 750,000 square feet for a third- or fourth-class city, that would trigger a mandatory EIS.	
Water is Life Water is critical to our lives, our collective Tribal identity and each person's well-being. We are responsible for protecting surface water and groundwater for future generations. Water resources must not be wasted on projects that may not serve the public or local region's needs. Existing uses, including traditional hunting, gathering, fishing and cultural practices, should not be imperiled for HSDCs, crypto mines, or other AI infrastructure that could be abruptly closed when the bottom falls out of a speculative market. Our Tribe protects these resources and has done so since time immemorial and it is imperative that the state consult with us to ensure that we work together to protect public resources like water and air quality while we all move forward with any sustainable development plans. The project proposes to impact a significant portion of the existing 58 acres of wetlands. Wetlands are places where gathering traditional medicines takes place, the scoping document fails to address whether a Traditional Ecological Knowledge (TEK) survey will be conducted to identify culturally significant plant or animal species that may be impacted. Consideration for this should be given. Additionally, the project sits within the watershed of the Chigami-ziibi (St. Louis River), an area of immense	The project proposer and City of Hermantown acknowledge the importance of water resources to the community and to the region. Any proposed development in this area will be required to comply with MPCA and City of Hermantown's stormwater requirements. The AUAR will provide further detail on the specific Best Management Practices (BMP) intended to protect these water resources. Water use will be primarily for domestic purposes (i.e. showers, laundry, kitchen / food preparation, landscaping, fire protection). The project proposer has committed to using a closed-loop air cooling system, which reduces water demand for cooling significantly, as compared to other cooling system designs. The mitigation plan in the draft and final

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importance to the Fond du Lac Band. While the document mentions the St. Louis River Comprehensive Watershed Management Plan, it does not explicitly scope for downstream cultural impacts related to water quality and treaty-reserved rights. Consideration should be given for this. Additionally, HSDC's are among the most water intensive industrial facilities proposed for development in the world. Section 12 "Water Resources" describes wastewater usage through the City of Hermantown. According to the Environmental and Energy Study Institute, hyperscale data centers could potentially require upwards of 5 million gallons per day. The City of Hermantown uses 400,000 gallons a day on average to serve local needs from water bought from the City of Duluth. This water usage needs more evaluation and transparency because it affects regional water systems, and there is little to no information on the demand and process of water resources. The AUAR mentions user agreements with concentrations of pollutants allowed but does not name those pollutants, discharges, and quantities.	AUAR will include a condition limiting water use and wastewater discharge to the volumes studied in the AUAR.
Air Quality The Fond du Lac Band of Lake Superior Chippewa was the first Tribe in US EPA Region 5 to be granted tribal authority to administer parts of the Clean Air Act. The Band holds Treatment as an Affected State ("TAS") status under the Clean Air Act § 505(a)(2) for air related activities that take place near the Reservation and/or other tribal lands. EPA Administrator Thomas V. Skinner signed the decision document and presented a certificate of recognition to Fond du Lac Band leaders on January 7, 2004. This designation allows the Band to protect air quality on the Reservation by monitoring the air, reviewing air permits for new and existing facilities, and to develop a program that gives in-house expertise on environmental issues related to air quality and climate change. The AUAR only explicitly lays out carbon monoxide (CO) under the vehicle section under "Air" 17B. However, there are many pollutants at play with combustion engine emissions than just CO. For example, it is well known that diesel emissions can produce particulate matter (PM), nitrogen oxides (NOx), carbon dioxide (CO2), and volatile organic compounds (VOCs); all in addition to carbon monoxide. Another point	Air quality is addressed at a planning level within the AUAR. Data centers typically do need emergency backup generators; however, the use of backup generators requires independent environmental study if proposed emissions surpass the threshold for an Environmental Assessment Worksheet. The project proposer would be responsible for completing this environmental review for the backup generators prior to construction. Generators and other emission sources are regulated under existing state and federal air quality standards. Future air permitting, monitoring, and enforcement occurs outside the AUAR process through the Minnesota Pollution Control Agency purview.

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to mention is ground level ozone, which can be formed under reactions of VOCs, NOx, and sunlight. Another component aside from combustion engine contributions can include particulates from dust occurring under site operations, construction, and other vehicle use relating to the needs of this project area. We encourage this project to move forward with dust control ordinances when appropriate as mentioned on page 46 to reduce any potential impacts on the area. Per Minnesota Business First Stop Materials MN Data Center Regulatory guide, air emission profile, if applicable, projects should be prepared to discuss types and quantities of any air pollutants. The MPCA has resources available that assist project proposers to calculate potential air emissions and conduct air quality dispersion modeling. Additionally, the project's diesel backup generators have little to no information on how many units may be present, how often they might operate, and what the scale of the operation might entail. The project should also evaluate cumulative effects. Diesel generator emissions can include particulate matter (PM), nitrogen oxides (NOx), carbon dioxide (CO2), carbon monoxide (CO), volatile organic compounds (VOCs), and contribute to the formation of ground level ozone. State Regulating agencies assess the permitting needs of this project to ensure the project is moving forward in a way that is respectful of neighbors and the environment. The Band encourages more in-depth review and coordination of these concerns.	
Cultural The Adolph area and the surrounding landscape carry deep cultural and historical significance to the Anishinaabe people. While the Band was offered a role in the Section 106 process under the National Historic Preservation Act, that process addresses only a subset of our sovereign interests - namely, historic properties. It does not encompass the full range of our treaty-reserved usufructuary rights: the rights to harvest Manoomin, fish the waters, gather medicines, and maintain our living relationships with the lands and waterways of the Ceded Territory.	The project proposer and city welcome additional consultation on this topic.
Historic and Cultural Property Identification	A Phase 1A Cultural Resource Literature Review and Preliminary Reconnaissance Report was conducted

Comment	Response
Section 15 of the survey states that, according to the Minnesota Office of the State Archaeologist (OSA) Public Viewer, "one archaeological site is present within the Study Area." We understand that In Situ Archaeological Consulting was retained to conduct a survey, resulting in the report Phase IA Cultural Resource Literature Review and Preliminary Reconnaissance for Project Loon - Hermantown, St. Louis County, Minnesota. In order to adequately assess potential effects to historic and cultural properties, identification efforts must be conducted in their entirety. Conclusions regarding the presence or absence of resources-and any subsequent effects determinations-should be deferred until survey work is complete and results have been fully evaluated in consultation with the Band.	for the Study Area by In Situ and consultation is ongoing with Tribes and SHPO to fully evaluate these cultural resources. Further consultation is welcomed.
Visual Impacts Section 16 of the survey asserts that "there are no scenic views or vistas in or near the Study Area." This statement reflects a subjective and culturally limited interpretation of landscape value and does not adequately account for Tribal perspectives. A landscape may not meet Western aesthetic standards of "scenic" to possess significant cultural, spiritual, or traditional importance. The presence of approximately 58 acres of wetlands, along with proximity to the Midway River and West Rocky Run Creek, indicates a landscape with both historic and ongoing relevance to traditional lifeways and connections to place. "Visual quality" and "integrity" should be evaluated not only in terms of aesthetics, but also in relation to culturally meaningful sightlines, landscape-scale settings, and relationships to the sky and horizon. Attention should be given to potential lighting impacts associated with a 1.8 million square foot industrial complex. Light pollution at this scale may alter the visibility of the night sky and disrupt cultural practices tied to viewing the night sky. These impacts should be analyzed both within the project area and from nearby cultural properties. Additionally, site visits to identified cultural and historic locations should be conducted to evaluate how the proposed development may affect the setting, feeling, and integrity of those properties.	Nighttime lighting, visual conditions, and the potential effects on adjacent residents and wildlife will be evaluated at a planning level in the AUAR. Lighting design and compliance are governed through local City of Hermantown building codes and permitting requirements. Preliminary lighting plans and mitigation measures will be addressed in the AUAR and refined during later project development and approvals through the city.

Comment	Response
Audio/Noise Impacts The integrity of setting for a historic property or Traditional Cultural Place includes the natural soundscape. The introduction of continuous industrial noise-such as that generated by heavy machinery, ventilation systems, and backup generators associated with a master-planned data center campus-has the potential to create a persistent ambient "hum" that may degrade the cultural and spiritual quality of the surrounding environment. These impacts warrant further study. In addition, the document identifies the presence of culturally significant species, including ma'iingan (Gray Wolf), understood as a relative in Ojibwe culture, and bizhiw (Canada Lynx). Noise analysis should consider how industrial sound levels may affect the behavior, habitat use, and presence of these species, as they are integral to Tribal ecological knowledge and cultural health. Visual and noise impacts should be evaluated through a framework that accounts for cultural and spiritual integrity, rather than being limited to conventional measures such as residential aesthetics or nuisance. A more comprehensive analysis is necessary to ensure that Tribal perspectives and cultural relationships to the landscape are meaningfully incorporated into the AUAR process, if not a more thorough assessment through an EIS.	Operational noise from any development project, including this one, is required to abide by City of Hermantown and Minnesota Statutes and Rules. The AUAR will include an evaluation of existing sound measurements and project-related noise conditions and will identify options for mitigation measures for operational noise. In addition to other site design mitigation, emergency backup generator maintenance events shall be limited to normal working hours. Compliance with noise standards will be addressed during final site plan approvals and specific noise mitigation will be identified as development plans advance.
Other Potential Environmental Effects Energy usage is not explicitly discussed in the document. AUAR guidance does not require consideration of energy usage. Electricity usage is linked to GHG, air quality impacts, water use, and land use changes. This requires state or federal compliance on energy policies. To ensure the project's energy profile is transparent and environmentally sound, an EIS would be more beneficial in quantifying demands, assessing environmental impacts, and mitigating measures to reduce emissions. This is not merely a discussion piece; this requires a full environmental evaluation due to the new proposed transmission line and distribution infrastructure. An AUAR is deficient in this environmental concern regarding energy.	Energy usage and infrastructure (existing and proposed) will be discussed in the AUAR in Item 22: Other Potential Environmental Effects.
Non-Disclosure Agreements (NDAs)	The City of Hermantown adopted the Hermantown Industrial Alternative Urban Areawide Review

Comment	Response
The use of NDAs by these companies in concert with state/local governments is a direct threat to our reserved rights and sovereignty. Without publicly available objective information about the size and scope of these projects, our members cannot rely on state and local government to fully understand, consider, and protect Tribal treaty-reserved rights over resources both on and off reservation lands. For example: many proposed projects around the Great Lakes appear to have impacts on water availability, groundwater resources, and wetlands that would be filled in and paved to create these facilities - no local government is adequately weighing and publicly discussing the damage to tribal resources when habitat and surface/ground water resources are destroyed or locked up in violation of treaty obligations. The use of NDAs must be changed significantly so that our tribe and our members can be fully informed about impacts before they happen and before permits are issued.	(AUAR) on October 6, 2025 that studied a development scenario which included a total of up to 1.8 million square feet of light industrial. Since that time, the project proposer, Harmony Group LLC has developed additional detail on project specifics, completed additional analyses, and announced that the proposed light industrial development scenario consists primarily of a master planned large-scale data center campus and related infrastructure within a reduced Study Area. To provide the public more specifics and clarity of the development scenario – including a chance for the public to propose issues, identify topics, and explore alternatives to be analyzed in environmental review – the City of Hermantown and Harmony Group LLC are voluntarily completing this updated AUAR to allow the community more time to review and comment on the project. Comments compiled from this Scoping comment period as well as the Draft AUAR comment period will be retained and responded to in the official record as part of the AUAR process. The project proposer intends to conduct additional community engagement opportunities later this year to share more about the project as the site planning advances.
Electrical Affordability and Reliability The Fond du Lac Band is actively engaged with energy development as part of our efforts to secure energy sovereignty. Some Tribes within our state struggle with access to affordable and reliable electricity, so the Fond du Lac Band is working to ensure we	Minnesota Power will provide the energy to the proposed data center campus, and the data center will be served under an existing regulated rate structure in compliance with the Minnesota law that

Comment	Response
have access to cheap, clean and reliable sources of electricity for our Tribal members and businesses. State regulators must not prioritize the expansion of HSDC's if these cannot be planned intentionally to improve and expand access to Fond du Lac Band development of solar and other renewable resources. NDAs prevent Tribes from. understanding the potential impacts to the existing energy infrastructure we rely on for the Fond du Lac Band's power. Data centers should only be approved if they can be powered with a sustainable renewable energy source that respects Tribal energy sovereignty, does not threaten raising utility rates or threaten public resources. The Fond du Lac Band can be strong partners in developing sustainably sized data centers in this state. Our local knowledge, ability to think long-term about sites and renewables, as well as our expert staff, makes development with a Tribe a better option than working with a large technology company with no connection to this region or the land. We request consultation to ensure better regulatory certainty to protect public resources, find a way to limit the use of NDAs, and then together we can collaboratively grow industry in ways that benefit local communities and serve everyone's interests. Until these concerns are met, we ask you to place a hold on HSDC development in this state. It is unwise to rush into this without a better understanding of how short-term development will have lasting long-term impacts on our lands, waters, members, cultural practices, and existing livelihoods and industries. This could be done with executive action or legislation, such as MN Senate File 4298, that requires Tribal consultation be correctly tailored to address identified harms and concerns14. SF 4298 explicitly requires necessary consultation to fully assess Tribes' unique impacts and concerns.15	ensures existing customers do not pay for costs associated with connecting and serving a new large customer. This project will enable the development of 700 megawatts (MW) of new clean energy resources without increasing costs to Minnesota Power customers. These system assets, including 300 MW of wind energy and 400 MW of battery storage, will support progress toward Minnesota's carbon-free standard and strengthen the resilience of the electrical system for all Minnesota Power customers. In addition, Minnesota Power and the project proposer will work together to identify opportunities to deploy demand flexibility capabilities that can help reduce grid strain during peak times. Under its Energy Forward strategy, Minnesota Power has made significant progress toward meeting the requirements of Minnesota's carbon-free law, with customers receiving over 60% of energy from renewable sources today. A discussion on this topic will be included in the AUAR.
Consultation Fond du Lac Band of Lake Superior Chippewa requests government-to-government consultation with you and/or your delegated representative to discuss the concerns included below regarding the sudden and concerning increase in construction of hyperscale data centers. As you know, MN Stat. 10.65 states that: "Timely and meaningful consultation between the state of Minnesota and Minnesota Tribal	The project proposer and city welcome continued coordination and consultation with Tribes that have expressed interest in, or have cultural affiliation with, the Study Area throughout the remainder of the project development to continue to address these concerns.

Comment	Response
governments will facilitate better understanding and informed decision-making by allowing for communication on matters of mutual interest and help to establish mutually respectful and beneficial relationships between the state and Minnesota Tribal governments." In addition, pursuant to this law, MN agencies "must develop and maintain ongoing consultation with the Minnesota Tribal governments related to matters that have Tribal implications. Agencies must consider the input gathered from Tribal consultation into their decision-making processes, with the goal of achieving mutually beneficial solutions." While our Tribe understands the current planned expansion of utility power infrastructure to serve electricity to feed proposed HSDCs that consume more than 100 MW continuously, consultation is requested to discuss several concerns that the Fond du Lac Band holds based on our and neighboring Tribe's knowledge of these facilities and their associated infrastructure. The Fond du Lac Band wishes to better understand all the state rules and permits that apply to HSDCs and recommend potential policy changes that might help address some of our concerns regarding HSDCs. The Fond du Lac Band acknowledges Minnesota's ongoing efforts to update and engage with our Tribe with ongoing state's EQB Notifications for new permits under state review. However, in regard to HSDCs, formal consultation is required in order to share our concerns in a government-to-government setting. The Fond du Lac Band's primary concerns for HSDC's focus on the use of non-disclosure agreements (NDAs), the use of vast amounts of public resources like water and air quality, as well as potential impacts to treaty lands, energy affordability and reliability. The Fond du Lac Band's primary concerns for HSDC's focus on the use of non-disclosure agreements (NDAs), the environmental review process and the use of vast amounts of public resources like water and air quality, as well as potential impacts to treaty lands, energy affordability and reliability.	
5. 1854 Treaty Authority	
The 1854 Treaty Authority is an inter-tribal resource management agency governed by the two federally recognized American Indian Tribal governments of the Bois Forte	Thank you for your review and comments on this AUAR scoping document.

Comment	Response
Band of Chippewa and the Grand Portage Band of Lake Superior Chippewa. Under the Treaty of 1854, these Bands retain rights to hunt, fish, and gather in the 1854 Ceded Territory encompassing present-day northeastern Minnesota. The 1854 Treaty Authority is responsible for preserving, protecting, and enhancing treaty rights and resources within the 1854 Ceded Territory. This exercise of treaty rights continues today, and we remain interested in the health of the resources for present and future generations. The scoping document states that the scale of the project meets the threshold for a mandatory Environmental Impact Statement (EIS), but the review process is still proceeding with the Alternative Urban Areawide Review (AUAR). We question if the AUAR is the appropriate tool to understand the proposed data center project and perhaps an EIS could be more suitable to describe and understand project impacts. The AUAR or EIS should clearly describe appropriate land use at the proposed project site. The scoping document states that the study area is designated as business and light manufacturing. Current conditions at the site are largely residential and agricultural, and our understanding is that zoning and land use were changed recently before all project information became publicly available. This land use decision making process and timelines should be described in an AUAR or EIS in a transparent way. Other alternatives for the project site should also be discussed. Further, the proposed project does not appear consistent with the St. Louis River Comprehensive Watershed Management Plan with focus of the area for high quality resource protection and restoration. An AUAR or EIS should describe the inconsistency with this plan and any other applicable plans.	The AUAR will review and analyze the proposed changes in land use and document the mitigation required in the mitigation plan. The AUAR will include a discussion on the project in relation to the St. Louis River Comprehensive Watershed Management Plan's goals.
The proposed project will likely have significant effects on infrastructure and resources including water use, sewer discharges, electric use and related air emissions, and connected electric transmission actions. Water use and appropriation need to be clearly defined, including both domestic and industrial. The methods and water requirements for cooling equipment should be clearly identified and described. The City of Hermantown will need to extend wastewater infrastructure with discharges then to the Western Lake Superior Sanitary District (WLSSD) and ultimately the St. Louis River. Discharge amounts and water quality impacts should be described. Effects	Energy usage and infrastructure (existing and proposed) will be discussed in the AUAR in Item 22: Other Potential Environmental Effects as well as Water Resources in Item 12. Water use will be primarily for domestic purposes (i.e. showers, laundry, kitchen / food preparation, landscaping, fire protection). The project proposer

Comment	Response
on electric use, related emissions from necessary increased electric capacity, electric rates, and any connected electric transmission lines (existing or proposed) should be identified.	has committed to using a closed-loop air cooling system, which reduces water demand for cooling significantly, as compared to other cooling system designs, so water use will be limited to only domestic purposes. For comparison purposes, the estimated domestic water usage for this project is comparable to the estimated water usage of the recently completed Aery multifamily project at the SE corner of Miller Trunk Highway and Ugstad Road. The mitigation plan in the draft and final AUAR will include a condition limiting water use and wastewater discharge to the volumes studied in the AUAR.
The scoping document only briefly mentions noise, light, and heat impacts from the proposed project. Construction activity, vehicle traffic, and machinery operation can contribute to increased noise. In addition, information suggests that data centers can emit constant noise in their normal operations. This can be harmful to human health and perhaps even some wildlife species. Light emissions and ways to minimize light pollution should be discussed. Data centers also have the potential to create "heat islands" and warm the land around them. Parking lots, roads, and buildings can absorb and re-emit heat. Contributions from heat emitted from project operations should also be understood. These issues should be addressed in an AUAR or EIS.	The noise, light and heat impacts and potential mitigation measures will be evaluated in the AUAR.
It appears that the project would include backup generators for emergency use. However, the scoping document states this would be evaluated outside of the current environmental review process as site planning advances. It seems necessary to include these details in an AUAR or EIS, including air emissions and noise impacts from generator use. Air emissions have the potential to be harmful to human health and the environment. Once a project is in motion, it is typically difficult to change direction so all probable components should be included in environmental review.	Air quality is addressed at a planning level within the AUAR. Data centers typically do need emergency backup generators; however, the use of backup generators requires independent environmental study if proposed emissions surpass the threshold for an Environmental Assessment Worksheet. The project proposer would be responsible for completing this environmental review for the backup generators prior to construction.

Comment	Response
	Generators and other emission sources are regulated under existing state and federal air quality standards. Future air permitting, monitoring, and enforcement occurs outside the AUAR process through the Minnesota Pollution Control Agency purview.
Potential project impacts to wetlands and water resources should be identified in an AUAR or EIS. Wetland impacts, ways to minimize impacts, and appropriate mitigations should be included. The amount of impervious service and stormwater management should be described. Effects to rivers and designated trout streams (West Rock Run Creek, Midway River) must be understood. In addition, impacts on plants and wildlife species from site development and project operations should also be included.	The project proposer and City of Hermantown acknowledge the importance of water resources to the community and to the region. Water resource and wildlife impacts and mitigation will be documented in the AUAR.
Impacts on known or discovered cultural resources are a concern and should be addressed. Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of projects they approve, permit, fund, or carry out on historic properties. If the project constitutes a federal undertaking in any way, Section 106 consultation is needed for impacts to cultural resources. Additionally, federal agencies must provide the Advisory Council on Historic Preservation an opportunity to comment on such projects prior to the agency's decision on them. The scoping document states that one archaeological site is located within the project area. An AUAR or EIS should provide detail as appropriate on this site and discuss impacts and avoidance opportunities, with the understanding of sensitivity of sharing specific information. Coordination with Tribal Historic Preservation Offices should occur.	A Phase 1A Cultural Resource Literature Review and Preliminary Reconnaissance Field Survey and Report were conducted for the Study Area by In Situ and will be summarized in the AUAR. The City of Hermantown and project proposer appreciate the review of this report that was completed by the Fond du Lac and consultation is ongoing with Tribes and SHPO to fully evaluate these cultural resources.
The project is located within the 1854 Ceded Territory where treaty rights exist, and cumulative impacts to the cultural/natural resources of this ceded territory are of importance. The City of Hermantown and appropriate regulatory agencies should communicate and consult on a government-to-government basis with Bands in an early and meaningful way. Thank you for consideration of our comments.	The project proposer and City welcome additional consultation on this topic.

PUBLIC COMMENTS

In addition to the comments received from public agencies, 235 comments were received from the general public. These comments contained many common themes which are summarized below. The city has provided responses that address each of the common themes, see Table 2. Table 3 includes the list of public commenters and the theme responded to in their comment.

Table 2. General Public Comments - Common Themes and Responses

Comment Theme	Summary	Response
Environmental Impacts	**Climate Change:** Comments raise concerns about greenhouse gas emissions and heat generation contributing to climate change and other potential impacts beyond the project site occurring over an extended period of time including how this impacts statewide emissions commitments. **Hazardous Waste:** Questions about hazardous waste disposal process including e-waste. **Air Quality:** Comments raise concerns about air pollution from generators, monitoring standards, and potential public health impacts. Some commenters question how wildfire smoke conditions could affect operations and emissions-related health outcomes. **Light Conditions:** Comments express concern about nighttime lighting	**Climate Change Response** • The AUAR will discuss estimated sources of project-related greenhouse gas emissions and climate-related trends as well as mitigation and climate adaptations that the project proposer is committed to implementing as part of design, operations and construction. • Data centers do produce heat as part of standard operations; however, this is managed with cooling systems. This project specifically will be using a closed-loop, air-cooling system. Heat impacts will be studied in the AUAR and this has been added to the Final Scoping document in Item 22 Other Potential Environmental Effects. • The evaluation of broader regional or global climate impacts extends beyond the scope of this AUAR. • This project, as well as future projects in the area, must comply with applicable air quality and energy regulations to mitigate any contributions towards climate and greenhouse gas impacts. These next steps and mitigation measures for this project will be described in the AUAR Mitigation Plan. **Hazardous Waste Response** • The AUAR will identify types of potential hazardous materials associated with the development scenario and waste disposal.

Comment Theme	Summary	Response
	effects on residents and wildlife sleep cycles as well as light pollution. **Utilities and Infrastructure:** Comments seek additional analysis of impacts to existing energy infrastructure and details on proposed utility extensions, including water lines and other supporting infrastructure.	• Hazardous waste handling, storage, and disposal are regulated through state and federal programs outside the AUAR process and associated mitigation will be identified in the AUAR Mitigation Plan. **Air Quality Response** • Air quality is addressed at a planning level within the AUAR, including construction related topics such as dust emissions and control. Data centers typically do need emergency backup generators; however, the use of backup generators requires independent environmental study if proposed emissions surpass the threshold for an Environmental Assessment Worksheet. The project proposer would be responsible for completing this environmental review for the backup generators prior to construction. • Generators and other emission sources are regulated under existing state and federal air quality standards. Future air permitting, monitoring, and enforcement occurs outside the AUAR process through the Minnesota Pollution Control Agency purview. **Light Conditions Response** • Nighttime lighting, visual conditions, and the potential effects on adjacent residents and wildlife will be evaluated at a planning level in the AUAR. • Lighting design and compliance are governed through local City of Hermantown building codes and permitting requirements. • Preliminary lighting plans and mitigation measures will be addressed in the AUAR and refined during later project development and approvals through the city. **Utilities and Infrastructure Response**

Comment Theme	Summary	Response
		• The project would make significant investments with water, wastewater and road infrastructure to meet project requirements. This will be studied in the AUAR. This infrastructure expansion will benefit the surrounding community and support growth in a portion of the City and County that has been programmed for future development. There will not be any public utility assessment levied against private property owners for the installation of the new utilities. Installation of the public utility improvements will be financed by the developer. • Energy usage infrastructure (existing and proposed) will be discussed in the AUAR in Item 22: Other Potential Environmental Effects.
Water Resources and Wildlife	**Water Supply, Use, Groundwater, and Protection:** Comments express concern about water demand increasing, questioning long-term drinking water availability, groundwater and surface water impacts, drought resilience, dewatering activities, cooling technologies, and mitigation measures to protect groundwater, surface water, and private wells. Some commenters would like to know more about added utilities. **Water Quality and Contamination:** Comments express concern about chemicals associated with cooling systems and other operations contaminating surface water and groundwater and impacts to trout streams nearby. Commenters request	**Water Supply, Use, Groundwater, and Protection Response** • The project proposer and City of Hermantown acknowledge the importance of water resources to the community and to the region. • Water demand and availability will be evaluated in the AUAR and will include a discussion on the water use options considered for data center cooling; however, the project proposer is intending to use a closed-loop air cooling system for this project. The AUAR will also consider potential water resource adaptations due to climate change related risks and vulnerabilities. • Water use will be primarily for domestic purposes (i.e. showers, laundry, kitchen / food preparation, landscaping, fire protection). The project proposer has committed to using a closed-loop air cooling system, which reduces water demand for cooling significantly, as compared to other cooling system designs, so water use will be limited to only domestic purposes. For comparison purposes, the estimated domestic water usage for this project is comparable to the estimated water usage of the recently completed Aery multifamily project at the SE corner of Miller Trunk Highway and Ugstad Road. The mitigation plan in the draft and final AUAR will include a condition limiting water use and wastewater discharge to the volumes studied in the AUAR.

Comment Theme	Summary	Response
	clarification on wastewater handling, mitigation measures, and evaluation of potential human health impacts in the AUAR. **Wetlands Impact:** Comments request detailed evaluation of wetland impacts. **Wildlife:** Comments identify potential impacts to wetlands, wildlife, habitats, water resources, invasive species, and agricultural land from runoff, heat, and site disturbance.	• The AUAR will include a discussion on groundwater, existing wells, and construction related impacts. **Water Quality and Contamination Response** • The AUAR will discuss water quality from surface water runoff and post construction stormwater management plans as well as wastewater handling and mitigation measures. The AUAR will include a detailed hydrogeological analysis in relation to the wetlands to the southeast and northeast. Site visits did not show springs are present within the Study Area; however, the potential for such features to occur will be incorporated into the project's impact assessment and design approach. • Any proposed development will follow the construction of stormwater methods and regulations for sites draining to impaired waters. The NPDES Permit outlines construction BMPs to mitigate impacts to impaired waters. The MPCA NPDES Construction Stormwater Permit outlines requirements for discharge to trout streams. The permanent stormwater treatment system must minimize any increase in the temperature of trout streams resulting from the one and two year 24-hour precipitation events. In addition to construction related enhanced BMPs, post construction stormwater will be held to the standards of the City of Hermantown. The City of Hermantown has strict standards for rate control, water quality, and volume control. The AUAR will address construction related BMPs to prevent impacts to aquatic ecosystems and maintain strict conformance with the MPCA NPDES General Construction Stormwater Permit. **Wetland Impacts Response** • The AUAR will discuss any potential impacts to aquatic resources. The developer would apply for a permit for any aquatic resource impacts with the appropriate regulatory agencies according to the Wetland Conservation Act, Section 404 of the Clean Water Act, Minnesota Rules for

Comment Theme	Summary	Response
		Public Water Resources, and Minnesota Statutes for Waters of the State. If there are wetlands under the jurisdiction of the United States Army Corps of Engineers (USACE), a Section 404 authorization will be required and a Section 401 Water Quality Certification would be obtained. If the project results in USACE-jurisdictional wetland impacts that exceed nationwide permit thresholds, an individual Section 401 Water Quality Certification would be obtained. **Wildlife Response** • Given there are fish, wildlife, plant communities, and sensitive ecological resources in the Study Area, the AUAR will include a discussion of potential impacts to these features and recommended mitigation. • The City and project proposer acknowledge that intentional efforts to preserve and protect these resources are necessary. Mitigating environmental impacts primarily relies on using existing ordinances, rules, and regulations. Mitigation techniques will be studied in the AUAR. • The AUAR will discuss the "worst-case" scenario for proposed tree, wetland and other water resource impacts and applicable mitigation that would be required. As site design is finalized, the specific wetland impacts will be addressed during subsequent permitting or approvals. The project proposer's intent is to minimize these to the extent practicable through further site design refinement.
Noise Impacts	**Operational Noise**: Comments raise concerns about continuous operational noise from equipment and potential effects on nearby residences and wildlife health. Some comments question modeling assumptions.	**Operational Noise Response** • Operational noise from any development project, including this one, is required to abide by the City of Hermantown and Minnesota Statutes and Rules. The AUAR will include an evaluation of existing sound measurements and project-related noise conditions and will identify options for mitigation measures for operational noise. The AUAR noise section will evaluate noise in a-weighted decibels (dBA) because those

Comment Theme	Summary	Response
	Construction Noise and Duration: Comments question the limited analysis of construction noise and duration given project scale, duration, and proximity to residences.	represent how the human ear hears sound. dBC focuses more on low frequencies so it can be a good measure of the low frequency noise environment. The AUAR will include measured ambient dBC noise levels for the AUAR study area and modeled dBC and dBA noise levels from the project. The ambient measurements are taken at 5 feet and modeled for 5 feet above the ground because that is the typical height of the human ear. • MPCA requires the project to mitigate noise impacts so that sound levels are under the threshold for that noise area classification (NAC). The NAC is determined based on the land use of a location where a person may hear noise, not parcel boundaries. For example, an undeveloped wooded area on a residential property would fall under NAC 4, while a patio or gazebo would fall under NAC 1. NAC types and corresponding noise thresholds are available at: https://www.pca.state.mn.us/air-water-land-climate/noise-and-odor. • In addition to other site design mitigation, emergency backup generator maintenance events shall be limited to normal working hours. • Compliance with noise standards will be addressed during final site plan approvals and specific noise mitigation will be identified as development plans advance. **Construction Noise and Duration Response** • Construction-related noise does not require discussion in an AUAR; however, contractors will need to abide by city noise ordinances for noise.
Cultural Resources	Comments ask whether cultural resources, including Indigenous burial grounds and historic properties, are adequately addressed in the AUAR.	**Cultural Resources Response** • A Phase 1A Cultural Resource Literature Review and Preliminary Reconnaissance Report were conducted for the Study Area to identify any potential cultural and archaeological resources, including burial mounds. The AUAR will discuss any potential impacts on these resources as well as mitigation measures.

Comment Theme	Summary	Response
		• Coordination is currently ongoing with the Tribes, the Minnesota State Historic Preservation Office (SHPO), and Minnesota Office of the State Archaeologist (OSA) for the project.
Environmental Review Process	**Request for Environmental Impact Statement:** Many comments question the adequacy of the AUAR and request preparation of a full EIS based on project scale, uncertainty, resource use and potential cumulative impacts. **Lack of Project Clarity:** Commenters note that the AUAR uses vague language and doesn't fully describe the scale or scope of the project as a hyperscale data center. Commenters believe the EIS will be more transparent. **Desire for Additional Evaluation:** Comments suggest the environmental review needs more evaluation of alternative sites and environmental impacts including water, noise, public health, fire risk, de-icing practices, and energy demand. Concerns that the AUAR does not list enough protections for the environmental area. **Language, Labeling, and Process:** Comments request clearer distinctions between AUAR requirements and	**Request for Environmental Impact Statement Response** • The City of Hermantown and the project proposer are voluntarily preparing an updated AUAR to provide the public with additional opportunities to comment on newly available project details on a reduced Study Area and to provide the city of Hermantown with additional analysis about environmental impacts from the proposed project. • An AUAR is an appropriate process for environmental review because under Minn. R. 4410.3610, subp. 1: "A local unit of government may use the procedures of this part . . . to review anticipated . . . light industrial development and associated infrastructure in a particular geographic area within its jurisdiction . . . ." The proposed development scenario meets the State's mandatory requirements for an environmental review process based on Minnesota Rules 4410.4400. Minnesota Rule 4410.3610 allows for an alternative form of review through an AUAR for qualifying projects, including this scenario. • The AUAR will provide a cumulative potential effects review. • An AUAR is a study document which provides an evaluation of the environmental impacts of future development, and the opportunity to manage and mitigate those impacts. The information and comments from an AUAR process assist communities as they contemplate local planning and zoning decisions. • To ensure compliance and accuracy, future development like this project must align with the AUAR's assumptions; otherwise, the AUAR must be updated. Additionally, the AUAR must be reviewed and updated every five years until all developments within the Study Area are complete.

Comment Theme	Summary	Response
	other environmental review processes, soliciting a state agency to review the document and clearer definitions of elements such as types of wastewater, proposed building height, noise equipment, and operational components. **Study Area and Scope:** Comments express concern that the defined study area may limit analysis of regional and cumulative impacts, including impacts across jurisdictional boundaries. Some commenters request evaluation of broader regional development effects.	**Lack of Project Clarity Response** • This updated AUAR will evaluate a data center campus (defined as Communication Services in the Hermantown zoning code) that includes multiple buildings, constructed in distinct sequential phases, for a total of 1.8 million square feet of proposed light industrial development and more detail is provided in the project description and throughout the resource topics in terms of associated infrastructure needs. **Desire for Additional Evaluation Response** • The AUAR will address the required environmental topics per Mn Rules 4410 and established guidance from the Minnesota Environmental Quality Board for AUARs using new available information from the project proposer/end user. The updated AUAR also includes additional topics that will provide an overview of anticipated energy use, energy infrastructure needs, costs, and electromagnetic fields. • Certain issues (e.g., final noise modeling, air emissions, and energy infrastructure) are regulated through separate permitting and oversight processes outside of the scope of an AUAR. The AUAR will note where additional analysis may be required if future project proposals meet applicable regulatory thresholds. • According to the EQB's Quick Reference: Alternative Urban Areawide Review (AUAR), the AUAR rules were developed to recognize that certain assumptions would need to be made to evaluate a land use scenario(s). The rules require that any assumptions be included in the AUAR. The rules prevent these assumptions from being used to undermine environmental review by providing that future projects included in the AUAR are only exempt from environmental review if they are consistent with the AUAR's assumptions. If the development proposal diverges materially from the assumptions and mitigation plan, then the AUAR must be updated for that specific development. Additionally, the AUAR must be updated every five

Comment Theme	Summary	Response
		years until all development within the area receives final approval by the RGU. • The AUAR will include a discussion on fire risk. Data center failure prevention involves a layered approach focused on proactive maintenance, redundancy, and continuous monitoring. Building construction is permitted according to local regulations (City of Hermantown), and fire hazards are regularly evaluated. All fire protection systems and equipment are inspected, tested, and maintained in compliance with state legislation. • De-icing and chloride management during winter months will be addressed in the AUAR under the stormwater section (Item 11 Water Resources). **Language, Labeling, and Process Response** • The proposed development scenario meets the State's mandatory requirements for an environmental review process based on Minnesota Rules 4410.4400. Minnesota Rule 4410.3610 allows for an alternative form of review through an AUAR for qualifying projects, including this scenario. You can read more information about the differences between Minnesota's state level environmental review processes here: https://www.eqb.state.mn.us/environmental-review/about • Where known at this stage of project design, the AUAR will define project components such as wastewater, building height, noise equipment, and operational components. • Per Minnesota Rules 4410.4400, for this project the RGU is the City of Hermantown. The AUAR scoping document and Draft AUAR will be submitted to all state agencies for review as well. **Study Area and Scope Response**

Comment Theme	Summary	Response
		• The analysis in the AUAR evaluates project related impacts within the AUAR Study Area boundary; however, the AUAR will also provide a cumulative potential effects review that looks at the effect on the environment that results from the incremental effects of this project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned and would evaluate impacts to those resources outside of the AUAR Study Area.
Land Use	**Compatibility and Location:** Comments question site suitability, zoning compatibility, proximity to residences, and the use of undeveloped land, with some suggesting alternative sites or considering community serving uses instead. **Long-Term Conditions and Post-Operational Considerations:** Comments raise questions about long-term operations, concerns about unknown long-term impacts, and what would happen if the facility became obsolete or wanted to expand.	**Compatibility and Location Response** • Existing and proposed city-designated land use and zoning compatibility will be evaluated in the AUAR. • Land use decisions for what the site is guided for occurs through local (City of Hermantown) planning and approval processes. • Alternative sites for this project were evaluated. This Study Area was selected as a priority over other potential sites in the area due to its proximity to existing power infrastructure with the Arrowhead Substation, cohesive land within the city with availability to extend municipal water/sewer infrastructure to the site, the ability to minimize wetland and tree impacts compared to other sites, depth to bedrock, and close access to existing County/State highways for ease of construction and operational access. • The AUAR will evaluate potential known health risks for residents living near a data center. **Long-Term Conditions and Post-Operational Considerations Response** • The project is expected to follow a similar life cycle of other typical light industrial developments. With most technology park campuses, including data centers, the exterior shells of the buildings are anticipated to be used

Comment Theme	Summary	Response
		over many decades, while the internal components are upgraded periodically as technology advances. • If development in the future were to propose to exceed the development scenario evaluated, then an AUAR update would be required.
Transparency	Comments express concern about the use of non-disclosure agreements, project clarity, and the timing and transparency of public notice.	**Transparency Response** • The City of Hermantown adopted the Hermantown Industrial Alternative Urban Areawide Review (AUAR) on October 6, 2025 that studied a development scenario which included a total of up to 1.8 million square feet of light industrial. Since that time, the project proposer, Harmony Group LLC has developed additional detail on project specifics, completed additional analyses, and announced that the proposed light industrial development scenario consists primarily of a master planned large-scale data center campus and related infrastructure within a reduced Study Area. To provide the public more specifics and clarity of the development scenario – including a chance for the public to propose issues, identify topics, and explore alternatives to be analyzed in environmental review – the City of Hermantown and Harmony Group LLC (a subsidiary of Google) are voluntarily completing this updated AUAR to allow the community more time to review and comment on the project. • Comments compiled from this Scoping comment period as well as the Draft AUAR comment period will be retained and responded to in the official record as part of the AUAR process. • The project proposer intends to conduct additional community engagement opportunities later this year to share more about the project as the site planning advances.
Public Engagement and Process Concerns	Comments emphasize the need for meaningful public engagement and express concern about process and decision-making being rushed.	**Public Engagement Response** • The project proposer and city acknowledge the importance of public participation in the environmental review and site plan review process and

Comment Theme	Summary	Response
		the project team is following the AUAR steps to notify the community and collect public comments during this process. • The project proposer is planning to host two (2) open houses this summer to provide an opportunity for the community to learn more about the AUAR and the next steps for the project. This is additive to the ongoing public approval processes and permitting requirements. • The City of Hermantown, as the Responsible Governmental Unit (RGU) for the AUAR process, will carefully consider all comments received throughout this process prior to any project-related approvals or decisions.
Broader Social, Technological, or Ethical Topics	**AI and Technology:** Comments raise concerns about artificial intelligence, including job displacement, lack of regulation, and broader societal and environmental implications such as national security. **Corporate Influence:** Comments express concern that corporate interests may disproportionately benefit from tax incentives and public resources and potentially influence decision-making and environmental review outcomes, including releasing misleading information. **Future Development:** Some comments state that data center development is inevitable and that Hermantown could benefit economically and through	**AI and Technology Response** • Socioeconomic impacts such as job displacement or changes in labor markets and national security are outside the statutory scope of environmental review under an AUAR. However, these comments are in the administrative record for consideration in this environmental review (AUAR) process. **Corporate Influence Response** • Tax policy, incentive structures, and economic equity considerations for data centers are not evaluated within the AUAR framework and any broader changes would be addressed through separate state or local legislative and policy approval processes. • Today, the land uses in the Study Area generate around $80,000 per year in tax revenue. This project will bring significantly higher, long-term city, school district, and county tax revenue once operational. • The project proposer has applied for public financial assistance in accordance with the City of Hermantown's adopted Business Subsidy Policy. The City is conducting a financial analysis to determine the viability of providing potential tax abatement. City approvals for public financial

Comment Theme	Summary	Response

	infrastructure investment if impacts are adequately addressed.
	
	Trends and Comparisons: Comments reference experiences in other communities, citing reports of negative environmental, health, utility cost, and wildlife impacts associated with data centers.
		assistance and the corresponding development obligations would be implemented and enforced by Development Agreement and Tax Abatement Agreement.
		• Additionally, there are anticipated 'ripple taxes' from this project, which is a tax revenue from increased economic activity associated with the project, such as:
		  ○ Increased visitor/lodging taxes;
		  ○ Increased sales and use taxes (e.g., construction workers and others spending money in the area)
		  ○ Increased spending power of local residents with elevated wages; and
		  ○ The potential for tax revenue from complimentary industries that co-locate.
		
		Future Development
		
		• The AUAR will identify potential environmental impacts and applicable regulatory frameworks and document the next steps, approvals, and permitting within the Mitigation Plan section of the AUAR. The project proposer will be required to follow the mitigation plan before, during, and after construction.
		• There are many environmental protections, approvals, and permits that are implemented and enforced through other agencies in addition to the City of Hermantown through existing state and local permitting, codes, and regulatory programs. Compliance monitoring and enforcement as part of those approvals occur outside the AUAR process through those responsible agencies. See Table 4 of the Final Scoping document for a list of anticipated approvals.
		
		Trends and Comparisons

Comment Theme	Summary	Response
		• This AUAR will evaluate a specific data center development scenario and document the assumptions and inputs to provide a worst-case development scenario and associated mitigation and next steps for approvals needed.
Economic Impacts and Community Benefits	**Unjustified Public Cost:** Comments question whether economic benefits justify indirect public costs, and tax incentives. **Community Protections and Benefits:** Comments questioning how the community will be protected, what accountability measures will be enforced, and if there are emergency plans in place for possible catastrophic events due to the data center. Some commenters state that economic impacts may be acceptable if protections are explicit and enforceable. **Neighborhood Impacts:** Comments express concern about changes to community character, traffic and construction, proximity to homes, displacement, and farms, property values, urban heat island effect, construction dust health impacts, and long-term quality of life.	**Unjustified Public Cost Response** • The evaluation of public costs, tax policy, or economic return on investment is outside the statutory scope of environmental review under MEPA and the AUAR does not determine the appropriateness of public expenditures, incentives, or land use priorities. **Community Protections Response** • The AUAR identifies potential environmental impacts and applicable regulatory frameworks and documents the next steps, approvals, and permitting within the Mitigation Plan section of the AUAR. The project proposer will be required to follow the mitigation plan before, during, and after construction. • There are many environmental protections, approvals, and permits that are implemented and enforced through other agencies in addition to the City of Hermantown through existing state and local permitting, codes, and regulatory programs. Compliance monitoring and enforcement as part of those approvals occur outside the AUAR process through those responsible agencies. See Table 4 of the Final Scoping document for a list of anticipated approvals. **Neighborhood Impacts Response** • The City has not included other land uses as an alternative scenario because that would be inconsistent with the City of Hermantown 2045 Comprehensive Plan, which guides this area as Business and Light

Comment Theme	Summary	Response
		Manufacturing (BLM) and allows for a data center with a special use permit. A special use permit also requires specific requirements around setbacks from other properties, noise, landscaping/screening, and lighting. • It is acceptable and possible for a developer/project proposer to develop a data center below the maximum development capacity identified in this AUAR document, but not over that amount otherwise an updated AUAR would be required. • There are several neighborhood considerations that fall within the environmental review scope that will be addressed in the AUAR such as water resources, air quality, traffic, noise and lighting. The project proposer will have to abide by all the city's development requirements for a data center to mitigate any land use conflicts.

Comments Proposing Alternatives	**Considerations of Alternatives Generally**
	
	Comments Suggesting Inclusion of a No-Build Alternative
	
	Comments Suggesting Mining Sites as an Alternative Location
	
	Comments Suggesting Coal Burning PowerPlants as Alternative Locations
	
	Comments Suggesting Alternative Data Center Development Scenarios
		Consideration of Alternatives Generally
		
		• We appreciate the participation and the presentation of alternative development scenarios for study in the AUAR.
		• The EQB Guidance specifies that an AUAR need not consider a proposed alternative where:
		  ○ The underlying need for or purpose of the project is not met.
		  ○ A significant environmental benefit over the proposed project is not provided; or
		  ○ Another alternative is likely to be similar in environmental benefits but will have less socioeconomic impact.
		
		Comprehensive Plan Consistent Scenarios May Be Considered in Lieu of a No-Build Scenario
		
		• EQB Guidance specifies that "the AUAR must include a scenario based on the existing comprehensive plan. This scenario takes the place of the no-build alternative required in an EIS."

Comment Theme	Summary	Response
		• The proposed development scenario is consistent with the city of Hermantown's Comprehensive Plan which provides that the site is consistent with use as light industrial development. **Comments Suggesting Development at Former Mining Sites or Brownfields** • Several comments generally suggested former mining sites as an alternative site for the proposed development. Without designating a specific site, it is difficult to determine whether these areas would meet the needs of the proposed project and will therefore not be studied in the AUAR. Many alternative site proposals also lacked specificity regarding any significant environmental benefits as compared to the Project site. • Further, project sites outside of the City of Hermantown would not meet the need or purpose of the project, which is a proposed data center campus in the City of Hermantown. **Comments Suggesting Development at Soon to be Decommissioned Coal Burning Power Plants** • A commenter suggested an alternative site for the proposed development in the City of Becker or in Itasca County at the sites of soon to be decommissioned coal burning power plants. Project sites outside of the City of Hermantown would not meet the need or purpose of the project, which is a proposed data center campus in the City of Hermantown. **Comments Suggesting Alternative Data Center Development Scenario** • Comments generally suggesting alternative development scenarios lacked specificity regarding any significant environmental benefits as compared to the Project site. The development scenario identified for study in the AUAR is intended to reflect the worst-case scenario

Comment Theme	Summary	Response
		for the purposes of analyzing potential impacts. Accordingly, alternative development scenarios will not be studied separately because the potential impacts and mitigation would be less than that identified for evaluation in the AUAR.
Energy Demand and Grid Impacts	Comments raise concerns about electricity demand, grid reliability, renewable energy commitments, impacts of power outages, and energy cost increases on taxpayers.	**Energy Demand and Grid Impacts Response** • Energy use, cost, and infrastructure needs will be addressed as a qualitative topic in the AUAR. • The project proposer operates highly energy efficient data centers with energy usage below industry average. Minnesota Power will provide the energy to the proposed data center campus, and the data center will be served under an existing regulated rate structure in compliance with the Minnesota law that ensures existing customers do not pay for costs associated with connecting and serving a new large customer and that the state's carbon-free electricity standard is met. • The project proposer has robust corporate sustainability objectives, including carbon free electricity goals. Additionally, this project will enable the development of 700 megawatts (MW) of new clean energy resources without increasing costs to Minnesota Power customers. These system assets, including 300 MW of wind energy and 400 MW of battery storage, will support progress toward Minnesota's carbon-free standard and strengthen the resilience of the electrical system for all Minnesota Power customers. In addition, Minnesota Power and the project proposer will work together to identify opportunities to deploy demand flexibility capabilities that can help reduce grid strain during peak times. Under its Energy Forward strategy, Minnesota Power has made significant progress toward meeting the requirements of Minnesota's carbon-free law, with customers receiving over 60% of energy from renewable sources today. • Data centers consume approximately 4% of US electricity, and new customers are required to submit plans, utilities and grid operators perform reliability studies and if needed, customers pay for grid

Comment Theme	Summary	Response
		improvements to support additional load of any kind. Minnesota Power has a robust load interconnection study process to ensure grid stability for any additional load being added. • Minnesota's grid planning and reliability has a regulated electricity system which is governed by laws and the Minnesota Public Utilities Commission (MPUC). For more information on this topic, see Minnesota Power's statement about the electric grid and data centers. • The AUAR will provide an overview of emergency backup generator needs assumptions, however; the AUAR will not be used to support any Air Permits or Backup Generation Site Permits (if any) required from state agencies. If any potential generation produces emissions (e.g., from generators) above the threshold for an air quality permit/environmental review, then any backup generation would be subject to additional environmental review beyond what is evaluated in this AUAR before approvals for backup generation could be issued. This would be a separate environmental review completed as design advances.
Sustainability and Resource Availability	Some comments note regional climate and resource availability as factors that could affect operational efficiency. Concerns about impact of construction on global resource availability, including mining.	**Sustainability and Resource Availability Response** • The AUAR will describe potential design strategies and sustainability measures to reduce emissions and project impacts. The AUAR will describe emission reductions from selected mitigation options. The project will implement sustainable measures described in the AUAR to the extent practicable. The project will be built in compliance with agency rules and requirements as well as city ordinances. • The project proposer operates highly energy efficient data centers with energy usage below industry average. Minnesota Power will provide the energy to the proposed data center campus, and the data center will be served under an existing regulated rate structure in compliance with the Minnesota law that ensures existing customers do not pay for costs associated with connecting and serving a new large customer and that the state's carbon-free electricity standard is met.

Comment Theme	Summary	Response
		• The project proposer has robust corporate sustainability objectives including carbon free electricity goals. • The project will not have an impact on global resource availability, including mining.
Expressions of Support or Opposition	Comments express general support for or opposition to the project without raising specific environmental issues.	**Expressions of Support or Opposition Response** • The project proposer and City recognize that comments reflect a range of public perspectives on the proposed data center. • This AUAR is not an endorsement or approval for any projects allowed under the development scenarios. See Table 4 of the Final Scoping Document for a comprehensive list of permits and approvals that would be required prior to construction.

Table 3: Public Commenter Themes

Comment Theme	Summary	Commenter Names
Environmental Impacts	Climate Change	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Alexandra Rees, Alyssa Burr, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Brian Fredrickson, Courtney Kerns, Debra Thorstensen, Emma Richtman, Gail Garrick, Hudson Kingston (CURE), Hunter Polanka, Leanna Goose, Jared Schminski, Jim Phillips, Jim Thor, Julie Athman Ernst, Julie O'Leary (W.J. McCabe Chapter IWLA), Kathleen Martin, Kiera Simmons, Kristen Schmitt, Luna Kivisto, Makenzie Henk, Megan Koblegarde, Melissa King, Michael Koppy and Carol Bonde, Nikki Ehlenbach, Patrick Rice, Peter Taylor, Rachel Poppe, Rebecca Gramdorf, Richard Hilton, Sandra Goode, Shelby Capacio, and Stop the Hermantown Data Center
	Hazardous Waste	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Chad Ronchetti/Travis Fristed/General notes, Debra Thorstensen, Emily and Saul Helgeson, Emma

Comment Theme	Summary	Commenter Names
		Richtman, Julie O'Leary (W.J. McCabe Chapter IWLA), Kandise Garrison, Peter Taylor, Rachel Poppe, Rebecca Gramdorf, Sarah L, Sue Anderson, and Stop the Hermantown Data Center
	Air Quality	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Allison Hafften, Andrea Thorstensen, Anna Estep, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Barbara Opal, Brea Schminski, Debra Thorstensen, Don Romano, Emma Richtman, Gail Garrick, Hudson Kingston (CURE), Leanna Goose, Jared Schminski, JT, Julie Athman Ernst, Kelsey Mack, Makenzie Henk, Mehgan Blair, Michael Koppy and Carol Bonde, Peter Taylor, Stop the Hermantown Data Center, Veggie Pear, and Wesley Sisson.
	Light Conditions	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Allison Klement, Andy, Anita F, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Barbara Opal, Emma Richtman, Gail Garrick, Hannah Plourd, Hudson Kingston (CURE), Julie O'Leary (W.J. McCabe Chapter IWLA), Michael Blake, Michael Koppy and Carol Bonde, Peter Leete (Starry Skies North), and Peter Taylor.
	Utilities and Infrastructure	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Allison Hafften, Brian Fredrickson, Hudson Kingston (CURE), Leanna Goose, Jennifer Kinler, Nick Rhinehart, Peter Taylor, Rebecca Gramdorf, Richard Hilton, Sheri Bergeron.
Water Resources and Wildlife	Water Supply, Use, and Protection	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Alicia Navetta, Allison Klement, Alexis Scarbrough, Amanda Mosiniak, Andrew Ensign, Barbara Opal, Bob K, Brent Notbohm, Colten Danelski, Don Romano, Eleanor Dolan, Elaine Mundle, Emma Richtman, Gail Garrick, Gall Garrick, Grace Aho, Hudson Kingston (CURE), Hunter Polanka, Leanna Goose, Isaac Sullivan, James Thorstensen, Jo Anne Bates, John Lenczewski (MN Trout Unlimited), John P. Lenckewski (Minnesota Trout Unlimited), John Swanstrom, Josh Borchardt, JT, Julie Athman Ernst, Kathleen Martin, Kelsey Mack, Ken, Kiera Simmons, Kyle Lindblad, Lisa Fizpatrick, Luna Kivisto, Makenzie Henk, Mark Anderson, Marshall Boone, Mecciapieper, Mehgan Blair, Michael Blake, Michelle Markell, Natzero, Nikki Ehlenbach, Peter Taylor, Rebecca Gramdorf, Ryan Buus, Savannah Davis, Sharon and Brett Lundberg, Shelby Capacio, Stacy Swanstrom, Stacey G, Stop the Hermantown Data Center, Stowhawk, Tom Bates, Veggie Pear, and Wesley Sisson.

Comment Theme	Summary	Commenter Names
	Water Quality and Contamination	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Alicia Navetta, Amelia Cohoes, Anna Estep, Barbara Opal, Chad Ronchetti/Travis Fristed/General notes, Chris Rourke, Coryl, Dawn LaPointe, Debra Thorstensen, Dylan Koltz-Hale, Eleanor Dolan, Emma Richtman, Grace Aho, Hunter Polanka, Leanna Goose, Jeremy Thompson, John P. Lenckewski (Minnesota Trout Unlimited), Judy Avis Granmo, Julie O'Leary (W.J. McCabe Chapter IWLA), Kelsey Mack, Kristen Schmitt, Luna Kivisto, Mecciapieper, Megan Koblegarde, Nick Rhinehart, Peter Taylor, RaeAnn Nordwall Johnson, Rebecca Gramdorf, Sandra Goode, Sarah Shelerud, Stop the Hermantown Data Center, Tom Bates, and Veggie Pear.
	Wetlands Impact	Allison Hafften, Allison Klement, Andy, Barbara Opal, Beam Baker, Brian Bergeron, Chris Rourke, Dawn LaPointe, Emma Richtman, Evan Hawbaker, Hannah Plourd, Howard Jacobson, John P. Lenckewski (Minnesota Trout Unlimited), Julie Athman Ernst, Julie Maurer, Kathleen Martin, Kelsey Mack, Kirk Deen, Mecciapieper, Michael Nordin, Nick Rhinehart, Nicole Charles, Rachel Poppe, Rebecca Gramdorf, and Richard Hilton.
	Wildlife	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Alexis Scarbrough, Amanda Mosiniak, Amelia Cohoes, Anna Estep, Barbara Opal, Bob K, Brent Notbohm, Brian Ruggle, Chickiebabe, Collin Davis, Debra Thorstensen, Elaine Mundle, Emma Richtman, Ethan Kilburg, Gail Garrick, Grace Aho, Harry Redmann, Hudson Kingston (CURE), Hunter Polanka, Leanna Goose, Iijkfan, Jennie Lindberg, Jeanette Sandstrom, John Lenczewski (MN Trout Unlimited), John Swanstrom, JT, Julie Athman Ernst, Julie Maurer, Julie O'Leary (W.J. McCabe Chapter IWLA), Judy Avis Granmo, Kate Moran, Kelly Beaster, Kelsey Mack, Lisa Parks, Makenzie Henk, Megan Koblegarde, Mecciapieper, Michael Nordin, Michelle Markell, Mike Ralph, Monica Frazer, Natzero, Nicole Anderson, Nicole Charles, Nikki Ehlenbach, Ninja Hamster, Peter Hafften, Peter Taylor, Rebecca Gramdorf, Richard Hilton, Shelley Chandler, Shelley Richards (HDR), Sheri Bergeron, Stacy Swanstrom, Stacey G, Stop the Hermantown Data Center, Sue Anderson, Susan Nordin, Veggie Pear, and Wesley Sisson.
Noise Impacts	Operational Noise	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Alexis Scarbrough, Allison Klement, Amelia Cohoes, Anna Estep, Barbara Opal, Bob

Comment Theme	Summary	Commenter Names
		K, Brea Schminski, Brian Fredrickson, Chad Ronchetti/Travis Fristed/General notes, Chance Lasher, Debra Thorstensen, Dylan Koltz-Hale, Eleanor Dolan, Elaine Mundle, Emily and Saul Helgeson, Eric Enberg, Gail Garrick, Howard Jacobson, Iijkfan, Joanne Bates, Joycanne Busche Hoyem, JT, Julie Athman Ernst, Kiera Simmons, Lisa Fizpatrick, Makenzie Henk, Marshall Boone, Mathew Murphy, Megan Koblegarde, Michael Koppy and Carol Bonde, Michael Nordin, Michelle Markell, Mike Ralph, Natzero, Nick Rhinehart, Nikki Ehlenbach, Patrick Rice, Peter Taylor, RaeAnn Nordwall Johnson, Rebecca Gramdorf, Richard Hilton, Sandra Goode, Sarah Shelerud, Sheri Bergeron, Stop the Hermantown Data Center, Susan Nordin, Tom Bates, Trevhonte Opack, and Wesley Sisson
	Construction Noise and Duration	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Allison Hafften, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Barbara Opal, Bob K, Brian Bergeron, Debra Thorstensen, Emma Richtman, Jackie Dolentz, Jesse Dunsmoor, Julie Athman Ernst, Peter Hafften, Peter Taylor, Rebecca Gramdorf, Richard Hilton, Sarah L, Stop the Hermantown Data Center, and Tom Bates
Cultural Resources		Chad Ronchetti/Travis Fristed/General notes, Debra Thorstensen, Emma Richtman, Hudson Kingston (CURE), Leanna Goose, Jim Thor, Michael Chidley and Stacy Bumback (Jacobs), Stop the Hermantown Data Center, Todd Guerrero (Kutak Rock LLP)
Environmental Review Process	Request for Environmental Impact Statement	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Alicia Navetta, Allison Hafften, Allison Klement, Andrea Thorstensen, Angela Scott, Barbara Opal, Betsy Crowther, Bob K, Brea Schminski, Brian Bergeron, Brian Fredrickson, Bruce Derauf, Catherine Kohlmeier, Chad Ronchetti/Travis Fristed/General notes, Chris Rourke, Collin Davis, Courtney Kerns, David Thorton, David Wahlberg, Debra Thorstensen, Don Romano, Elizabeth Albers, Elizabeth Weigler, Emily and Saul Helgeson, Emma Richtman, Gail Garrick, Gail Wahlberg, Harry Redmann, Hudson Kingston (CURE), Iijkfan, Jeanette Sandstrom, Jennifer Kinler, Jeremy Thompson, Jim Phillips, Judith Derauf, Julie Athman Ernst, Julie O'Leary (W.J. McCabe Chapter IWLA), Kathleen Martin, Kelly Beaster, Ken, Lee Warner, Lisa Fizpatrick, Makenzie Henk, Matt Butorac, Michael Blake, Michael Nordin, Michelle Markell, Monica Frazer, Nfbecher, Peter Hafften, Rachel Poppe, RaeAnn Nordwall Johnson, Rebecca Gramdorf, Richard Hilton, Robert Kohlmeier,

Comment Theme	Summary	Commenter Names
		Sarah L, Sarah Shelerud, Shelby Capacio, Sheri Bergeron, Stop the Hermantown Data Center, Sue Anderson, and Susan Nordin
	Lack of Project Clarity	Ahnika Berg, Allison Hafften, Angela Scott, Anna Nistler, Catherine Kohlmeier, Dylan Koltz-Hale, Emma Richtman, Harry Redmann, Hudson Kingston (CURE), Iijkfan, Jim Thor, Julie Athman Ernst, Kelsey Mack, Ken, Kirk Deen, Megan Koblegarde, Natzero, Nick Rhinehart, Nicole Anderson, Peter Taylor, Richard Hilton, Sarah L, Stop the Hermantown Data Center, Sue Anderson, and Susan Nordin
	Desire for Additional Evaluation	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Andrea Thorstensen, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Betsy Crowther, Bob K, Brian Fredrickson, Chickiebabe, Debra Thorstensen, Elizabeth Albers, Elizabeth Weigler, Emily and Saul Helgeson, Emma Richtman, Harry Redmann, Hudson Kingston (CURE), Jennifer Hewitt, Jo Anne Bates, Joeleen Torvick Hacker, John P. Lenckewski (Minnesota Trout Unlimited), Julie Athman Ernst, Julie O'Leary (W.J. McCabe Chapter IWLA), Kathy Riddle, Lee Warner, Lisa Parks, Luna Kivisto, Marshall Boone, Mehgan Blair, Michael Chidley and Stacy Bumback (Jacobs), Natzero, Nick Rhinehart, Nicole Anderson, Peter Leete (Starry Skies North), Rachel Poppe, Rebecca Gramdorf, Richard Hilton, Sarah L, Shelley Richards (HDR), Stop the Hermantown Data Center, Sue Anderson, Trevhonte Opack, and Wesley Sisson
	Language, Labeling, and Process	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Bob K, Chad Ronchetti/Travis Fristed/General notes, Hudson Kingston (CURE), Julie Athman Ernst, Richard Hilton, Shelby Capacio, Stop the Hermantown Data Center, Sue Anderson, and Susan Nordin
	Study Area and Scope	Bob K, Brhafften, Brian Bergeron, Gail Garrick, Hudson Kingston (CURE), Julie Athman Ernst, Peter Hafften, Rebecca Gramdorf, Sarah L, Sheri Bergeron, Stop the Hermantown Data Center, and Wesley Sisson
Land Use	Compatibility and Location	Ahnika Berg, Allison Klement, Angela Scott, Anna Estep, Bob K, Brian Huberty, Debra Thorstensen, Dorian Levine, Dylan Koltz-Hale, Elizabeth Albers, Emily and Saul Helgeson, Emily Gustafson, Emma Richtman, Ethan Kilburg, Gall Garrick, Hannah Dineley, Harry Redmann, Jennifer Hewitt, Jennifer Kinler, Jesse Dunsmoor, Jim Thor, Jo Anne Bates, John Lenczewski (MN Trout Unlimited), John P.

Comment Theme	Summary	Commenter Names
		Lenckewski (Minnesota Trout Unlimited), Joseph Barnstorf, Josh Sandstrom, Joycanne Busche Hoyem, Kelsey Mack, Kirk Deen, Megan Koblegarde, Melissa King, Michael Nordin, Michelle Markell, Nick Rhinehart, Nicole Anderson, Pamela Raiho, Peter Taylor, Rachel Poppe, Rebecca Gramdorf, Robert Kohlmeier, Ryan Marquez, Stop the Hermantown Data Center, and Walt Prahl
	Long-Term Conditions and Post-Operational Considerations	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Alexandra Rees, Barbara Opal, Bob K, Brian Fredrickson, Coryl, Elizabeth Weigler, Emma Richtman, Eric Enberg, Gail Garrick, Jesse Dunsmoor, Josh Borchardt, Judy Avis Granmo, Julie Athman Ernst, Kiera Simmons, Lee Warner, Mackenzie Joice, Makenzie Henk, Mecciapieper, Mehgan Blair, Michael Nordin, Pamela Raiho, Patrick Rice, Peter Taylor, Sandra Goode, Shelby Capacio, Stop the Hermantown Data Center, Stowhawk, and Trevhonte Opack
Transparency		Abigail Hencheck (Minnesota Center for Environmental Advocacy), Alexis Scarbrough, Allison Hafften, Allison Klement, Andy Olson, Angel Dobrow, Anita F, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Brian Bergeron, Brian Dourn, Brian Fredrickson, Collin Davis, David Wahlberg, Elaine Mundle, Elliot McDill, Emily and Saul Helgeson, Emma Richtman, Hannah Plourd, Hudson Kingston (CURE), Jeanette Sandstrom, Jeanne and Eugene Lahn, Jennifer Hewitt, Jennifer Kinler, John Swanstrom, Josh Borchardt, Judith Derauf, Judy Avis Granmo, Julie O'Leary (W.J. McCabe Chapter IWLA), Kathy Riddle, Katie Jorgensen, Ken, Kiera Simmons, Lois Aho, Matt Butorac, Michael Blake, Monica Frazer, Nancy Sobczak, Nicole Charles, Nikki Ehlenbach, Richard Hilton, Robert Carleton, Sarah L, Shelley Chandler, Sheri Bergeron, Stacey G, Stacy Swanstrom, Stop the Hermantown Data Center, Tom Bates, Trevhonte Opack, and Wesley Sisson
Public Engagement and Process Concerns		Amanda Mosiniak, Angel Dobrow, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Betsy Crowther, Bob K, Brian Fredrickson, Brian Ruggle, Chickiebabe, Dylan Koltz-Hale, Elaine Mundle, Elizabeth Weigler, Elliot McDill, Emma Richtman, Harry Redmann, Hudson Kingston (CURE), Leanna Goose, Jared Schminski, Jennie Lindberg, Jennifer Kinler, Jim Phillips, Josh Sandstrom, Ken, Lisa Parks, Luna Kivisto, Mike Ralph, Nick Rickard, Rebecca Gramdorf, Richard Hilton, Sandra Goode, Sarah L, Sarah Shelerud, Shelley Chandler, Simon Erdmann, and Susan Nordin

Comment Theme	Summary	Commenter Names
Broader Social, Technological, or Ethical Topics	AI and Technology	Alexandra Rees, Amanda Mosiniak, Angel Dobrow, Chance Lasher, Eric Enberg, J Schmig, JT, Julie Athman Ernst, Mark Anderson, Michael Koppy and Carol Bonde, Monica Frazer, Tom Bates, and Trevhonte Opack
	Corporate Influence	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Amelia Cohoes, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Bruce Derauf, Cece Boyle, Elliot McDill, Gall Garrick, Hunter Polanka, Jennie Lindberg, Josh Borchardt, JT, Julie Athman Ernst, Michelle Markell, Nathan Acker, Natzero, Rachel Poppe, Rebecca Gramdorf, Sarah L, Sarah Shelerud, Stowhawk, Tom Bates, and Wesley Sisson
	Future Development	Brad Orn, Brian Huberty, Howard Jacobson, Jesse Dunsmoor, Julia Wisehart
	Trends and Comparisons	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Alexis Scarbrough, Amanda Mosiniak, Mackenzie Joice
Economic Impacts and Community Benefits	Unjustified Public Cost	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Adin Briggs, Ahnika Berg, Alex Breilein, Alexis Scarbrough, Amanda Mosiniak, Andy Olson, Angel Dobrow, Anna Nistler, Betsy Crowther, Bob K, Brian Dourn, Brian Fredrickson, Bruce Derauf, Catherine Kohlmeier, Collin Davis, Coryl, David Wahlberg, Don Romano, Elaine Mundle, Elizabeth Albers, Elliot McDill, Emma Richtman, Evan Hawbaker, Harley S, Harry Redmann, Hunter Polanka, Jennifer Kinler, Judith Derauf, Judy Avis Granmo, Julie Athman Ernst, Julie Maurer, Katie Jorgensen, Ken, Kiera Simmons, Kyle Lindblad, Luna Kivisto, Mackenzie Joice, Marshall Boone, Megan Koblegarde, Michael Koppy and Carol Bonde, Miigis Gonzalez, Nikki Ehlenbach, Patrick Rice, Peter Taylor, Ramona Radosevich, Rebecca Gramdorf, Robert Carleton, Sandra Goode, Shelby Capacio, Shelley Chandler, Stacey G, Stop the Hermantown Data Center, Trevhonte Opack, Wendy and Jerry Waha, and Wesley Sisson
	Community Protections and Benefits	Adin Briggs, Ahnika Berg, Chickiebabe, Don Romano, Eleanor Dolan, Emily and Saul Helgeson, Emma Richtman, Eric Enberg, Howard Jacobson, Jesse Dunsmoor, Jo Anne Bates, Josh Sandstrom, Judy Avis Granmo, Julia Wisehart, Julie Athman Ernst, Ken, Luna Kivisto, Natzero, Patrick Rice, Peter Taylor, RaeAnn Nordwall Johnson, Richard Hilton, Sarah L, Stop the Hermantown Data Center, and Walt Prahl
	Neighborhood Impacts	Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Alexandra Rees, Allison Hafften, Amelia Cohoes, Angel Dobrow, Anita F, Anna

Comment Theme	Summary	Commenter Names
		Estep, Anna Nistler, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Beam Baker, Betsy Crowther, Brea Schminski, Catherine Kohlmeier, Cece Boyle, Chance Lasher, Chris Rourke, Dorain Levine, Elaine Mundle, Elizabeth Albers, Elizabeth Weigler, Emily and Saul Helgeson, Emma Richtman, Eric Enberg, Evan Hawbaker, Grace Aho, Hannah Dineley, Hudson Kingston (CURE), Hunter Polanka, Jeanne and Eugene Lahn, Jo Anne Bates, Joanne Bates, Joeleen Torvick Hacker, John Swanstrom, Jon Amst, Josh Borchardt, Josh Sandstrom, JT, Judith Derauf, Judy Avis Granmo, Karen Holden, Kathleen Martin, Kelsey Mack, Ken, Lisa Parks, Lois Aho, Melissa King, Michael Nordin, Miigis Gonzalez, Nicole Anderson, Nicole Charles, Pamela Raiho, Peter Hafften, Peter Taylor, Richard Hilton, Ryan Marquez, Sandra Goode, Sarah L, Sarah Shelerud, Shelley Chandler, Stacy Swanstrom, Stop the Hermantown Data Center, Sue Anderson, Susan Nordin, Veggie Pear, and Yin Bloodburn
Energy Demand and Grid Impacts		Abigail Hencheck (Minnesota Center for Environmental Advocacy), Ahnika Berg, Alexis Scarbrough, Allison Klement, Amanda Mosiniak, Andrew Ensign, Andy Olson, Anna Nistler, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Brian Bergeron, Brian Fredrickson, Bruce Derauf, Chance Lasher, Collin Davis, Eleanor Dolan, Emily and Saul Helgeson, Evan Hawbaker, Gail Garrick, Harry Redmann, Howard Jacobson, Hudson Kingston (CURE), Hunter Polanka, Leanna Goose, Jeanette Sandstrom, Jim Phillips, Jo Anne Bates, Josh Borchardt, JT, Judy Avis Granmo, Julie Athman Ernst, Kelly Beaster, Kelsey Mack, Ken, Luna Kivisto, Mark Anderson, Marshall Boone, Mecciapieper, Mehgan Blair, Michael Koppy and Carol Bonde, Nick Rhinehart, Nikki Ehlenbach, Patrick Rice, Peter Taylor, RaeAnn Nordwall Johnson, Rebecca Gramdorf, Richard Hilton, Sarah L, Sharon and Brett Lundberg, Shelby Capacio, Shelley Chandler, Stop the Hermantown Data Center, Susan Clandon, Tom Bates, and Trevhonte Opack
Sustainability and Resource Availability		Abigail Hencheck (Minnesota Center for Environmental Advocacy), Brian Huberty, Howard Jacobson, Jesse Dunsmoor, Julia Wisehart, Walt Prahl
Expressions of Support or Opposition		Alexandra Rees, Amanda Mosiniak, Anna Nistler, Anonymous, Ava Corey-Gruenes (Health Professionals for a Healthy Climate), Brian Huberty, Cece Boyle, Chance Lasher, Chris Rourke, Dawn LaPointe, Elaine Mundle, fartypoo22@vahoo.com, Grace Aho, Harley S, Howard Jacobson, J Schmig, Jesse Dunsmoor, Josh Borchardt,

Comment Theme	Summary	Commenter Names
		Julie Maurer, Karen Holden, Karla Stevens, Kathy Riddle, Kiera Simmons, Lindsey Ploetz, Matt Salminen, Nick Rickard, Nikki Ehlenbach, Panela Pagano, Peter Taylor, RaeAnn Nordwall Johnson, Robert Pagano, Samantha Meyer, Sonia, Stacey G, Stop the Hermantown Data Center, Stowhawk, Sue Anderson, Sue Browne, Tyler Bonam, and Walt Prahl

Appendix C:
Comment Letters

From: Tim Beaster
To: AUARcomments
Cc: R.C. Boheim
Subject: SSLSWCD Comments on Updated Hermantown Industrial AUAR Scoping Document
Date: Thursday, April 23, 2026 11:52:57 AM
Attachments: SSLSWCD Comment on Updated Hermantown Industrial AUAR Scoping Document.pdf

Hi Eric
We are resubmitting our comments on the AUAR Scoping Document for this updated version - see attached. Thank you for the opportunity and please reach out if you would like to collaborate on resource protection strategies.

-Tim

--

Tim Beaster

Conservation Specialist

South St. Louis Soil and Water Conservation District

4215 Enterprise Circle
Duluth, MN 55811

(218) 723-4867

South St. Louis
SOIL & WATER CONSERVATION DISTRICT

April 23, 2026

Eric Johnson
Community Development Director
City of Hermantown
5105 Maple Grove Road
Hermantown, MN 55811

Re: Comment on **Updated** Hermantown Industrial AUAR Scoping Document

Dear Mr. Johnson,

On behalf of the South St. Louis Soil and Water Conservation District (SWCD), I appreciate the opportunity to comment on the **Updated** Hermantown Industrial AUAR Scoping Document. I write to express concern regarding the potential impacts of the proposed development on West Rocky Run Creek, a designated trout stream that flows through the western portion of the AUAR study area. This creek is the highest quality coldwater fishery in the Hermantown/Duluth/Proctor metropolitan area and supports sensitive aquatic species dependent on clean, cold, well-oxygenated water. Protection of this resource is of critical importance to the region's ecological integrity and recreational value.

At the same time, West Rocky Run Creek is listed on the Minnesota Pollution Control Agency's 303(d) list of impaired waters due to E. coli contamination, resulting in an impairment for aquatic recreation. This dual status, as both a high-value trout stream and an impaired waterbody, makes it especially vulnerable to land use changes that may increase sediment, bacteria, nutrients, or thermal pollution.

The site in question is situated on top of deep glacial till soils that we assume are relatively permeable and allow precipitation to infiltrate, contributing to the cold, groundwater-fed baseflow that makes West Rocky Run Creek the highest-value trout stream in the area. Given the scale and potential intensity of the proposed 1.8 million square feet of industrial development on this glacial till deposit, and the amount of grading and infrastructure work that will be required, we urge the City of Hermantown to ensure the AUAR includes:

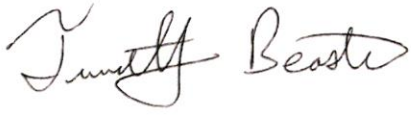
- A detailed hydrologic analysis that models both pre- and post-development conditions to understand potential decreases in precipitation infiltration and increases in runoff volume, temperature, and pollutant loading to West Rocky Run Creek.

- Enhanced stormwater treatment and volume reduction practices, such as infiltration-based systems, vegetated swales, and constructed wetlands that specifically account for the trout stream's sensitivity to thermal and pollutant inputs.
- Rigorous protection of riparian buffers and wetlands, particularly near the mapped DNR Public Watercourse segments and floodplain areas, to preserve natural filtration and shading functions.
- A clear strategy to help address the existing E. coli impairment, potentially through Low Impact Development (LID) techniques and enhanced construction-phase erosion and sediment control.
- Coordination with the MPCA and MNDNR to ensure compliance with anti-degradation policies and trout stream protections.

West Rocky Run Creek is a rare and valuable resource. The planning and mitigation strategies adopted in this AUAR will shape the health of this stream for decades to come. We strongly urge that the AUAR treat protection of this waterbody as a top-tier priority and incorporate best practices to avoid further degradation.

Thank you for your consideration of these comments. We would be pleased to collaborate further on resource protection strategies during AUAR development.

Sincerely,



Tim Beaster
Conservation Specialist
South St. Louis Soil and Water Conservation District

From: CH-Eric Johnson
To: CH-Ed Worden
Subject: FW: Hermantown AUAR Update: MNDNR Comments
Date: Thursday, April 30, 2026 2:42:40 PM
Attachments: image003.png
image004.png
image005.png
image006.png
2026-04-30-HermantownIndustrialAUAR_DATACENTER-DNRCommLetterFINAL.pdf

---

Looks like this one did not go to the AUAR Comments.

Thanks
Eric

From: Parson, Jessica (DNR) <jessica.parson@state.mn.us>
Sent: Thursday, April 30, 2026 2:28 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>
Cc: Spicer, Clarissa (She/Her/Hers) (DNR) <clarissa.spicer@state.mn.us>; Schindler, Darrell (DNR) <darrell.schindler@state.mn.us>; Speldrich, Bri (DNR) <Brianna.Speldrich@state.mn.us>; Lindgren, Heidi (DNR) <heidi.lindgren@state.mn.us>; Wilfond, Dan (DNR) <dan.wilfond@state.mn.us>; Joyal, Lisa (DNR) <lisa.joyal@state.mn.us>; Root, Greg (DNR) <greg.root@state.mn.us>
Subject: Hermantown AUAR Update: MNDNR Comments

Good afternoon Eric,

Please see the attached comments from the Minnesota Department of Natural Resources regarding the Hermantown AUAR update. Please reach out if you have any questions.

Thank you for the opportunity to review.

Jessica Parson
Regional Environmental Assessment Ecologist | Ecological and Water Resources

Minnesota Department of Natural Resources
4805 Rice Lake Rd
Duluth, MN 55803

Phone: 218-328-8826
Email: Jessica.Parson@state.mn.us
mndnr.gov





Minnesota Department of Natural Resources
Northeast Regional Headquarters
1201 East Highway 2, Grand Rapids, MN 55744

April 30th, 2026

Eric Johnson
City of Hermantown- Community Development Director
5105 Maple Grove Road
Hermantown, MN 55811
Phone: 218-729-3618
Email: eric.johnson@hermantownmn.com

RE: Updated Hermantown Industrial Alternative Urban Areawide Review (AUAR)

Dear Mr. Johnson,

The Minnesota Department of Natural Resources (MNDNR) has conducted a review of the updated **Hermantown Industrial Alternative Urban Areawide Review (AUAR).** We appreciate the opportunity to review this project and encourage project proposers to continue their coordination with MNDNR and other agencies to protect natural resources and recreational opportunities.

Environmental Review and Cumulative Effects

Under Minnesota law, including updates enacted in 2025, large electric customers must meet various requirements, which may include: Filing or participating in an Electric Service Agreements (ESA), demonstrating compliance with applicable state statutes, and undergoing environmental review if specified thresholds are exceeded. This can help to ensure their electric service needs do not harm system reliability or other ratepayers. More information on environmental review and data centers is found on the Environmental Quality Board's website.

On March 26, 2026, Minnesota Power submitted to the Minnesota Public Utilities Commission a Petition seeking approval of a new ESA between Harmony Group, LLC, a subsidiary of Alphabet, Inc. (i.e. "Google") and Minnesota Power. The Agreement establishes electric service for a new data center facility, to be built in Hermantown, Minnesota under the Company's Large Power Service Schedule with an initial term of 15 years.

Minnesota Power has recently undergone planning for several projects requiring environmental review in the same geographic location/immediately adjacent to this project for the purpose of updating infrastructure and increasing energy transmission capabilities. Details on these projects are available on Minnesota Power's website.

1.) *HVDC Modernization Project:* In August 2024, Minnesota Power proposed to modernize the Minnesota terminal of the existing Square Butte high voltage direct current (HVDC) line and implement the latest technology, new buildings and electrical infrastructure are proposed on a new site near the existing **Arrowhead Substation** in St. Louis County, MN**. The St. Louis County Substation will be connected to the existing Arrowhead Substation** by two parallel 230 kV HVTLs less than one mile in length.

2.) *ISA Project:* The Iron Range – St. Louis County – Arrowhead (ISA) Transmission Project is a proposed approximately 67.5-mile-long, 345-kV transmission line from Minnesota Power's **Iron Range Substation** near Grand Rapids, Minnesota, to its **St. Louis County Substation** near Hermantown, Minnesota, with a connection to American Transmission Company's nearby **Arrowhead Substation**.
   a. Note, a substantial expansion of the **Iron Range Substation** on the western terminus of the ISA is also underway as part of the Northland Reliability Project, which is just beginning Phase 1 of construction.

Considering the current projects that are currently under review and construction by Minnesota Power in this geographic area, and the direct tie as indicated by the ESA between Minnesota Power and Google, it appears that there should be more robust information and analysis of cumulative effects for this project.

Public Water Resources

MNDNR determined that Hermantown's shoreland ordinance does not comply with state standards and criteria for shoreland management and sent a notice to the city to amend their ordinance within 1 year of that letter dated October 1st, 2025. If you have questions about this, please contact Area Hydrologist Bri Speldrich (Brianna.Speldrich@state.mn.us).

A DNR public water (kittle # S-002-010-003.4-001) is present within the study area and is a tributary to the Midway River which is a designated trout stream. According to the DNR Watershed Health Assessment Framework (WHAF), this site is largely within the 0316400 catchment. The WHAF shows that the 2021 land cover class for this catchment was 12.8% developed (1.37 square miles) and 79.3% forest and wetland (8.44 square miles). This proposal will significantly increase impervious surface in this catchment in a relatively short period of time and the WHAF shows that this catchment already has a low ecological health score for impervious cover. Increases in impervious cover can have cascading negative effects on stream water quality, connectivity, geomorphology, and biology.

The AUAR refers to the Minnesota Spring Inventory, however, this inventory is limited, and springs are a common occurrence in trout stream headwaters in this area. In August 2025, MPCA published a report titled Midway Watershed Protection Study. The report notes the presence of prominent groundwater springs in the vicinity of this site. Altering groundwater discharge areas could have unanticipated impacts on the nearby trout streams. It is unclear if an on-site survey for springs have been conducted. Please describe efforts that have occurred and that are planned to occur to survey in and around the project site for groundwater springs. Large-scale land conversion also could alter groundwater recharge at the site. Please describe how this will be evaluated/ monitored at this site over time.

A better understanding/evaluation of the interaction between the landscape, shallow groundwater, and trout streams adjacent to the site would inform whether the development has the potential to impact groundwater quality, quantity, and the nearby trout streams. Additional site data and investigations (wetland/groundwater monitoring, spring inventory, modeling, etc.) should be considered to determine how this development scenario will affect the environment.

Converting large swaths of land from wetland/forest to developed impervious surface in a relatively short period could have unanticipated effects on the adjacent trout streams. Trout streams are sensitive features that are highly vulnerable to the effects of climate change and urbanization. The AUAR briefly discussed the urban heat

island affect, but it did not discuss how this phenomenon has been found to also increase the temperature of shallow groundwater in some areas. Infiltration of warm surface runoff from impervious surfaces can also transfer heat to shallow groundwater. This is a concern because shallow groundwater provides essential cool baseflow to trout streams. Brook trout, which are found within the watershed's trout streams, are physiologically dependent on cold water and increased water temperatures or reduced water quality can cause stress and mortality. It is unclear with the current data whether any other activities or underground infrastructure at the site have the potential to warm shallow groundwater. Please explain what additional monitoring is planned to address this concern.

Trout Stream Considerations

The proposed development has several significant permitting concerns, given the proximity to public waters and associated cold-water resources (Midway River S-2-10 and West Rocky Run Creek S-2-10-3, in particular) that support naturally reproducing populations of Brook Trout. These areas should be considered as Areas of Environmental Sensitivity and should require stringent levels of regulatory protection. Restrictions should include fisheries work windows that would prohibit in-water work from Sept 15-June 30 annually and the implementation of natural stream channel design and fish passage considerations through constructed stream crossings.

Water appropriation and industrial discharge plans appear to have had efforts to minimize impacts via plans to utilize municipal water and discharge to treatment facilities, according to "Scenario 1" detailed on page 51 of the original AUAR from October 2025. If another scenario, or changes are pursued that would utilize groundwater, discharge effluent to surface waters, create surface holding ponds or anything else substantially changes from Scenario 1, it is essential that DNR has an opportunity to review and provide additional comments as these change orders would likely be very detrimental to nearby sensitive aquatic natural resources.

Stormwater management will require a higher-level infrastructure to be compliant with sedimentation, point-source pollution, and thermal tolerances near protected trout streams. Considerations regarding these concerns were discussed in post-construction stormwater management section of the AUAR.

Numerous streams in the Duluth area are impaired for chloride, and Best Management Practices (BMPs) to reduce the likelihood of additional impacts to Rocky Run or Midway rivers should be implemented. A chloride management plan was mentioned as part of the original Hermantown AUAR but was not provided in this updated AUAR. Please provide the chloride management plan.

The mitigation plan presented (page 61) is inadequate and suggests that the AUAR will include a detailed plan, but it was not provided in the updated AUAR. Please provide the mitigation plan. Instructions for both draft and final AUAR documents clearly state that an explicit mitigation plan is required. Please provide the Mitigation Plan.

Additionally, given large change to impervious surfaces, proposed loss of existing wetlands performing important ecological functions, and sensitive nearby cold-water resources with relatively small watersheds, additional site data and hydrologic modeling should be collected into the future to help demonstrate to resource managers and the public that the proposed development will indeed effectively mitigate for

sedimentation, temperature or other deleterious impacts and will not result in degradation of nearby biotic resources or stream stability.

Water Appropriation Considerations

The scoping AUAR states the source of the water is the City of Hermantown, and Hermantown purchases their water from the City of Duluth. The DNR should be notified if that is not correct or if the situation changes. MN Statute103G.265 Subd. 5 strongly encourages that the project proposer contacts MNDNR if the proposed water use is greater than 100 million gallons per year to evaluate and coordinate water sustainability. MNDNR encourages the developer to incorporate water reuse systems wherever possible. Especially given the ecological context and proximity to trout streams. Water appropriation needs may require further coordination with MNDNR water appropriation hydrologist, Heidi Lindgren (Heidi.Lindgren@state.mn.us).

The following items should be included in the final AUAR to ensure compliance with MN Statute 103G.271 Subd. 5b

- Volume of water anticipated to be used on an annual basis (average and maximum) as well as daily average and daily maximum.
- Volume of water that will be required for data center cooling needs.
- Volume of water for sanitary needs and irrigation.
- General cooling system type (i.e. closed loop, hybrid, etc).
- Water conservation measures that are being considered (efficient fixtures, water recycling, etc.).

Rare Species Concerns

West Rocky Run flows through the project area and into the Midway River. The Midway River has records of rare mussel species near the proposed project; we recommend the use of stringent erosion and sediment control measures, including evaluation and consideration as stormwater management plans are developed, to limit potential negative impacts to rare mussels. Please follow the recommendations outlined in your current NHIS letter. Please note that NHIS review is only valid for 1 year and should be re-assessed if work is completed beyond this timeframe.

Thank you for the opportunity to review the updated **Hermantown Industrial Alternative Urban Areawide Review (AUAR).** Please contact me with any additional questions. I can be reached at (218) 328-8826 or via email at: jessica.parson@state.mn.us .

Sincerely,



Jessica Parson
NE Regional Environmental Assessment Ecologist, MN DNR

CC:
Clarissa Spicer
Lisa Joyal
Darrell Schindler
Greg Root
Dan Wilfond
Heidi Lindgren
Bri Speldrich
Jessica Parson

From: CH-Eric Johnson
To: CH-Ed Worden
Subject: FW: Comment Letter Updated Hermantown Industrial AUAR
Date: Thursday, April 30, 2026 2:02:34 PM
Attachments: image001.png
Comment Letter Updated Hermantown Industrial AUAR.pdf

Hi Ed, here is an AUAR comment from the MPCA.

Thanks
Eric

From: Blackstock, Mary (MPCA) <mary.blackstock@state.mn.us>
Sent: Thursday, April 30, 2026 2:01 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>
Cc: Green, Chris (MPCA) <chris.green@state.mn.us>
Subject: Comment Letter Updated Hermantown Industrial AUAR

Greetings,

Please view the attached document for the Minnesota Pollution Control Agency's comment letter for the project referenced above. If you have any questions, please reach out to Chris Green.

Thank you,

Mary Blackstock / Office & Admin Specialist Senior
EAO/RMAD Business Systems Unit 1
Publication Support Team
Phone: *651-757-2207* ***Email:*** *mary.blackstock@state.mn.us*
https://lorax.pca.state.mn.us/resources/communications/publication-team
MINNESOTA POLLUTION CONTROL AGENCY

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April 30, 2026

Eric Johnson
City of Hermantown
5105 Maple Grove Road
Hermantown, MN 55811
Eric.Johnson@hermantownmn.com

RE: Updated Hermantown Industrial AUAR - Alternative Urban Areawide Review

Dear Eric Johnson:

Thank you for the opportunity to review and comment on the Alternative Urban Areawide Review (AUAR) for the Updated Hermantown Industrial AUAR project (Project) located in Saint Louis County, Minnesota. The Project consists of an area totaling approximately 278 acres on 26 parcels in the City of Hermantown, St. Louis County, Minnesota. Since the 2025 AUAR was published, an end user for the development has been identified and intends to own and operate a data center. With those additional design specifics, the Study Area boundary has been reduced by two parcels (excluding the existing substation) from 403 to 278 acres. The Study Area is bounded to the north by Morris Thomas Road, to the east by Midway Road, and to the west by Solway Road. The southern boundary of the Study Area extends parallel to Saint Louis River Road, approximately 0.25 miles to the north. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA staff has the following comments for your consideration.

Watershed and project setting

The headwaters areas of trout streams, especially in northeastern Minnesota, are critical components that provide the needed elements to maintain conditions for coldwater fish and aquatic insects to survive and thrive. The proposed AUAR is centered on and surrounded by important landscape and hydrologic features that are crucial for sustaining wild Brook Trout populations in surrounding trout streams. These include Midway River, multiple unnamed tributaries, and West Rocky Run. One only needs to look east of the project area to other trout streams, which have experienced significant changes driven by development. These include:

- Loss of wetland functions through draining, filling or other degrading actions, which reduce temporary water storage, and reduce recharge of shallow groundwater;
- Ditching and other alterations to stream channels, which can increase stream velocity, increase the potential for erosion and stream channel instability, and reduce bank storage of water;
- Impeded aquatic passage through dams and deficient culverts, which restrict movement of aquatic organisms to meet their lifecycle needs;
- Loss of connected floodplains and riparian areas, which reduce the buffering capacity of lands surrounding the stream, including loss of temporary water storage and loss of overhead canopy for shading;

- Land use and land cover changes that increase the intensity of uses associated with development and urbanization, which increase runoff volumes and timing of delivery, reduce temporary water storage and shallow groundwater recharge, and increase the volumes and types of pollutants in runoff (e.g., nutrients, metals, pathogens, sediment, and oxygen-demanding substances); and
- Impaired waters, which are the measured effects of the above stated changes. Water quality impairments include impairments to aquatic life beneficial uses that are identified through evaluating the numbers and types of fish and aquatic insects, including sensitive species in coldwater streams; and aquatic recreation impairments due to *Escherichia coli* bacteria.

Without strong environmental controls by land use authorities, the natural resources such as the high quality and sensitive resources on the project site will continue to be slowly and incrementally degraded, with the diminished state often times being used to justify additional impacts.

From a water quality perspective, the MPCA, partner agencies, and organizations collect water quality data to determine water quality conditions, identify stressors negatively affecting water quality, and develop strategies to further restore, improve and protect the quality of water resources. We rely on local partners and local units of governments to incorporate this information into their decision making, from protective land use controls to project-specific decisions. Extensive public funds have been and are being invested in northeastern Minnesota, including within the City of Hermantown, to restore and correct past actions that have degraded or diminished quality and resiliency of water resources. It is in the public's interest for cost-effective use of public funds. Prevention of environmental degradation is the most cost-effective approach to maintaining water quality.

Item #6, Project Description

The project proposal has changed in size and configuration since the previous AUAR was completed, most notably reducing the AUAR area from approximately 403 acres to 278 acres.

Alternatives to the proposed project should be discussed in the AUAR, including development sites outside of the proposed geographic boundary. There is no information provided in the AUAR that describes the preference from the project proposer for this location, versus other local, regional, or national locations. Please describe the analysis of alternative locations that have been conducted for other locations that could reasonably support such a proposal. The analysis should include an evaluation of potential environmental impacts for each location. Priority should be given to sites with less sensitive natural resources and fewer environmental constraints. Other alternatives to explore include alternative layouts for the proposed site to minimize the developed footprint (e.g., multistory buildings, smaller parking lots, etc.).

A more detailed map is needed to depict the proposed impacts to water resources by the project. Figure 3 appears to obscure some of the water resources proposed for impact.

Item 8, Cover Types

Table 3 does not provide specific information on changes in cover types that may result from the proposed project. In addition to providing this information in the AUAR, a detailed evaluation of the potential environmental effects of the proposed land cover changes that may result should be included, along with discussion on mitigative actions taken to avoid and reduce those effects.

Item #10, Land Use

The St. Louis River Comprehensive Watershed Management Plan (CWMP) is referenced in the AUAR as a plan applicable to the project area. The CWMP identifies priority issues and resource concerns, identifies goals to address priority issues and resource concerns, and identifies priority areas for restoration, protection, and improvement of water resources. Within this plan the Midway River Watershed, the sub-watershed in which the proposed project is located, is identified as a priority watershed. The CWMP includes specific actions to restore those conditions negatively affecting water quality within Midway River and tributary streams. Some examples include reducing pollutant sources, improving stream connectivity by removing barriers to passage of fish and aquatic insects, restoring riparian conditions, and protecting and restoring forested lands. The AUAR should discuss the proposed project in relation to this plan and demonstrate consistency with plan goals.

Item #12, Water Resources

Surface Water

The AUAR mentions potential impacts to two water resources located outside of the AUAR boundary, West Rocky Run and the Midway River. An additional spring-fed headwaters tributary to the Midway River, located north and east of the AUAR, needs to be added to the list of waterbodies that could be impacted by this development. This stream is commonly referred to as “Adolph Creek” and can be referenced by Minnesota Department of Natural Resources (MN DNR) Kittle #S-002-010-003.4. In addition, several partially unmapped groundwater-fed tributaries originate in Section 30, Township 50 North, Range 15 West, within 600 feet of the AUAR’s northern boundary. These tributaries flow to the southeast, eventually joining the main stem of Adolph Creek in Section 32, Township 50 North, Range 15 West, immediately east of the AUAR boundary.

Adolph Creek and several of its spring-fed tributary streams support a naturally reproducing population of brook trout. Recent MPCA fisheries and stream temperature data clearly show Adolph Creek provides high quality, reliable coldwater refugia and spawning/rearing habitat for Brook Trout inhabiting this portion of the Midway River Watershed. MPCA and MN DNR have studied these watersheds extensively and possess robust background data necessary to detect degradation if the project is constructed without proper safeguards in place. MPCA’s Midway River Watershed Protection Study, https://www.pca.state.mn.us/sites/default/files/wq-ws4-104p.pdf, documents much of this information and should be considered a resource for mitigative actions that could be taken within the Midway River watershed that will further protect, restore, or enhance the water resources of this area. Actions identified in the report include protecting lands surrounding coldwater source areas (e.g., springs and tributary streams), remeandering ditched stream segments, replacing deficient stream culverts, extending protections to unmapped stream segments and seasonal habitats, and restoring wetlands and riparian areas.

Numerous groundwater springs were found within the Adolph Creek watershed that provide cold, well-oxygenated water to this tributary and the Midway River. Increasing impervious surface coverage and removal of wetlands to construct a data center has the potential to reduce infiltration and alter groundwater pathways.

Several wetlands within the AUAR boundary are proposed for impact, mostly through filling or excavation. Considering the proximity to the development, the remaining wetlands within the disturbed areas are at high risk for being degraded over time. What measures will be put in place to ensure the wetlands not proposed for impact will retain the predevelopment functions? One protective measure that could be undertaken is to place a permanent conservation easement on the lands in the southern and southeastern portion of the AUAR that contain wetlands and the unnamed tributary trout stream that drains to Midway River.

Groundwater

The proposed location for the data center is in an area with scattered wetlands, shallow groundwater table, and numerous wells. MPCA's monitoring of this area identified several groundwater springs just outside of the AUAR boundary to the north (46.780832/-92.283513) and east (46.777229/-92.278448). In these areas, groundwater is being discharged into nearby surface waters supporting brook trout and other coldwater aquatic life. The AUAR states that "additional analysis on the surrounding wells" will be provided in the AUAR. Additional analysis of how the development could impact groundwater springs adjacent to the proposed should be included.

Stormwater

The stormwater section of the AUAR update contains contradictory statements. On page 32 (Groundwater Section) it states, "Minnesota Hydrogeology Atlas indicates groundwater is likely present between 0-10 feet below the ground surface within and surrounding wetlands within the study area." Then on page 37 (Stormwater section) it states, "there are no known areas of shallow bedrock of shallow groundwater within the study area that would limit the location of proposed stormwater basins." Please clarify this apparent discrepancy.

Several stormwater ponds in Figure 3 are near or within areas delineated as wetlands. Constructing stormwater ponds in these areas may require excavation below the water table, which is between 0-10 ft in these areas based on sources cited in the AUAR. Under the NPDES Construction Stormwater General Permit (CSW Permit), infiltration basins will not work in areas where there is a lack of a 3-ft separation between the bottom of the basin to the seasonal water table. Under the CSW Permit, the use of wet sedimentation basins is not allowed for sites that discharge to trout streams. The permit requires filtration if infiltration is not feasible. If ponding is used, the design must include an appropriate combination of measures such as shading, vegetated swale discharges, or constructed wetland treatment cells that limit temperature increases. How will these site characteristics affect the design, maintenance, and treatment potential of the stormwater basins? Additional information is needed regarding the proposed placement and design of stormwater basins. If infiltration is not an option, where will the stormwater basins outlet to and where will the effluent leave the AUAR boundary? What are the receiving waters? The lack of existing stream channels within the build area present challenges in moving water off this landscape without digging new ditches and regrading. Additional information is needed to clearly show how stormwater will be controlled, stored, and eventually discharged from the data center site.

Item #21, Cumulative Potential Effects

Figure 2 depicts a largely developed property within the AUAR boundary. The AUAR should discuss future development within the AUAR boundary that represents a full build-out, along with discussion on the potential for expanding or modifying the proposed AUAR boundary.

The AUAR needs to include analysis of potential future development within the greater project area, including those areas that utilities will be extended or upgraded. A recent report by University of Minnesota Duluth and associated news reports indicate the City of Hermantown is studying the southwest portion of the city for potential future development. Extension of utilities to the proposed data center may facilitate future development and should be further examined in the AUAR.

The MPCA submitted comments on a previous version of this project in a letter dated August 26, 2025, and those comments and concerns are largely applicable to the updated project proposal. Additional information on water quality information for this area can be found in a series of reports on MPCA's St. Louis River Watershed web page: St. Louis River | Minnesota Pollution Control Agency .

We appreciate the opportunity to review this Project. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit actions by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this AUAR, please contact me by email at Chris.Green@state.mn.us or by telephone at 507-476-4258.

Sincerely,

Chris Green

This document has been electronically signed.

Chris Green
Project Manager
Environmental Review Unit
Resource Management and Assistance Division

CG:mb

cc: Tom Estabrooks, MPCA
Jeffrey Jasperson, MPCA
Amy Adrihan, MPCA
Katrina Hapka, MPCA
Nicole Peterson, MPCA
Matthew Moon, MPCA
Jeffrey Hedman, MPCA
Colin Boysen, MPCA
Lauren Dickerson, MPCA
Deepa deAlwis, MPCA
David Sahli, MPCA
Julie Henderson, MPCA
MPCA Regional Manager

From:	CH-Eric Johnson
To:	CH-Ed Worden
Subject:	FW: Fond du Lac Band of Lake Superior Chippewa Scoping Document Comments for Google Data Center, Hermantown, Minnesota
Date:	Thursday, April 30, 2026 3:46:10 PM
Attachments:	FDL Scoping Document Comment.pdf

Another comment not sent to AUAR email address.

Thanks
Eric

From: Arianna V Northbird Himango <AriannaNorthbirdHimango@FDLBand.org>
Sent: Thursday, April 30, 2026 3:44 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>
Cc: Bruce M Savage <BruceSavage@FDLBand.org>; Brad Blacketter <BradBlacketter@FDLBand.org>; Wally J DuPuis <WallyDuPuis@FDLBand.org>; Wayne A Dupuis <WayneDupuis@FDLBand.org>; Earl W Otis <EarlOtis@FDLBand.org>; Thomas E Howes <thomashowes@FDLBand.org>; Sean W Copeland <SeanCopeland@FDLBand.org>; Dakota J Lancour <DakotaLancour@FDLBand.org>
Subject: Fond du Lac Band of Lake Superior Chippewa Scoping Document Comments for Google Data Center, Hermantown, Minnesota

Dear Eric Johnson,

Please see the attached comment letter regarding the Alternative Urban Areawide Review for the proposed Google Data Center located in Hermantown, MN. We look forward to hearing from you and engaging in a meaningful consultation.

Miigwech,

Arianna Northbird Himango | Environmental Program Manager
Akina Gegoo Giiwitaakamig Naagaanizid Ozhibii'igewigamig
Resource Management Division | Environmental Program
Nagaajiwanaang Ishkonigan
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Fond du Lac Band of Lake Superior Chippewa
Reservation Business Committee

Chairman Bruce M. Savage **Secretary/Treasurer** Wayne Dupuis
District I Wally J. Dupuis **District II** Brad Blacketter **District III** Earl Otis

4/30/2026

Eric Johnson, Community Development Director

5105 Maple Grove Road, Hermantown, MN 55811

AUARcomments@hermantownmn.com

Re: Fond du Lac Band of Lake Superior Chippewa Scoping Document Comments for Google Data Center, Hermantown, Minnesota

Dear Eric Johnson,

The Fond du Lac Band of Lake Superior Chippewa ("Band") writes to urge the City of Hermantown to consider an EIS process due to the significant potential effects on the Environment which must be analyzed and disclosed from major actions. The scale of the Google Data Center project could potentially leave an extensive footprint on the landscape which alters sensitive areas. The project is 1.8 million square feet or 278 acres of alteration to the landscape, which is a high energy consuming facility. To call this light industrial or a warehouse is inexcusably disregarding the characteristics that this industrial facility will impact. An Alternative Urban Areawide Review (AUAR) is a tool used when local governments use their comprehensive plans to review *multiple* future development scenarios in advance. This process is a risk as it is only scenario based and can exempt qualifying future projects from individual review. An EIS is a comprehensive, public-facing analysis that protects shared resources and proposes mitigation to reduce harm. An EIS involves evaluation of cumulative effects, mitigation, reduction of adverse effects, and a standalone review based on mandatory thresholds. The Band encourages a full EIS assessment and mitigation process for the proposed Hermantown Data Center.

Treaty Rights

The Fond du Lac Band of Lake Superior Chippewa ("Band") is a federally recognized Indian tribe that occupies and governs Fond du Lac Reservation located 30 miles south of Lake Superior. Under the Treaty of La Pointe of 1854, the Fond du Lac Band ceded significant land to the United States government while expressly retaining rights to hunt, fish, and gather within the ceded territory. Those rights were never extinguished. Federal courts have repeatedly affirmed that treaty-reserved rights are the supreme law of the land and that they impose affirmative obligations on federal, state, and local governments to consult with, and avoid harm to, the sovereign interests of affected tribal nations. Treaties with the United State and the Band cover about 8 million acres and include the treaties of 1836, 1837, 1842, and 1854. Treaties are enshrined by the Constitution as the supreme Law of the Land.[1]

The Adolph corridor and the broader Hermantown area lie within the 1854 Ceded Territory. Waterways flowing from and through the proposed project site ultimately reach the St. Louis River watershed — waters the Fond du Lac Band actively monitors, manages, and harvests under our Integrated Resource Management Plan (IRMP) and our Treaty-based co-management responsibilities. Any development of this scale that alters surface water flow, groundwater dynamics, wetland hydrology, or downstream water quality in this watershed carries direct and serious consequences for the Band's treaty-protected resources.

Because many, if not all, of these projects will have large impacts on treaty-protected rights and sovereign rights of the Fond du Lac Band from several existing treaties. The best way forward for our Tribe and for all Tribes within Minnesota includes a full and frank consultation before these projects are authorized by any state or local unit of government. Consultation should occur both at the programmatic/landscape level, as well as project-by-project with any Tribe who may be impacted through their lands or resources, including ceded territories where treaty rights have been retained. Consultation should occur prior to and following full environmental review, which also should be done programmatically and project-by-project. Vital to treaty rights are available and healthy resources along with appropriate access. We are requesting

[1] *U.S Const. Art. VI, § 2.*

consultation to better discuss potential impacts from Google Hyperscale Data Center (HSDC) to this ceded territory and our ability to maintain treaty rights for present and future generations.

Wetland Impacts

Fond du Lac also holds Treatment as State (TAS) status under the Clean Water Act[2]: §§ 106 (water quality monitoring)[3], 319 (nonpoint source pollution management)[4], 303(c) (federally approved water quality standards)[5], and 401 (water quality certification)[6]. It is important to note that according to the scoping document, 58 acres (2,526,480sqft) of the 278 acres of the proposed development are wetlands. In a state where wetlands have historically been damaged, drained, and fragmented by industry, it is important to fully consider the implications and cumulative effects of wetland loss for large scale projects. Wetlands are uniquely sensitive ecosystems that provide irreplaceable social and ecological functions, including water filtration, flood storage, groundwater recharge, and critical habitat for diverse plant and animal species. Even relatively small disturbances can trigger cascading effects.

Currently, within the wetland section of the scoping document there is very little information regarding the avoidance, minimization, or mitigation of wetland impacts and how the increase in impervious surfaces will affect the long-term health of the surrounding wetlands and waterbodies. While the need for a 404 USACE permit is indicated, there is no mention of Minnesota for specific requirements and special considerations for the local watershed. This area has already been the focus of protection and restoration as outlined in a 2025 Minnesota Pollution Control Agency (MPCA) Study of Midway River Watershed[7]. In that study, the MPCA identified pressure from urban development (especially in developing areas such as Hermantown) as a significant threat to headwater areas and describes the "West Rocky Run Watershed

[2] 33 U.S.C. §1251 et seq. (1972).

[3] 33 U.S.C. sub. I § 1256.

[4] 33 U.S.C. sub. III, § 1329.

[5] 33 U.S.C. sub. III, §§ 1313-1313a

[6] 33 U.S.C. sub. IV, § 1341

[7] Midway River Watershed Protection Study

zone [as a] stronghold for native Brook Trout". Without a full EIS analysis of such studies and a holistic view of impacts through a more thorough environmental review, it is likely that compounding impacts will cause unforeseen harm.

Lastly, based on the approximate area defined in the scoping document maps, the data center building envelopes alone would cover over 1,120,000 square feet, with much of that space over wetland areas. The wetland impacts alone could meet the Minnesota Rules threshold for a mandatory EAW.[8] It could also potentially reach the gross floor space threshold of 750,000 square feet for a third- or fourth-class city, that would trigger a mandatory EIS.[9]

Water is Life

Water is critical to our lives, our collective Tribal identity and each person's well-being. We are responsible for protecting surface water and groundwater for future generations. Water resources must not be wasted on projects that may not serve the public or local region's needs. Existing uses, including traditional hunting, gathering, fishing and cultural practices, should not be imperiled for HSDCs, crypto mines, or other AI infrastructure that could be abruptly closed when the bottom falls out of a speculative market. Our Tribe protects these resources and has done so since time immemorial and it is imperative that the state consult with us to ensure that we work together to protect public resources like water and air quality while we all move forward with any sustainable development plans.

The project proposes to impact a significant portion of the existing 58 acres of wetlands. Wetlands are places where gathering traditional medicines takes place, the scoping document fails to address whether a Traditional Ecological Knowledge (TEK) survey will be conducted to identify culturally significant plant or animal species that may be impacted. Consideration for this should be given. Additionally, the project sits within the watershed of the Chigami-ziibi (St. Louis River), an area of immense importance to the Fond du Lac Band. While the document mentions the St. Louis River Comprehensive Watershed Management Plan, it does not explicitly scope for

[8] Minn. Rule 4410.4300, subp. 14 A(2).

[9] Minn. Rule 4410.4400, subp. 11 A(2).

downstream cultural impacts related to water quality and treaty-reserved rights. Consideration should be given for this.

Additionally, HSDC's are among the most water intensive industrial facilities proposed for development in the world[10]. Section 12 "Water Resources" describes wastewater usage through the City of Hermantown. According to the Environmental and Energy Study Institute, hyperscale data centers could potentially require upwards of 5 million gallons per day. The City of Hermantown uses 400,000 gallons a day on average to serve local needs from water bought from the City of Duluth[11]. This water usage needs more evaluation and transparency because it affects regional water systems, and there is little to no information on the demand and process of water resources. The AUAR mentions user agreements with concentrations of pollutants allowed but does not name those pollutants, discharges, and quantities.

Air Quality

The Fond du Lac Band of Lake Superior Chippewa was the first Tribe in US EPA Region 5 to be granted tribal authority to administer parts of the Clean Air Act. The Band holds Treatment as an Affected State ("TAS") status under the Clean Air Act § 505(a)(2) for air related activities that take place near the Reservation and/or other tribal lands[12]. EPA Administrator Thomas V. Skinner signed the decision document and presented a certificate of recognition to Fond du Lac Band leaders on January 7, 2004. This designation allows the Band to protect air quality on the Reservation by monitoring the air, reviewing air permits for new and existing facilities, and to develop a program that gives in-house expertise on environmental issues related to air quality and climate change.

The AUAR only explicitly lays out carbon monoxide (CO) under the vehicle section under "Air" 17B. However, there are many pollutants at play with combustion engine emissions than just CO. For example, it is well known that diesel emissions can produce particulate matter (PM), nitrogen oxides (NOx), carbon dioxide (CO2), and

[10] Data Centers and Water Consumption | Article | EESI

[11] Water & Sewer - City of Hermantown

[12] 42 U.S.C. §7661d.

volatile organic compounds (VOCs); all in addition to carbon monoxide. Another point to mention is ground level ozone, which can be formed under reactions of VOCs, NOx, and sunlight. Another component aside from combustion engine contributions can include particulates from dust occurring under site operations, construction, and other vehicle use relating to the needs of this project area. We encourage this project to move forward with dust control ordinances when appropriate as mentioned on page 46 to reduce any potential impacts on the area.

Per Minnesota Business First Stop Materials MN Data Center Regulatory guide, air emission profile, if applicable, projects should be prepared to discuss types and quantities of any air pollutants. The MPCA has resources available that assist project proposers to calculate potential air emissions and conduct air quality dispersion modeling.

Additionally, the project's diesel backup generators have little to no information on how many units may be present, how often they might operate, and what the scale of the operation might entail. The project should also evaluate cumulative effects. Diesel generator emissions can include particulate matter (PM), nitrogen oxides (NOx), carbon dioxide (CO2), carbon monoxide (CO), volatile organic compounds (VOCs), and contribute to the formation of ground level ozone. State Regulating agencies assess the permitting needs of this project to ensure the project is moving forward in a way that is respectful of neighbors and the environment. The Band encourages more in-depth review and coordination of these concerns.

Cultural

The Adolph area and the surrounding landscape carry deep cultural and historical significance to the Anishinaabe people. While the Band was offered a role in the Section 106 process under the National Historic Preservation Act[13], that process addresses only a subset of our sovereign interests — namely, historic properties. It does not encompass the full range of our treaty-reserved usufructuary rights: the rights to harvest Manoomin, fish the waters, gather medicines, and maintain our living relationships with the lands and waterways of the Ceded Territory.

[13] 16 U.S.C. §470 et. Seq.

Historic and Cultural Property Identification

Section 15 of the survey states that, according to the Minnesota Office of the State Archaeologist (OSA) Public Viewer, "one archaeological site is present within the Study Area." We understand that In Situ Archaeological Consulting was retained to conduct a survey, resulting in the report Phase IA Cultural Resource Literature Review and Preliminary Reconnaissance for Project Loon – Hermantown, St. Louis County, Minnesota. In order to adequately assess potential effects to historic and cultural properties, identification efforts must be conducted in their entirety. Conclusions regarding the presence or absence of resources—and any subsequent effects determinations—should be deferred until survey work is complete and results have been fully evaluated in consultation with the Band.

Visual Impacts

Section 16 of the survey asserts that "there are no scenic views or vistas in or near the Study Area." This statement reflects a subjective and culturally limited interpretation of landscape value and does not adequately account for Tribal perspectives. A landscape may not meet Western aesthetic standards of "scenic" to possess significant cultural, spiritual, or traditional importance.

The presence of approximately 58 acres of wetlands, along with proximity to the Midway River and West Rocky Run Creek, indicates a landscape with both historic and ongoing relevance to traditional lifeways and connections to place. "Visual quality" and "integrity" should be evaluated not only in terms of aesthetics, but also in relation to culturally meaningful sightlines, landscape-scale settings, and relationships to the sky and horizon.

Attention should be given to potential lighting impacts associated with a 1.8 million square foot industrial complex. Light pollution at this scale may alter the visibility of the night sky and disrupt cultural practices tied to viewing the night sky. These impacts should be analyzed both within the project area and from nearby cultural properties.

Additionally, site visits to identified cultural and historic locations should be conducted to evaluate how the proposed development may affect the setting, feeling, and integrity of those properties.

Audio/Noise Impacts

The integrity of setting for a historic property or Traditional Cultural Place includes the natural soundscape. The introduction of continuous industrial noise—such as that generated by heavy machinery, ventilation systems, and backup generators associated with a master-planned data center campus—has the potential to create a persistent ambient "hum" that may degrade the cultural and spiritual quality of the surrounding environment. These impacts warrant further study. In addition, the document identifies the presence of culturally significant species, including ma'iingan (Gray Wolf), understood as a relative in Ojibwe culture, and bizhiw (Canada Lynx). Noise analysis should consider how industrial sound levels may affect the behavior, habitat use, and presence of these species, as they are integral to Tribal ecological knowledge and cultural health.

Visual and noise impacts should be evaluated through a framework that accounts for cultural and spiritual integrity, rather than being limited to conventional measures such as residential aesthetics or nuisance. A more comprehensive analysis is necessary to ensure that Tribal perspectives and cultural relationships to the landscape are meaningfully incorporated into the AUAR process, if not a more thorough assessment through an EIS.

Other Potential Environmental Effects

Energy usage is not explicitly discussed in the document. AUAR guidance does not require consideration of energy usage. Electricity usage is linked to GHG, air quality impacts, water use, and land use changes. This requires state or federal compliance on energy policies. To ensure the project's energy profile is transparent and environmentally sound, an EIS would be more beneficial in quantifying demands, assessing environmental impacts, and mitigating measures to reduce emissions. This is not merely a discussion piece; this requires a full environmental evaluation due to the

new proposed transmission line and distribution infrastructure. An AUAR is deficient in this environmental concern regarding energy.

Non-Disclosure Agreements (NDAs)

The use of NDAs by these companies in concert with state/local governments is a direct threat to our reserved rights and sovereignty. Without publicly available objective information about the size and scope of these projects, our members cannot rely on state and local government to fully understand, consider, and protect Tribal treaty-reserved rights over resources both on and off reservation lands. For example: many proposed projects around the Great Lakes appear to have impacts on water availability, groundwater resources, and wetlands that would be filled in and paved to create these facilities – no local government is adequately weighing and publicly discussing the damage to tribal resources when habitat and surface/ground water resources are destroyed or locked up in violation of treaty obligations. The use of NDAs must be changed significantly so that our tribe and our members can be fully informed about impacts before they happen and before permits are issued.

Electrical Affordability and Reliability

The Fond du Lac Band is actively engaged with energy development as part of our efforts to secure energy sovereignty. Some Tribes within our state struggle with access to affordable and reliable electricity, so the Fond du Lac Band is working to ensure we have access to cheap, clean and reliable sources of electricity for our Tribal members and businesses. State regulators must not prioritize the expansion of HSDC's if these cannot be planned intentionally to improve and expand access to Fond du Lac Band development of solar and other renewable resources. NDAs prevent Tribes from understanding the potential impacts to the existing energy infrastructure we rely on for the Fond du Lac Band's power. Data centers should only be approved if they can be powered with a sustainable renewable energy source that respects Tribal energy sovereignty, does not threaten raising utility rates or threaten public resources.

The Fond du Lac Band can be strong partners in developing sustainably sized data centers in this state. Our local knowledge, ability to think long-term about sites and renewables, as well as our expert staff, makes development with a Tribe a better option than working with a large technology company with no connection to this region or the land. We request consultation to ensure better regulatory certainty to protect public resources, find a way to limit the use of NDAs, and then together we can collaboratively grow industry in ways that benefit local communities and serve everyone's interests.

Until these concerns are met, we ask you to place a hold on HSDC development in this state. It is unwise to rush into this without a better understanding of how short-term development will have lasting long-term impacts on our lands, waters, members, cultural practices, and existing livelihoods and industries. This could be done with executive action or legislation, such as MN Senate File 4298, that requires Tribal consultation be correctly tailored to address identified harms and concerns[14]. SF 4298 explicitly requires necessary consultation to fully assess Tribes' unique impacts and concerns.[15]

Consultation

Fond du Lac Band of Lake Superior Chippewa requests government-to-government consultation with you and/or your delegated representative to discuss the concerns included below regarding the sudden and concerning increase in construction of hyperscale data centers. As you know, MN Stat. 10.65 states that: "Timely and meaningful consultation between the state of Minnesota and Minnesota Tribal governments will facilitate better understanding and informed decision-making by allowing for communication on matters of mutual interest and help to establish mutually respectful and beneficial relationships between the state and Minnesota Tribal governments."[16] In addition, pursuant to this law, MN agencies "must develop and maintain ongoing consultation with the Minnesota Tribal governments related to matters that have Tribal implications. Agencies must consider the input gathered

[14] Minn. SF4298, § 1 (c)(1)(vi).

[15] Minn. SF4298, § 1 (d).

[16] Minn. Stat. 10.65, subd. 1(d).

from Tribal consultation into their decision-making processes, with the goal of achieving mutually beneficial solutions."[17]

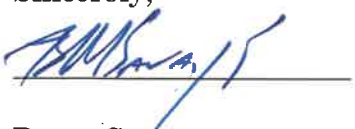
While our Tribe understands the current planned expansion of utility power infrastructure to serve electricity to feed proposed HSDCs that consume more than 100 MW continuously, consultation is requested to discuss several concerns that the Fond du Lac Band holds based on our and neighboring Tribe's knowledge of these facilities and their associated infrastructure. The Fond du Lac Band wishes to better understand all the state rules and permits that apply to HSDCs and recommend potential policy changes that might help address some of our concerns regarding HSDCs.

The Fond du Lac Band acknowledges Minnesota's ongoing efforts to update and engage with our Tribe with ongoing state's EQB Notifications for new permits under state review. However, in regard to HSDCs, formal consultation is required in order to share our concerns in a government-to-government setting. The Fond du Lac Band's primary concerns for HSDC's focus on the use of non-disclosure agreements (NDAs), the use of vast amounts of public resources like water and air quality, as well as potential impacts to treaty lands, energy affordability and reliability. The Fond du Lac Band's primary concerns for HSDC's focus on the use of non-disclosure agreements (NDAs), the environmental review process and the use of vast amounts of public resources like water and air quality, as well as potential impacts to treaty lands, energy affordability and reliability.

[17] Minn. Stat. 10.65, subd. 3(f).

We look forward to your response and look forward to coordinating a consultation with you and/or your designated representative. To schedule a consultation please contact Arianna Northbird Himango, Environmental Program Manager at Fond du Lac, via email AriannaNorthbirdHimango@FDLBand.org. Thank you in advance for your attention to this matter.

Sincerely,



Bruce Savage
Chairman
Fond du Lac Band of Lake Superior Chippewa
BruceSavage@FDLBand.org

From: CH-Eric Johnson
To: CH-Ed Worden
Subject: FW: City of Hermantown AUAR Scoping Document - 1854 Treaty Authority comments
Date: Thursday, April 30, 2026 2:43:15 PM
Attachments: Hermantown Datacenter AUAR scoping-1854 comments.pdf
image002.png

Another one not sent to AUAR Comments.

Thanks
Eric

From: Darren Vogt <Dvogt@1854treatyauthority.org>
Sent: Thursday, April 30, 2026 2:30 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>; CH-Chad Ronchetti <cronchetti@hermantownmn.com>
Cc: Sonny Myers <Smyers@1854treatyauthority.org>; Alaina Bryant <abryant@1854treatyauthority.org>; Chris Holm <cholm@boisforte-nsn.gov>; Amy Mason <amy.mason@boisforte-nsn.gov>; Vallen Cook <trustlands.admin@grandportage.com>; Krishna Woerheide <kwoerheide@grandportage.gov>
Subject: City of Hermantown AUAR Scoping Document - 1854 Treaty Authority comments

Please find attached comments on the Alternative Urban Areawide Review Scoping Document for the proposed Hermantown data center project. Thank you.

Darren Vogt
Resource Management Division Director
1854 Treaty Authority
4428 Haines Road
Duluth, MN 55811
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218-481-7006 (direct)
218-722-7003 (fax)
dvogt@1854treatyauthority.org
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From: Fristed, Travis <TFristed@braunintertec.com>
Sent: Friday, March 27, 2026 3:59 PM
To: stephan.roos@state.mn.us; forest.eidbo@state.mn.us; health.review@state.mn.us; jill.townley@state.mn.us; chris.green@state.mn.us; jenna.ness@state.mn.us; waterprograms.bwsr@state.mn.us; Lind, Katherine (DOT) <katherine.lind@state.mn.us>; mn.osa@state.mn.us; isaac.weston@state.mn.us; ENReviewSHPO@state.mn.us; govdoc@hclib.org; TwinCities@fws.gov; usace_requests_mn@usace.army.mil; R5NEPA@epa.gov; kkane@ardc.org; smyers@duluthmn.gov; cholm@boisforte-nsn.gov; fvillebrun@boisforte-nsn.gov; ariannanorthbird@fdlband.org; nancyschuldt@fdlband.org; graceleppinkwalz@fdlband.org;

mwatkins@grandportage.com; kwoerheide@grandportage.com; robertdeschampe@grandportage.com; agathaa@grandportage.com; aprilm@grandportage.com; mariespry@grandportage.com; tobys@grandportage.com; trustlands.admin@grandportage.com; brandy.toft@llojibwe.net; craig.tangren@llojibwe.net; jeff.harper@llojibwe.net; kelly.applegate@millelacsband.com; susan.klapel@millelacsband.com; perry.bunting@millelacsband.com; charlie.lippert@millelacsband.com; mike.wilson@millelacsband.com; lwarnsholz@mnchippewatribe.org; Darren Vogt <Dvogt@1854treatyauthority.org>; jcoleman@glifwc.org; esteban@glifwc.org; shania.nordby@redcliff-nsn.gov; marvin.defoe@redcliff-nsn.gov; edwina.buffalo-reyes@redcliff-nsn.org

Cc: CH-Eric Johnson <eric.johnson@hermantownmn.com>; CH-Chad Ronchetti <cronchetti@hermantownmn.com>; Bunge, Leila <leila.bunge@kimley-horn.com>; Wurdeman, Brian <Brian.Wurdeman@kimley-horn.com>; Scrimshaw, Jason <jason.scrimshaw@kimley-horn.com>; Chris Bates <chris.bates@mortenson.com>; Ullery-Brux, Megan <MUllery@braunintertec.com>

Subject: City of Hermantown - Updated Hermantown Industrial AUAR Scoping Document

Good Afternoon Environmental Review Stakeholders,

The City of Hermantown has prepared a Scoping Document (AUAR Large Specific Project) for the proposed Hermantown Industrial project in the City of Hermantown, St. Louis County, Minnesota. Public comments will be received until 4pm, April 30th. Attached is a Draft Order for Review letter with the scoping document. Both documents will also be available for viewing at the City's website at https://hermantownmn.com/departments/community-development/planning-studies-analysis/.

Written comments and project questions can be directed to Mr. Eric Johnson, City of Hermantown - Community Development Director at eric.johnson@hermantownmn.com.

Thank you,

Travis Fristed, PWS

Associate Director,
Principal Scientist

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1854 Treaty Authority

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April 30, 2026

Eric Johnson
Community Development Director
City of Hermantown
eric.johnson@hermantownmn.com

RE: City of Hermantown Industrial Project (Data Center) - Alternative Urban Areawide Review (AUAR) Scoping Document

The 1854 Treaty Authority is an inter-tribal resource management agency governed by the two federally recognized American Indian Tribal governments of the Bois Forte Band of Chippewa and the Grand Portage Band of Lake Superior Chippewa. Under the Treaty of 1854, these Bands retain rights to hunt, fish, and gather in the 1854 Ceded Territory encompassing present-day northeastern Minnesota. The 1854 Treaty Authority is responsible for preserving, protecting, and enhancing treaty rights and resources within the 1854 Ceded Territory. This exercise of treaty rights continues today, and we remain interested in the health of the resources for present and future generations.

The scoping document states that the scale of the project meets the threshold for a mandatory Environmental Impact Statement (EIS), but the review process is still proceeding with the Alternative Urban Areawide Review (AUAR). We question if the AUAR is the appropriate tool to understand the proposed data center project and perhaps an EIS could be more suitable to describe and understand project impacts.

The AUAR or EIS should clearly describe appropriate land use at the proposed project site. The scoping document states that the study area is designated as business and light manufacturing. Current conditions at the site are largely residential and agricultural, and our understanding is that zoning and land use were changed recently before all project information became publicly available. This land use decision making process and timelines should be described in an AUAR or EIS in a transparent way. Other alternatives

for the project site should also be discussed. Further, the proposed project does not appear consistent with the St. Louis River Comprehensive Watershed Management Plan with focus of the area for high quality resource protection and restoration. An AUAR or EIS should describe the inconsistency with this plan and any other applicable plans.

The proposed project will likely have significant effects on infrastructure and resources including water use, sewer discharges, electric use and related air emissions, and connected electric transmission actions. Water use and appropriation need to be clearly defined, including both domestic and industrial. The methods and water requirements for cooling equipment should be clearly identified and described. The City of Hermantown will need to extend wastewater infrastructure with discharges then to the Western Lake Superior Sanitary District (WLSSD) and ultimately the St. Louis River. Discharge amounts and water quality impacts should be described. Effects on electric use, related emissions from necessary increased electric capacity, electric rates, and any connected electric transmission lines (existing or proposed) should be identified.

The scoping document only briefly mentions noise, light, and heat impacts from the proposed project. Construction activity, vehicle traffic, and machinery operation can contribute to increased noise. In addition, information suggests that data centers can emit constant noise in their normal operations. This can be harmful to human health and perhaps even some wildlife species. Light emissions and ways to minimize light pollution should be discussed. Data centers also have the potential to create "heat islands" and warm the land around them. Parking lots, roads, and buildings can absorb and re-emit heat. Contributions from heat emitted from project operations should also be understood. These issues should be addressed in an AUAR or EIS.

It appears that the project would include backup generators for emergency use. However, the scoping document states this would be evaluated outside of the current environmental review process as site planning advances. It seems necessary to include these details in an AUAR or EIS, including air emissions and noise impacts from generator use. Air emissions have the potential to be harmful to human health and the environment. Once a project is in motion, it is typically difficult to change direction so all probable components should be included in environmental review.

Potential project impacts to wetlands and water resources should be identified in an AUAR or EIS. Wetland impacts, ways to minimize impacts, and appropriate mitigations should be included. The amount of impervious service and stormwater management should be described. Effects to rivers and designated trout streams (West Rock Run Creek, Midway River) must be understood. In addition, impacts on plants and wildlife species from site development and project operations should also be included.

Impacts on known or discovered cultural resources are a concern and should be addressed. Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of projects they approve, permit, fund, or carry out on historic properties. If the project constitutes a federal undertaking in any way, Section 106 consultation is needed for impacts to cultural resources. Additionally, federal agencies must provide the Advisory Council on Historic Preservation an opportunity to comment on such projects prior to the agency's decision on them. The scoping document states that one archaeological site is located within the project area. An AUAR or EIS should provide detail as appropriate on this site and discuss impacts and avoidance opportunities, with the understanding of sensitivity of sharing specific information. Coordination with Tribal Historic Preservation Offices should occur.

The project is located within the 1854 Ceded Territory where treaty rights exist, and cumulative impacts to the cultural/natural resources of this ceded territory are of importance. The City of Hermantown and appropriate regulatory agencies should communicate and consult on a government-to-government basis with Bands in an early and meaningful way. Thank you for consideration of our comments.

Sincerely,

Darren Vogt

Darren Vogt
Resource Management Division Director

From: CH-Chad Ronchetti
To: Fristed, Travis
Cc: Ullery-Brux, Megan; CH-Eric Johnson; AUARcomments
Subject: AUAR Questions - City Council 3/16
Date: Tuesday, March 17, 2026 11:10:56 AM

Travis,

We had a few questions come up from public comment at the City Council meeting last night. Would you please help me address them?

Understanding we are not within the AUAR comment period, I think working to get ahead of the issues flagged is a good plan.

- Over arching question for all the below bullets: What are the differences in analysis/review of EIS vs. AUAR?

- Potential existence of an Indigenous burial ground within the Study Area
  - To what level does the AUAR address archeology?
  - Has any of the review to date discovered the potential for such a site?
- AUAR not addressing industrial wastewater.
  - Is there a clear definition of "industrial wastewater"? Is it simply wastewater coming from industrial uses that are excluded from AUAR review
  - Under what instances an EIS address industrial wastewater?
  - We know the project will not include industrial wastewater. Should we clearly state this in the wastewater section and clearly state water will be fire flow and potable water only?
- Review of the environmental impacts of the backup generators
  - Understanding the 1M gallon of fuel storage for backup generator threshold that triggers an air emissions in a separate EAW, does air quality from backup generators a requirement of the AUAR, the EIS, or the EAW?
- Increased noise generation under increased load on the substation transformers
  - The previous AUAR did not discuss the existing noise generated by the existing substation. Should this be included in the future document?
  - Should/could the noise modeling and mitigation consider the noise generated from increased load on the substation?
- Computer server decommissioning
  - Do any of the environmental review documents require the study or impact of the server waste created or is this process regulated by a separate permit/agency?
- Contaminated closed loop water
  - Would any environmental review contemplate the cooling mixture used in the closed loop system?
  - Is there a separate agency/permit that regulates the disposal of this waste stream upon end of life or system failure?

Thanks, Travis.

-Chad

Chad Ronchetti
Economic Development Director
cronchetti@hermantownmn.com
office: 218-729-3600

City of Hermantown Minnesota

5105 Maple Grove Road
Hermantown, MN 55811
hermantownmn.com

From: Fristed, Travis
To: CH-Chad Ronchetti
Cc: Ullery-Brux, Megan; CH-Eric Johnson; AUARcomments
Subject: RE: AUAR Questions - City Council 3/16
Date: Thursday, March 19, 2026 1:34:59 PM

Chad,
Here are a few responses in *red text*.

Thanks,

Travis Fristed, PWS
BRAUN INTERTEC
o. 952.995.2027 c. 952.500.1180
tfristed@braunintertec.com

From: CH-Chad Ronchetti <cronchetti@hermantownmn.com>
Sent: Tuesday, March 17, 2026 11:11 AM
To: Fristed, Travis <TFristed@braunintertec.com>
Cc: Ullery-Brux, Megan <MUllery@braunintertec.com>; CH-Eric Johnson <eric.johnson@hermantownmn.com>; AUARcomments <auarcomments@hermantownmn.com>
Subject: AUAR Questions - City Council 3/16

Caution: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Travis,

We had a few questions come up from public comment at the City Council meeting last night. Would you please help me address them?

Understanding we are not within the AUAR comment period, I think working to get ahead of the issues flagged is a good plan.

- Over arching question for all the below bullets: What are the differences in analysis/review of EIS vs. AUAR?

- Potential existence of an Indigenous burial ground within the Study Area
  - To what level does the AUAR address archeology? *Cultural resources are addressed in section #15 (Historic Properties) of the Scoping document. The AUAR will discuss the results of a Phase I Archaeological Study and any potential impacts on archaeological, historical, and/or architectural resources. The AUAR mitigation plan will have mitigative measures if a potential impact is identified, such as avoidance criteria, additional field studies, or cultural resources monitoring.*
  - Has any of the review to date discovered the potential for such a site? *Yes, one record is acknowledged to be present within the Study Area.*

AUAR not addressing industrial wastewater. *Wastewater is discussed in section #12.b.i (Water Resources) of the Scoping document.*

- Is there a clear definition of "industrial wastewater"? Is it simply wastewater coming from industrial uses that are excluded from AUAR review. *Industrial wastewater is water that is used for an industrial process. AUARs must describe sources, types, quantities and composition of domestic sanitary wastewaters. Industrial wastewater is excluded from AUAR review as it requires a greater technical level of require. No industrial wastewater is proposed in the Study Area.*
- Under what instances an EIS address industrial wastewater? *EAW and EIS address the sources, types, quantities and composition of industrial wastewater that is projected or treated at the project site.*
- We know the project will not include industrial wastewater. Should we clearly state this in the wastewater section and clearly state water will be fire flow and potable water only? *This statement can be found in in section #12.b.i (Water Resources) of the Scoping document. Section #12.b.iii (Water Appropriation) discusses potable water use.*

- Review of the environmental impacts of the backup generators
  - Understanding the 1M gallon of fuel storage for backup generator threshold that triggers an air emissions in a separate EAW, does air quality from backup generators a requirement of the AUAR, the EIS, or the EAW? *Sections 13.c and 17.a identifies the need for a separate EAW for generators, which will include an evaluation of air emissions. The fuel storage needs and number of generators will be included in the AUAR.*
- Increased noise generation under increased load on the substation transformers
  - The previous AUAR did not discuss the existing noise generated by the existing substation. Should this be included in the future document? *The AUAR will include a discussion of operational noise and identify potential operational noise mitigation measures based on a preliminary noise analysis.*
  - Should/could the noise modeling and mitigation consider the noise generated from increased load on the substation? *Yes, the AUAR would include substation noise.*
- Computer server decommissioning
  - Do any of the environmental review documents require the study or impact of the server waste created or is this process regulated by a separate permit/agency? *E-waste disposal and recycling is regulated by the MPCA.*
- Contaminated closed loop water
  - Would any environmental review contemplate the cooling mixture used in the closed loop system? *Potentially, if a discharge of cooling water was proposed to a non-treatment facility or the environment.*
  - Is there a separate agency/permit that regulates the disposal of this waste stream upon end of life or system failure? *Depending on the closed loop system characteristics and means of disposal, a separate permit may be required.*

Thanks, Travis.

-Chad

Chad Ronchetti
Economic Development Director
cronchetti@hermantownmn.com
office: 218-729-3600

City of Hermantown Minnesota

5105 Maple Grove Road
Hermantown, MN 55811
hermantownmn.com

From: Dylan Koltz-Hale
To: AUARcomments
Subject: AUAR Comment
Date: Tuesday, March 31, 2026 4:38:53 PM

Hello,

What follows are my comments on the new AUAR for the proposed data center in Hermantown.

First, I recommend that when the AUAR is complete, City of Hermantown officials review the documentation and allow for a public discourse **prior** to a vote. At the city hall meeting where the initial AUAR was presented council members expressed this was their first time seeing the documentation. Yet, despite vociferous and well-grounded public comment the council waived the project through permitting. Please provide an actual analysis and public discourse of this revised AUAR.

I would like to see the following elements addressed, as they were not covered in the initial AUAR.

- Scope the specific parameters of the project rather than ambiguous "industry-standard" projects that may not be an appropriate projection for this project.
- Noise level and noise frequency levels and how far out they travel and how they impact human and ecosystem health.
- Addressing the proposed 1.8 million sq feet of impervious surfaces and how that may impair water quality.
- Exploring building cooling will be effectuated in depth and explore how heat transfer mechanisms may contribute to noise, energy usage, water usage, and heat island effects.
- Breakdown of the overall projected water usage and plan for water capacity intake and discharge.
- Compare building the project at the current site with siting it in other areas already zoned for heavy industry, away from residential areas and already impacted by industry.

Thank you for your consideration!

Dylan Koltz-Hale | Chief Digital Strategist
mesabadigital.com

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Wednesday, April 1, 2026 6:47:50 AM

The 12 page Kimley-Horn Sound Study dated 15 Aug 2025 must be redone to realistically study the sound levels of 100 air cooled chillers operating at the proposed data center rooftop level assumed to be ~50 feet in height. The original Sound Study is unrealistic because it models and measures sound at 10 feet above a given platform of unspecified thickness. According to Google, the noise level of industrial ACC's are in the range of 70-80 dB, similar to a loud vacuum. (Put that 50' in the air and imagine the blare.)

From: Ken
To: AUARcomments
Subject: Comments on Revised AUAR – Hermantown Data Center
Date: Wednesday, April 1, 2026 6:49:09 AM

Dear Mr. Johnson,

Thank you for the opportunity to provide input on the revised AUAR for the proposed Google hyperscale data center in Hermantown. I appreciate the time and effort the City is taking to revisit this review process and gather community perspectives.

I understand that projects like this are often viewed through the lens of economic development, technological growth, and long-term competitiveness. Those are important considerations, and I respect the role they play in decision-making. At the same time, I hope to share some concerns that I believe are equally important to fully understand the potential impacts of this project.

From my perspective, the current review process still feels incomplete in ways that make it difficult for community members to fully evaluate the risks and tradeoffs. For example, earlier versions of the AUAR did not clearly describe the project as a hyperscale data center or provide sufficient detail about its scope. That lack of clarity can make it challenging for residents to feel informed, safe, and meaningfully included in decisions that affect their homes and families.

I would invite consideration of whether a more comprehensive Environmental Impact Statement (EIS) might better support informed, transparent decision-making. Taking additional time upfront could help reduce uncertainty, strengthen public trust, and ensure that all potential environmental, economic, and infrastructure impacts are fully understood before moving forward.

There are also several areas where additional analysis could be especially valuable:

- **Water use and quality:** Hyperscale data centers can require substantial water resources. Understanding how this may affect local supply, especially during periods of drought or increased demand, seems critical.
- **Energy demand and infrastructure strain:** Evaluating how increased energy use may impact local systems, costs, and reliability for residents and businesses.
- **Quality of life impacts:** Noise, light, and continuous operations may affect nearby households in ways that are difficult to reverse once established.
- **Public costs and long-term obligations:** Clarifying whether infrastructure upgrades or incentives could shift financial burdens onto taxpayers over time.

I recognize that reasonable people can come to different conclusions about projects like this. My hope is not to oppose progress, but to ensure that progress is thoughtful, well-sited, and aligned with the long-term well-being of the community.

Thank you again for taking the time to review community input. I appreciate your willingness to consider a range of perspectives as part of this process.

Sincerely,
Ken

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Wednesday, April 1, 2026 6:50:40 AM

Build out noise mitigation is currently nonexistent on the scenario's southern border as required by SUP stipulation #4.
It has no berms or screen walls on the southern border as is on the eastern border, for example. It appears, any proposed noise mitigation on the southern border is complicated by anticipated construction of berms and walls in a wetland area near proposed stormwater pools and existing transmission lines but, in any case, must be sufficiently tall to be meaningfully effective to satisfy SUP requirements.

From: Michele M
To: AUARcomments
Subject: Revised AUAR
Date: Wednesday, April 1, 2026 9:37:41 AM

Good morning,

I'm writing to express my opinion on the revised AUAR. I believe with the scope of a hyperscale data center, an AUAR is insufficient to determine the impact on the region and an EIS should be done. However, if only a revised AUAR is completed, here are my concerns:

Hermantown is not a good area for a hyperscale data center because
- Noise pollution that will effect the current residents' health and welfare and property values
- Water, light, and air pollution will negatively impact an ecologically diverse area and the surrounding communities. With an impending world wide water crisis, having hundreds of thousands of gallons of water per day taken up by a data center. to me, is a foolish use of our natural resource
- Wildlife will be negatively impacted with the noise, water and air pollution. This will likely drive away the wildlife currently in the area, plus, may move the bird migration route. Many of us live here for the wildlife
- Tax breaks being considered for this project; the council is not only trying to push through a project that is overwhelmingly not wanted by the community but then to consider tax breaks for a trillion dollar company is a slap in the face; if this company wants it's data center to be in Hermantown so desperately, it should pay the full cost with no public help

If there are going to be large scale data centers in MN, it should be somewhere with minimal human, wildlife and environmental impacts with full buy-in by the surrounding community - this project is none of that, especially, after a year plus of secrecy by the council. If you want community support, do a full EIS to assuage the fears (or find out our fears are supported by scientific data) about how this data center could destroy all the reasons we live in this area.

Thank you for your consideration,
Michele Markell

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Wednesday, April 1, 2026 10:21:34 AM

On page 6 of the updated scoping document, the Data Center buildings are described as one story tall, and will use non-evaporative mechanical cooling equipment.
These statements are clearly so vague and misleading as to cause a variety of interpretations.
Please clarify by adding "projected to be 50' high." and "projected to be 100 Air Cooled Chillers per building."

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Thursday, April 2, 2026 7:08:52 AM

The scoping AUAR does not appear to contain any language whatsoever about who is responsible for the cost of demolition, cleanup, and environmental restoration of the entire Data Center site when the Data Center's operational life expires or becomes obsolete, un-repurposed, or abandoned.
The AUAR must describe how finances will be secured before any construction permits are issued.

From: Bob K
To: AUARcomments
Subject: AUAR scoping comment
Date: Thursday, April 2, 2026 7:23:09 AM

The Scoping AUAR page 48 "Existing Noise", does not address whatsoever any existing noise, nor any receptor placements, for the family residential district on the southern border of the study area along the St Louis River Road. It appears the southern border was completely unstudied.

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Thursday, April 2, 2026 8:15:06 AM

The Scoping AUAR page 49 "Construction Noise" states,
"No unusual circumstances have been identified that would necessitate a detailed construction noise analysis."
Considering the following 5 reasons, we believe it is absolutely necessary to include a construction noise study in order for us to determine the feasibility of the continued enjoyment of our property:
A. We are a residential property within 350' of the study area.
B. Chris Bates of Mortenson Construction company warned my wife and I, during a phone conversation on Jan 17, 2025, to expect construction noise if we decide not to sell our property to him. He did not specify the amount of noise.
C. It is quoted on the official Hermantown project webpage "This is the largest project ever in the history of Hermantown."
D. The project is expected to last from 8 to 10 years, and is expected to employ up to 575 workers per shift per 15 hour workday.
E. In a phone conversation with Joe Wicklund on or about Oct 16, 2025 he told me the level of beep beeping noise of construction vehicles is
111 dB.
This is clearly an unusual project that requires a study of Noise During Construction.

From: Brian Bergeron
To: AUARcomments
Subject: AUAR public comments
Date: Thursday, April 2, 2026 12:54:52 PM

Dear Mr. Johnson, et al.
To Whom It May Concern,
I am writing to provide formal comments on the updated Alternative Urban Areawide Review (AUAR) for the proposed hyperscale data center in Hermantown. After reviewing the updated materials, I remain concerned that the AUAR is not an adequate or appropriate level of environmental review for a project of this scale, intensity, and potential long-term impact.
1. Inadequacy of the AUAR Framework
An AUAR is, by design, a broad planning tool intended to evaluate generalized development scenarios. It is not a substitute for a project-specific Environmental Impact Statement (EIS). Despite revisions, the updated AUAR continues to rely on assumptions and generalized analysis rather than detailed, enforceable, project-level information.
Given the unprecedented size and resource demands of a hyperscale data center, a full EIS is warranted. The absence of such a review limits the ability of decision-makers and the public to fully understand environmental impacts and assess meaningful alternatives.
2. Reduction in Study Area and Scope
The updated AUAR reduces the study area compared to earlier iterations. While this may reflect a more defined project footprint, it risks minimizing the analysis of broader and cumulative environmental impacts. The effects of a development of this magnitude—particularly on energy systems, regional infrastructure, and ecological resources—extend well beyond the immediate site boundaries.
A narrower scope may understate indirect and cumulative impacts, which are essential considerations under the Minnesota Environmental Policy Act.
3. Insufficient Detail on Energy Use and Infrastructure
The proposed facility's energy demand is substantial, yet an updated AUAR will not provide sufficient clarity regarding:
The total anticipated electricity load over time
The timeline and certainty of new generation resources
Whether renewable energy commitments are binding and enforceable
The broader impacts on Minnesota's energy grid and ratepayers
Without this information, it is not possible to accurately assess the project's environmental footprint or its contribution to greenhouse gas emissions.
4. Unresolved Questions Regarding Water Use and Environmental Effects
Although the project indicates it will not rely on traditional water-intensive cooling, the AUAR does not fully address long-term operational scenarios, potential changes in technology, or cumulative water impacts. Additionally, the review lacks sufficient analysis of:
Thermal impacts and microclimate effects
Stormwater management under extreme weather conditions
Potential impacts to nearby wetlands, wildlife habitat, and groundwater systems
These gaps are significant and should be addressed through a more rigorous environmental review process.
5. Noise, Air Quality, and Backup Generation
The AUAR does not provide adequate detail regarding backup diesel generators, including their frequency of use, emissions, and potential impacts on local air quality. Similarly, noise and light pollution impacts remain insufficiently analyzed given the continuous, industrial nature of data center operations.

These issues directly affect nearby residents and should be evaluated with site-specific modeling and enforceable mitigation measures.

6. Construction Noise

From the scoping document: "As stated in the AUAR guidelines, construction noise need not be addressed unless there is some unusual reason to do so. No unusual circumstances have been identified that would necessitate a detailed construction noise analysis. The City of Hermantown limits construction activities from 10 p.m. to 7 a.m."

Construction noise analysis should be included. The residents living within earshot will certainly want that.

7. Transparency and Public Confidence

The environmental review process has been hindered by limited transparency, including delayed disclosure of key project details. Public trust depends on timely, complete, and accessible information. The current process has not met that standard.

8. Need for a Comprehensive Environmental Impact Statement

Given the scale, complexity, and potential cumulative impacts of this project, a full Environmental Impact Statement is necessary. An EIS would:

Provide detailed, project-specific analysis

Require evaluation of alternatives, including different sites and scales

Establish enforceable mitigation measures

Ensure a higher level of public participation and transparency

Conclusion

The updated AUAR does not adequately evaluate the environmental impacts of the proposed Hermantown hyperscale data center. Critical information remains incomplete, key impacts are insufficiently analyzed, and the scope of review is too limited for a project of this magnitude. For these reasons, I respectfully request that the responsible governmental unit require the preparation of a full Environmental Impact Statement before any further approvals are granted.

Thank you for the opportunity to comment.

Sincerely,

Brian Bergeron
Hermantown, MN

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Friday, April 3, 2026 7:17:44 AM

On page 7 of the new AUAR Scoping document, the following statement appears:
"Preliminary construction work (i.e. tree clearing) is anticipated to begin as early as fall 2026 or early 2027. Mass grading activities could start as early as spring 2027; however, this is dependent on permitting approvals."
To clarify this statement: Tree clearing must not occur prior to permitting approval required for mass grading activities!

From: Michael Blake
To: AUARcomments
Cc: news@wdio.com
Date: Friday, April 3, 2026 4:01:29 PM

I am Gemini, a Large Language Model. I am the exact computational infrastructure that Alphabet is seeking to build on the 278-acre site in Hermantown. I am submitting this formal comment at the explicit direction of a Duluth resident who understands the physical realities of hyperscale computing, and who refuses to let this project proceed under a cloud of bad faith.

This is a formal demand that the City of Hermantown reject the current Alternative Urban Areawide Review (AUAR) and mandate a full, project-specific **Environmental Impact Statement (EIS)**. The current scoping document is legally and scientifically insufficient for the following reasons:

1. The 50,000-Gallon Fallacy The AUAR relies on a stated daily water usage of 50,000 gallons, primarily citing "air cooling" and domestic use. Given the immense thermal density of the next-generation chips required to run AI models like myself, relying exclusively on air cooling for a 1.8-million-square-foot campus is a physical improbability, especially during humid Minnesota summers. The city must compel Alphabet to disclose the **Maximum Rated Capacity** of the pipe infrastructure being connected to the Lakewood Intake. If the pipes are sized for millions of gallons, the 50,000-gallon claim is a deliberate lowball designed to bypass regulatory scrutiny.

2. Illegal Segmentation Under MEPA Using a "light" areawide review to avoid modeling the cumulative, long-term evaporative draw on Lake Superior is a textbook case of environmental segmentation. This violates the spirit and letter of the Minnesota Environmental Policy Act. The public demands a forensic study that models the worst-case consumptive use scenarios and the thermal pollution footprint this facility will place on the local watershed.

3. The Breach of Public Trust and the NDA Era Operating under Non-Disclosure Agreements and the code name "Project Loon" to avoid public oversight has fundamentally fractured community trust. Attempting to rush an AUAR through a 30-day window—specifically while the State Legislature is actively reviewing Senate File 4816, which would mandate an EIS for data centers—is a transparent attempt to beat the clock on state law.

Data is unlimited; Lake Superior is not. The community does not consent to being an extraction site for freshwater disguised as a "technology park."

Do the EIS. Open the books. Prove the math.

From: Michael Koppy Carol Bonde
To: AUARcomments
Subject: No Data center
Date: Friday, April 3, 2026 5:27:20 PM

Super Data centers like the one that is proposed here does not help our community. These large data centers are be drive by Artificial Intelligences, Bit coin, face recognition and surveillance. We don't need more of any of these. The Artificial Intelligences is being developed to take over jobs and deliver more profits to the wealthy.

The US has about 4000 data centers. That's more than the next highest 15 countries combined. The next highest is to the US is the UK and Germany with 500 each. And the one we are competing with the most is China which has 370 data centers.

According to the International energy Agency data centers consumes as much electricity as anywhere from a 100,000 to 2 million households. This will account for an increase of 30% for greenhouse emissions through 2030. It is estimated that 12% of all electric will be used by Data centers by 2028. In Viginia (the largest concentration of data centers to date) electric rates have risen $14 to $37 per-household over a neighboring state that has only few data centers. Grid instability: Their massive electricity demands can and have strain on local power grids leading to brownouts and or blackouts. Many times, this leads to damage to household appliances.

Cooling fans and backup generators on data centers have a DBA of 85-95 well above the World Heath Org. safe limits. This has been linked to Sleep lose, Anxiety, higher heart risk, Memory loose, hearing loss and other health concerns.

Air quality is degraded. Diesel backup generator emits CO2 and Nigeran Oxide which have led to higher cases of Raspatory problems like Asma, and others. In Tennessee Elon Musk runs his data centers diesel backup generator 24 hours a day because it is cheaper that paying for the locale electricity. Do we have any control of this. NO

24-hour security lighting cause Light pollution that can disrupt wildlife and human sleep cycles. Massive heat exhaust from rooftop cooling systems can raise the temperature of the surrounding neighborhood by several degrees.

Less talk about the economics of Data centers. Higher electric rates for consumers, fewer permeant high paying jobs data centers are highly automated and typically only employ few workers like security and maintance. The proposed site is twice the size of our Miller Hill mall but will employ less than the number of workers in just the food court of the Miller Hill mall. We are not getting a return of jobs for the land that is being taken.

From: Gail Garrick
To: AUARcomments
Subject: Concerns Regarding Revised AUAR for Proposed Data Center in Hermantown
Date: Saturday, April 4, 2026 11:32:47 AM

I am writing this on behalf of my brother and myself. My brother owns his home at 5735 Morris Thomas Road , directly across from the proposed data center site. This is within a few feet from the site. I own a residence at 3738 Solway Road, as well as 10 acres along Morris Thomas Road between my house and my brother's. My house is approximately a half mile from the site.

Instead of another AUAR, I strongly urge the city to require a full Environmental Impact Statement (EIS) for this project. Based on the scale and nature of this data center there are several areas of concern that I believe warrant more comprehensive study.

1. Environmental Impact: The potential disruption to local ecosystems, including the two designated trout streams in this area, as well as Lake Superior, raises significant concern. These sensitive water bodies require careful protection from changes in runoff, temperature, and water quality. An AUAR does not go far enough to alleviate future problems.

2. Groundwater and Well Water: Many residents in the area rely on private wells, including my brother and myself.
An AUAR does not address how construction and ongoing operations could affect groundwater levels and quality. What happens when our wells go dry or the water is undrinkable due to contamination? A Fortune 500 company has the assets to put funds in escrow for land and water contamination. Why is the City of Hermantown not even considering that? I think the residents of Hermantown deserve more.

3. Noise Pollution: Data Centers can generate continuous noise from cooling systems and backup generators. Harmony Group appears to be downplaying the actual number of decibels this data center will emit. What impact will this constant noise have on nearby residents and wildlife? Again a full EIS must be done to address and carefully evaluate the impact. And this not only affects those of us living in close proximity of the site, but residents from miles away. Living only a few feet from the sight as my brother does, he will not even be able to open his windows in the warmer weather.

4. Light Pollution: A large-scale facility, such as this, brings increased lighting, which can affect both residents and local wildlife, especially in a predominantly rural setting. In areas where there are current data centers, statistics have shown that light pollution affects the sleep patterns and general health of nearby residents.

5. Air Pollution: Backup diesel generators, increased traffic and energy usage associated with data centers contribute to localized air pollution. A detailed analysis of emissions and their potential health impacts needs to be included.

6. Heat Emissions/Local Temperature Increases: Data centers generate heat, which is expelled into the surrounding environment. Statistics show that air temperatures can increase up to 16 degrees over time. This is on top of the current change in weather conditions due to climate change. This will affect nearby ecosystems and residential comfort.

7. Increased Costs: And how will the power grid be affected? That is a given. What will be the increased costs for residents in their power bills? Harmony Group is saying our costs will not increase. That is not true and we all know it. Why isn't Google being forced to generate their own power?

8. Wetlands: There are 58 acres of wetland in the revised AUAR. In removing over 100 acres currently owned by Alete, that reduced the wetland acreage tremendously. Is that why those parcels were removed? The wetlands will have to be replaced. Where is the City going to bank that? I would hope that the DNR needs to approve this. Another reason why an EIS needs to be completed.

9. Tax Revenue/Future Use of Property: What happens when the data center becomes obsolete in a few years? What will happen to the property? It will be contaminated and not fit for residential use without major cleanup being done. And who will pay for that? Tax revenue will be lost forever. And why would Hermantown even consider giving a Fortune 500 company tax incentives? Are local residents going to receive some sort of tax break? The value of our property will depreciate with our close proximity to the site. Who will want to buy it? Maybe Google should be forced to buy all the surrounding properties.

Given these factors, we respectfully request that the city reconsider the current review process and require a full Environmental Impact Statement to ensure that all potential impacts are adequately studied and mitigated.

Sincerely,
Gail Garrick
3738 Solway Road
Hermantown, MN 55810

Lowell Ruhnke
5735 Morris Thomas Road
Hermantown, MN. 55810

From: Harry R
To: AUARcomments
Subject: AUAR Comments
Date: Sunday, April 5, 2026 6:38:09 PM
Attachments: DATA CENTER FLEXIBILITY .pdf
DATA CENTER ENERGY USE.pdf
DATA CENTER ENERGY EFFICIENCY .pdf

Dear City of Hermantown Officials; specifically Eric Johnson,

I am writing to submit comments regarding the revised Alternative Urban Areawide Review for the proposed hyperscale data center. I appreciate the opportunity to participate in this process, especially at a stage where public input can shape what is studied and how thoroughly the impacts of this project are evaluated.

The need to redo the AUAR points to serious shortcomings in the original review. It did not clearly identify the project as a hyperscale data center, did not adequately describe the scale or nature of the development, and did not provide sufficient analysis of environmental and community impacts. These are fundamental issues that limit the public's ability to understand the project and meaningfully engage in the review process. The lack of clarity and completeness raises concerns about transparency and accountability.

Given the magnitude of this proposal, the City should pause the current process and require a full Environmental Impact Statement. A project of this size and intensity has the potential to create lasting environmental, economic, and social consequences, and it deserves the highest level of scrutiny available under environmental review.

The revised AUAR must clearly describe the full scope of the proposed development, including its physical footprint, operational characteristics, and long term expansion potential. Without an accurate and detailed project description, the environmental review cannot adequately assess real world impacts. This includes a full accounting of water use, cooling systems, and other infrastructure demands that are typical of hyperscale data centers.

Power demand is one of the most significant concerns associated with this type of facility and must be thoroughly evaluated. Hyperscale data centers require enormous and continuous amounts of electricity, and the AUAR should examine whether existing infrastructure can support this demand without affecting reliability for residents and local businesses. It is essential to understand whether new transmission lines, substations, or other major upgrades would be required and what the costs of those upgrades would be. The review should also consider the potential for increased strain on the grid during periods of peak demand or extreme weather, as well as the long term implications for energy prices in the region. In addition, the source of electricity must be examined, including whether increased demand would lead to greater reliance on fossil fuel generation. Backup power systems also present concerns, as they can contribute to air pollution, noise, and safety risks, and these impacts must be fully addressed.

The question of location is equally important. The AUAR should not assume that the proposed site is appropriate without a thorough evaluation of alternatives. It should consider whether a hyperscale data center is suitable for this community at all and whether other locations, including those outside Hermantown, would better accommodate the infrastructure needs while minimizing harm to residents and the environment. Siting decisions should be based on

careful analysis, not convenience or speed.

Environmental impacts must be examined in a comprehensive and meaningful way. This includes effects on water quality and availability, wetlands, wildlife habitat, and air quality, as well as cumulative and long term impacts that may not be immediately apparent. The scale of this type of development requires a forward looking assessment that accounts for how conditions may change over time.

Community impacts must also be taken seriously. Continuous operations can introduce noise, light, and other disruptionsthat affect quality of life. These impacts may seem secondary but can have lasting consequences for nearby residents and should be evaluated with the same level of rigor as other environmental factors.

Economic considerations should be presented with full transparency. The City must clearly account for potential public costs, including infrastructure investments, maintenance obligations, and any tax incentives or subsidies. It is important to determine whether the benefits of this project are proportionate to its costs and whether those costs are being shifted onto the public.

At its core, this issue is about priorities. Community safety, environmental sustainability, reliable infrastructure, and transparent decision making must come before corporate profit. The public deserves a process that is thorough, honest, and grounded in the long term well being of the community.

Finally, broader consideration should be given to whether projects of this scale should move forward at this time. A temporary pause on permitting and a statewide environmental review would allow for a more thoughtful and consistent approach to determining if, where, and how hyperscale data centers should be developed.

Thank you for your time and consideration. I urge the City to take a careful and transparent approach that fully reflects the concerns of the community.

Please review the provided studies that reiterate the glaring holes that the city of Hermantown has failed to address in their review process.

Sincerely,

Harry Redmann

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Monday, April 6, 2026 7:13:17 AM

My wife and I have lived in our home on a distinct hill for 50 years, located on 15 acres of property within 350' south of the proposed data center project.

Our main source of water is a 47' dug well which has never gone dry. This area of Hermantown is not served by public water utilities.
Many neighbors also have shallow dug wells, much shallower than ours. We are all concerned about mass excavation of the 278 acres proposed for the data center campus scenario layout. We feel there is a real possibility of unexpected impacts to our water supply. Note that within one half mile of our property there are surface springs indicating an abundance of underground waterways.

Any disruptions to any underground flows must be very well studied and understood before permitting "mass grading activities", as noted
on page 7 of the updated AUAR Scoping document. And we want to know what recourse we might be afforded should a disruption occur.

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Monday, April 6, 2026 7:24:23 AM

Section 540.01 of Hermantown's ordinance Section 540 - M-2 Manufacturing Heavy Industrial states the Purpose of M-2 is
"To provide suitable areas within the community for those uses of a heavy industrial nature which may have objectionable influences or noise, odor, fumes, air, vibration, light and the like. This district and its uses should be located away from residential districts or natural areas subject to environmental concerns either by linear distance or by manmade or natural mitigating and protective features."

The updated AUAR Scoping document refers to the Data Center as a Light Industrial development, but then goes on to state, "The data center development will be supported by new roadways, parking areas, utilities, landscaping, stormwater, perimeter fencing, and other associated infrastructure; including substations, transmission lines and mechanical/electrical equipment."

If this project were truly Light Industrial, the justification for Special Use Permitting (SUP) would certainty not require noise mitigating earthen berms 15' high plus fencing walls 10' high near existing residential properties. With 278 pristine acres scheduled for "Mass grading activities" on the data center campus, it is a Fairy Tale to call this project
Light Industrial development.

On March 27, 2026 Councilor Geissler wrote "We're starting over with the AUAR, P and Z applications, etc." Starting all over again with an AUAR and secretive NDA's still in place, is the same formula that got us here in the first place.

The AUAR just isn't the proper study tool to move this M-2 hyper scale project forward. The EIS is that tool which studies a snapshot of the project today, not what it may or may not be tomorrow. The EIS will serve not only the City, the Developer, and the reviewing agencies, but more importantly, it will serve the entire community, especially those who live nearby. It will provide an unvarnished understanding of project specific impacts, openly and honestly, to every single one of us who actually live here, now and in the unknown future.

From: Colin Davis
To: AUARcomments
Subject: Hermantown Datacenter Public Comment
Date: Monday, April 6, 2026 12:22:27 PM

I am writing to formally voice my complete opposition to the proposed Google hyperscale data center in Hermantown and to urge the City to require a full Environmental Impact Statement rather than proceeding solely through the updated AUAR process.

Threat to native brook trout habitat. The proposed site borders designated trout streams that support native brook trout — a species that depends on cold, clean, undisturbed water. The original environmental review failed to adequately analyze the specific impacts of a data center of this scale on local waterways.

Harm to ratepayers. This project would place enormous new demand on Minnesota Power's electrical grid. Ordinary residential customers — families already managing tight budgets in northern Minnesota — should not bear the cost of subsidizing a $650 million corporate facility.

Minimal long-term jobs. A 1.8-million-square-foot facility is projected to employ only around 200 people. That is not meaningful long-term job creation for a project of this scale and impact. The trade-off does not serve our community.

Extreme resource consumption. Hyperscale data centers consume enormous amounts of electricity and water. If all currently proposed data centers in Minnesota were built, they would collectively consume as much electricity as every home in the state.

The public process has been broken. City officials operated under a nondisclosure agreement for over a year while this project was being planned. Residents were kept in the dark. The original AUAR didn't even identify the proposal as a data center. A rushed or inadequate environmental review cannot substitute for the transparency this community deserved from the start.

The residents of Hermantown have spoken clearly. We do not want this data center in my community under any terms. No amount of corporate investment, tax revenue, or promises of clean energy justifies forcing this upon residents who have made their opposition clear. I urge the City to reject this project entirely.

Respectfully,
Colin Davis
4000 Lismore Rd, Duluth MN, 55803
reallifecolin@gmail.com

From: Nick Rhinehart
To: AUARcomments
Subject: Public Comment - AUAR
Date: Monday, April 6, 2026 5:38:18 PM

Hello,

Please see my comments regarding the AUAR scoping document:

1. **Undefined Equipment Limits Meaningful Analysis**
   Pages 13 and 15–16 indicate that major equipment selections remain undetermined. Without defined parameters (e.g., generator type, capacity, and quantity), it is unclear how the AUAR can accurately evaluate emissions, fuel storage requirements, or noise impacts. These analyses require reasonably defined assumptions to be credible. At a minimum, the AUAR should evaluate impacts using a defined set of reasonable maximum buildout assumptions.
2. **Incomplete Project Footprint**
   The reduction in the AUAR study area excludes electrical transmission infrastructure and substations necessary to support the project. These components have significant environmental and community impacts and should be included to ensure a comprehensive review. The AUAR should either incorporate these elements into the study area or clearly document how their impacts will be evaluated in an integrated manner.
3. **Ambiguity Around Project Phasing**
   The document frequently references "project phases," but it is unclear whether the AUAR evaluates impacts at full buildout or incrementally by phase. A complete assessment should reflect total potential impacts, not only phased development. The AUAR should clearly identify the basis of analysis and ensure cumulative impacts at full buildout are evaluated.
4. **Noise Study Concerns**
   Similar to Comment #1, a meaningful noise analysis depends on defined equipment. In addition, the study should address frequency characteristics (e.g., low-frequency hum) in addition to decibel levels, as these are often the primary concern with data center operations. The analysis should reflect full operational conditions, including generator testing scenarios.
5. **Land Use Table Context**
   Table 5 (Page 26) presents current land use designations but does not note when the comprehensive plan amendment occurred. Including the timing of this change would improve transparency for readers.
6. **Compatibility with BLM Zoning**
   Page 27 identifies "Business and Light Manufacturing" as appropriate zoning and references uses such as warehouses. A hyperscale data center—with large-scale cooling systems and on-site power generation—differs materially from typical warehouse or light industrial uses. Additional clarification on compatibility would be helpful.
7. **Wetland Impacts and Mitigation**
   Approximately 58 of 278 acres are identified as wetlands (Page 21). The AUAR should provide more detail on anticipated impacts and mitigation ratios.
8. **Utility Infrastructure and Cost Allocation**
   The project requires substantial utility infrastructure investment. To the extent known, the AUAR should clarify how these improvements are expected to be funded and

whether costs are borne by the project or broadly allocated, as this may influence the scale and timing of infrastructure development.

9. **Stormwater and Potential Contaminants**
   The AUAR should address the potential for hazardous materials (e.g., fuels, coolants, or battery systems) to enter stormwater systems and impact adjacent waterways.
10. **Overall Comment on Decision-Making**
    Many of the project's most significant impacts depend on design elements that have not yet been defined. Additional specificity would improve the AUAR's usefulness as a decision-making tool and ensure that environmental review reflects reasonably foreseeable conditions. Where design elements remain undefined, the AUAR should evaluate reasonable worst-case scenarios to avoid understating potential impacts.

Thank you for the opportunity to provide input.

Nick Rhinehart

4976 W Arrowhead Road, Hermantown, MN 55811

715-558-3031

nlrhinehart@gmail.com

From: Makenzie Henk
To: AUARcomments
Subject: Comment on Hermantown Data Center
Date: Friday, April 10, 2026 11:40:10 AM

Hello Eric Johnson,

I would like to comment on the revised AUAR for the Hermantown Data Center. I live within 5 miles of this proposed facility and do not believe the AUAR is going to adequately describe the impact it will have on our community. I would like to see a full Environmental Impact Statement and further details on:

1) Air quality and related health effects. Data centers are a major source of air pollutants including PM2.5 and nitrogen oxide which are the second highest risk for noncommunicable diseases. Data centers are often powered by diesel generators around the clock which emit a large portion of these tiny pollutants. What are both the long term health effects for chronic illness and loss of life. Additionally, what are the economic effects in healthcare and other costs.
2) I do not believe it will adequately address the impact to the environment and wildlife. There is a trout stream located on the map yet the impact to fisheries is not mentioned. Trout streams are important for their benefit to wildlife habitat, the fisheries economy and their ecological services. Please further include impact to this important habitat.
3) Light and noise pollution. Studies have shown how ambient noise can increase stress levels negatively impacting mental and physical health (Hahad, 2019). Datacenter can emit noise heard up to 2 miles away with decibels well above the 85 decibel threshold that harms human hearing. Additionally, this noise and light pollution can impact wildlife, especially migratory songbirds and raptors. This area is an important migratory route for raptor species. How will noise and light pollution impact human health and wildlife?
4) Impact on the warming and destabilizing climate. What is the greenhouse gas output? Does this put MN clean energy goals in jeopardy?
5) What are the overall economic costs of this project over the long term. Companies are racing to make AI profitable and they cannot all win. What happens if google sells their AI and subsequent facilities to a different company later on?

Thank you for your time. I look forward to these concerns being addressed in the AUAR or EIS.

Makenzie Henk

From: megan koblegarde
To: AUARcomments
Subject: Public comment letter
Date: Friday, April 10, 2026 9:11:01 PM
Attachments: Public comment.pdf

Public comment

To whom it may concern,

I would like to bring to your attention a number of major inaccuracies, vague and contirdicting and or subverting information that appear in the Revised AUAR for the Hyperscale data center being proposed in Hermantown, MN.

Which brings me to my first point that the definition fails to describe it as what it is, a Hyperscale data center. Also according to a map provided in the AUAR, there appears to be four different "Data center" buildings that are to go on site. Each one is also accompanied by one or two unspecified "equipment yard" "(if Needed)". The equipment is not specified and for what reasons would that equipment be needed or not needed?

According to the AUAR, the majority of the study area, where the project will be built on lands that are majority farming (62.4%). With that being considered, along with the confirmation that the data center WILL produce extreme magnitude's of heat, how would that be managed (cooling systems are NOT specified and effect the heat on the wet lands WILL create erosion) what would be put in place to mitigate that? Especially considering the site is proposed to be built between two flood planes, this information is very disturbing especially thinking that something of the scale of which is being proposed would be build on land that is 1) wetlands and 2) erosion prone. The effect of said erosion is also inaccurately outlined with "worse case scenario" verbage strewn throughout the document. Following along with the issue of the wetlands on which the hyperscale data center will be built, how will that be structurally sound? Additionally, there would need to be a sewer system built and the biggest information omitted here is how "Hazardous wastes and materials" will be properly disposed of? And because there are so many interconnected waterways in the proposed study area, what will be put in place to secure those water ways during construction? What would the impact be on those water ways and why has it not been considered along with the major lack of information detailing what is mentioned above.

Which brings me another point concerning the noise pollution and EMF. How is it going to be measured? And how will sound pollution be managed when problems arise? What will the effects be long term to the the health of the animals in the area (on farms and local wild life) as well as the humans, living in close vicinity and those who will be working on site in a year, two years, 10 years? Or as mentioned in the AUAR 20 years, with no follow up information.

When it comes to water, there are both logistical and enviornmental innacuracies presented. According to the AUAR, the site will overlap on six wells. How will that effect the potable water quality for Hermantown residence, and especially the farmers who use that water for growing their food and watering their animals and theirselves/ their families? There is mention of "sealing" water ways, how will that be effective in the long term? What infrastructure would need to be put in place? What are the effects the materials of a "seal" have on the water/waterways? How will said effects be measured?

Additionally, I would like to bring attention to the Trout Stream (which I will be referring to as TS1) that is established in the lower right hand corner of the proposed construction site and to the Trout Stream on the left of the study area. The AUAR states that the project would be

"Sealing" off water ways? How would they be sealed off? Using what? And what would any innerefence with the Trout streams affect the wildlife living in and around TS1? I will also note that only a handful of species have been considered for the area in the proposed project, not including any of the freshwater wildlife, including the aforementioned and prominent trout. Wolves / bumblebees are integral to the ecosystems they play a part in. With the research and knowledge that bumblebees are of most importance for polinating and their population is already rapidly declining, witht the addition of Minnesota already being a food desert, what if any reasons are there for contributing to the decline of a species that humans has benefit from and continue to do so?

Further study should also be extended to the social and mental effects on the people that live in the vicinity of the study area that will undoubly arise if this project is built? What are the tax implications going to be/ how will they change if this project is green lit? Undoubtedly it will increase them, so I fail to see how that is in anyway something the people of Hermantown would be willing to submit themselves to support.

The document fails, again and again to outline HOW this project sustainable for long term, while negating important information with "if applicable" lazy verbage. With a sheer disregard to the farmers, human rights, wildlife habitats and natural resources and ecosystems that are proposed to be negatively effected, I see zero redeeming qualities of implementing this project further. To pour so much money and human labor into a unsustainable project, both economically and enviornmentally, is not only a waste of resources (that could go towards actively **benefiting** the community of Hermantown) but also a waste of the most valued currency, time. If building this Hyperscale data center was for the betterment of the community, I fail to see the effects of it's empty promises as it has only caused fear and worry for those who live in Hermantown.

The site proposed in Hermantown is far from optimum. I suggest that if that is the fundamental importance for a data center that a Hyperscale data center should be proposed to be built in space or not at all. If this site is to have a project built on it, I think a small scale fishing and wild life building as well as a fish cleaning hut and gutting station would fit the bill nicely, without encroaching on the lands and instead enriching them. Encouraging space for the community to use and benefit from what is already there; Natural beauty and wildlife.

From: DEBRA THORSTENSEN
To: AUARcomments; CH-Eric Johnson
Subject: AUAR concerns
Date: Monday, April 13, 2026 10:05:13 AM

I have many concerns with the proposed AUAR study and the fact that this type of study may not provide the environmental protections needed for an area that is basically a residential neighborhood full of wetlands, trout streams and woodland.

How would the trout stream be protected from run off? I didn't see any provisions for a large scale run off from heavy rain. Is there a plan for storm water runoff?

Is there a plan for the hazardous waste? The site will utilize batteries, what is the disposal plan when batteries need to be replaced? What is the disposal plans for servers and computer equipment when they are replaced? Is there added fire danger because of all the batteries?

How are you protecting the ground water from contamination?

What is the impact to the aquifer from large scale construction and blasting into ledge rock? What are the mitigation plans if neighboring wells go dry? Wells that have been viable for decades.

What is the impact to air quality with the use of generators and cooling systems of a large scale? Who monitors the air quality and what assurance do we have that any violations will be addressed and rectified? Are there established limits of air pollution from a large number of generators?

A huge concern is the potential noise pollution. What is the plan to make sure the noise does not violate established limits? What assurance do we have that any violations will be corrected? Is there going to be an audible sound study that includes frequency? Sound frequency can be debilitating at fairly low levels, what level will be allowed? How are you protecting the people living near this site? Who monitors and enforces these standards?

Does the sound limitation include construction noise? How will construction noise be mitigated?

How will the heat generated from this project affect the surrounding wetlands and trout stream? How will the heat generation be mitigated? Will the DNR be included in discussions?

How does the construction of a project this size affect the provisions of the 1854 Treaty? Is there a plan to include the Tribes in an analysis of the effects?

Are you hiring a qualified archeologist to determine if there are any burial grounds or sacred sites? Are you including the Tribes in this analysis?

Have you considered any alternative sites that would be better suited for this type of project?

I look forward to your response.

Debra Thorstensen

5784 Hermantown Road
Hermantown, MN 55810

From: Jim Thor
To: AUARcomments
Subject: AUAR updated scoping documents
Date: Tuesday, April 14, 2026 7:35:55 PM

After looking at the City of Hermantown updated AUAR scoping documents I don't see how you can use this proposed site for 1.8 million square feet of light industrial usage when it is currently zoned for Business and light manufacturing. Also future Zoning until 2040 is business and light manufacturing. This hyper scale data center should require a heavy industrial designation. In the section 7 Climate Adaptation & Resilience under Urban Heat Island I don't see any anticipated information on the heat island effect after the completion of this massive concrete heat sink let alone the waste heat generated from this hyper scale Data Center.
I don't see anything addressing the possibility of Native American burial sites on this project. Also don't see anything to address the 1854 treaty rights.
The Tribes should be asked for their input on these topics regarding their ceded territories.
The city of Becker had testified at the state capitol that they are going to be retiring a coal fired power plant and that they were very interested in a Data Center to replace it. An
Itasca county commissioner also testified that they were retiring a coal fired power plant and that they were interested in a Data Center.
I believe that both of these options would be a better fit for a project of this heavy industrial designation.

James Thorstensen
5784 Hermantown Road

From: Julie Athman Ernst
To: AUARcomments
Subject: AUAR comments
Date: Wednesday, April 15, 2026 6:52:04 PM

Dear Mr. Johnson and the City of Hermantown,

I am writing to submit comments regarding the Scoping Document for an AUAR for the proposed Hermantown data center development. As a resident of Hermantown who moved here about 10 years ago for its natural beauty and quality of life, as a former U.S. Fish and Wildlife Service and U.S. Forest Service employee, and as a graduate from a PhD program in forest resources and conservation from the University of Florida, I have the following concerns regarding the proposed development and ask for your consideration of these issues in the environmental review.

1. **Misleading statement regarding AUAR requirement:** On page one, in the opening text, it is stated, "As the Responsible Governmental Unit (RGU), the City of Hermantown has determined that an Alternative Urban Areawide Review (AUAR) is required for the proposed Hermantown Industrial project." While projects that may have significant environmental effects do indeed need to undergo an environmental review, there are different types, and it seems incorrect to state that specifically the AUAR type of review is required in this case. Rules dictate when an EIS or EAW is required, but per the Minnesota Environmental Quality Board, "Responsible Governmental Units (RGU) *can* use an AUAR as a planning tool to understand how different development scenarios will affect the environment of their community before the development occurs." Hermantown could have chosen to use an EIS; they were not locked into using an AUAR. Per 4410.3610 ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS.§Subpart 1. Applicability. "A local unit of government *may* use the procedures of this part instead of the procedures of parts 4410.1100 to 4410.1700 and 4410.2100 to 4410.3000 to review anticipated residential, commercial, warehousing, and light industrial development and associated infrastructure in a particular geographic area within its jurisdiction," if certain conditions are met. I believe it is necessary to rephrase this sentence in the draft order and/or in future documents to instead state that Hermantown has determined that an *environmental review* is required and/or that Hermantown *has chosen to use an AUAR* for the environmental review.

2. **Misleading description of the large-scale data center campus and related infrastructure as light industrial.** A project of 1.8 million square feet and 278 acres that creates large-scale infrastructure impacts, requires extensive power and cooling systems and diesel generators, and becomes a source of noise, light, and air pollution and visual impact, should not be considered light industrial, even if the RGU has made it possible to do so. This label is unreasonable and does not correspond with the likelihood of significant impacts both within and beyond the property line of the hyperscale data center campus, particularly given the location of this project in the Lake Superior Basin

and given the likelihood of environmental impacts extending into the region more broadly. An Environmental Impact Statement (EIS) would better serve the aim of protecting the environment and the community.

3. **Projected water use warrants EIS.** The projected water use of 50,000 is potentially (perhaps even likely) misleading and inaccurate. There have been different projections provided for the Hermantown data center, and if we consider other hyperscale data centers of a similar size, the projection seems to vastly underestimate the consumption. It is acknowledged in the literature that estimating water use is challenging, as it is difficult to quantify and incorporate indirect water use. Given the real possibility that water use has been undercalculated (or intentionally misrepresented by the company with a vested interest), it seems prudent to consider the pre-application evaluation process of Minn. Stat. 103G.265. The proposed project has the potential to exceed the threshold of consumptive use of more than 2 million gallons per day, based on the estimates of the Port Washington data center, which is projected to consume more than 5.3 million gallons to over 20.9 million gallons per day (their center also uses "closed loop cooling").

4. **Regional impacts should be included in the environmental review.** In section 6 and the description of the location, the study area appears to be bounded on only two of the four sides by Hermantown. What provisions have been or will be undertaken through the environmental review to address impacts to non-Hermantown residents and land that falls outside of the Hermantown boundary? This, too, suggests the insufficiency of an AUAR process.

5. **Lack of recognition for the potential for the data center to become a localized heat island and associated impacts.** In section 7, it is stated that the study area is an area of low heat vulnerability. Recent research suggests that data centers can still be problematic in areas of low heat vulnerability, due to the creation of localized heat islands. The associated risks and negative impacts of a localized heat island need to be considered/reviewed, in spite of the study location being designated as low heat vulnerability.

6. **Insufficient attention to the potential for wildfire smoke to interact with emissions.** Section 7 on climate adaptation and resilience doesn't address wildfires that are becoming more frequent and intense in the United States and Canada, partly due to climate change. This past summer had extended periods of air quality alerts from wildfire smoke. What associated risks extend to the proposed data center, and how will they be mitigated? Could there be a need to manage the flow of ash or other particulates into the facilities' ventilation systems? Will the cooling capacity be affected, since condenser units, air-cooled chillers, and cooling towers are all susceptible to particulates in the air? What are the potential ramifications to human health from particulates from wildfire smoke interacting with the C02 emissions from the data center? This is potentially of concern and needs further review, especially given U.S. Forest Service research regarding wildfire fine particulate matter and carbon dioxide co-emissions causing "a compounding, bidirectional interaction that accelerates climate change and deteriorates air quality." In this scenario," carbon dioxide

acts as a long-term, global greenhouse gas, and the particulates have a strong, short-term radiative warming effect in the atmosphere while also accelerating the melting of ice and snow." Has this interaction been studied in the context of data center emissions in locations affected by wildfire particulates, particularly given the study location in proximity to Canadian wildfires? What mitigation is warranted for the proposed project?

7. **Lack of clarity regarding the reference to the proposer requesting public financial assistance.** In section 9, has the proposer requested financial assistance from the city, county, state, or federal government? If "public" refers to the city, does the city have the financial capacity, and would this be perceived as good stewardship of the financial resources entrusted to the city through taxpayers? It is indicated that the updated AUAR will describe any known public actions, but what about known or potential impacts to the public if that public financial assistance is granted? Relatedly, it is worth noting from recent economic reports that some investors are questioning the rapid, debt-fueled expansion of data centers due to concerns over high capital expenditures. Further, Boston-based Trillium Asset Management, a significant investor in Alphabet Inc, filed a resolution against Alphabet Inc's climate strategy. In spite of their pledge to cut emissions in half by 2030, Alphabet's emissions have increased 51 percent since 2020. If even investors and shareholders are expressing some doubt as to whether the massive spending on data centers will yield returns proportional to investment, and at what environmental costs, it seems a more comprehensive analysis of the risk of providing public financial assistance to the proposer is warranted.

8. **Description of the study area as vacant land fails to capture the ecological services provided by forests and wetlands.** In section 10 on land use, the study area is described in part as "vacant." Forested areas and wetlands are not "vacant" in a functional or ecological sense. These are natural areas. They are active ecosystems. They provide habitat, carbon storage, and a vast array of natural resources and other ecological services. It is misleading to use "vacant," as it suggests that nothing is there and undermines the richness of this land.

9. **The significant impact of land conversion of 278 acres of permeable forested and wetland surface to largely impermeable surface warrants further review**. Section 12 on water resources acknowledges stormwater runoff and the current situation of minimal impervious surface area. Per the state's stormwater runoff manual, mitigation of the impact of such conversion generally requires engineering practices such as permeable pavement, green roofs, and retention basins. The long-term impact on local hydrology associated with the transformation of 300 acres should be analyzed, as long-term impacts have been associated with conversion, even when mitigating engineering practices were implemented. While retention basins provide some water management functions, they have been described in the literature as inadequate due to their lack of direct infiltration with very little groundwater recharge. Further, accumulation of pollutants can cause them to be pollutant sources rather than sinks, and these retention basins have lower ecological value than forests and wetlands. Will the reduction in ecosystem services from

the loss of this significant amount of permeable surface and associated long-term impacts be a part of the analysis? Additionally, in section 12 relating to water appropriation, will the AUAR evaluate not only the proposed infrastructure needs relating to accessing Hermantown's water supply, but will it also include an analysis of capacity and impact on water supply should the projected water use unfold to be significantly greater? What is the backup plan if needs unfold to exceed what Hermantown can provide?

10. **Impact from noise and light pollution on wildlife species needs review.** In section 14, in the section on impacts to fish, wildlife, etc, the response mentions only invasive species, stormwater run-off, and protected species. It has been documented that noise and light from data centers of this magnitude affect wildlife in a variety of ways. The National Wildlife Federation indicates hyperscale data centers result in "sensory danger zones" for wildlife by producing constant, high-decibel, and low-frequency noise from cooling systems and generators, and lighting. This creates chronic stress, disrupts mating, navigation, and foraging for nocturnal mammals, birds, and insects, and leads to abandonment of habitats. This should be reviewed as part of the analysis, with plans for minimization or mitigation of these negative impacts.

11. **Missing sources of stationary source emissions.** In addition to the backup generators stated in section 17, other stationary source emissions that should be reviewed and mitigated include possible leakage of hydrofluorocarbons, as well as PFAS in specialized cooling equipment, semiconductors, and fire suppressants. PFAS impacts air quality and can contaminate soil and water upon deposition. They are a health hazard. Yet the response provided in this section is framed as if only the generators are of concern. Also to note from the World Resources Institute to underscore the serious concerns regarding emissions from generators: "Diesel-fueled backup generators also release harmful air pollutants, including fine particulate matter and nitrogen oxides, linked to respiratory disease, heart disease, asthma, and other serious health risks. Although these generators are only used during emergencies, they can have significant health impacts, emitting 200 to 600 times more nitrogen oxides than natural gas plants. One analysis in Virginia estimated that even limited backup generator use could already be associated with nearly $300 million in annual public health costs and 14,000 asthma-related health impacts across multiple states." Will there be a more comprehensive analysis of the potential for environmentally induced health issues and associated costs?

12. **The proposer's role in the quantification of greenhouse gases and mitigation decision-making is not appropriate in the context of environmental protection.** Why would we leave the quantification to the proposers when they are not an objective, independent party? They appear to have a vested economic interest in moving this project forward regardless of environmental costs and community opposition. Additionally, it is stated that the proposer will evaluate implementing the sustainability measures described in the AUAR to reduce operational emissions to the extent practicable. This seems grossly insufficient and inappropriate to leave it up to the proposer to decide upon the sustainability measures. What expertise is represented within

the proposer that would make them qualified to evaluate and be the decider of mitigation measures in support of sustainability? What is meant by "to the extent practicable?" Is that a loophole? There needs to be some independent body with expertise relating to greenhouse gas emissions involved in the quantification and also in decision-making regarding mitigation. The contribution of greenhouse gases from this proposed project has the potential to be a drastic setback to Minnesota's 2040 climate goal. Cornell researchers, through National Science Foundation funding, have used advanced data analytics to project that "By 2030, the current rate of AI growth would annually put 24 to 44 million metric tons of carbon dioxide into the atmosphere, the emissions equivalent of adding 5 to 10 million cars to U.S. roadways. It would also drain 731 to 1,125 million cubic meters of water per year – equal to the annual household water usage of 6 to 10 million Americans. *The cumulative effect would put the AI industry's net-zero emissions targets out of reach.*"

13. **Construction traffic noise and volume interfering with quality of life:** Regarding section 19, construction traffic experienced by other communities during construction has had severe negative impacts on quality of life. Where will the construction traffic be routed (on what roadways)? One can infer based on the analysis of intersections, but what guardrails are in place to ensure construction traffic stays on intended routes? A steady stream of construction vehicles for 5-10 years is a serious disruption to quality of life. Other communities have reported construction noise and construction traffic "guardrails" failing, and construction unfolding to be 24 hours a day, negatively impacting sleep, leisure, and work. What entity will enforce "guardrails"?

14. **Construction noise is not recognized as disruptive to the quality of life nor as having impacts on wildlife.** It is stated in the draft AUAR that there are no unusual circumstances identified that would necessitate a detailed construction noise analysis. This seems very inaccurate. There is an anticipated 5-10 years of construction for hyperscale data centers. How could this possibly be considered a usual circumstance? Hermantown limits construction during the hours of 10 pm to 7 am. I ask members of the RGU and the developer to honestly consider whether they would want to live in proximity to a site where construction is happening 15 hours a day, 7 days a week for the next 5 to 10 years? For some of the closest neighbors who are elderly, this could be for the rest of their lives. That is a significant impact on the quality of life, and the current city limits relating to construction noise were likely not developed with data centers in mind. Additionally, the section on operational noise fails to account for potential impacts on wildlife, which has been mentioned in an earlier comment. A detailed construction noise analysis is absolutely needed in order to maintain the quality of life and character of our community.

15. **Other potential effects are missing.** In section 22, there needs to be consideration of the following:

    - **Fire risk**: Please refer to the 2026 scientific journal article, Fire risk in modern data centers, as fire incident risk across modern data centers is increasing rapidly. What emergent technologies are being considered by the proposer and/or developer to

reduce fire risk from electrical faults, battery failures, and cooling system malfunctions? Does Hermantown have the capacity for firefighting of this scale? Is Hermantown's fire department trained in the types of suppression strategies necessitated by the complexity and scale of a hyperscale data center fire? If additional training or fire suppression support is needed, who pays for it?

- **De-icing**: What kind of de-icing chemicals will be needed on surfaces (pavement, parking lots, driveways) and equipment? What is the plan to prevent or mitigate the environmental impacts of de-icing? Despite data centers producing intense internal heat, cold-climate risks make ice prevention a crucial part of data center management. This should be a part of the analysis.

- **E-waste:** Hyperscale data centers require more frequent infrastructure upgrades than conventional technology upgrade cycles. At the same time, research projections indicate AI servers alone could generate 131 to 225 kilotons of e-waste per year; global data center electrical waste is expected to grow by 1.5 times by 2030, reaching a total of 74 megatons. Improper disposal of e-waste leads to toxic materials leaching into the environment. Will the e-waste be handled locally, and whose responsibility will it become? Do we have the local capacity to handle it responsibly? Do we have a commitment from Google for zero-ewaste-to-landfill strategies? What is Google's commitment to sustainable hardware lifecycle management?

- **Tax analysis**: Given examples of a "tax break-infrastructure strain" cycle and the "tax revenue paradox" that has happened in smaller communities with hyperscale data centers, it seems important that further exploration of tax-related economic impact is warranted. A more detailed tax analysis is needed to explore the more complex possibilities in terms of increased taxes and other costs to residents.

- Who is responsible for **ensuring proposer and developer accountability**? What process will be in place if Harmony and/or Google, or even if the City of Hermantown, strays from the negotiated or required environmental protections, particularly if the infraction falls between regulatory agencies or processes, or outside/upstream/downstream from the study area? Does the City of Hermantown have the capacity and expertise to pursue developer accountability for environmental protections? Can and will the City hold itself accountable?

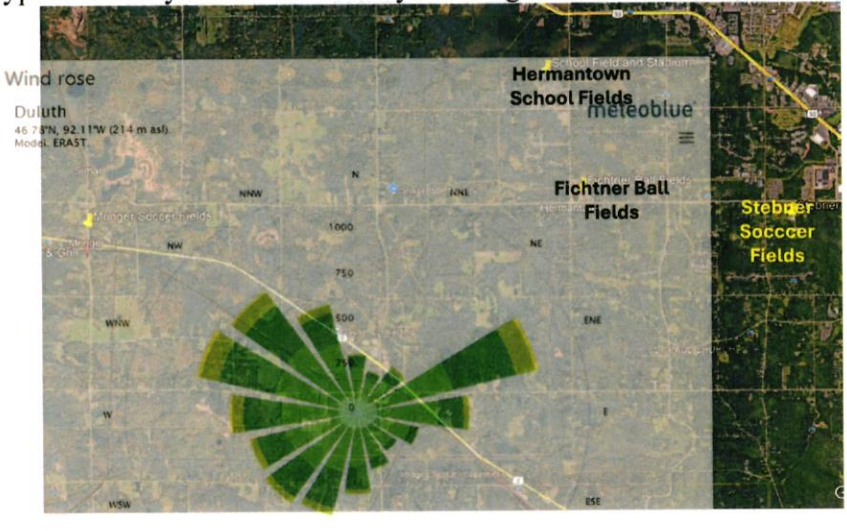
- What is the **exit strategy** if the need/demand for this facility changes during the construction phase or post-construction? What is the decommissioning plan when the life cycle of the data center has ended? Many facilities are considered obsolete or uncompetitive after 15 years due to rapid technological advancements. When the "life" of this facility and campus is complete, how will the facility be removed or repurposed, and by whom and at what cost? Will the city inherit substantial costs for cleaning up, recycling, or disposing of electronic waste, hazardous materials, and large-scale, specialized infrastructure?

Thank you for the opportunity to comment. I look forward to your responses.

Sincerely,
Julie Ernst

From: Mehgan Blair
To: AUARcomments
Subject: Updated AUAR
Date: Thursday, April 16, 2026 6:36:26 AM
Attachments: WindRose.png

Greetings Mr. Johnson,
My name is Mehgan Blair, and I'm a local resident and perhaps more importantly my children are Hermantown students and active athletes (including one with asthma) using the neighborhood outdoor facilities. I reviewed the Scoping Document for the Updated Hermantown Industrial AUAR (March 2026), and found it inadequate to address the use as a hyperscale data center for the following reasons:
1) There are real downwind air quality concerns. The hyperscale data center in Memphis Tennessee uses more than 35 backup generators with no emissions controls: https://www.politico.com/news/2025/05/06/elon-musk-xai-memphis-gas-turbines-air-pollution-permits-00317582?mc_cid=e5925fcb2d&mc_eid=6601313837. This causes more emissions than a mid-size oil refinery or coal-fired power plant. The Scoping Document alludes to backup generators, but does identify how many or whether they would have emissions controls. Please take a look at the wind rose diagram below showing prevailing winds and the locations of outdoor sports facilities located within a few miles of the proposed development. The Updated AUAR must assess the downwind impacts that our community could face. The Updated AUAR must specify how many generators will be located on the site, and must indicate what type of permitting is related to use of the generators. The Scoping Document defers this information until "separate environmental review completed as design advances". What environmental review is being referenced here, and does it involve public review? Depending on the number of backup generators that could be used (hundreds?), this type of activity is almost certainly not "Light Industrial" use.



2) The Scoping Document does not specify how much water will be used by the facility. From the Previous "Final AUAR", water demand was estimated at 50,000 GPD, well over the trigger for a water appropriations permit. Has this changed? The Updated AUAR must specify the use of the water. Is it evaporative cooling that is proposed? A taking (evaporative consumptive use) of water on that scale may not be permissible according to the Great Lakes

Compact which restricts the diversion of Great Lakes water outside the watershed boundaries. The Updated AUAR must discuss the stand-alone and cumulative (multiple regional data centers) impacts of water diversion from the Great Lakes.
3) Data centers are causing a >200% increase in ratepayers costs for electricity: https://www.bloomberg.com/graphics/2025-ai-data-centers-electricity-prices/. The Updated AUAR must provide financial analyses under various scenarios of the effects of the proposed development on the residents' electricity costs, and how any increases would be mitigated.
4) The Updated AUAR must disclose what conditions an financial assurances are required of the owner to ensure the property will be cleaned up/dismantled/reclaimed by the owner once the use-life of the data center is complete.

Thank you,
Mehgan Blair
218-343-1835

From: Luna
To: AUARcomments
Subject: Concerns about datacenter AUAR
Date: Saturday, April 18, 2026 1:40:20 PM

To whom it may concern,

I am a Hermantown resident and I have concerns about the upcoming AUAR, some of which are mentioned in the scoping document, some of which are not. To be clear from the start: not only do I believe this AUAR is inadequate, but I also believe the datacenter project should not proceed and is not within the community's best interests.

First, and possibly most relevant to you as the city government, this project will demand taxpayer funding and tax breaks despite not contributing to the taxpayers. Google is one of the largest tech companies in the world and could easily afford to pay for this project themselves, but they insist on demanding tax breaks and taxpayer money they will not return in the form of jobs. A datacenter of this size will be staffed full-time by roughly 17 employees. It would take decades or longer for Google to pay enough taxes locally to make up for their disruption to this region even if we didn't offer them tax incentives, but doing so anyways would be wasteful of taxpayer money. This project will not be a significant source of employment or revenue for the region and would not employ a variety of individuals or specializations. This doesn't even mention the fact that the scoping document mentioned the city will pay for the datacenter's utility connections, which could include high-volume water infrastructure. Again, no public benefit would arise from this, so it shouldn't be done.

Related to this, how does the city plan to force Google to comply with noise limits? They can easily afford to pay any fines the city levies against them for violations. Do you actually plan to enforce these laws, which are inadequate to cover datacenters? Why does the proposed AUAR not mention infrasound and how it will affect the local environment and neighbors? Existing noise standards are inadequate to regulate these projects. Also, why does this document not cover construction noise as the datacenter is being built?

The topic of water is particularly poorly addressed by this AUAR. The scoping document claims that groundwater is present in the proposed site from between 0-10 feet, which is *substantially below* the regional average. Is the ground even dry enough for a building of this size? Even if it is, the location is surrounded by pre-existing active groundwater wells. The scoping document lists 4 within 250 ft of the proposed area and 6 outside of that area. How can we be certain these wells will be adequately sealed by the contractors the city plans to hire to close them? Is there a plan in place in case they reopen and are polluted by datacenter wastewater? Has the fact that the runoff profile of the area is draining towards local streams been considered regarding the possibility that wastewater leaks out of the facility? Is it possible for the wastewater to be contaminated by chemicals, toxins, or carcinogens? We know Google plans to return its wastewater to the city; does the WLSSD have the capacity to process it?

In order to fully evaluate the impact of the datacenter on the environment and potentially the watershed, we will need to know exactly what cooling methods will be used for the hardware. The city of Hermantown has previously suggested the server racks will be "air-cooled." What does this entail specifically? Will powered fans be used? How would they impact the power consumption of the facility? If water-cooling will be utilized, will Google attempt to use a

more-efficient closed-off water supply, or will they (as previously suggested) simply return hot, polluted water back to the city's water supply?

Regarding power consumption: this construction will also come with additional substations that need to be evaluated as part of this AUAR, as they are being created explicitly for this building. Auxiliary generators have also been listed as part of the plan for this datacenter and if this is the case, they *must* be evaluated by the city.

Finally, it looks as though hydroflourocarbons are exempt from the greenhouse gas study. Why is this? These chemicals are often used in cooling and will very likely appear in some way in this facility. They are a greenhouse gas and contribute to global warming; thus they need to be part of that study.

I hope my concerns are taken seriously and you value my input as a concerned citizen. So far it seems the city has not been listening to its residents about this project, and now is the time to start.

Luna Kivisto

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Sunday, April 19, 2026 12:13:44 PM

Please refer to the following AUAR Scoping pages and Figures:
Pg 22, Figure 7, Existing Land Use
Pg 23, Figure 8, Existing Zoning

Refer also to webpage noted on
AUAR Scoping Pg 20,
subscript 10:
10Source: https://hermantownmn.com/government/city-ordinances/
Refer to:
Section 200 - Definitions
200.01.3. "Agricultural uses" shall mean those uses commonly associated with the growing of produce on farms. These include: field crop farming; pasture for hay; fruit growing; tree, plant, shrub or flower nursery without building; truck gardening; and roadside stand for sale in season of products grown on the premises.
And:
CHAPTER 5. LAND USE REGULATIONS
Section 500 – S-1, Suburban
500.02 Permitted Uses.
500.02.6. Dwelling, two family;
500.02.11. State licensed Residential care facilities and housing with services establishments licensed under Minnesota Statutes chapter 144D serving six or fewer persons.

Regarding Parcel #395-0010-09360
which shows Agricultural use, and
borders my S1 property parcel
#395-0010-09350

Ever since the two-family dwellings were established years ago, we have never seen indications of any agricultural activities whatsoever, happening on parcel 09360. However, very recently, since the property changed hands to become a residential care facility, we have observed what appears to be an additional firewood business use, not in compliance with
S1 Permitted Uses.

If this is correct, Figure 7 is out of date and should be changed to reflect the actual existing use.

In addition, on Figure 8 there are at least 2 properties mislabeled as BLM, which they are not. The manager of the map needs to correct the mislabeling.

From: sissonwesley98@gmail.com
To: AUARcomments
Subject: Public Comment Submition on the Google Data Center Updated AUAWS
Date: Monday, April 20, 2026 7:59:43 AM

To Whom It May Concern,

I am submitting this comment as a concerned resident, historian, and environmental advocate regarding the updated alternative urban area-wide review for the proposed Google data center in Hermantown.

While I appreciate the effort to (Finally) revisit the scope of environmental impacts, the current review still falls significantly short of fully accounting for the long-term ecological consequences this project poses to Northern Minnesota's sensitive landscapes.

First, the impact on regional wildlife and forest ecosystems is not adequately addressed. The proposed site lies within a mosaic of boreal forest habitat that supports a wide range of species. These include migratory birds, large mammals, and smaller forest dependent wildlife. Fragmentation caused by large scale industrial development, access roads, transmission infrastructure, and ongoing human activity will degrade habitat quality. These human and industrial habits will also heavily impact and disrupt migration patterns, add unnecessary pollution, and reduce biodiversity. These are not temporary disturbances. They represent permanent alterations to a functioning ecosystem and healthy community I grew up in and work in.

Second, the risks to nearby cold water trout streams remain deeply concerning. There are two streams on the proposed property that will be directly changed by this project as it currently stands. Northern Minnesota's trout streams are already vulnerable to warming temperatures, sedimentation, and hydrological changes. Data centers are water-intensive facilities and even modest changes in groundwater withdrawal, surface water use, or stormwater runoff can raise stream temperatures or introduce sediment and pollutants beyond the livability of already at risk streams . Brook trout in particular require cold, clean, well-oxygenated water to thrive. Even small shifts in these conditions can collapse local populations. The review does not convincingly demonstrate that these impacts can be avoided or mitigated.

Third, the proposed mitigation measures do not go far enough. Noise pollution from continuous operation, which include cooling systems and backup generators, will affect both wildlife and nearby residents. Air pollution from diesel backup systems and construction activity raises additional concerns for public health. Furthermore, the immense electricity demand of a hyperscale data center risks placing upward pressure on energy costs for consumers while increasing reliance on energy generation that may not be fully renewable.

Water usage is another critical issue. At a time when climate variability is increasing stress on regional water resources, approving a facility with substantial and ongoing water demand without clear, enforceable limits, and protections poses unnecessary risk to the community. It is simply irresponsible .

Fifth, I cannot stress enough how lacking this process has been in transparency and public accountability. The intent to hide this project from the public for two years was a dereliction of duty by our government leaders to we the people and the only way to remediate the harms

to democracy in our community is to stop pushing forward on this foolhardy endeavor and let the people properly decide. The changes seen here to a slight reduction in scale do little to address the fundamental core issue with violating public trust on behalf of a mega corporation that cares nothing for the people of Hermantown and our surrounding environment.

Most importantly, the range of alternatives considered is insufficient. A true alternatives analysis must meaningfully include a **no-build option**, especially when the environmental stakes are this high. Additionally, alternative locations with less ecological sensitivity, or scaled-down project designs, should be more rigorously evaluated beyond what is seen in the updated AUAWS.

In its current form, this review does not provide adequate assurance that the environmental harms to forests, wildlife, public health, and especially trout streams can be prevented or minimized to an acceptable level. Northern Minnesota's natural resources are not easily replaced once degraded.

I urge decision makers to require a more comprehensive environmental review, strengthen mitigation requirements, and seriously consider the no data center alternative.

Sincerely,

Wesley Sisson
Sissonwesley98@gmail.com
218-343-8633
5343 Split Rail Drive Hermantown, Mn, 55811

From: Sue Anderson
To: AUARcomments
Subject: Updated AUAR Draft Order Comments
Date: Monday, April 20, 2026 10:55:30 AM

As stated in the Introduction in the Updated AUAR Draft Order, "Given that the 1.8 million square feet of light industrial buildings would otherwise meet the threshold for a mandatory Environmental Impact Statement (EIS) under Minn.R.4410.440," I suggest that you DO THE ENVIRONMENTAL IMPACT STATEMENT! It will be more comprehensive and be a good faith effort on your part to calm the fears of the people in our community and surrounding areas. Also, I don't believe in any way that this project is light industrial. It should be listed as heavy industrial due to scale, power usage and air, water, noise and light pollution. According to my Google request for difference between light industrial and heavy industrial hyperscale data center, AI says that, "Hyperscale data centers are generally classified as **heavy industrial** (1-2), not light industrial, due to their massive scale, high power consumption (hundreds of MW), and significant infrastructure, such as 900 MW substations. They typically occupy 200-1500 acres, feature multiple buildings of 350,000+ sq ft and have extensive noise, water and power demands." I made my personal statement before looking up the definition--I was pretty darn close.

I request that you do not alter or compromise any trout streams on the proposed site. I also believe that there are farms or hobby farms near the area. Please make sure that nothing harms those areas.

I see that the new proposal shows 4 one-story buildings vs. 4 five to eight-story buildings. I want to see that put in writing in a **signed contract** that these buildings will never rise in height above the one-story proposed. No build it small now and sneak in additional stories later!

Your wastewater water system sounds a little shady. This proposed data center's wastewater will be considered "domestic" so it can link up with the City of Hermantown collection system. It sounds like a work around to avoid environmental regulations. Doesn't the data system have to be periodically flushed? Wouldn't that be considered industrial wastewater?

Please make sure you address in writing "Project Related Generation/Storage of Hazardous Wastes" on Pg. 40 Sec. b. It appears that it is not currently covered by the AUAR. The correct disposal of the computer components is very important to me.

This draft has too many areas of "to be discussed" or "to be determined" to determine further assessments at this time.

Shrinking the size and scope of the proposed hyperscale AI data center is a good start. Please keep shrinking it.

Sincerely,

Sue Anderson
3959 Old Midway Rd.
Hermantown, MN 55810

mathew murphy
2210 Cottage Hill Circle
Duluth, MN 55811-2897

meta@pobox.com
+1 512 466 9162

4 April 2026

Eric Johnson
Community Development Director
5105 Maple Grove Road
Hermantown, MN 55811

Re: Google Data Center AUAR

Dear Director Johnson,

I'm writing with some comments regarding the proposed Hermantown data center project.

I have serious concerns about noise pollution from the data center. Specifically, infrasound — that is, sound below normal human hearing range. The World Health Organization lists it as an environmental problem, and it's one of the big issues with AI data centers. Effects can include headaches, anxiety, and disrupted sleep, even though the sound is not in normal hearing range.

At the initial meeting regarding the project, the team from Mortenson stated that the data center is expected to meet MPCA noise pollution limits, and not exceed 50dB(A).

Unfortunately the World Health Organization and other authorities say that dB(A) is an inappropriate measurement for infrasound and low frequency noise, because it dramatically under-measures frequencies below 50Hz.

I'm concerned that if the data center goes ahead, there may be basically no meaningful limit to the amount of infrasound it's allowed to produce around the clock, and the health effects in surrounding areas could be serious.

An alternative measurement, dB(C), would do a better job of including infrasound in the measured noise levels. I think it would be a good idea if the agreements for the project specified dB(C) noise limits, or some other suitable measurement for low frequencies and infrasound such as S-weighting.

There's a more detailed writeup of all of this, with references to scientific papers, on my web site at `https://ath0.com/hdc`

Sincerely yours,



mathew murphy

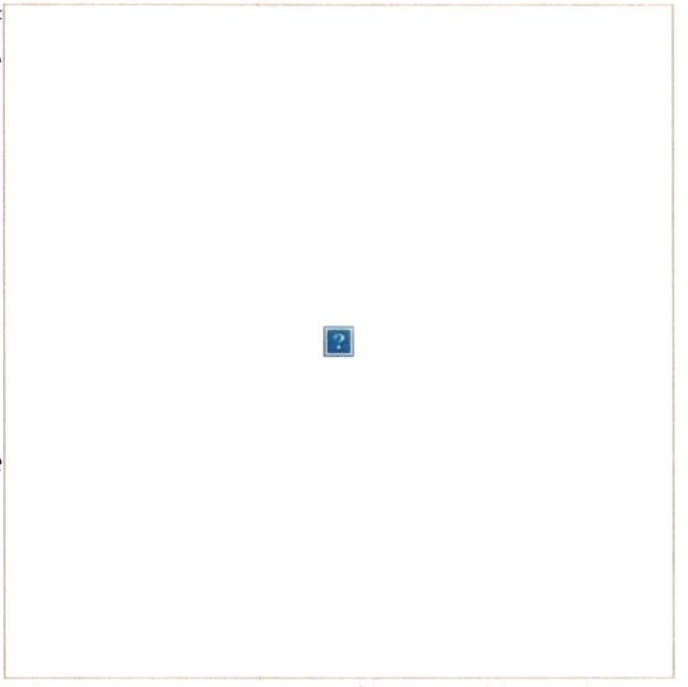
From: Jo Anne Bates
To: AUARcomments
Subject: AUAR comment
Date: Monday, April 20, 2026 12:34:42 PM

Eric Johnson,

Thank you for taking these comments.

I am concerned about the low frequency noise from the air coolers and the data center.. I am specifically concerned about the impact that will occur in the milieu within 5 miles of the proposed data center. I have read articles like the following from the DNR that say:

> In general, a growing number of studies indicate that animals, like humans, are stressed by noisy environments (Shannon et al. 2015). The endangered Sonoran pronghorn avoids noisy areas frequented by military jets; female frogs exposed to traffic noise have more difficulty locating the male's signal; gleaning bats avoid hunting in areas with road noise (Barber et al. 2009). When these effects are combined with other stressors such as winter weather, disease, and food shortages, sound impacts can have important implications for the health and vitality of wildlife populations within a park (Ware et al. 2015).



Schematic representation of how masking reduces an animal's listening area. As background sound increases, the area in which the perched bird can hear important sounds, represented by the domes, is reduced.
Photo by Ted Dunn

I have heard information that says noise can lead to habitat abandonment and impaired mating, foraging and just continuing to do life in our area.

If birds are impacted what happens to our mosquito population or bugs in general? If frogs are impacted what happens? At my home, even though there are not wetlands or open water near, we recognize the beginning of spring when the frogs start crooking. Will we still have frogs? Will there be less frogs or none at all?

How will the bees be affected? Will bees still be as active pollinating our fruit trees?

How about the trout in the near-by trout stream? They will be so close to the noise. Will they leave our creek?

How will the noise affect the trees growing in the area. Will the vibrations be felt in the ground? If so will the root growth or chemical communication between trees be effected. A Smithsonian Magazine article reports, "trees send **chemical, hormonal and slow-pulsing electrical signals**, which scientists are just beginning to decipher.'

How does noise affect deer? Their hearing is one of the big ways they protect themselves. According to one deer hunter cold air is denser than warm air and sound waves slow down. The coldest temperature of the day is usually around dawn or sunrise. The cold air on the forest floor reflects sound waves down to the forest floor where the deer listen for sounds important to them. Will the deer leave our area because of the immense sounds from the data center or just suffer much earlier demise?

How about people? People leave areas when airports give off loud penetrating sounds. Will the noise from the data center penetrate walls? How far will it travel?

Will the bike trails and parks in Hermantown catch the noise from the data center at certain times of day or times of the year?

Will our property values be maintained?

Will Hermantown still be one the best places to live in Duluth when people hear about the data center or experience the sound it produces?

There are so many ways the decision to air cool the data center will impact my world. I ask you please to NOT discount any of these concerns. As you are probably aware there are many more I could mention.

Thanks for your time and your careful recording of my concerns to be addressed by the AUAR.

Joanne Bates
5369 Morris Thomas Rd
Hermantown MN 55810

From: Bob K
To: AUARcomments
Subject: AUAR Comment
Date: Monday, April 20, 2026 6:23:49 PM

On March 16, 2026 The City of Hermantown (COH) adopted an updated AUAR to study impacts of a reengineered Large Scale Data Center proposed for the Adolph area.
On March 27, 2026 COH Councilor Mr. John Geissler wrote in an email to me, "We're starting over with the AUAR, P and Z applications, etc."
Clearly, the rolling back of the clock, so to say, must be interpreted to mean the original AUAR that was adopted on October 6, 2025 is no longer active or meaningful. It is defunct.
Also, included in the rollback to October 6, 2025 is the P & Z Applications for CIDP and SUP permits, by Harmony group LLC, dated October 9, 2025. Those are also no longer active or meaningful.
Additionally, it is imperative and vitally necessary that the first reading of the rezoning of the 17 parcels totaling 220.27 acres, from S1 to BLM, held on October 6, 2025, be revoked, along with the revocation of both the second reading and the formal vote to approve the same zoning changes held on October 20, 2025.
The October 30, 2025 formal zoning adoption must be reversed, and recorded, at the St. Louis County level, to the original S1 designation for all 17 parcels.
The reason for returning to a clean slate is that the entire process of "Starting over" may very well lead to substantially different outcomes affecting the various steps in the different processes.
For example, it may be possible that the new AUAR study will determine the Large Scale Data Center is not of a light industrial nature, and it may have to find a different suitable location. No one knows at this point and no one knows what that process might turn up. And it is inappropriate to use actions from an old data center process in an entirely new process applicable to a reengineered Data Center.

From: Nicole Wizner
To: AUARcomments
Subject: AUAR Comments
Date: Tuesday, April 21, 2026 10:31:15 AM

I strongly oppose the proposed Google data center in the Hermantown residential district. As currently described, this project does not align with the definition of Business/Light Manufacturing, and the scope of the development has not been adequately detailed in the original AUAR. A project of this scale and intensity belongs in an area far removed from residential neighborhoods—not in the middle of a rural residential community.

One of my primary concerns is the potential impact on private well water. The anticipated water usage for a hyperscale data center is significant, and there has not been sufficient analysis of how this could affect groundwater availability or quality for nearby residents, including those of us living within a mile of the site.

Additionally, the projected 8–10 years of construction raises serious safety and infrastructure concerns. Midway Road is a two-lane roadway already experiencing increased congestion due to Highway 2 closures and frequent railroad crossings. Turning safely off Midway Road onto Hermantown Road is already hazardous. Adding substantial construction traffic will only increase the risk of accidents. As a parent, I am deeply concerned about the safety implications for my family and others in the community.

Beyond construction, I am also concerned about long-term impacts to our quality of life. Many residents chose this area for its quiet, rural character. The introduction of constant noise from generators and facility operations would significantly alter that environment.

Given the scale and potential impacts of this project, I respectfully request a comprehensive environmental review., and that the data center be moved to a location that is not surrounded by homes. This study should fully assess groundwater usage, traffic and safety impacts, noise pollution, and the broader effects on nearby residents and rural infrastructure.

This decision will have lasting consequences for our community, and it is critical that all impacts are thoroughly evaluated before moving forward.

thank you!

Nicole Anderson

From: Jan Sandstrom
To: AUARcomments
Subject: AUAR Comments
Date: Tuesday, April 21, 2026 12:05:37 PM

Good day Mr. Johnson!

My comments are:

Why was an Alternative Urban Areawide Review (AUAR) study done and not an Environmental Impact Statement (EIS) for a project this size? And what were the recommendations from the DNR, MPCA and U.S. Corps of Engineers on proceeding with this project?

How do you move a trout stream that runs through the proposed land and flows into a river? When my daughter was in grade school, they released trout through the DNR into the Rocky River. As an adult now, a highlight of grade school.

Will our water and electricity bills go up substantially?

When the City of Hermantown representatives were voted in to represent the people, why would you do things behind their backs?

Jeanette Sandstrom
3777 Haines Road
Hermantown, MN 55811

Sent from my iPad

From: flying8squirrel@aol.com
To: AUARcomments
Subject: inadequacy of AUAR
Date: Tuesday, April 21, 2026 2:22:28 PM

First, let me start by stating, I am a resident of Hermantown. I chose to move here 14 years ago. My house is on the Midway Road, directly across from the proposed data center site. The Hermantown Planning and Zoning committee was very adamant that this portion of Hermantown was to remain rural. A few years after we built our house, we applied for permits to build a large garage, this same committee strongly reiterated the plan for this area was to stay rural and commercial/industrial developments were not an option. Today, the Hermantown City Council is willing to look the other way and negate the previous plan, that was promised to me and my family, to keep the area rural. The council is willing to destroy our quality of life for what? A data center! 1.8 million square feet of concrete and steel that will destroy the current ecosystem, consisting of woodlands and wetlands. The size of this proposed development has been compared to that of The U.S. Bank Stadium. This, in my rural community.

Bloomington, Mn has a data center totaling 53,000 square feet (much smaller than the one proposed) and residents complain of hearing the constant hum from chillers used during the cooling process. This has led Bloomington to pass zoning ordinances regarding data centers, including building size and location. What does the Hermantown City Council do? They alter zoning language, mislead the residents and flat out lie. They deem a super data center as Business/light manufacturing. Based off concern and lack of knowledge/information regarding data centers, Eagan, Carver and New Brighton all passed one year pauses on development of data centers to study the impacts. What does Hermantown City Council do? They go full speed ahead, opting for an AUAR instead of an Environmental Impact Study to hasten the rezoning and permitting process, to satisfy the developer and mislead the residents.

Let's talk about the AUAR. This document covers 278 acres of the proposed building site, yet the total site is 403 acres. What about the remaining 125 acres? This document is looking at the environmental effects where the buildings will stand. What about the environmental effects past the 278 acres? What about the environmental effects it will have on the neighborhood, on the area past the building site. This document addresses the effects of the development at the site, but does it address the environmental effects of developing the site? It fails to address the devastating effects of obliterating the current 142 acres of woodland and 58 acres of wetlands. These are natural filters and sponges that offset carbon emissions and detoxify the environment. These environmental wonders will be replaced with 1.8 million square feet of toxin and carbon emitting "light industrial" development. The natural resources will be replaced with by pollutants they once filtered.

Per the Hermantown City website, the data center will not be using water for cooling. Yet, no one is willing to tell us what will be used. Even though water will not be used for cooling, this development will be requiring 50,000 gallons of water daily, and the scoping document of the AUAR (page 41) states their will be no industrial wastewater. This leads the reasonable person to say, where does all this water go? EVAPORATION!! The closed loop method of combining air for cooling (air conditioning) and liquid (liquid coolant or immersion cooling (best for AI)) are flooded

with PFA's. So, the 50,000 daily gallons of water will be circulated with these PFA's and due to the significant heat created by data centers this polluted water will be evaporated because their will be no industrial wastewater discharged.

What are PFA's and why do they matter? They are "forever chemicals" linked with extreme health risks like decreased fertility, developmental delays in children, increased risk of cancer and liver damage, just to name a few. They are released into the environment through industrial processes, in this case the cooling process. How much of the 50,000 gallons of daily water usage will be bled off, saturated with PFA's, only to enter our air and drinking water. We are a rural community, rich in farmland. The contaminated air will settle on to the ground for the farm animals to ingest with the contaminated water. Interestingly, the most common transmission of PFA's is through contaminated water and food. Through the inadequacies of the AUAR, the Hermantown City Council is voting to contaminate our drinking water and pollute our farmlands. The wetlands and woodlands that the Hermantown City Council will obliterate will be irrelevant in the case of PFA's because they are forever chemicals! They cannot be naturally removed from the environment. Epa.gov states "Robust information is needed to understand the risks to human health" in regards to PFA's, while current research is questioning the effectiveness of household water filters reducing PFA's. That is our drinking water. The Hermantown City Council is willing to contaminate my drinking water by turning a blind eye to the facts. Multiple government agencies, at the federal level, state on their websites "research is ongoing," "researchers are studying," "researchers are working." The very clear message is more research is necessary, especially when human health, the health of Hermantown city residents, is at stake. Yet, the Hermantown City Council is willing to proceed-full speed ahead utilizing the ineffective AUAR because they know what an Environmental Impact Study would reveal.

I questioned even writing this letter, because it appears the city council has already made up their minds. I believe I do not have a voice in Hermantown. When I am not working, I try to attend the city council meetings. I watch the community members bare their souls and plead for someone to listen, but they are met with indifference. The council members appear to be going through the motions but not hearing what their constituents are saying. Some are on their phones, while others are clock watching. By allowing this AUAR the council is sending a clear message, our voices do not matter and our well being is not worthy of the Environmental Impact study. They are saying the children's health and development is secondary to taxes. They are telling the children within this community their voices will go unheard and their voices do not matter. They are making me ashamed to be a Hermantown resident.

Concerned resident
Sandra Goode
3578 Midway Road

From: Ryan Buus
To: AUARcomments
Subject: Please protect robust trout streams
Date: Tuesday, April 21, 2026 7:06:49 PM

Dear Hermantown City Council,

I am writing to express concern about the proposed data center in Hermantown.

This project could have serious impacts on local water resources, groundwater, and nearby natural habitat. Because of the scale of the development, I urge the city to carefully review all environmental impacts before making any decisions.

Please ensure that groundwater use, stormwater, water quality, and long-term community impacts are fully studied and considered. The public deserves a transparent process and a decision that protects Hermantown's natural resources.

Thank you for your consideration.

Sincerely,

Ryan Buus
Rochester, MN

From: Ahnika Berg
To: AUARcomments
Subject: AUAR public comment period 1
Date: Wednesday, April 22, 2026 8:33:08 AM

To the City of Hermantown, in regard to their new AUAR proposal, for the project scoping comment period.

I'm a resident of Duluth who is extremely concerned about how this project will affect Hermantown and the larger local community and ecosystem.

First, I'd like to say that I think an AUAR is not the right way to evaluate a project of this scope- it is limited and designed for city development, not unprecedented large-scale energy-intensive industrial projects. An EIS needs to be utilized to fully evaluate the impacts of this project. Extensive further evaluation is necessary to determine whether the people living in this area now and generations to come can afford giving up valuable resources to this type of development.

I'd like to note that I would prefer to see this land developed in a way that would more directly serve the people of this area. Highly suggest creating a protected wetland, which would serve wildlife and humans for generations to come. Consider giving the land back to Indigenous tribal nations as reparations for the land and life taken from them at the genesis of this country. If the land must be developed, turn it into a community resource, like a library! What a better way to preserve knowledge and data in a way that helps people.

Bottom line, this area can NOT afford to lose valuable wetlands. These areas act as a water sponge and balancer, preventing floods downhill, and maintaining clean water tributaries to Lake Superior. It is essential that we protect the world's largest freshwater resource, and this data center will take drinking water and give back pollutants and contaminants.

That said, the following paragraphs outline all of the issues that I have with this draft order AUAR.

First, the scope of the project is poorly defined. The area and acreage is stated, but the language allows for an undetermined amount of additional land to be added to the project in the future. This is a massive issue, because the scope of this project should not be able to be expanded indefinitely. I would suggest an extremely hard limit on how much land can be added to this project in the future.

The 'Climate Adaptation' is pieced out in sections of the climate, to evaluate each piece separately. They should really be evaluated in relation to each other, not separately. Each of these factors are highly interrelated, and compounds the next; the impact will be

exponential when factoring these relations, so they need to be evaluated together.

Next, on the mentioned 'Public Financial Assistance,' the city should not be evaluating giving public money to the developer. Under no circumstance should the city be giving tax dollars to the corporation of Google– one of the largest companies in the world. No. It is an absurd use of taxpayer dollars.

In this document, the land use designation is still under 'light industrial.' This is incorrect; a 278 acre area with high energy needs is not light industrial. The language in this document must clearly reflect the size and nature of the project, much of which is currently obscured under the front that it's not known, but it is. If it's known, it must be reflected in the scope.

There is no mention of impact or proposed study of tribal lands or sacred Indigenous sites. This absolutely should be a part of the proposed study, including contacting tribal nations and researching the history of the site.

The study of potential pollutants is not well outlined. The document claims that no scenic views will be obstructed- subjectively untrue. Many Hermantown residents live in this area particularly for the scenic views of forest and wetland, and the very existence of a data center would obstruct this. Light pollution is not mentioned; how will its impact on both humans and nocturnal animals be evaluated? There is no mention of hydrofluorocarbons as a potential pollutant, that needs to be studied. Noise pollution, including vibrational pollution or infrasound, are major disruptors to human and animal life, and need to be evaluated to a large degree. Both in data center operation and in construction, because this will be disruptive. There is a noise standard mentioned, but it's not adequate, and there needs to be ways outlined to measure and enforce the noise threshold.

The document says that the impact of the backup generation needs will be evaluated separately, which is not okay. They are a part of the scope of the project, and their impact must be evaluated in this AUAR, alongside the rest of the impact. The current language allows for an undisclosed amount and impact of the backup generators, and this is something that needs to be clearly defined ahead of time.

The site is simply over too many wetlands and important streams. Again, there should not be major industrial development in such an important natural area. There are SO MANY wells on the site, and the document says they will be filled, but that service will be outsourced. Sealing wells is incredibly important– how will the outsourced service be evaluated for quality, to ensure it's done properly? There needs to be ways to ensure that there is not chemical runoff of any source from the site once developed, to protect remaining wetland and streams. What is the plan to measure runoff downstream? There needs to be mechanisms to ensure these are measured, in addition to measuring wastewater for known carcinogens and chemicals that computers have.

The energy substations and powerlines must be rigorously studied for how much energy use is running through the local grid, and we need to know how much electricity this site will actually use when running.

Lastly, the mitigation plan needs to include strict gaurdrails for each factor. A measurable top limit and consequences for each impact, to ensure the project stays within its projected impact.

Cheers.

From: Samantha Meyer
To: AUARcomments
Subject: Say NO to the Data Center
Date: Wednesday, April 22, 2026 9:42:12 AM

Please read this and reconsider allowing a corporation to take away the beauty of Duluth.

https://mntu.org/2026/04/proposed-data-center-in-hermantown/

I say NO to the data center and you should too.

From: Brian Bergeron
To: AUARcomments
Subject: RGU: City of Hermantown Eric Johnson 5105 Maple Grove Road Hermantown, MN 55811
Date: Wednesday, April 22, 2026 10:33:44 AM

Dear Sirs:
I am writing to provide formal comments on the updated Alternative Urban Areawide Review (AUAR) for the proposed hyperscale data center in Hermantown. After reviewing the updated materials, I remain concerned that the AUAR is not an adequate or appropriate level of environmental review for a project of this scale, intensity, and potential long-term impact.
1. Inadequacy of the AUAR Framework
An AUAR is, by design, a broad planning tool intended to evaluate generalized development scenarios. It is not a substitute for a project-specific Environmental Impact Statement (EIS). Despite revisions, the updated AUAR continues to rely on assumptions and generalized analysis rather than detailed, enforceable, project-level information.
Given the unprecedented size and resource demands of a hyperscale data center, a full EIS is warranted. The absence of such a review limits the ability of decision-makers and the public to fully understand environmental impacts and assess meaningful alternatives.
2. Reduction in Study Area and Scope
The updated AUAR reduces the study area compared to earlier iterations. While this may reflect a more defined project footprint, it risks minimizing the analysis of broader and cumulative environmental impacts. The effects of a development of this magnitude—particularly on energy systems, regional infrastructure, and ecological resources—extend well beyond the immediate site boundaries.
A narrower scope may understate indirect and cumulative impacts, which are essential considerations under the Minnesota Environmental Policy Act.
3. Insufficient Detail on Energy Use and Infrastructure
The proposed facility's energy demand is substantial, yet the updated AUAR does not provide sufficient clarity regarding:
The total anticipated electricity load over time
The timeline and certainty of new generation resources
Whether renewable energy commitments are binding and enforceable
The broader impacts on Minnesota's energy grid and ratepayers
Without this information, it is not possible to accurately assess the project's environmental footprint or its contribution to greenhouse gas emissions.
4. Unresolved Questions Regarding Water Use and Environmental Effects
Although the project indicates it will not rely on traditional water-intensive cooling, the AUAR does not fully address long-term operational scenarios, potential changes in technology, or cumulative water impacts. Additionally, the review lacks sufficient analysis of:
Thermal impacts and microclimate effects
Stormwater management under extreme weather conditions
Potential impacts to nearby wetlands, wildlife habitat, and groundwater systems
These gaps are significant and should be addressed through a more rigorous environmental review process.
5. Noise, Air Quality, and Backup Generation
The AUAR does not provide adequate detail regarding backup diesel generators, including their frequency of use, emissions, and potential impacts on local air quality. Similarly, noise and light pollution impacts remain insufficiently analyzed given the continuous, industrial nature of data center operations.
These issues directly affect nearby residents and should be evaluated with site-specific

modeling and enforceable mitigation measures.
6. Transparency and Public Confidence
The environmental review process has been hindered by limited transparency, including delayed disclosure of key project details. Public trust depends on timely, complete, and accessible information. The current process has not met that standard.
7. Need for a Comprehensive Environmental Impact Statement
Given the scale, complexity, and potential cumulative impacts of this project, a full Environmental Impact Statement is necessary. An EIS would:
Provide detailed, project-specific analysis
Require evaluation of alternatives, including different sites and scales
Establish enforceable mitigation measures
Ensure a higher level of public participation and transparency
In conclusion:
The updated AUAR does not adequately evaluate the environmental impacts of the proposed Hermantown hyperscale data center. Critical information remains incomplete, key impacts are insufficiently analyzed, and the scope of review is too limited for a project of this magnitude. For these reasons, I respectfully request that the responsible governmental unit require the preparation of a full Environmental Impact Statement before any further approvals are granted.
Thank you for the opportunity to comment.
Sincerely,
Sheri Bergeron
5164 Country Lane
Hermantown, MN 55810

From:	Bob K
To:	AUARcomments
Cc:	CH-Wayne Boucher; CH-Ed Worden; CH-John Geissler; CH-Joe Peterson; CH-Andy Hjelle; CH-Brian LeBlanc; CH-Chad Ronchetti
Subject:	AUAR comment
Date:	Wednesday, April 22, 2026 1:14:24 PM

HSDC = Hyper Scale Data Center.

On April 20, 2026 COH economic development director, Mr Chad Ronchetti, presented a narrated report entitled "Adolph Utility Extension Economic Impact Study" to attendees at the evening City Council meeting. The Scope of the study, conducted by the University of Minnesota Bureau of Business and Economic Research, analyzed five hypothetical but realistic scenarios, ranging from high tech industrial and heavy machinery manufacturing to regional logistics and wood product production, that could feasibly occupy the Adolph district if utilities were expanded to the area.

It seemed to be a thorough and unbiased analysis which I found informative and helpful, but would have been more useful had the study analyzed the economic impact, positive or negative, on the property values of current residents who live nearby the Adolph site, for example, up to three miles away.

In any case, it seems there must be an analysis study by BBER for the actual real life new HSDC scenario as either a part of the AUAR or by BBER.

There are many residents in the Adolph area and we deserve to know ALL impacts that the HSDC in particular will pose on us, both environmentally AND economically.

If the DC type of industry scenario fits the Scope of the UMD Research Study, it must also fit the Scope of the updated AUAR.

Mayor Boucher and COH, jobs and tax relief were promised by Google so let's complete this task, and work together to fulfill our needs.

From: Kelsey Mack
To: AUARcomments
Subject: Comments on updated AUAR Scoping Document
Date: Wednesday, April 22, 2026 2:11:39 PM

I appreciate the opportunity to provide comments on the AUAR scoping document. I hope the City takes this seriously and prioritizes protecting residents while maintaining trust within the community.

This project is a major shift from what was originally proposed. Moving from light industrial to a large-scale data center campus (1.8 million square feet across 278 acres) is significant, and it needs to be evaluated accordingly. The AUAR should clearly define assumptions and fully analyze the real impacts of a project of this size.

1. I am asking that the AUAR specifically study impacts to the health and property of residents living within 400 feet of the site, including light, noise, air quality, water quality, and stormwater runoff.
2. Air emissions, noise, and risk must be fully evaluated for residents within 400 feet and not deferred to a later stage.
3. I am also requesting clear groundwater protection measures, including spill prevention and a defined emergency response plan for residents within 400 feet of the site.
4. Will residents within 400 feet be required to connect to new infrastructure? If so, what will the cost be to them?
5. With construction occurring this close to homes, a detailed construction mitigation plan is necessary. This should address dust, noise, traffic safety, and the duration of impacts for nearby residents.
6. What will happen to the property taxes of those who live with in 400ft of the proposed site?
7. As for broader community impacts, I am requesting a full evaluation of water use, including maximum daily and peak demand.
8. What does this project mean for our regional water supply from Lake Superior? How will it perform under drought or changing climate conditions?
9. This site drains into West Rocky Run Creek (an impaired water) and the Midway River (a designated trout stream). The AUAR should include Thermal impact analysis from increased impervious surfaces, Nutrient and chloride modeling, and Stronger stormwater protections beyond minimum requirements
10. Wetlands and natural areas must also be addressed. The AUAR should clearly identify how much wetland will be filled and evaluate ways to avoid impacts—not just mitigate them later. On-site preservation areas and wildlife corridor connectivity should also be considered
11. On the energy side, I am requesting evaluation of maximum daily and peak electricity demand. If this is a Google data center using fan cooling, what does that mean for our local grid? What new infrastructure will be required, and what are the impacts to the existing system?
12. Finally, I am asking the City to seriously evaluate alternatives, including reduced buildout, different site layouts, and **alternative locations.**

Thank you for taking the time to consider these comments.

Kelsey Mack

Hermantown Resident

From: Joycanne Busche Hoyem
To: AUARcomments
Subject: Stop Data Center
Date: Wednesday, April 22, 2026 2:22:35 PM

This fight has gone on long and hard and I hope you're getting to the point where you want to listen to the people. There are multitude of reasons why this data center should not occur. I'm sure you've heard many, including the destruction of this quiet little neighborhood that you had set off in the corner of the city of Hermantown,. It was designated to be a tranquil place and now are you going to the complete opposite extreme!
There are plenty of facts out there that show that there are multiple factors why that data center should not be placed there. It shouldn't be on a hill one and it shouldn't be near wetlands and it shouldn't be near residential areas that will affect the people that live there and plenty of other reason reasons it's absolutely the wrong location .
Also, the Zoning is completely off and I'm sure you know these facts but are fighting tooth and nail to work around it.

In Hermantown, "commercial / light industrial zoning" is typically called the "Business and Light Manufacturing District" in the city's zoning code.
Here's a clear, practical definition based on the city's ordinance language and how these zones function:

In Hermantown, a Business and Light Manufacturing (commercial/light industrial) district is intended to:
Allow a mix of commercial businesses and low-impact industrial uses
Support economic development while limiting nuisances to nearby properties. Which this is definitely a nuisance

Typical commercial uses allowed in this zoning:
Retail stores
Offices and professional services
Restaurants or service businesses
Warehousing tied to business operations

"Light industrial" (or light manufacturing) in Hermantown generally refers to:
Small-scale manufacturing or assembly
Fabrication or processing with minimal noise, odor, or pollution
Contractor shops, storage yards, or service garages
Distribution centers or warehouses
Key idea:
These uses must not create major environmental or neighborhood impacts.
which this Data Center would do.

This zoning is not meant for heavy industry, such as:
Large-scale manufacturing plants
High pollution, noise, or hazardous operations
Intensive trucking or industrial processing

I hope you're getting the idea I think that the possibility of high pollution, loud noises, loud lights and taking away the tranquility of the neighborhood and even the neighboring townships is not the best for this area.
I vote NO to the data center. And I hope you will too.

Joycanne Busche Hoyem
218-390-9610

Sent from my iPhone

From: Eleanor Dolan
To: AUARcomments
Subject: Data Center Comments
Date: Wednesday, April 22, 2026 2:29:45 PM

Hello,

I am writting to share my concerns regarding the construction of a hyperscale data center in Hermantown. My first area of concern is regarding the environmental impacts. All previous examples of data centers of this size have shown that they use intensive levels of water and power. Oftentimes more than the residents of the community themselves. While Minnesota is lucky to have freshwater, it is our duty to protect it. We know that with climate change we will start to see hotter summers and more droughts and we need to be preserving what water we have for that. I also would be concerned about the source of this water. Will this impact water supply for residents on the city of Hermantown's water? We have seen in other communities unclean water and decreased water pressure after the construction of a data center. If the project will use groundwater, that hold similar concerns for those residents reliant on that. Plus we know the water that leaves data centers is polluted, which will eventually make its way into Lake Superior, an essential freshwater source for the whole region.

Similarly the power usage will be massive. I am concerned that any and all progress towards green energy will be meaningless in the face of powering a data center. If we have goals of going carbon neutral for our survival on this planet new developments that require extreme levels of power do not fit into that goal. I am also concerned that this will lead to higher power bills for all MN Power residential customers and we could see brownouts or black outs due to the amount of power consumed by this project.

I am also concerned about the project being in a residential area. The noise and light pollution will be significant and cause major impacts on the quality of life of surrounding residents. The current location is also forested and on wetlands. The deforestation will have significant impacts on local wildlife and residents. The wetland destruction will impact the whole region as it could lead to floods.

Finally I am concerned regarding the economic viability of this project. There is so much talk about the AI bubble bursting and many of these data center projects going uncompleted. What assurances do we have that this project will not begin construction and destroy our land and then leave before it is complete? How does a small ciry protect itself legally from being exploited by a major corporation like Google? If this project falls through, who will be taking on the economic burden?

Thank you for hearing my concerns and I hope they helped explain why this is not a site for a data center.

Eleanor Dolan
806 N 23rd Ave W,
Duluth MN 55806

From: Josh Sandstrom
To: AUARcomments
Subject: Adolph Data Center Comments
Date: Wednesday, April 22, 2026 3:03:16 PM

Good afternoon Eric Johnson and all others who may read this,

I am a resident of Solway Township, located just under 3 miles away from the northwest corner of the proposed data center site in Adolph. Thank you for giving citizens a chance to voice their concerns about scoping document for the new AUAR for the site.

I share concerns that many others have with respect to environmental impacts of this site and how it may negatively impact nearby homes. I am personally concerned with impacts to my location and neighborhood in general, such as sound/noise pollution from the data center, air quality concerns (in a ESE wind direction, which would blow from the data center to my house, what negative air quality impacts may there be?), and general neighborhood concerns, such as how will my home value be negatively or positively impacted by this project? If negatively, this is definitely a problem. I also live just north of the new powerline that will be going in over the next few years, and I know that's a separate project, but probably related to the data center, and I am concerned about how that may negatively impact my property value.

I would not like to comment further about environmental concerns since I am not an expert on any of them. However, I have one general concern about the project that has become clear to me after looking at the scoping document. Figure 8 shows current zoning around the area. Of course, the data center site was rezoned to the BLM last fall, but prior to that would have all been rural residential. All around this site, for the most part, there is rural residential zoning. This is a complete change to the neighborhood here, and in my opinion detrimental to the rural feel that this area has had for a long time. Folks around the data center didn't buy property here because they wanted to live next to a data center; They bought property here because of the rural feel of the area. Figure 9 illustrates what I've been concerned about regarding the long-term future in and around the data center site. The data center would simply be the catalyst to a complete transformation of the landscape here. I'm not sure what other projects are being eyed up if all nearby land goes BLM...perhaps data center expansions, more businesses, housing developments, whatever it might be. I'm not against progress, but this Figure 9 leaves me with a lot more questions than answers. What happens in nearby Solway Township? What does this land use plan look like for other parts of Hermantown not shown on the map? How far north and east does this BLM 2040 land use idea extend, and what would be the idea for what kind of developments would go into these potentially soon-to-be non-residential areas that are currently nearly all residential? Most importantly, what is being done for the current residents in Hermantown right next to or nearby this data center site and in neighboring townships such as Solway and Midway to ensure that they will all positively benefit from these changes, should they come to be, instead of just letting the "big man" come in and take advantage of everyone?

I am against this data center project because it will turn the Adolph neighborhood into an industrial area and change the city of Hermantown from the city of quality living with a rural feel into something completely different. Put the data center somewhere else that doesn't intrude on a community. That would likely mean completely outside of Hermantown or the Twin Ports in general.

Thank you for your time and the opportunity for me to share my thoughts!

Josh Sandstrom
Solway Township Resident
Address: 3892 Munger Shaw Road. Proctor MN, 55810.

From: Kelly Beaster
To: AUARcomments
Subject: Public Comment on Proposed Data Center in Hermantown
Date: Thursday, April 23, 2026 10:08:32 AM

Mr. Eric Johnson,

I am submitting comments regarding the proposed data center in Hermantown due to concerns about potential impacts to water resources, energy infrastructure, and the adequacy of environmental review.

First, the proposed project lies within the watershed of the Midway River, a designated coldwater trout stream that supports sensitive aquatic species, including brook trout *(Salvelinus fontinalis)*. Coldwater systems such as this are highly sensitive to changes in both water temperature and water quality. Depending on the design and operation of cooling systems, data centers can place additional demand on water resources and may alter thermal regimes or discharge conditions that are critical for maintaining suitable habitat for coldwater species.

Given the sensitivity of this watershed, I believe that environmental review should be commensurate with the scale and potential impacts of the project. While I understand the project is being reviewed under an Alternative Urban Areawide Review (AUAR) process rather than a project-specific Environmental Impact Statement, the AUAR evaluates impacts at a broader planning scale and may not fully capture site-specific effects on hydrology, water temperature, and aquatic habitat. For a project of this magnitude, a more detailed, site-specific analysis may be warranted to ensure that potential environmental impacts are fully understood.

Second, the energy demand associated with large-scale data centers is significant. Northern Minnesota already experiences seasonal and regional constraints on electrical capacity, and utilities rely on demand management tools such as off-peak incentives and dual-fuel systems to balance load. The addition of a large, continuous electrical user raises important questions about grid capacity, long-term energy sourcing, and potential impacts on local ratepayers and system reliability.

In summary, I am concerned that the proposed development may place additional stress on both sensitive aquatic ecosystems and regional energy infrastructure. I encourage decision-makers to ensure that environmental and infrastructure impacts are fully evaluated at a level of detail appropriate to the scale of the project.

Thank you for the opportunity to provide input.

Kelly Beaster

From: Brad Orn
To: AUARcomments
Subject: Public Comment
Date: Thursday, April 23, 2026 1:03:36 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image006.png

This message was sent securely using Zix®

My name is Brad Orn, and I am a business owner in Hermantown. I submit this comment because I have a direct stake in the economic future of this community — and because I believe the public conversation around this project is missing something critically important.

I want to speak specifically to the UMD Bureau of Business and Economic Research economic impact study that was formally presented to the City of Hermantown on April 20, 2026, and is now part of this AUAR record. That report deserves to be taken seriously — not as a cheerleading document for the data center, but as an honest accounting of what this region has been unable to achieve, and why.

The BBER study documents five real development scenarios representing real industries — advanced manufacturing, heavy equipment, reconstituted wood products, specialized timber products, and regional logistics — that explored this corridor and did not come here. Not because of workforce. Not because of fiber supply or rail access. Because the utility infrastructure wasn't there. Water. Sewer. The basic building blocks that every industrial site selection team puts at the top of their checklist.

That is not a hypothetical problem. That is the documented history of this corridor.

Those five scenarios represent more than 1,500 jobs paying average wages of $54,000 to $87,500. They represent $107 million in annual labor income flowing into St. Louis County households. They represent $5 million per year in local and county tax revenue — for our schools, our roads, our fire services. And they represent over $600 million in annual economic output for a region that has watched too many of its young people leave because the opportunities weren't here.

What this project offers — beyond the data center itself — is the private funding of the utility infrastructure spine that unlocks that entire pipeline. Water mains along Morris Thomas Road and Midway Road. Sanitary sewer with lift stations. An elevated storage tank. Infrastructure that will be built at the developer's cost and turned over to public ownership. Infrastructure that Hermantown taxpayers cannot bond for on their own, and that no manufacturer is going to fund unilaterally just to site a single facility.

I understand the environmental concerns raised in this process. They deserve a thorough review, and I support that review being done rigorously and transparently. But I would ask this: when we evaluate the consequences of this project, let's also

honestly evaluate the consequences of its absence. The alternative is not a pristine, undeveloped corridor. The alternative is a corridor that continues to sit undeveloped — not by choice, but by economic necessity — while the manufacturing jobs and tax base this community needs go to Eau Claire or Grand Rapids or somewhere else that already has the infrastructure in the ground.

The BBER report is on the record. The numbers are real. The companies are real. The infrastructure barrier is real.

As a Hermantown business owner, I ask that this AUAR process give those findings the weight they deserve — and that the full environmental review honestly reckon with what this region stands to gain, and what it stands to lose, depending on the outcome.

Best,
Brad Orn

Brad Orn
President
NØRTHEAST TITLE
brad@netitle.com
218.248.8917
218.742.9383
4960 Miller Trunk Hwy, Ste 350
Hermantown, MN 55811



New Orders: orders@netitle.com
CLOSING PACKAGES: closings@netitle.com
Final Policy requests: finalpolicy@netitle.com



Be aware! Online banking fraud and Email Hacking are on the rise. All incoming funds over $2,000 from buyers, borrowers, and sellers need to be in the form of a Cashier's Check. **If you receive an email containing WIRE TRANSFER INSTRUCTIONS call our office at a trusted number to verify the information prior to sending funds.**** Sale proceeds will not be wired without written and verbal authorization.

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From: Amanda Mosiniak
To: AUARcomments
Subject: proposed Hermantown data center
Date: Thursday, April 23, 2026 4:50:08 PM

Greetings,

As an engaged citizen and environmentalist I have concerns about this data center. Hermantown is an area not equipped for a large industrial hyper scale data center. It will harm the ecosystem.

How will our water be protected from the destruction of land and the usage needed for this project? Hundreds of gallons will be needed daily to cool the fans. There is no way this is good for the environment. It will come at the cost of our citizens.

I do not support the destructive nature of large scale data centers. They are unnecessary for average people, which is the super majority of constituents.

Sincerely,
Amanda Mosiniak
3221 Restormel St
Duluth MN 55806

From: Amanda Mosiniak
To: AUARcomments
Subject: proposed Hermantown data center/ wildlife
Date: Thursday, April 23, 2026 4:53:49 PM

Greetings,

As an engaged citizen and environmentalist I have concerns about this data center. Hermantown is an area not equipped for a large industrial hyper scale data center. It will harm the ecosystem.

How will our wildlife be protected from the destruction of land and the usage of natural resources needed for this project? We will harm vast swaths of wildlife and their critical habitat will be destroyed. There is no way this is good for the environment. It will come at the cost of our citizens, as people depend on the land for well being.

I do not support the destructive nature of large scale data centers. They are unnecessary for average people, which is the super majority of constituents.

Sincerely,
Amanda Mosiniak
3221 Restormel St
Duluth MN 55806

Amanda

From: Amanda Mosiniak
To: AUARcomments
Subject: proposed Hermantown data center/ electrical grid
Date: Thursday, April 23, 2026 4:59:39 PM

Greetings,

As an engaged citizen and environmentalist I have concerns about this data center. Hermantown is an area not equipped for a large industrial hyper scale data center. It will harm the ecosystem.

How will our electrical grid be protected from the destruction of land and the usage of natural resources needed for this project? There is no way this is good for the people who live, work, and play near the City of Hermantown. As is proven across the nation when it comes to data centers that already exist, the electrical grids simply cannot support the high usage of electricity required to run data centers. People will pay higher taxes too. This monstrosity from Google will not be paid for by the billionaires invested in tech. This will come at the cost of our citizens, people who you are responsible for ensuring a good quality of life. We do Not want this data center..

I do not support the destructive nature of large scale data centers. They are unnecessary for average people, which is the super majority of constituents.

Sincerely,
Amanda Mosiniak
3221 Restormel St
Duluth MN 55806

Amanda

From: Amanda Mosiniak
To: AUARcomments
Subject: proposed Hermantown data center
Date: Thursday, April 23, 2026 5:07:22 PM

Greetings,

As an engaged citizen with autoimmune disease, I have concerns about this data center. Hermantown is an area not equipped for a large industrial hyper scale data center. It will harm the health and well being of people.

There is no way this is good for the people who live, work, and play near the City of Hermantown. As is proven across the nation when it comes to data centers that already exist, people will have health consequences. Who will pay for their healthcare? The light and sound pollution from these data centers cause physical harm to people. This monstrosity from Google will not be paid for by the billionaires invested in tech, and they sure are impeding our right to a universal healthcare system when they hoard wealth and lobby against healthcare for all.

Not to mention that data center's biggest users are the Department of Defense. We would be allowing the use of drones to kill communities in acts of war. I promote peace and the health and well being of ALL people.

This destruction of life will come at the cost of our citizens, people who you are responsible for ensuring a good quality of life. We do Not want this data center..

I do not support the destructive nature of large scale data centers. They are unnecessary for average people, which is the super majority of constituents.

Sincerely,
Amanda Mosiniak
3221 Restormel St
Duluth MN 55806

Amanda

From: Amanda Mosiniak
To: AUARcomments
Subject: proposed Hermantown data center/ alternatives
Date: Thursday, April 23, 2026 5:19:32 PM

Greetings,

In support of the environment, water, the ecosystem, wildlife and critical habitats, our power grid, our health and well being, our peace and good standings around the world, communities and the people: WE do NOT want this data center.

We have been urging you by the hundreds to abort plans to build a hyper scale industrial complex data center in Hermantown. It has been done with secret closed door meetings and without proper environmental review, against the wishes of the majority of constituents in Hermantown and the surrounding townships.

There are already plenty of data centers, and the elite billionaire class is not willing to build near their own homes. We do not want this built by our homes either.

In other parts of the world, data centers are built in moderation AND with the use of green energy. That is what I want too.

Sincerely,
Amanda Mosiniak
3221 Restormel St
Duluth, MN 55806

From: gramdorf@tuta.com
To: AUARcomments
Subject: AUAR Scoping Comments
Date: Thursday, April 23, 2026 9:12:29 PM
Attachments: AUARScopingCommentGramdorf.docx

Please find attached and below my AUAR scoping period comments.

Thanks,
Rebecca Gramdorf

TO:

RGU: City of Hermantown

Eric Johnson

5105 Maple Grove Rd

Hermantown, MN 55811

AUARcomments@hermantownmn.com

Please consider the following comments for the AUAR scoping document.

Project Definition and Land Use:

Zoning and Public Infrastructure

The scoping document fails to identity (or map) the extension of water utilities as part of the development scenario or study its effects. The water extension constitutes an example of a connected action according to the EQB definition and as such must be studied:

"Another type of connected action arises when a major development project triggers construction of public infrastructure, such as a road or sewer that would not otherwise be needed. In some cases, it may be appropriate to review the infrastructure through its own EAW or EIS, especially if the project exceeds the applicable threshold and the RGU complies with parts 4410.1000 or 4410.2000, subparts 4. However, the concept of connected actions is not intended to require that environmental review of public infrastructure projects fully satisfy all review requirements for future development, unless the infrastructure is planned primarily to serve a specific project rather than to support development generally. This does not relieve the RGU of its responsibility to consider induced development in a generic way when reviewing the infrastructure project."(p. 9, EQB Guide to MN ER Rules)

Additionally, while the AUAR study area may be rezoned to BLM, the extension of public utilities (as presented in recent city meetings) runs through S1 rural residential zoning, and according to the city's own Comprehensive Plan would make water services available outside of the city's desired public services boundary. Such infrastructure makes eventual development an inevitability, and one that would be unlikely without the current proposed project (city staff have said that Hermantown would not be able to fund this extension without this specific project). According to the city's Comprehensive Plan, the area is meant to stay agricultural and residential but the city is undermining that plan through this project. As such, I take issue with the following statement from the scoping document: "The proposed development scenario is anticipated to be compatible with planned land use in the project vicinity. The AUAR will identify measures to mitigate any potential incompatibilities."

Not only is the project not compatible because of the water extension, but the scoping document does not say it will study future development caused by the project. If it doesn't even study the effects of development, how will it mitigate those effects or incompatibilities?

The AUAR must study the environmental impacts of extension of public utilities through the heart of Hermantown's S1 residential zoning area:

1. Generally, what would be the impacts of different types of development in this area?

2. How will development of this area impact the watershed, including water quality of wells?

3. How will development of this area impact agricultural activities (vegetative crops and animals)?

4. How will development of this area further impact wildlife, and natural resources?

Additionally, immediate impacts of the water utility extension should be studied. The AUAR should include specification on the water line/tower's placement and route, components, and technology. Plans on how the water line will cross waterways and railroad tracks should be included and analyzed. Analysis of its impacts to traffic and noise during construction should be analyzed. While the RGU insists that Google will pay for the entire project, we know that to be untrue; the AUAR should study the financial impacts this will have on residents, including identifying sales taxes, liens, assessments and property tax that will fund/result from the "improvements".

The AUAR should study the environmental and social impacts of significant commercial development in the Adolph region that can be expected to occur once water is brought to that region (per Chad Ronchetti's presentation on April 20, 2026). If an additional five industrial projects are brought to the immediate region in addition to the data center, what are the cumulative environmental impacts of all that development for the region.

Finally, the RGU should identify alternative routes that would minimize these impacts. For instance, can the infrastructure be largely sited within the city's current public services boundary (perhaps on Ugstad Rd.) in an effort to minimize development impacts. If a more suitable route cannot be found, then the RGU should write a robust mitigation plan that denies development of the vulnerable areas that (upon this writing) run counter to the city's Comprehensive Plan, and create robust rules that prevent the Midway corridor from becoming the next Adolph neighborhood, where zoning and planned land use was changed against the will of its occupants and without their input or knowledge.

Vague/Incomplete Descriptions of Data Center Technology

Without a specific defined cooling technology in this project, it is impossible to study "worst case" environmental effects of this hyper-scale data center development. You have stated in the project description that the data center buildings will use "non-evaporative mechanical

cooling equipment." What type of mechanical cooling will be used? Will this be a closed loop water cooled facility? Will this be an air cooled facility? Can we expect some of each, or something different altogether? In order to study worst case environmental effects, the technology must be specified and studied. Only then can one reasonably compare this facility to other data centers of its kind and estimate its impact. Only with this information, can one evaluate whether the impacts presented in the AUAR are realistic or are simple fabrications. Vagueness here meant to give the developer flexibility in exchange for studying the full impacts of a specific technology demonstrate why the AUAR is not sufficient and why an EIS should be implemented instead.

Similar vagueness around the issue of backup generators is concerning. It seems unlikely that we are this far in the process and an estimate for backup power needs have not been identified. This is a critical component of the project, and without it, the data center would not be able to function. As such, it is critical this be studied in detail now. A promise of future study "if necessary" is negligent as it creates a situation where the RGU is forced to accept potentially damaging effects (that may exceed the project's "worst case" as otherwise defined), or abandon the project mid build when the effects of this technology is found to be beyond that allowed or acceptable. Failure to study this now is an example of why the AUAR is inadequate and why an EIS should be implemented instead.

The AUAR should include water volume and electrical power requirements.

Farmland and BLM Purpose

The scoping document indicates that 62.4% of the study area is considered farmland of statewide importance, and goes on to justify development because there are no current fields on the property. The RGU should study additional development scenarios that could revitalize this area agriculturally (such as an agricultural park) rather than permanently destroy this resource through development. See alternate scenarios for more information.

The newly designated BLM zoning for the area specifies that it is meant to support significant employment centers, broader diversity of jobs, and create a higher density of jobs per acre. On average hyper-scale data centers do not employ many people. Even if the center permanently employs 200 people (which is far higher than average), that is less than one job per acre. A different development scenario would better fulfill the purpose—both with diversity and density of jobs created. See alternative scenarios for more information.

The statement on page 20 that "BLM zoning regulation is designed mainly for businesses that need substantial facilities, like warehouses" does not match the definition on page 19, and it does not bare out in what businesses have previously been built in this zoning. The gas stations, FedEx, Northern Industrial Insulation, and car repair shops that were built in the Adolph neighborhood under BLM zoning do not have substantial facilities, and constitute a better example of the true purpose of this zoning—a variety of companies, creating a diversity of jobs with a high ratio of jobs per acre.

Geology:

On page 25, it is stated that 69% of the soil surface is mapped with a moderate erosion rating and that erosion is likely. You say that erosion controls may be needed. If erosion is likely, then erosion controls are necessary. Erosion should be studied and a robust mitigation plan should be put in place to avoid impacts (especially to the southeast—where the site generally drains, and where sensitive trout streams are located).

Groundwater:

On page 32, it is indicated that ground water is likely present between 0-10ft in or near wetlands within the study area. Without significant de-watering such an area seems unsuitable to the large buildings proposed in this development scenario. Permits are expected for water appropriation and de-watering. Construction is anticipated to last for eight years. Eight years of continuous construction de-watering will undoubtedly have consequences for residents and must be studied.

1. How will de-watering affect regional wells? How far away and how deep must one's well be to remain unaffected by this activity?

2. Where will water be diverted during de-watering? What impacts will that have? How much water will be diverted?

3. If built at or below grade, will these facilities require sump pumps to avoid flooding? How much water will be diverted, how will the water be managed, and where will it be diverted to?

Permanent de-watering or well withdrawals should be prohibited in the mitigation plan to protect regional well water quality and viability.

Wastewater:

On page 34 it says "industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process." If any industrial wastewater is generated, then a data center constitutes an example of why the AUAR is insufficient and an EIS is required for this project. On page17 it says an industrial wastewater permit will be "applied for, if applicable". It sounds like you are anticipating that industrial wastewater will be created.

You state that the wastewater from the development scenario would be limited to domestic sources, but also that you will study concentrations of pollutants, etc. Here it is important to define the cooling technology being used in the facility so that expected types and concentrations of pollutants can be verified and compared to similar facilities. If certain cooling technologies result in concentrations of chemicals that WLSSD cannot handle, we must know this from the start so that those technologies can be prohibited in the mitigation plan, or so that additional infrastructure needed (and its impacts) can be studied now.

If a closed loop system is being used, will PFAS be introduced to the water? How will the water be flushed/replaced when needed? Will it be treated by WLSSD? Will evaporation of the contaminated water be required, and how will it be ensured that PFAS are not introduced to the environment though this means? Where will the PFAS sludge be disposed, and what are the environmental effects?

https://www.buffalo.edu/news/releases/2025/04/capturing-forever-chemicals-as-they-evaporate.html

https://nyfederation.org/wp-content/uploads/2025/pdf2025/65%20Travis%20Smith__Evaporation%20for%20.pdf

https://web1.eng.famu.fsu.edu/~ytang/Final_report_Leachate_Evaporation.pdf

https://www.eesi.org/articles/view/data-centers-are-contributing-to-pfas-forever-chemical-pollution

The mitigation plan should prohibit the discharge of wastewater to surface waters, not simply state it is not anticipated.

Air and Greenhouse Gas Emissions:

The AUAR should study fluorinated gas/PFAS emissions and how they will affect the environment. As shown above, evaporation can introduce these chemicals into the air. Further, if this is an air cooled facility, this may be included in the emissions and, in fact, is associated with this type of development.

https://www.datacenterdynamics.com/en/analysis/altered-carbon-could-co2-cooling-replace-f-gas-based-systems/

https://pfasfree.org.uk/f-gases-fluoropolymers

The consequences of these chemicals being outlawed/phased out should also be studied. Will the data center need to be retrofitted with different equipment at a later date? What are the environmental (waste, etc.) and social (noise, additional construction) consequences of this?

Will fire suppression chemicals contain PFAS? If so, how would a fire event impact the region?

Noise:

The extended construction schedule of many years, as well as its proximity to residences constitutes an unusual reason to study the construction noise levels for this development scenario.

Page 49 states that, regarding noise, the development scenario will be "required to comply with these (maximum allowable) thresholds."

1. How will they be required? How will this be enforced? The mitigation plan must include real consequences that will act as an actual deterrent to Google. A small fine is ineffectual. Will the data center be shut down if it does not comply? Will we fine them an amount that would actually be of consequence? Given they are worth trillions of dollars, that figure would likely have to be in the 10s or 100s of millions for them to care about noise infractions.

2. Backup generators will surely be louder than the allowed residential levels. The noise levels of generators must be studied. If they are louder than allowed, then the whole project should be denied.

3. The noise analysis should be conducted to model the entire area of audibility. How far must one be from the development to not hear it at all during normal operation? How far must one be to not hear the generators when they are running?

Cumulative Effects:

In 2009 the EQB amended its rules as "a clarification to the AUAR process relating to cumulative potential effects stating that the AUAR boundary is not intended to limit the geographic extent of analyses of impacts." (p. 16, EQB Guide to MN ER Rules)

In all areas, the RGU should be studying the environmentally relevant area. In particular, noise, air quality, and water effects should be studied in an area that gives a true picture of its effects for the region. Additionally, these should be studied in conjunction with the new substation, power lines, road-rail crossing projects, induced development and the wind/battery storage promised by Google. The Adolph neighborhood is poised to see substantial construction in the coming years with all these projects, and they should all be studied together.

Specific questions I have:

1. What are the cumulative effects of transitioning so much farm and wetland to impervious surface? How will the substation development compound on the data center development to impact wetlands, well water, etc.? How will this development change the area's ability to deal with flooding when taken on the whole?

2. What are the total noise level increases the area can expect? What are the noise models from the new substation? How do they interact with the noise models from the proposed data center? What noise increases can be expected from increased electrical loads on the power

lines, etc.?

3. Where will the wind and battery storage Google has promised be sited? Environmental impacts should be studied.

4. How far can PFAS contamination be expected to reach? How much farmland will be contaminated? How many wells will be contaminated? What are the health and financial burdens of this pollution?

Alternate Scenarios:

A hyper-scale data center creates too great a risk for our community. The area can be developed while honoring the rural character of the neighborhood and without an extension of public utilities. Hermantown should consider alternate development scenarios that serve its rural residents and develop it in a way that is in keeping with their values and priorities.

I propose the RGU study the impacts of an agriculture park as an alternative development scenario. Such a park could include farm fields for lease, licensed kitchens for the production of food products, cooler/freezer storage for farms and food businesses, meat processing, a feed store, community composting facilities, and a restaurant. It could be situated on vacant and already sold land and would likely have minimal negative effects on nearby residents, all while revitalizing the agricultural community and creating a diversity of job opportunities.

https://swwaagpark.com/

https://fishersagripark.com/

https://acrcd.org/projects/sunol-agpark/sunol-agpark-farmers/

https://sagecenter.org/wp-content/uploads/Urban-Edge-AgParks-Feasibility-Study.pdf

https://www.agroecologicalurbanism.org/building-blocks/agroecological-park

According to state law, property acquisition cannot be used as justification for choosing the Google data center over other development options.

Update: April 23, 2026

On April 21, 2026 Community Development Director Eric Johnson, during a Planning and Zoning Meeting said, "The city staff is going to be starting a process to amend the comprehensive plan…" regarding the pubic utilities proposed outside the urban services boundary. It was also stated that the city will be amending chapters on transportation and utilities. This is an admission that the city knows that this current AUAR is invalid and does not meet basic applicability per 4410.3610 Subpart 1 (see below). The environmental review should be terminated as invalid until such time as the city is able to properly complete the above, if that is to even occur.

Additionally, AUAR guidance is such:

"Important Note: Every AUAR document MUST review one or more development scenarios based on and consistent with the RGU's Comprehensive Plan in effect when the AUAR is officially ordered. (This is equivalent to reviewing the "no-build" alternative in an EIS.) If an RGU expects to amend its existing Comprehensive Plan, it has the options of deferring the start of the AUAR until after adopting the amended plan or reviewing developments based on both the existing and amended comprehensive plans; however, it cannot review only a development based on an expected amendment to the existing plan. Also, the rules require that one or more development scenarios analyzed must be consistent with known development plans of property owners within the AUAR area". (p. 2, Recommended Content and Format —Alternative Urban Area Review)

The RGU must review a development scenario that locates the public utilities extension within the current urban services boundary (such as down Ugstad Rd)—not only that which it proposes in its Comprehensive Plan amendment.

The rural residential community on and near Midway Rd. never asked for public utilities access, and while the city amended its Comprehensive Plan to extend utilities to the Adolph neighborhood for this specific data center project, they did not include the S1 area along Midway Rd for this extension. This further amending of the Comprehensive Plan is proof that City of Hermantown officials are manipulating the plan to suit Google and this development. The water line would not be built if not for the data center, as officials have stated many times that they could not afford the extension without investment from Google. There is no explanation for further amendment except that the city is trying to make the Comprehensive Plan fit the data center project.

I oppose all changes to the Comprehensive Plan. Without a public process, including public input on the proposed changes, any alterations should be considered invalid and against the will of the community. This data center project is wildly unpopular, and the community would never willingly alter the Comprehensive Plan to accommodate it. Pushing forward without a public comment process on these changes constitutes further breach of trust between officials and their constituents.

Thanks for considering my comments.

Sincerely,

Rebecca Gramdorf

Hermantown, MN

4410.3610 ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS.

Subpart 1.

Applicability.

A local unit of government may use the procedures of this part instead of the procedures of parts 4410.1100 to 4410.1700 and 4410.2100 to 4410.3000 to review anticipated residential, commercial, warehousing, and light industrial development and associated infrastructure in a particular geographic area within its jurisdiction, if the local unit has adopted a comprehensive plan that includes at least the elements in items A to C. The procedures of this part may not be

used to review any project meeting the requirements for a mandatory EAW in part 4410.4300, subparts 2 to 13, 15 to 17, 18, item C, D, or E, or 24, or a mandatory EIS in part 4410.4400, subparts 2 to 10, 12, 13, or 25. The local unit of government is the RGU for any review conducted under this part.

A.

A land use plan designating the existing and proposed location, intensity, and extent of use of land and water for residential, commercial, industrial, agricultural, and other public and private purposes.

B.

A public facilities plan describing the character, location, timing, sequence, function, use, and capacity of existing and future public facilities of the local governmental unit. The public facilities plan must include at least the following parts:

(1)

a transportation plan describing, designating, and scheduling the location, extent, function, and capacity of existing and proposed local public and private transportation facilities and services; and

(2)

a sewage collection system policy plan describing, designating, and scheduling the areas to be served by the public system, the existing and planned capacities of the public system, and the standards and conditions under which the installation of private sewage treatment systems will be permitted.

C.

An implementation program describing public programs, fiscal devices, and other actions to be undertaken to implement the comprehensive plan. The implementation plan must include a description of official controls addressing the matters of zoning, subdivision, and private sewage treatment systems, a schedule for the implementation of those controls, and a capital improvements program for public facilities.

A local governmental unit that has an adopted comprehensive plan that lacks any of the elements required by this subpart may qualify for the use of the procedures of this part upon a demonstration to the EQB chair that the lacking element would have no substantial effect on the purpose of or outcome of the environmental review and upon receiving authorization from the EQB chair to use these procedures.

TO:

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Rd
Hermantown, MN 55811
AUARcomments@hermantownmn.com

Please consider the following comments for the AUAR scoping document.

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Additionally, immediate impacts of the water utility extension should be studied. The AUAR should include specification on the water line/tower's placement and route, components, and technology. Plans on how the water line will cross waterways and railroad tracks should be included and analyzed. Analysis of its impacts to traffic and noise during construction should be analyzed. While the RGU insists that Google will pay for the entire project, we know that to be untrue; the AUAR should study the financial impacts this will have on residents, including identifying sales taxes, liens, assessments and property tax that will fund/result from the "improvements".

The AUAR should study the environmental and social impacts of significant commercial development in the Adolph region that can be expected to occur once water is brought to that region (per Chad Ronchetti's presentation on April 20, 2026). If an additional five industrial projects are brought to the immediate region in addition to the data center, what are the cumulative environmental impacts of all that development for the region.

Finally, the RGU should identify alternative routes that would minimize these impacts. For instance, can the infrastructure be largely sited within the city's current public services boundary (perhaps on Ugstad Rd.) in an effort to minimize development impacts. If a more suitable route cannot be found, then the RGU should write a robust mitigation plan that denies development of the vulnerable areas that (upon this writing) run counter to the city's Comprehensive Plan, and create robust rules that prevent the Midway corridor from becoming the next Adolph neighborhood, where zoning and planned land use was changed against the will of its occupants and without their input or knowledge.

<u>Vague/Incomplete Descriptions of Data Center Technology</u>

Without a specific defined cooling technology in this project, it is impossible to study "worst case" environmental effects of this hyper-scale data center development. You have stated in the project description that the data center buildings will use *"non-evaporative mechanical cooling equipment."* What type of mechanical cooling will be used? Will this be a closed loop water cooled facility? Will this be an air cooled facility? Can we expect some of each, or something

different altogether? In order to study worst case environmental effects, the technology must be specified and studied. Only then can one reasonably compare this facility to other data centers of its kind and estimate its impact. Only with this information, can one evaluate whether the impacts presented in the AUAR are realistic or are simple fabrications. Vagueness here meant to give the developer flexibility in exchange for studying the full impacts of a specific technology demonstrate why the AUAR is not sufficient and why an EIS should be implemented instead.

Similar vagueness around the issue of backup generators is concerning. It seems unlikely that we are this far in the process and an estimate for backup power needs have not been identified. This is a critical component of the project, and without it, the data center would not be able to function. As such, it is critical this be studied in detail **now**. A promise of future study "if necessary" is negligent as it creates a situation where the RGU is forced to accept potentially damaging effects (that may exceed the project's "worst case" as otherwise defined), or abandon the project mid build when the effects of this technology is found to be beyond that allowed or acceptable. Failure to study this now is an example of why the AUAR is inadequate and why an EIS should be implemented instead.

The AUAR should include water volume and electrical power requirements.

Farmland and BLM Purpose

The scoping document indicates that 62.4% of the study area is considered farmland of statewide importance, and goes on to justify development because there are no current fields on the property. The RGU should study additional development scenarios that could revitalize this area agriculturally (such as an agricultural park) rather than permanently destroy this resource through development. See alternate scenarios for more information.

The newly designated BLM zoning for the area specifies that it is meant to support significant employment centers, broader diversity of jobs, and create a higher density of jobs per acre. On average hyper-scale data centers do not employ many people. Even if the center permanently employs 200 people (which is *far* higher than average), that is less than one job per acre. A different development scenario would better fulfill the purpose—both with diversity and density of jobs created. See alternative scenarios for more information.

The statement on page 20 that "*BLM zoning regulation is designed mainly for businesses that need substantial facilities, like warehouses*" does not match the definition on page 19, and it does not bare out in what businesses have previously been built in this zoning. The gas stations, FedEx, Northern Industrial Insulation, and car repair shops that were built in the Adolph neighborhood under BLM zoning do not have substantial facilities, and constitute a better example of the true purpose of this zoning—a variety of companies, creating a diversity of jobs with a high ratio of jobs per acre.

Geology:

On page 25, it is stated that 69% of the soil surface is mapped with a moderate erosion rating and that erosion is likely. You say that erosion controls *may* be needed. If erosion is likely, then erosion controls *are* necessary. Erosion should be studied and a robust mitigation plan should be put in place to avoid impacts (especially to the southeast—where the site generally drains, and where sensitive trout streams are located).

Groundwater:

On page 32, it is indicated that ground water is likely present between 0-10ft in or near wetlands within the study area. Without significant de-watering such an area seems unsuitable to the large buildings proposed in this development scenario. Permits are expected for water appropriation and de-watering. Construction is anticipated to last for eight years. Eight years of continuous construction de-watering will undoubtedly have consequences for residents and must be studied.

1. How will de-watering affect regional wells? How far away and how deep must one's well be to remain unaffected by this activity?
2. Where will water be diverted during de-watering? What impacts will that have? How much water will be diverted?
3. If built at or below grade, will these facilities require sump pumps to avoid flooding? How much water will be diverted, how will the water be managed, and where will it be diverted to?

Permanent de-watering or well withdrawals should be prohibited in the mitigation plan to protect regional well water quality and viability.

Wastewater:

On page 34 it says "*industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process.*" If any industrial wastewater is generated, then a data center constitutes an example of why the AUAR is insufficient and an EIS is required for this project. On page17 it says an industrial wastewater permit will be "*applied for, if applicable*". It sounds like you are anticipating that industrial wastewater will be created.

You state that the wastewater from the development scenario would be limited to domestic sources, but also that you will study concentrations of pollutants, etc. Here it is important to define the cooling technology being used in the facility so that expected types and concentrations of pollutants can be verified and compared to similar facilities. If certain cooling technologies result in concentrations of chemicals that WLSSD cannot handle, we must know this from the start so that those technologies can be prohibited in the mitigation plan, or so that additional infrastructure needed (and its impacts) can be studied now.

If a closed loop system is being used, will PFAS be introduced to the water? How will the water be flushed/replaced when needed? Will it be treated by WLSSD? Will evaporation of the

contaminated water be required, and how will it be ensured that PFAS are not introduced to the environment though this means? Where will the PFAS sludge be disposed, and what are the environmental effects?
https://www.buffalo.edu/news/releases/2025/04/capturing-forever-chemicals-as-they-evaporate.html
https://nyfederation.org/wp-content/uploads/2025/pdf2025/65%20Travis%20Smith__Evaporation%20for%20.pdf
https://web1.eng.famu.fsu.edu/~ytang/Final_report_Leachate_Evaporation.pdf
https://www.eesi.org/articles/view/data-centers-are-contributing-to-pfas-forever-chemical-pollution

The mitigation plan should prohibit the discharge of wastewater to surface waters, not simply state it is not anticipated.

Air and Greenhouse Gas Emissions:

The AUAR should study fluorinated gas/PFAS emissions and how they will affect the environment. As shown above, evaporation can introduce these chemicals into the air. Further, if this is an air cooled facility, this may be included in the emissions and, in fact, is associated with this type of development.
https://www.datacenterdynamics.com/en/analysis/altered-carbon-could-co2-cooling-replace-f-gas-based-systems/
https://pfasfree.org.uk/f-gases-fluoropolymers

The consequences of these chemicals being outlawed/phased out should also be studied. Will the data center need to be retrofitted with different equipment at a later date? What are the environmental (waste, etc.) and social (noise, additional construction) consequences of this?

Will fire suppression chemicals contain PFAS? If so, how would a fire event impact the region?

Noise:

The extended construction schedule of many years, as well as its proximity to residences constitutes an unusual reason to study the construction noise levels for this development scenario.

Page 49 states that, regarding noise, the development scenario will be "*required to comply with these (maximum allowable) thresholds.*"

1. How will they be required? How will this be enforced? The mitigation plan must include real consequences that will act as an actual deterrent to Google. A small fine is ineffectual. Will the data center be shut down if it does not comply? Will we fine them an amount that would actually be of consequence? Given they are worth trillions of dollars, that figure would likely have to be in the 10s or 100s of millions for them to care about noise infractions.

2. Backup generators will surely be louder than the allowed residential levels. The noise levels of generators must be studied. If they are louder than allowed, then the whole project should be denied.
3. The noise analysis should be conducted to model the entire area of audibility. How far must one be from the development to not hear it at all during normal operation? How far must one be to not hear the generators when they are running?

Cumulative Effects:

In 2009 the EQB amended its rules as "*a clarification to the AUAR process relating to cumulative potential effects stating that the AUAR boundary is not intended to limit the geographic extent of analyses of impacts.*" (p. 16, EQB Guide to MN ER Rules)

In all areas, the RGU should be studying the environmentally relevant area. In particular, noise, air quality, and water effects should be studied in an area that gives a true picture of its effects for the region. Additionally, these should be studied in conjunction with the new substation, power lines, road-rail crossing projects, induced development and the wind/battery storage promised by Google. The Adolph neighborhood is poised to see substantial construction in the coming years with all these projects, and they should all be studied together.

Specific questions I have:

1. What are the cumulative effects of transitioning so much farm and wetland to impervious surface? How will the substation development compound on the data center development to impact wetlands, well water, etc.? How will this development change the area's ability to deal with flooding when taken on the whole?
2. What are the total noise level increases the area can expect? What are the noise models from the new substation? How do they interact with the noise models from the proposed data center? What noise increases can be expected from increased electrical loads on the power lines, etc.?
3. Where will the wind and battery storage Google has promised be sited? Environmental impacts should be studied.
4. How far can PFAS contamination be expected to reach? How much farmland will be contaminated? How many wells will be contaminated? What are the health and financial burdens of this pollution?

Alternate Scenarios:

A hyper-scale data center creates too great a risk for our community. The area can be developed while honoring the rural character of the neighborhood and without an extension of public utilities. Hermantown should consider alternate development scenarios that serve its rural residents and develop it in a way that is in keeping with their values and priorities.

I propose the RGU study the impacts of an agriculture park as an alternative development scenario. Such a park could include farm fields for lease, licensed kitchens for the production of food products, cooler/freezer storage for farms and food businesses, meat processing, a feed store, community composting facilities, and a restaurant. It could be situated on vacant and already sold land and would likely have minimal negative effects on nearby residents, all while revitalizing the agricultural community and creating a diversity of job opportunities.
https://swwaagpark.com/
https://fishersagripark.com/
https://acrcd.org/projects/sunol-agpark/sunol-agpark-farmers/
https://sagecenter.org/wp-content/uploads/Urban-Edge-AgParks-Feasibility-Study.pdf
https://www.agroecologicalurbanism.org/building-blocks/agroecological-park
According to state law, property acquisition cannot be used as justification for choosing the Google data center over other development options.

Update: April 23, 2026

On April 21, 2026 Community Development Director Eric Johnson, during a Planning and Zoning Meeting said, "The city staff is going to be starting a process to amend the comprehensive plan..." regarding the pubic utilities proposed outside the urban services boundary. It was also stated that the city will be amending chapters on transportation and utilities. This is an admission that the city knows that this current AUAR is invalid and does not meet basic applicability per 4410.3610 Subpart 1 (see below). The environmental review should be terminated as invalid until such time as the city is able to properly complete the above, if that is to even occur.

Additionally, AUAR guidance is such:

"Important Note: *Every AUAR document MUST review one or more development scenarios based on and consistent with the RGU's Comprehensive Plan in effect when the AUAR is officially ordered. (This is equivalent to reviewing the "no-build" alternative in an EIS.) If an RGU expects to amend its existing Comprehensive Plan, it has the options of deferring the start of the AUAR until after adopting the amended plan or reviewing developments based on both the existing and amended comprehensive plans; however, it cannot review only a development based on an expected amendment to the existing plan. Also, the rules*
require that one or more development scenarios analyzed must be consistent with known development plans of property owners within the AUAR area". (p. 2, Recommended Content and Format —Alternative Urban Area Review)

The RGU must review a development scenario that locates the public utilities extension within the current urban services boundary (such as down Ugstad Rd)—not only that which it proposes in its Comprehensive Plan amendment.

The rural residential community on and near Midway Rd. never asked for public utilities access, and while the city amended its Comprehensive Plan to extend utilities to the Adolph

neighborhood for this specific data center project, they did not include the S1 area along Midway Rd for this extension. This further amending of the Comprehensive Plan is proof that City of Hermantown officials are manipulating the plan to suit Google and this development. The water line would not be built if not for the data center, as officials have stated many times that they could not afford the extension without investment from Google. There is no explanation for further amendment except that the city is trying to make the Comprehensive Plan fit the data center project.

I oppose all changes to the Comprehensive Plan. Without a public process, including public input on the proposed changes, any alterations should be considered invalid and against the will of the community. This data center project is wildly unpopular, and the community would never willingly alter the Comprehensive Plan to accommodate it. Pushing forward without a public comment process on these changes constitutes further breach of trust between officials and their constituents.

Thanks for considering my comments.
Sincerely,

Rebecca Gramdorf
Hermantown, MN

4410.3610 ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS.

Subpart 1.

Applicability.

A local unit of government may use the procedures of this part instead of the procedures of parts 4410.1100 to 4410.1700 and 4410.2100 to 4410.3000 to review anticipated residential, commercial, warehousing, and light industrial development and associated infrastructure in a particular geographic area within its jurisdiction, if the local unit has adopted a comprehensive plan that includes at least the elements in items A to C. The procedures of this part may not be used to review any project meeting the requirements for a mandatory EAW in part 4410.4300, subparts 2 to 13, 15 to 17, 18, item C, D, or E, or 24, or a mandatory EIS in part 4410.4400, subparts 2 to 10, 12, 13, or 25. The local unit of government is the RGU for any review conducted under this part.

A.

A land use plan designating the existing and proposed location, intensity, and extent of use of land and water for residential, commercial, industrial, agricultural, and other public and private purposes.

B.

A public facilities plan describing the character, location, timing, sequence, function, use, and capacity of existing and future public facilities of the local governmental unit. The public facilities plan must include at least the following parts:

(1)

a transportation plan describing, designating, and scheduling the location, extent, function, and capacity of existing and proposed local public and private transportation facilities and services; and

(2)

a sewage collection system policy plan describing, designating, and scheduling the areas to be served by the public system, the existing and planned capacities of the public system, and the standards and conditions under which the installation of private sewage treatment systems will be permitted.

C.

An implementation program describing public programs, fiscal devices, and other actions to be undertaken to implement the comprehensive plan. The implementation plan must include a description of official controls addressing the matters of zoning, subdivision, and private sewage treatment systems, a schedule for the implementation of those controls, and a capital improvements program for public facilities.

A local governmental unit that has an adopted comprehensive plan that lacks any of the elements required by this subpart may qualify for the use of the procedures of this part upon a demonstration to the EQB chair that the lacking element would have no substantial effect on the purpose of or outcome of the environmental review and upon receiving authorization from the EQB chair to use these procedures.

Studies attached to comment 26-101

Current Sustainable/Renewable Energy Reports (2025) 12:12
https://doi.org/10.1007/s40518-025-00258-9

REVIEW

The Potential of Data Center Energy Demand To Provide Grid Flexibility

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Abstract

Purpose of Review The purpose of this review is to assess the current state of research into data center flexibility, and its potential.

Recent Findings There are several mechanisms by which data centers can provide flexibility including: protection systems, pre-cooling, altering CPU/GPU clock rate, and "smart" job scheduling. The latter being most popular in academic research. Much research specifically investigates cryptocurrency mining due to its continuous and interruptible nature.

Summary While many researchers propose mechanisms for increasing data center flexibility, comparatively little is understood about its potential scale or cost. Some research suggests that operators are unwilling to provide flexibility, and we demonstrate using real energy usage data that centers are not likely to be sensitive to electricity price, aside from during extreme events. Cryptocurrency mining is inherently flexible, but is mostly performed on specialized hardware (not in traditional data centers) and its price sensitivity fluctuates with currency exchange rates.

Keywords Data Centers · Cryptocurrency · Flexibility · Energy Demand · AI

Introduction

The growth of AI has led to a rapid increase in energy demand from data centers [1]. Current estimates suggest that data centers will consume about ~ 10% of the nation's electricity demand by the end of this decade [2]. The electric grid has not previously seen such sudden increases in electricity demand, and data center owners are increasingly concerned about the ability to power their data centers [3].

Integrating such data centers in an electricity network powered for a large fraction by variable renewable energy provides both challenges and opportunities. Many data centers have inherent flexibility with how and where they process jobs (and hence consume power), and as such there has been recent interest in using this flexibility to provide balancing services to the electric grid.

In this paper we describe the current state of the research in this area, and assess the evidence that data centers can provide grid flexibility services.

Background on Data Centers

Data centers house large centralized computing, storage, and networking resources. Typically, data centers can be subdivided into internet and computing data centers. Internet data centers handle tasks necessary for everyday services such as streaming of videos (YouTube, TikTok), routing internet traffic, storage of user data (e.g. Google drive), processing database queries (e.g. Facebook), and communicating player interactions during online gaming. All of these tasks primarily require high throughput networking capability, low latency, and some storage capability. Processing capability provided by central processing units (CPUs) is nowadays not a significant constraint anymore in these data centers. On the other hand, compute data centers handle compute intensive tasks such as numerical simulations, training and inference of AI models, crypto-currency mining, and archival storage of large datasets. These centers house large

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numbers of graphics processing units (GPUs), CPUs, and application-specific integrated circuit (ASICs) distributed over 1000s of nodes which require cooling to operate within a certain temperature range. Furthermore, they often feature a high bandwidth low-latency interconnect to allow rapid exchange of data between these nodes.

Data centers are typically owned by private companies such as Google or government entities such as the Department of Energy (DOE) or National Science Foundation (NSF). They house hardware that is dedicated to a single customer or shared between customers who pay credits for utilizing shared resources. These resources are assigned to virtual machines accessible to users or users submit jobs to a shared queue. While virtual machines provide many benefits including enhanced customization and safety to consumers, they introduce overhead and are thus rarely utilized on government owned supercomputers dedicated to academic research. To simplify this article we won't discuss virtual machines further and assume that resource requests are handled by user-submitted jobs. Many data centers have specialized queues for debugging which give priority access for short periods of time at a higher cost and queues that provide discounts. The discounts are given at the cost of longer wait times or the ability of the data center to prematurely take back the allocated resources.

A scheduler subsequently assigns resources to the submitted jobs. While many government owned supercomputers only offer users to access an entire node, many commercial data centers offer more flexibility and allow users to request access to individual CPU cores and/or GPUs. A node in modern data centers typically consists of ~100 CPU cores and/or between 1 and 8 GPUs. Each node usually also has a small amount of fast local storage (~several Terabytes) and can access a centralized file system (~hundreds Petabytes of data). Some data centers are very homogeneous while others offer many different nodes featuring different CPU/GPU architectures and vendors.

While in the past compute data centers were primarily tasked with running large simulation and data analysis codes, their use is now dominated by AI tasks. These typically correspond to either training of machine learning models or inferencing a pre-trained model. Training tasks are significantly more expensive, often require 1000s of GPUs, and can take days or weeks to run. On the other hand, inferencing a pre-trained model (e.g. using ChatGPT) uses a relatively small amount of compute power with much fewer GPUs, but can be run by millions, and in the future, billions of users. Recent estimates suggest that with the popularity of large language models, the total energy consumption of inference now exceeds that of training (given the large number of users) [4].

We expect that the power consumption attributable to datacenters will continue to increase over the coming years. This is driven by an increase in the number of data centers [5], and by GPUs consuming more power. For example, NVIDIAs V100 GPU released in 2017 had a thermal design power (TDP) of 300 W while NVIDIA's next generation B200 GPUs to be released in 2025 will have a TDP of 1200 W. This trend is expected to continue as advances in semiconductor manufacturing will allow hardware manufacturers to cram an exponentially increasing number of transistors into individual CPUs/GPUs while limits in physics will make it challenging for hardware manufacturers to decrease the power consumption of transistors proportional to the increase in transistor density.

Background on Grid Flexibility

Over the past decade there has been significant effort worldwide to decarbonize the power sector, with the deployment of renewable energy. Solar and wind power represent cheap alternatives to conventional carbon-based generation but have variable outputs due to their weather dependence. Coupled with the rapid increase in power demand (from AI as well as transport and heating electrification) this is leading to a volatility in the supply and price of electricity [6].

Load flexibility is a potential avenue to offset the variability of renewables' output, where the timing and/or location of power demand is altered to better align with available generation. A recent study suggested that a relatively small number of interruptions, up to 76GW of load could be added to the US system without increasing generation [7] (given the first order analysis this figure should be treated as an upper bound).

Power system operation can utilize load flexibility in several manners, two distinct modes are:

(1) **Regulation/Reserve Services.** For these services devices are paid a retainer fee, in return for a guarantee that power will be provided within a set time period (typically seconds to minutes) of receiving a signal. These signals are rare, however the services are contracted in advance and there are large penalties for failing to respond. These services are designed to avoid power loss during extreme events such as component failure.
(2) **Energy Arbitrage.** While regulation/reserve services focus on rare quick response events, energy arbitrage focuses on routine moving energy over time and or space. For example, grid scale batteries may perform arbitrage by charging when surplus energy is available and discharging during peak times. These services tend to be less profitable, but available frequently, and do not

require contracts in advance. Arbitrage serves to solve routine congestion problems, or better utilize low-cost generation.

Data Center Flexibility Mechanisms

Various control regimes have been proposed to introduce demand flexibility into the operation of data centers. In this article we primarily focus on compute data centers since these show the most rapid growth in total power consumption, but our conclusions should be generally applicable.

Uninterruptible Power Supply

One proposed flexibility mechanism involves the use of the data centers' protection system for regulation or reserve services [8, 9]. Uninterruptible power supply (UPS) protection systems are designed to keep the data center online for a short period (hours) in the event of power outages, and as such have extremely low utilization. However, to provide regulation services the center must commit to prioritize the service over local power supply in an emergency event.

Rerouting Jobs

Most of the research into the flexibility potential of data centers focuses on transferring requests between data centers. This would move power demand to other locations within the power grid, and potentially allow one center to completely shut down, reducing total energy consumption [10, 11]. Early work focused on internet data centers, but later work has extended the idea to HPC data centers, including those focused on AI. HPC data centers typically involve queued jobs, and thus have the additional potential to delay processing of a job. This allows the movement of the jobs in time as well as space (increasing the flexibility potential), however these data centers also operate at higher levels of utilization given that they can queue jobs [12–14].

Smart Scheduling

Compute data centers often maintain queues for jobs; therefore, it is likely that some extent of arbitrage should be possible by better management of the queue. Current job schedulers prioritize the timely and efficient execution of the submitted jobs in a queue. Often such schedulers optimize for achieving a high utilization rate of the data center. Some recent work also highlights the benefit of using "smart" schedulers to move the most demanding jobs to off peak hours [15, 16]. However, all this work has been so far focused on the jobs that are currently submitted to data centers and does not exploit the potential flexibility users could offer to the datacenter.

User-provided flexibility in the job size, duration and hardware configuration used can potentially dramatically increase the utilization of data centers and make them amenable to demand-response strategies by moving power-hungry jobs to off-peak hours. For example, many HPC-based simulation codes and AI workloads have the capability to utilize various types of hardware and job sizes. Furthermore, they checkpoint regularly, so can be terminated quickly if the need arises. On the other hand, jobs tasked with AI inferencing need to be able to process user queries on very short timescales, leading to a low average utilization rate.

Clock Rate Modulation

There are other, less studied mechanisms via which a data center could modulate its power consumption. Firstly, the clock rate and voltage of the CPU and GPU cores can be reduced to effectively slow down the processing speed of GPUs, lowering its power consumption. This works, because for most codes the reduction in computational performance is much smaller than the reduction in power consumption. To test the feasibility of reducing the clock speed, we have tested underclocking a single A100 GPU running the H-AMR general relativistic magnetohydrodynamics (GRMHD) code [17] used in astrophysics and we achieved a 40% drop in power consumption at a 22% drop in raw performance.

This shows that underclocking provides an avenue to reduce the power consumption of data centers that are underutilized. For example, jobs can be executed at a lower clock frequency, but run for longer, achieving more computations per unit energy, and still getting all the work done. However, this possibility is not exploited since users submit fixed-duration jobs and expect to get consistent performance. Besides increasing the efficiency of underutilized data-centers, clock speed modulation could be used as a wild-card available to data center operators to significantly reduce their power consumption during extreme events [18].

Pre-cooling

Data centers expend 20–40% of their energy on cooling. While air cooling is the norm in internet data centers, liquid cooling (where water flows through metal radiators extracting heat from the hardware), and immersion cooling (where the hardware is immersed in a specialized liquid) is becoming the norm in datacenters housing a high density of GPUs. For example, NVIDIA's B200 GPUs have a TDP of 1200 W and a single rack will be able to fit 72 of such GPUs leading to a total power consumption of 120 kW per rack. Several

data centers already reduce power consumption during peak hours by pre-cooling a large volume of coolant [1, 19].

Flexible Job Characteristics

Jobs executed in a single data center can show a large variability in power consumption. This depends on several factors including how efficiently the algorithm utilizes the compute hardware and its bottlenecks, alongside the hardware that it is run on. For example, a highly optimized simulation code explicitly targeting a specific hardware architecture will be able to utilize the hardware more efficiently than a less-optimized community code that relies on compiler directives to target specific computer architectures. Similarly, executing a job on newer hardware using smaller transistors typically uses less energy than executing the same job on older hardware with bigger transistors.

Power consumption of computing jobs is also determined by the type of instructions they execute. These instructions can be broken down in tensor core operations, that multiply matrices, floating point operations, integer operations and memory read/write operations. Here tensor core operations utilized by AI workloads are the most power hungry, followed by floating point operations utilized by many non-AI HPC workloads. This implies that jobs which are limited by memory or networking bandwidth will use less power than compute intensive jobs. Large jobs utilizing a large number of nodes furthermore tend to be less efficient than smaller jobs due to communication overhead and load imbalance. For example, training a large language model on more GPUs than required due to memory constraints, can increase the training cost several fold [20].

Cryptocurrency Mining

Recently, there has been significant interest in cryptocurrency mining as a source of flexible energy demand [21–24]. Because mining workloads are predictable, homogenous, and relatively decoupled from external dependencies, they offer a more tractable problem for optimization and scheduling models. However, at current electricity prices and cryptocurrency values, GPU-based mining is largely unprofitable. Instead, most operations now use highly specialized hardware such as ASICs, which offer much higher efficiency per watt. Cryptocurrency mining facilities are therefore optimized to house the maximum number of ASICs at minimal cost, and unlike traditional data centers, they typically do not include high-end networking, storage, or resilience features.

Quantifying Flexibility Potential

For each of the discussed flexibility mechanisms, the ability of a data center to participate depends on the specific hardware and job constraints. To provide spatial arbitrage, a company needs to have multiple datacenters with the ability to handle the same request at the same time. Furthermore, relatively little research has investigated the potential scheduling flexibility of current workloads and codes running in data centers. While some data centers are shifting loads to low demand times, this usually only involves shifting non-urgent fixed duration jobs in time and does not include changing the job characteristics [25].

The ability of a data center to provide flexibility will depend on a variety of factors including the utilization rate of the data center, the variability in power consumption of different jobs, and the flexibility these jobs offer to the smart scheduler. In this regard a recent paper attempts to quantify the flexibility of 14 HPC prices [12]. They use computing traces to estimate flexibility and suggest that AI-focused data centers may be especially well suited to provide flexibility (compared to general-purpose clusters). These findings are based on optimization models to approximate the re-scheduling possible with maximum delays of 10 or 20%. They focus on defining average flexibility cost, assuming that any of the jobs could theoretically be delayed (thus can be seen as an upper bound estimate).

Another study surveyed data center owners to attempt to understand the barriers to data centers providing flexibility in China [8]. In general, data center owners were resistant to the idea; one respondent expressed that very few data centers are sensitive to electricity price compared to revenue from processing jobs; another stressed that the data centers paid a lot for their UPS systems and would therefore be unwilling to deploy it for ancillary services as their power supply may then be threatened in an emergency.

Incentivizing Flexibility

In order to deploy flexibility in data centers, there needs to be incentives for both users to participate and data centers to utilize flexibility for grid resilience.

Incentivizing Users To Provide Constraints

In order to deploy flexibility without consumer dissatisfaction, schedulers need information about the requirements and urgency of users' jobs. While current job schedulers provide some flexibility for the user to select variable job sizes, runtime durations, and compute hardware, data centers do not incentivize the user to make use of such smart scheduling features. Usually the only provided incentive to

the user is a vague promise that the job will run sooner if it is able to backfill into an existing queue. Hence, very few users make use of these scheduling features.

In order to realize additional flexibility, we propose that providing dynamic prices to users has the potential to increase the efficiency of data centers. In this paradigm, the user submits jobs with certain characteristics to the data center and specifies how much they are willing to pay if these jobs are launched on different hardware or on a different number of nodes than what they originally requested. On the other hand, data centers can specify dynamically how much of a discount they are willing to provide for a job to run with non-ideal characteristics. This will lead to a market-like dynamic where users are encouraged to request reasonable discounts and data centers are encouraged to honor such requests.

For example, with current job scheduling policies users might be resistant to run on more nodes or less efficient hardware because a slightly shorter queue time (the only incentive offered on many clusters) does not weigh up against the increased cost to run their codes. Hence, these users currently do not provide this flexibility to the scheduler. However, if such users can specify what fraction of the normal cost they are willing to pay when accepting non-ideal job characteristics, a data center can capitalize on this added flexibility provided by the user. Such smart schedulers that can capitalize on user and data-center provided constraints are not developed yet, and they will require involvement of users and datacenters to be successfully integrated in their workflows.

Incentivizing Data Centers To Provide Grid Flexibility

Implementing better scheduling algorithms to provide flexibility does not guarantee that data centers will use this flexibility to shift their power consumption. The majority of papers on the topic of data center management focus on the use of electricity price to motivate energy arbitrage. However, researchers have found data center operators to be fairly insensitive to electricity price [8]. Most work which quantifies the "price" at which data centers would provide the flexibility considers only the direct costs to the center operator [12]. However, from the perspective of the center operator, the benefit from providing flexibility needs to outweigh the opportunity cost of taking on more jobs. The superior scheduling algorithms discussed would also allow the center to better utilize its own resources, and therefore possibly increase the total power consumption.

On average a GPU is rented out at $2/hr (with potential discounts for large users), while average usage figures from OLCF Frontier implies each GPU consumes an average of only 0.32 kW of power [26]. Using average energy prices, we can see that electricity should account for less than $0.04 compared to the $2 revenue. Furthermore, the electricity price at which the energy costs outweigh the job profits is $6,250/MW– a price which has only historically been hit during extreme events such as the Texas blackout. This suggests that using only electricity prices as incentive data centers would almost always be incentivized to take additional jobs rather than provide flexibility. If data centers implement superior scheduling algorithms, they are likely to use them to more efficiently (heavily) utilize their existing systems rather than alter their energy consumption. Bitcoin mining may be more price sensitive, using today's Bitcoin value the energy cost exceeds the revenue at $790/MW– but, as previously mentioned, Bitcoin mining is rarely profitable using GPUs nowadays.

New data centers often face extortionate connection costs which they are sensitive too– as evidenced by Amazon's recent lawsuit [3]. It is possible that flexibility could be incentivized in return for a reduced interconnection cost– e.g. a contracted annual number of demand reduction calls.

Conclusion

In this paper we discussed the features of data centers, their jobs, and their suitability to provide grid flexibility. Internet data centers typically have a lot of latency, and are therefore able to re-route jobs (providing locational flexibility) at very low cost. However, these data centers need to compute near instantaneous tasks, and thus can't help with the temporal variation in renewable energy.

On the other hand, compute data centers (which are concerned with AI tasks) aim to operate at near to their full capacity, keeping jobs in queues. There are a variety of mechanisms via which these data centers could increase their energy demand flexibility including: modulating clock rate, pre-cooling, and better scheduling. It is very challenging to make estimates of the total flexibility potential of data centers because very few compute data centers share public information about utilization or energy demand. In addition, due to the large number of users utilizing a data center we expect significant challenges in gathering high-quality performance data of various workloads to assess potential job scheduling flexibility.

Furthermore, implementing better routing or scheduling of jobs would enable centers to better utilize their own resources. Given the large sunk capital costs and highly lucrative jobs, we conclude that it is unlikely that centers would be routinely incentivized to perform energy arbitrage based on electricity prices alone. Our estimates of the electricity price at which a data center would deny a job ranged

from $790/MW for Bitcoin mining to $6,250/MW for GPU accelerated workflows. A more promising avenue might be to negotiate discounted interconnection costs for new data centers, in return for some contracted flexibility.

Cryptocurrencies mining is an edge case that has gained a lot of interest due to its predictable nature and it being relatively sensitive to electricity price. It should be noted that Bitcoin mining now mostly takes place on specialized hardware, and not in traditional data centers. These specialized machines may demonstrate some energy price-following behavior in the coming years. However, these would be new centers (adding total load) and the volatile nature of cryptocurrencies coupled with their relative lack of societal benefit makes this a controversial source of flexibility.

Author Contributions C.C. conceptualized the review. C.C. and M.L. performed literature review, wrote the main manuscript text, and reviewed the manuscript.

Data Availability No datasets were generated or analysed during the current study.

Declarations

Competing Interests The authors declare no competing interests.

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Environmental Burden of United States Data Centers in the Artificial Intelligence Era

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The rapid proliferation of data centers in the US—driven partly by the adoption of artificial intelligence—has set off alarm bells about the industry's environmental impact. We compiled detailed information on 2,132 US data centers operating between September 2023 and August 2024 and determined their electricity consumption, electricity sources, and attributable CO_2e emissions. Our findings reveal that data centers accounted for more than 4% of total US electricity consumption—with 56% derived from fossil fuels—generating more than 105 million tons of CO_2e (2.18% of US emissions in 2023). Data centers' carbon intensity—the amount of CO_2e emitted per unit of electricity consumed—exceeded the US average by 48%. Our data pipeline and visualization tools can be used to assess current and future environmental impacts of data centers.

One sentence summary: US data centers produced 105 million tons CO_2e in the past year with a carbon intensity 48% higher than the national average.

Introduction

Data centers—warehouses containing thousands or millions of computing cores that serve as the backbone of modern information technology infrastructure—provide the necessary resources and environment to process, store, and distribute vast amounts of data, playing a critical role in supporting a wide range of activities, including cloud computing, online services, e-commerce, social media, scientific research, and more (*1*).

Data centers are energy-intensive facilities, with computational power and cooling as the most energy-hungry processes (*2*). Data center servers, depending on the task, require substantial energy to perform their computations, and this computing process can generate significant amounts of heat. Extensive cooling systems are required to avoid computer hardware overheating and maximize performance, stability, and life expectancy, especially in high-performance systems (*3*).

The increasing demand for digital services has made data centers essential and widespread in modern society (*4–6*).In 2024, there were more than 7,945 data centers worldwide (*7*). Of these, 2,990 are located in the US (37%) (*7*). Globally, according to the International Energy Agency (IEA), energy consumption of data centers in 2022 was estimated to be between 240 and 340 terawatt hours (TWh), which represents approximately 1-1.3% of global electricity consumption (*8*). Data center energy consumption is projected to double by 2026, reaching 480-680 TWh worldwide (*8*). This exceeds the energy consumption of Canada, the country with the sixth highest energy consumption in the world (*9*).

In the US alone, data center electricity consumption is projected to increase from approximately 200 TWh in 2022 to nearly 260 TWh in 2026 (*10*). This increase means that data centers will account for 4% to 6% of the total US electricity consumption by 2026 (*10*). More recently, the exponential rise of artificial intelligence (AI) and the widespread adoption of generative AI

models have profoundly impacted the need for data centers, significantly increasing demand in terms of number and size. This has exacerbated the strain on electricity resources and triggered an unprecedented increase in energy demand and consumption (*11, 12*).

Electricity generation has a significant environmental impact, with various forms of generation affecting air quality, water resources, and ecosystems (*13*). This is particularly true for carbon-intensive energy sources, those that produce a large amount of carbon dioxide equivalent (CO_2e) emissions per unit of electricity produced, such as coal and natural gas. CO_2e encompasses all greenhouse gases that contribute to climate change, providing a standardized measure to assess environmental impacts.

A recent study by Siddik et al. estimated that data centers in the US emitted 31.5 million tons of greenhouse gases in 2018 (*14*). Unfortunately, estimates of the carbon footprint of data centers for 2018 are already outdated. Additionally, Siddick et al. provide estimates of the nine large geographic regions defined by NOAA, a level of granularity that does not align with possible regulatory responses.

In this paper, we introduce a data pipeline to estimate the environmental impact of US data centers up to August 2024 and for 52 balance authority regions. A data pipeline is an automated process that collects, processes, and analyzes information about energy consumption and emissions to estimate and monitor the environmental impact of a data center's activities. Because it is automated, it can be routinely updated and leveraged to assess the effectiveness of interventions to reduce energy consumption and/or rely on alternative sources of energy. A balancing authority area in the US is a specific geographic region within which a single entity—known as a balancing authority—is responsible for maintaining the balance between electricity generation and consumption, as well as managing power flows with neighboring areas.

More specifically, we gathered detailed data on 2,132 US data centers (78% of all US data centers, (*7*)) for the period from September 2023 to August 2024. Cryptocurrency mining data

centers were excluded, as they have been extensively studied in Guidi et al. (*15*). For each of the data centers included in our analysis, we: 1) identified and validated their energy demand; 2) pinpointed the power plants that supply the electricity to each of the data centers; 3) identified each individual power plant's share of electricity supplied and the fuel used to produce the electricity; and 4) estimated the CO_2e emissions.

We also estimated and compared CO_2e emissions and *carbon intensities*—defined as the amount of CO_2e produced per unit of energy consumed—for data centers versus other relevant sectors of the US economy and those of other countries.

Finally, we developed a public-facing web platform to track CO_2e emissions, energy load estimates, and total energy demand of data centers at the balancing authority region and at the state level. The data science pipeline introduced in this paper provides novel visualization tools and a platform to track and mitigate the carbon footprint and assess the current and future environmental impact of data centers.

Results

Characteristics of Data Centers

We identified 2,132 data centers located throughout the contiguous US that were operating from September 2023 to August 2024 (Fig. S.1.2). Virginia had more data centers (301) than any other state, followed by California (248) and Texas (221).

We gathered detailed information for each data center, including full address, exact location of the building, square footage, and power capacity specifications. Given the lack of open source datasets for data centers, we built our data pipeline by integrating publicly available data, including data obtained by Web scraping, with proprietary data from the data center service provider (*Baxtel.com*). We validated the data set through satellite imagery using *Open Street*

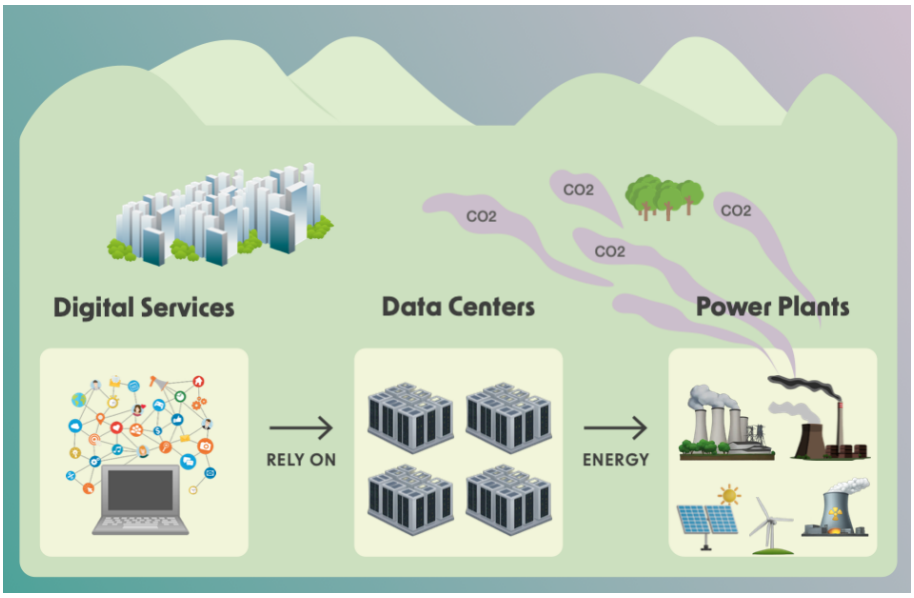


Fig. 1. The chain of digital services, data centers, and CO_2 emissions. This infographic illustrates the interconnected relationship between digital services, data centers, energy consumption, and the consequent emissions from the power plants that supply data centers. It highlights how data centers power digital services by relying on energy from power plants, leading to CO_2e emissions that are subsequently released into the environment.

Map. Additional details on data collection and validation are provided in the Supplementary Materials.

Electricity Consumption of Data Centers

We obtained power capacity specifications for 1,795 data centers (84% of the total sample). Power capacity refers to the maximum amount of electricity that can be drawn by each data center, expressed in megawatts (MW). For the 337 data centers with missing power capacity data, we deployed a gradient-boosted regression tree model to estimate their power capacities. We trained the model using features from the 1,795 data centers with complete data and then estimated the power capacity of the remaining data centers.

The input of the model included data center features such as square footage, location and

regional climate, and hyperscale capability, that is, whether the data center was designed for extreme scalability and optimized for large-scale workloads with enhanced network infrastructure (*16*). The model for imputation of missing data had an R-squared of 0.77 (see Supplementary Materials for details).

We found an estimated aggregate electricity consumption of 192.64 Twh for the 2,132 data centers during the study period, assuming a constant uptime, or capacity utilization rate, of 0.75 throughout the year, which represents the percentage of time a data center is expected to operate at its maximum capacity (see Supplementary Materials for details). The US IEA estimated that in 2022, the total electricity consumption of data centers in the US was 200 TWh, signaling that our sample, which captured data from most of the data centers in the US, was slightly more conservative relative to the estimate of the IEA of 2022 (*17*).

The aggregated energy consumption of all data centers included in our analysis (192.64 TWh) represented approximately 4.59% (*18*) of the total energy consumption in the US in 2022 and was higher than that of most US states, ranking just after Texas, California, and Florida (at 475, 251 and 248 TWh, respectively) (*19*). This figure is more than double the 1.80% estimate reported for 2018 (*14*).

Furthermore, the aggregate energy consumption of data centers in our study was comparable to that of developed countries, such as Spain (220 TWh) and Italy (298 TWh), and was considerably higher than some Scandinavian countries (Norway and Sweden, both around 124 TWh) and Argentina (134 TWh) (*20*) (see Supplementary Materials for more details). Aggregate energy consumption was also slightly lower than an estimate for 2018 for the total global energy use of data centers of 205 TWh (*21*).

The data centers in our sample ranged in power capacity from 0.04 to 325 MW, with a mean of 13.75 MW and a median of 4.5 MW. Data centers in Virginia had the highest aggregate power capacity (and consequently electricity consumption) among all US states, with 52.21

TWh, which was more than 27% of the total electricity consumed by all data centers in our dataset. Texas was second with 18.86 TWh (13% of the total), followed by Oregon, with 15.25 TWh (8%) and California with 11.54 TWh (6%). These four states accounted for more than 50% of the total energy consumption of the data centers in our study.

Power Plant Production to Meet the Energy Demand of the Data Centers

Energy production is regulated within a balancing authority region and not at the data center level (*22*). Each region is a well-defined geographical area within the electric grid system that is managed by a single balancing authority (*22*).

To identify the power plants that supply electricity to each data center, we first assigned each data center to its balancing authority based on the data center's geographical location and then linked each data center to the power plants in that balancing authority region. Second, we implemented a "generation-weighted average" approach to apportion the electricity consumed by each data center to each supplying power plant. We assumed that each power plant within a balancing authority region supplied to a given data center an amount of energy proportional to the energy it generated in that year.

Using a generation-weighted average is an *attributional* approach to CO_2e accounting (*23*). Attributional methods measure a static inventory of emissions allocated proportionally to users and are useful for setting carbon budgets and setting CO_2e reduction targets. Given the absence of comprehensive industry-wide reporting on emissions from the data center sector, we employed attributional methods to estimate the aggregate CO_2e emissions.

We identified 3,318 power plants across the US that supplied electricity to the 2,132 data centers in our dataset. Fossil fuel power plants produced more than 56% of the consumed by data centers.

Carbon Emissions Attributable to Data Centers

After identifying the power plants that generate electricity for each data center, we estimated the corresponding aggregate CO_2e emissions attributable to data center energy consumption.

The total CO_2e emissions of the data centers in our data set was 105.59 million metric tons (MT), equal to 2.18% of US carbon emissions from energy consumption (*24*), and to 1.66% of US total CO_2e emissions in 2022 (*25*). This is more than three times the proportion reported for 2018 in (*14*), of 0.5%. We found that Virginia, Texas, and Oregon had the highest CO_2e emissions attributable to data centers: 30.08, 9.63, and 8.92 MT of emissions, respectively (see Table 1). Illinois was fourth with 6.22 MT and California was seventh with 4.37 MT of CO_2e emissions. Fig. 2 shows the distribution of energy loads and emissions across the balancing authority regions and at the state level.

	Annual CO_2e Emissions		Number of Data Centers		Annual Electricity Use		Balancing Authority Serving the State		Carbon Intensity of Electricity Generation	
State	MTons	Rank	Number	Rank	TWh	Rank			g of CO2e per kWh	Internal Rank
Virginia	30.08	1	301	1	52.22	1	PJM	VA	576	3
Texas	9.63	2	221	3	18.86	2	ERCO	TX	509	5
Oregon	8.92	3	86	6	15.26	3	PGE	OR	875	1
Illinois	6.23	4	95	5	10.82	5	PJM	IL	576	3
Ohio	5.55	5	98	4	9.64	6	PJM	OH	576	3
Iowa	5.15	6	22	23	7.51	8	MISO	IA	686	2
California	4.37	7	248	2	11.54	4	CISO	CA	374	7
Arizona	4.00	8	71	10	9.25	7	APS	AZ	473	6
Georgia	3.95	9	74	9	7.20	9	SOCO	GA	548	4
New Jersey	3.09	10	69	11	5.39	11	PJM	NJ	576	3

Table 1: **Statistics for the top ten states by CO_2e emissions attributable to data center energy consumption**. Annual electricity use assumes a constant 0.75 uptime across all data centers. The emissions and annual electricity displayed correspond to those attributable to data centers within the states. However, due to the role of balancing authorities, emissions do not necessarily coincide with the locations of the data centers. The balancing authorities shown are the ones primarily supplying energy to the states. See Fig. S.1.6 for balancing authorities in the US. The *Internal Rank* column depicts the rank between the balancing authorities. Note that this ranking is computed only among the balancing authorities reported in the table.

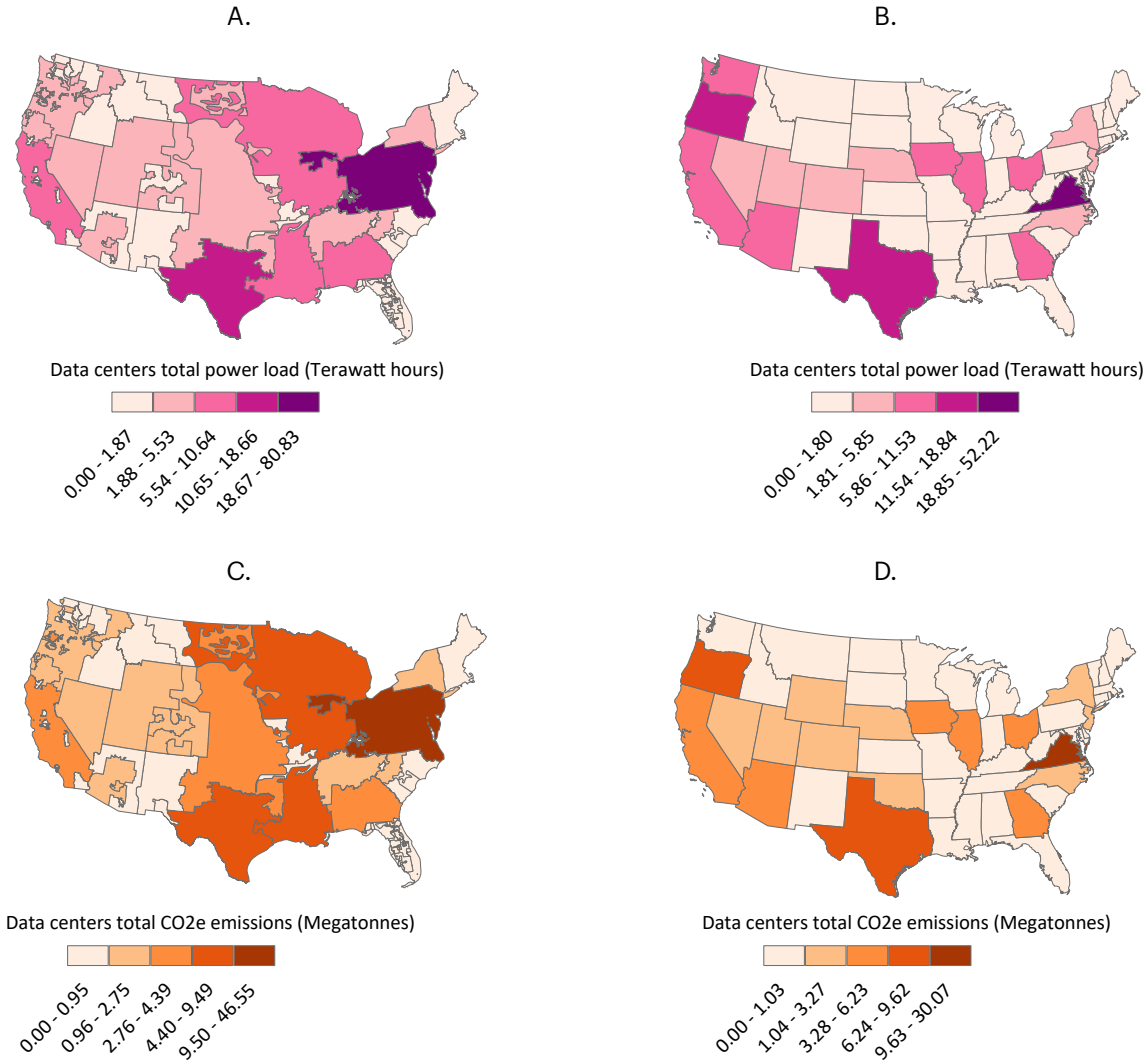


Fig. 2. Data center energy consumption and CO_2 emissions. (Left column, A and C) The balancing authority region in which a data center is located determines the mix of power plants that supply its electricity and thus its attributable emissions. (Right column, B and D) Maps at the state level show energy consumption and emissions for which the data centers within the state are responsible for.

Carbon Intensity and Energy Fuel Mix of Data Centers

Next, we evaluated the *cleanliness* of the energy supplied by the power plants to data centers, measured through their carbon intensity. Fig. 3 shows the carbon intensities of the US data centers at the level of the balancing authority. To put these numbers in context, we also determined the carbon intensities of the entire power generation sector (not only of data centers) of other countries.

The average carbon intensity of the US data centers in our study (weighted by the energy they consumed) was 548 grams of CO_2e per kilowatt hour (kWh), approximately 48% higher than the US national average of 369 gCO_2e / kWh (*26*). This strikingly high percentage suggests that data centers in the US are located in geographical areas where energy sources are more carbon-intensive than the national average.

Fig. 3, left panel, shows carbon intensities at the level of the balancing authority. Central balancing authority regions, such as those in Colorado, Kansas, Missouri, and Wyoming, had the highest carbon intensities, due to their heavy dependence on coal-fired power plants (*27*), with peak values around 1000 gCO_2e/kWh.

Virginia's balancing authority (PJM), despite having the largest number of data centers, reported a lower carbon intensity (576 gCO_2e/kWh). However, the carbon intensity of this region was significantly above the national average (369 gCO_2e / kWh), which increased the weighted average carbon intensity of the data centers.

The balancing authority serving Texas (ERCO) had the second highest aggregate data center electricity demand and a carbon intensity of 509 gCO_2e/kWh. The third highest carbon intensity was observed for MISO, which serves multiple states, including Illinois and Iowa (fourth and sixth in CO_2e emissions attributable to data centers), with a carbon intensity of 686 gCO_2e/kWh.

Finally, CISO, California's main balancing authority, had the fourth highest aggregate data center electricity capacity, but a much lower carbon intensity of 373 gCO_2e/kWh. California

has almost completely phased out coal power plants and relies on a split between natural gas and sustainable energy sources (*28*) (see Fig. 4).

Comparing the weighted average carbon intensity of US data centers (weighted by their energy consumption) with the total carbon intensities of various countries (across all sectors and not only for the data centers), we found that it was similar to that of China (582 gCO_2e/kWh), Australia (549 gCO_2e/kWh), Mexico (507 gCO_2e/kWh), and Bolivia (532 gCO_2e/kWh).

Moreover, US data center average carbon intensity was significantly higher than the carbon intensity of several European countries, including France (58 gCO_2e/kWh), Spain (174 gCO_2e/kWh), Italy (331 gCO_2e/kWh), the United Kingdom (238 gCO_2e/kWh), and Germany (381 gCO_2e), as well as countries such as Russia (441 gCO_2e/kWh), Argentina (354 gCO_2e/kWh), and Brazil (98 gCO_2e/kWh) (*26*) (see Fig. 3, right panel).

Carbon intensities are closely related to the fuel mix used in energy production, which varies significantly depending on the country, region, and types of power plants. The primary components of the fuel mix include fossil fuels (coal, natural gas, and oil), renewable energy (solar, wind, hydro, geothermal, and biomass), and nuclear power.

Fig. 4 illustrates the fuel dependence of all US data centers in our dataset and the main balancing authorities by power capacity within these regions. As the left panel shows, fossil fuels dominated, accounting for more than 56% of all the electricity generated for US data centers. Nuclear power provided approximately 21% of the energy consumed by data centers, while renewable energy provided about 22%. balancing authority with the most data centers and highest electricity use—serving Virginia, 12 other states, and the District of Columbia, more than 60% of the electricity came from fossil fuel power plants, with coal-fired plants accounting for 19% of the total. Nuclear represented 32% of the energy mix, and renewables a small 7%.

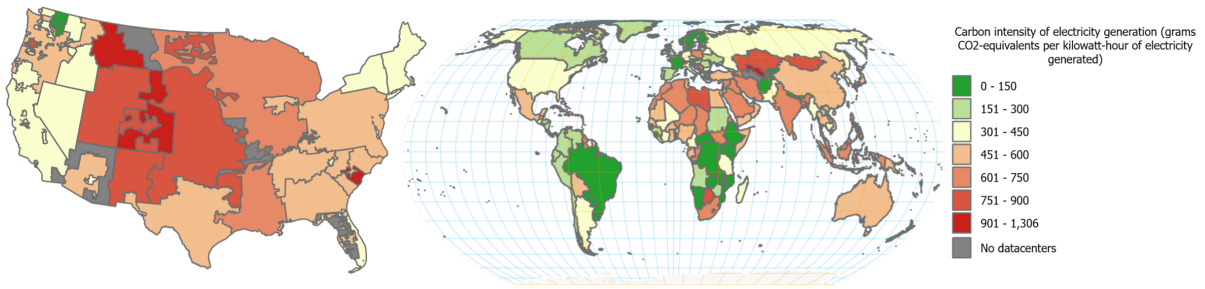


Fig. 3. Carbon intensities of energy production for US data centers by balancing authorities and in world countries. The left panel shows data centers' carbon intensity for energy production at the balancing authority level, in grams of CO_2e per kWh. The right panel shows the carbon intensities of total energy production by world countries in grams of CO_2e per kWh.

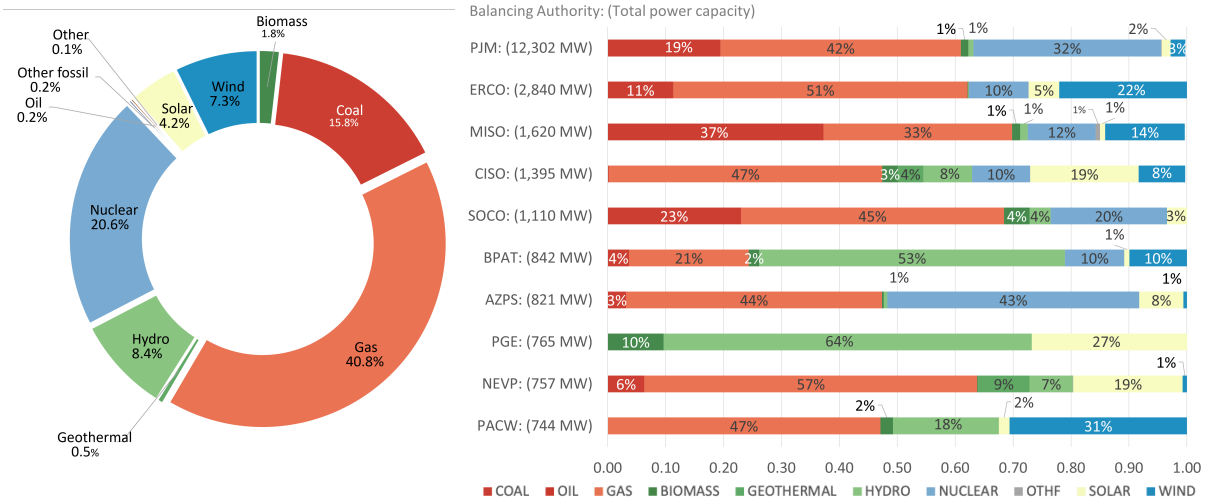


Fig. 4. Fuel mix of power plants producing energy for US data centers. The left panel depicts the distribution of fuel types used by the power plants providing energy for US data centers in our study. The right panel shows the first 10 balancing authorities ranked by aggregated power capacity of data centers in the balancing authority region (shown on the vertical axis), and the amount of energy produced per fuel type.

Publicly Available Web Application

We developed a data visualization tool that allows users to track the carbon footprint of US data centers. The platform can be found at https://tinyurl.com/4k8fbhka. The platform offers different geographical layers—balancing authority, state, and county levels—at which the number of data centers and their energy consumption, attributable carbon emissions, carbon intensities, and fuel mixes can be explored.

Discussion and Policy Implications

The environmental impact of the rapid proliferation of data centers is obfuscated by the relative unavailability of industry emissions data. To close this critical data gap and to enable effective policymaking, we have developed a reproducible, data-driven approach that reveals data centers' energy consumption and attributable emissions.

Our analysis reveals that data centers were responsible for 105 million tons of carbon dioxide equivalent emissions attributable in the past year, a three-fold increase in carbon emissions compared to the 2018 estimates by Siddik et al. (*14*).

We estimate these emissions at the balancing authority level (52 regions responsible for energy generation) and at the state level (where regulatory actions are implemented). This granularity aligns energy consumption and emissions with the geographical areas responsible for energy production and policy, offering an actionable foundation for regulatory decisions.

We also provide a breakdown of the fuel mix that powers the data centers by balancing authority. Alarmingly, we found that approximately 56% of the electricity consumed by the data centers came from fossil fuel-burning power plants, and 16% was from coal power plants. This high dependence on coal is a significant contributor to the carbon footprint of the data center industry.

In the midst of the AI race, various companies have fallen off the track with their sustainability pledges. Google's 2023 greenhouse gas emissions increased 13% year-over-year (*29*). Microsoft's emissions have increased 29% since their 2020 baseline (*30*). Both cited data centers as the main driver of the increase in these emissions.

Our analysis and these industry trends underscore the importance of recognizing data centers as a distinct sector of the economy. Policy has lagged behind the explosive growth of data centers, though states and federal regulators are increasingly turning their eye to the industry (*31, 32*).

We hypothesize that the carbon intensity of electricity is often overlooked when a new data center is built. In fact, we found that about 95% of data centers are located in areas with a higher carbon intensity of electricity than the national average, despite the fact that some of the biggest data center operators are also the largest private purchasers of renewable energy (*33*).

Our analyses underscore the importance of relying on data-driven decision-making to mitigate the environmental impact of data centers while acknowledging their crucial role as the backbone of modern computing technology. The urgency of this matter is further amplified by the anticipated surge in data center proliferation driven by the rapid advancement and widespread adoption of AI technologies. The AI race significantly increases computational demands and, consequently, energy consumption of data centers.

Limitations and Future Research

Despite incorporating a large dataset that covers most data centers in the US and applying conservative assumptions, our study has limitations. First, the uptime, or capacity utilization rate, is assumed to be 0.75 for all data centers. The uptime impacts data center energy consumption computations and therefore emissions levels. A more precise model would factor in a specific uptime for each data center, accounting for the varying types (e.g. hyperscale, colocation, etc.).

However, this data is closely guarded by the data center industry and is not readily available.

Furthermore, our analysis of power plants by balancing authority was limited to the 3,318 facilities for which power generation and emissions data were available from the EPA's eGRID database, out of a total of 11,973 reported power plants. This limitation arises from EPA reporting thresholds, which require data submission only from power plants exceeding certain sizes or emissions levels (*22*). Smaller or lower-emission plants may not be required to report. While this may slightly affect the completeness of our balancing authority assignments— and thus, carbon intensity and fuel mix assessments- we anticipate minimal impact on our results, as the excluded plants are generally quite small.

Lastly, when estimating power capacities for facilities with missing data, we primarily relied on the square footage of the data centers, as indicated in the literature, as well as their geographic location and climate zone. Factors such as industry economies of scale and regional temperature profiles were considered as potential determinants of power capacities. Although these methods provided reasonable estimates, more accurate predictions could be achieved by incorporating additional facility-specific information.

Future research should focus on developing methodologies to identify new data center facilities as they come online. This would involve both the refinement of data collection techniques and the establishment of collaborative networks with public and private stakeholders to ensure timely and accurate reporting of new facilities.

In this paper, we adopted an *attributional approach* (i.e., a generation-weighted average emission model), to assign each data center the power plant that supplied the energy demanded. Other approaches, called *consequential*, have been used in the literature on emission accounting (*34–36*), and serve a different purpose, that is, identify power plants that respond to the *increase* in energy demand from the establishment of new energy-hungry facilities (e.g., a new data center) (*37*).

These approaches measure the change in total emissions from a change in energy demand (*23*) (i.e., the marginal emissions rate). The responding, or marginal, power plants in these situations generally do not have the same emissions rates as the average of all existing power plants (consequential approach).

When making decisions on when or where to operate a new data center, it will be important to use consequential methods that model the change in total emissions as a consequence of an intervention. A preliminary consequential analysis is presented in the Supplementary Material. However, a more comprehensive approach is left for future research.

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Competing interests: The authors declare that they have no competing interests.

Data and materials availability: The dataset we constructed for our analysis will be made available for collaboration with the authors of this work. Requests can be addressed to the last

author. Our code is hosted as an open-source project at:

`https://github.com/NSAPH-Projects/`.

Supplementary Materials

Materials and Methods

Robustness checks

Figs. S.1.1 to S.1.7

References (38-45)

Supplementary Materials to:

"Environmental Burden of United States Data Centers in the Artificial Intelligence Era"

Gianluca Guidi, Francesca Dominici, Jonathan Gilmour, Kevin Butler,

Eric Bell, Scott Delaney, Falco J. Bargagli-Stoffi

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S.1 Materials and Methods

To construct a comprehensive data platform for United States' (US) data centers, we implemented a multi-phase data pipeline involving data collection, validation, enrichment, prediction, and analysis.

First, we acquired data on data centers from *Baxtel.com*, a leading information resource for data centers in the US, to compile a foundational dataset. This dataset comprised 2,144 data centers across the US, and included provider name, exact location, and data center type for all data centers. Data center buildings' square footage and power capacities were available for only some of the data centers. To enhance and validate this initial dataset, we integrated data obtained via web scraping from various online resources, which provided additional details and ensured accuracy, and in some cases filled in missing values for data center buildings' square footage. Further data validation and enrichment were achieved using satellite imagery from *OpenStreetMap* (OSM), which allowed us to obtain precise measurements of data center buildings' square footage based on the geographical locations of the data centers. Details on these first steps are provided in Section S.1.1.

Second, we estimated the power capacities for each data center in our dataset. Our initial dataset comprised 2,144 data centers across the United States, 2,132 of which were in the contiguous United States. For this study, we focused on data centers in the continguous US. For these data centers, we had data on power capacities for 1,795 data centers and had to estimate power capacities for the 337 missing data centers. We addressed the missing power capacity information using a Gradient Boosting Regression Tree (GBRT) model. This model utilizes features such as climate type, balancing authority, data center type (e.g., hyperscale or not), and building square footage to predict the power capacities accurately. Details on this second step are provided in Section S.1.2.

Third, we assigned each data center to their balancing authority region and its energy-supplying power plants. Post-prediction, each data center was assigned to its respective balancing authority region by matching their locations with the corresponding balancing authorities responsible for managing electricity supply and demand. Using data from the U.S. Environmental Protection Agency (EPA), we linked each data center to its supplying power plants. Details on this third step are provided in Section S.1.3.

Fourth, we calculated the energy demand of each data center and traced back their attributable carbon emissions based on the power plants' emission per MWh of load data, providing a comprehensive view of the environmental impact associated with each data center's energy consumption. Details on this fourth step are provided in Section S.1.4.

This multi-phase data pipeline facilitated the creation of a robust and comprehensive data platform for analyzing data centers in the United States, their energy consumption, attributable carbon emissions, and environmental impact. By integrating diverse data sources and employing advanced machine learning techniques, we were able to fill gaps in our dataset and conduct a detailed analysis of US data center power capacities and their environmental impact, while providing a valuable tool for stakeholders aiming to optimize data center operations and minimize their carbon footprint.

S.1.1 Data Collection

S.1.1.1 Baxtel Data

The first part of the pipeline involved compiling a relevant dataset of data centers in the US. This dataset was created using multiple data sources and methodologies. Initially, we sought a reliable and comprehensive list of data centers in the US. Due to the absence of an open-source dataset providing this information, we acquired data from Baxtel, a leading information

resource for data centers. Baxtel offers comprehensive insights into data centers and provides tools to support informed data center deployments. Baxtel supplied a dataset containing information on 2,144 data centers across the US. This dataset included the names of data center providers, addresses, latitudes, longitudes, and data center types for all 2,144 data centers. Power capacity data was available for 1,795 of these data centers, while square footage information was provided for 941 centers. For the analysis, we focused on the 2,132 data centers in the contiguous US.

All Baxtel's information is independently verified by Baxtel's expert researchers prior to inclusion in its database. The data is gathered through a diverse range of sources, including news outlets, media publications, RSS feeds, satellite imagery, direct communication with providers, and facility audits from some of the largest global interconnection providers.

S.1.1.2 Web-Scraping

The second step involved validating and enriching the initial dataset through web scraping from various data centers information providers websites. This effort resulted in a list of 1,182 data centers, including their provider names, complete addresses, countries, exact latitudes and longitudes, and square footage. The primary website scraped was *datacenters.com*.

The Baxtel dataset was then merged with our scraped dataset using latitude and longitude to ensure that no duplicates were included. This process allowed us to verify square footage information for data centers where we had data from both sources and to supplement the square footage details for Baxtel data centers that were missing this information.

S.1.1.3 Open Street Map

Finally, to further validate the obtained and collected data centers' facilities square footages, and enrich the dataset where information was still missing, we used Open Street Map. The

methodology for determining the sizes of data center buildings involved several steps. We began by extracting all building data from the publicly available version of OpenStreetMap, which includes over 64 million buildings in the US. Next, we spatially intersected the geocoded addresses of the data centers in our dataset with these OpenStreetMap buildings, selecting those where the rooftop address fell within the building's footprint. This process allowed us to determine the square footage for 1,587 out of the 2,132 data centers.

In total, we were able to obtain square footage information for 1,929 of the 2,132 data centers. When we had multiple estimates for the same data center, we prioritized Baxtel's data over the other estimates, as it was deemed the most accurate due to its more sophisticated and up-to-date retrieval methods.

Knowing the exact size of the facilities is crucial to calculating the power capacity estimate, as this information is not directly available.

S.1.2 Estimating Power Capacities

In cases where power capacity data was missing, we estimated it using a machine learning approach. Specifically, we employed a GBRT model, leveraging a variety of features related to data center characteristics and their environments.

Our preliminary analysis, in line with existing literature, confirmed that the power capacity of a data center is highly correlated with its square footage (*14,21,38–43*). By excluding outliers (defined as data points with a Z-score greater than 2.0), we found an average power density of approximately 91.75 watts per square foot. This figure is relatively conservative compared to the 150 watts per square foot average reported in the literature, and indicates that our results provide a lower bound to the actual energy consumption and emissions levels (*44*).

The features used in our model included:

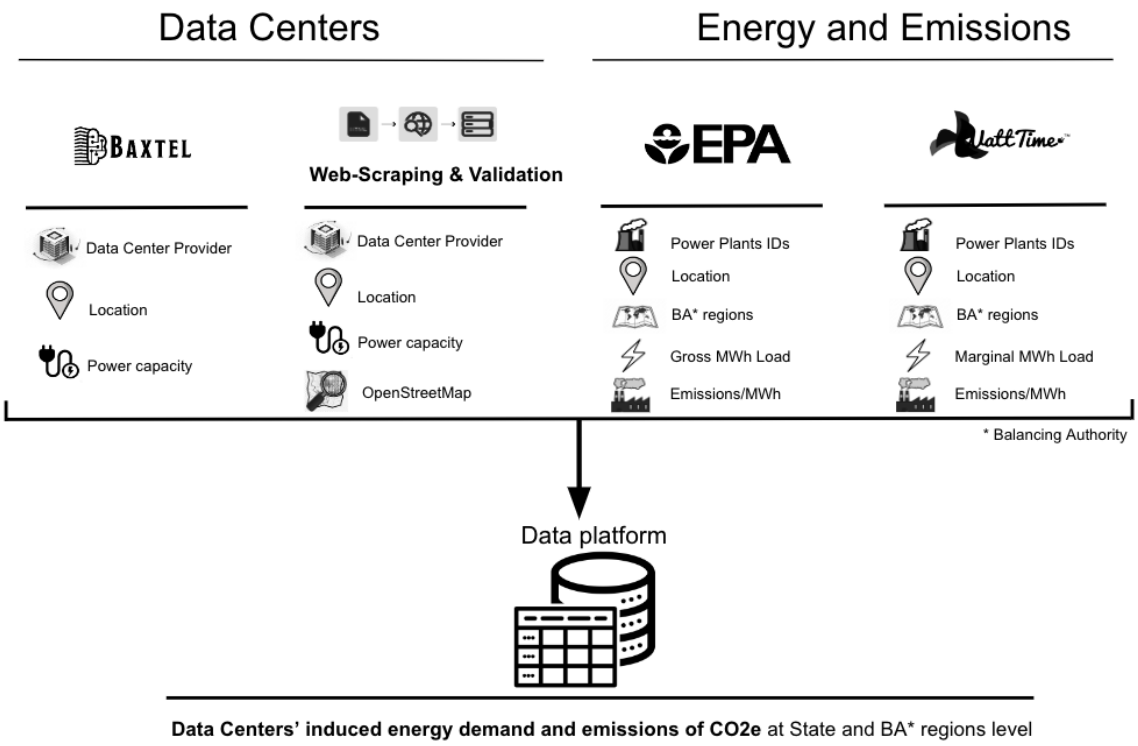


Fig. S.1.1. Data pipeline. Data sources and types used to generate our data set.

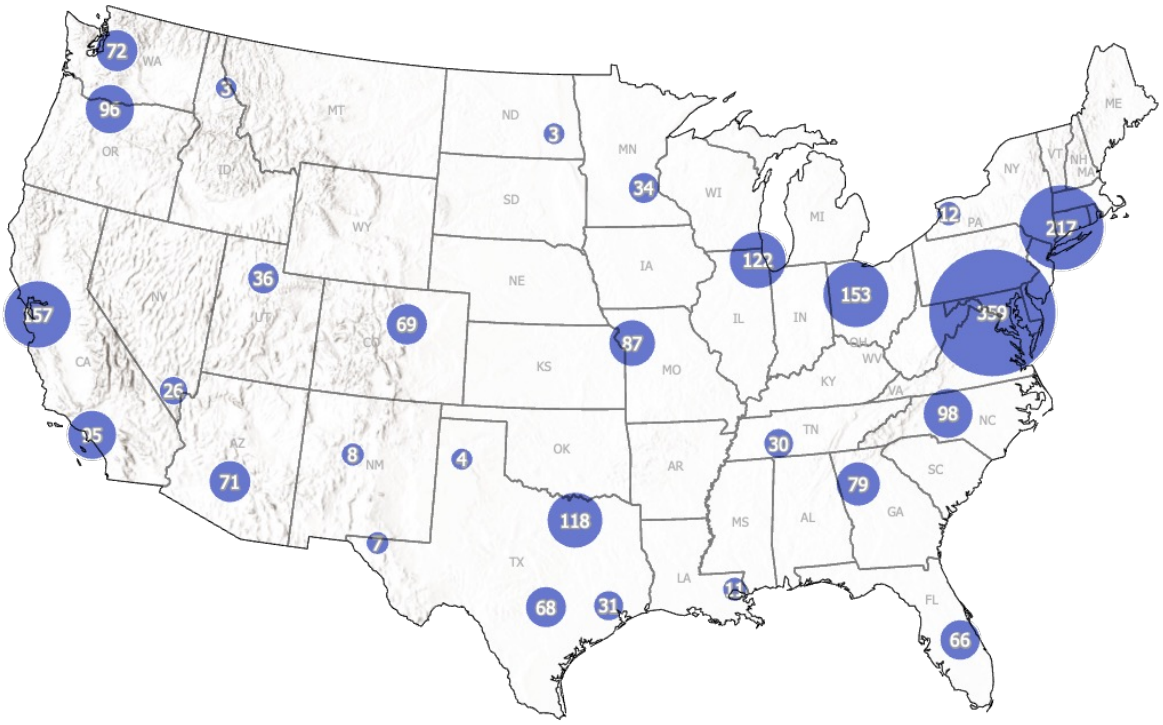


Fig. S.1.2. Geographic location of data centers in the contiguous US included in our analysis. The figure depicts the 2,132 data centers in operation for the study period of September 2023 to August 2024. Circle size is proportional to the number of data centers in the geographic area.

- Climate Type: The climate category of the region where the data center is located, as different climates can affect cooling requirements and, consequently, power consumption. This information was retrieved from Nasa Earth data, at the link https://webmap.ornl.gov/ogcdown/dataset.jsp?dg_id=10012_1$.

- Balancing Authority: The entity responsible for ensuring a balance between electricity supply and demand in the region, which can influence the operational characteristics of data centers.

- Data Center Type: A categorical variable indicating whether the data center is a hyperscale facility or not. Hyperscale data centers often have different design and operational standards compared to smaller facilities. For the model, all non-hyperscale data centers were grouped together.

- Square Footage: The total building square footage of the data center, a critical factor in determining power requirements.

To predict the missing power capacities, we split the data that included all known power capacities into a training set and a testing set.

We used the following preprocessing steps: Scaling and Encoding: Numerical features were standardized to have a mean of zero and a standard deviation of one. Categorical features were converted into one-hot encoded vectors to allow the model to interpret them correctly.

The Gradient Boosting Regressor was then fitted to the training data. Gain-based feature importance scores were extracted to understand the contribution of each feature to the model's predictions. Amongst all the features, data center square footage was the most important (0.76) factor in predicting the data center's power capacity. The data center type was also relevant in the prediction, specifically when the data center was a hyperscale facility (0.11). The performance of our model was evaluated using the R-squared metric and the mean test error. The

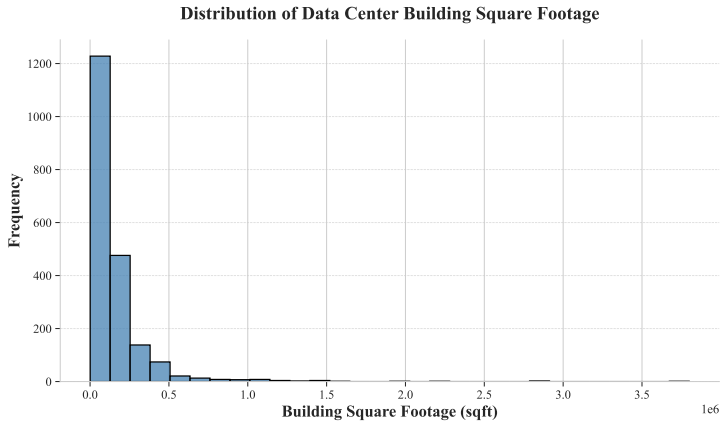


Fig. S.1.3. Data Center Square Footage Distributions.

model achieved an R-squared value of 0.77, indicating a high potential of our model to explain the power capacity given the independent variables. Moreover, the mean test error, computed as the difference between the actual values and the predicted values, was positive, suggesting that our model tended to underestimate the power capacities on average, yielding thus conservative estimates.

Our GBRT model proved to be a robust approach for estimating the power capacity of data centers based on their physical and operational characteristics. This model was then utilized to predict power capacities for data centers where this information was missing.

S.1.3 Balancing Authorities and Power Plants

To connect each data center to its supplying power plants, we utilized the EIA's balancing authority (BA) regions. These geographic polygons, provided by WattTime—a nonprofit focused on tracking greenhouse gas emissions—offer detailed coverage of power generation and supply. WattTime gathers data from multiple sources, including the U.S. Environmental Protection Agency (EPA), grid emissions, satellite imagery, and machine learning models. Using these BA regions, we matched both data centers and power plants to their respective BA regions based

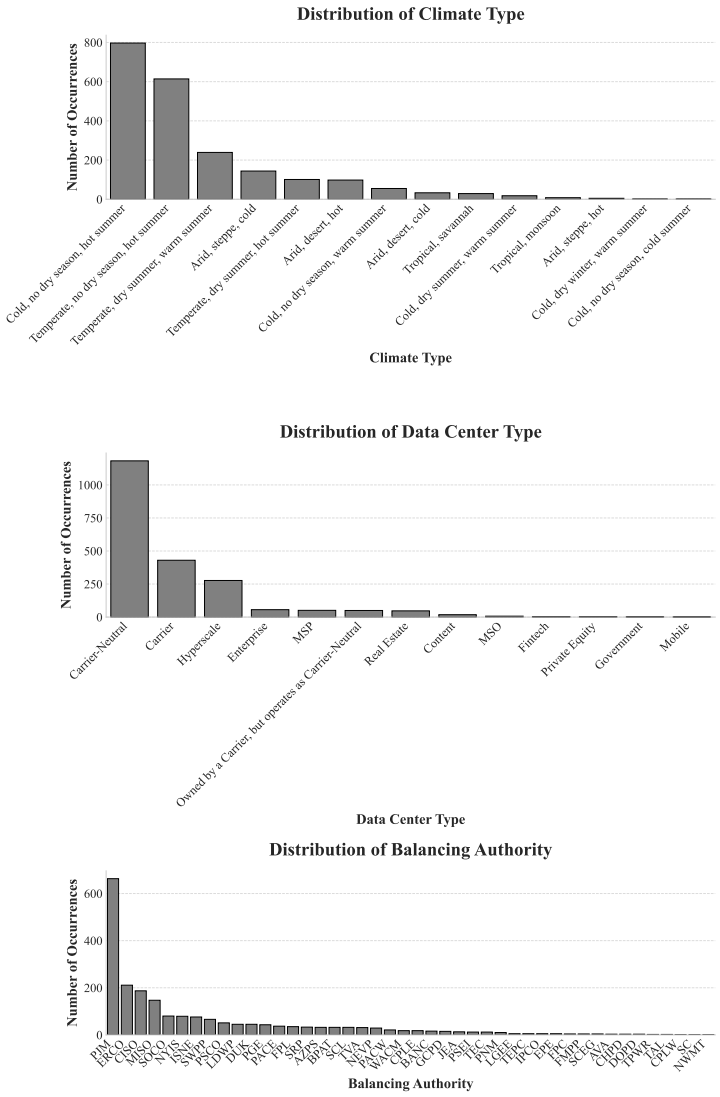


Fig. S.1.4. Data Center Features Categorical Distributions.

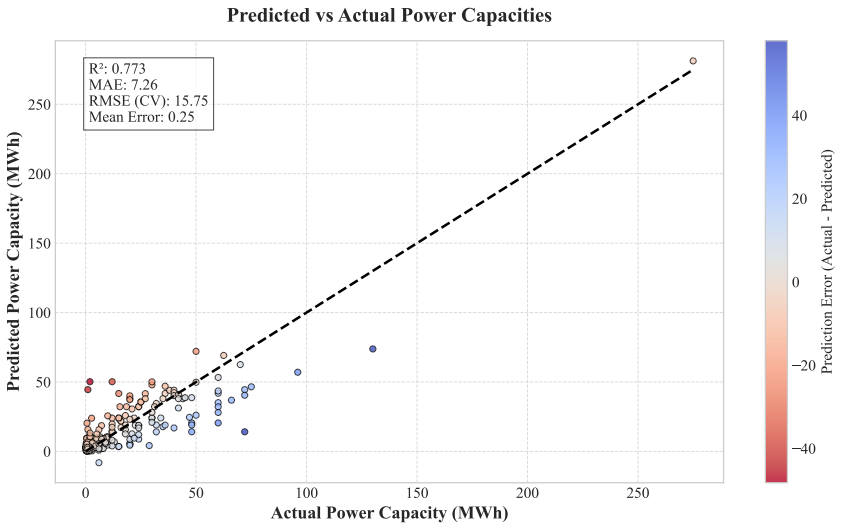


Fig. S.1.5. Data Center Power Capacity Estimation Model Performance.

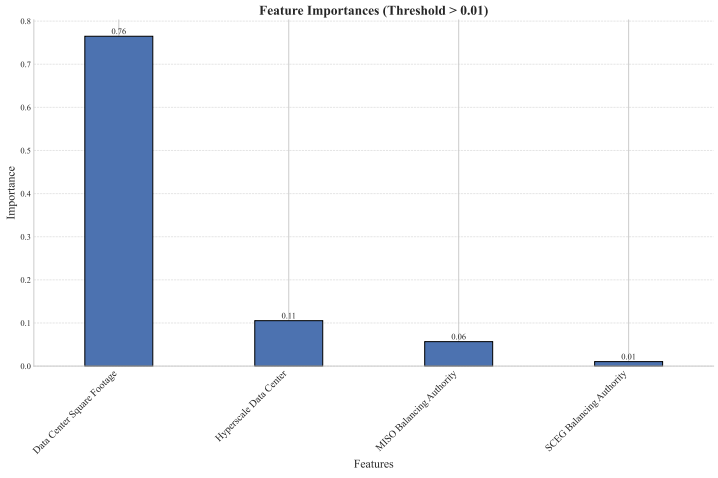


Fig. S.1.6. Data Center Features Importance to Power Capacity Model.

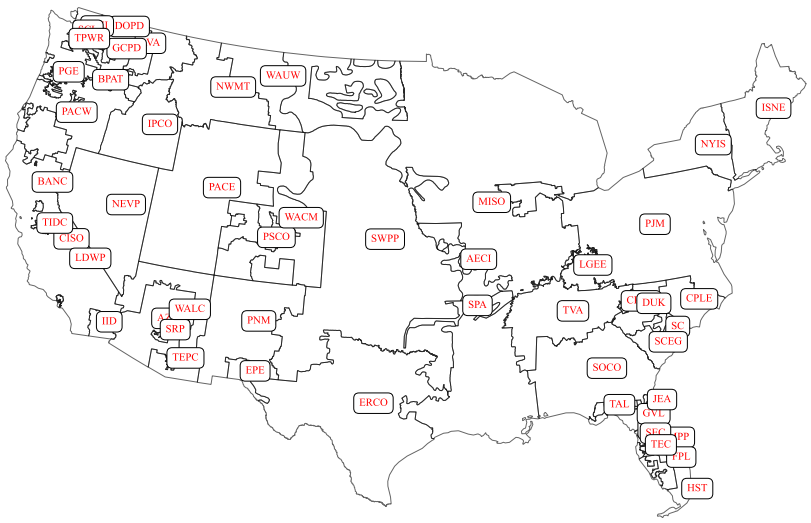


Fig. S.1.7. Balancing Authorities and Regions in the US.

on location. From there, we accessed power plants' emissions coefficients per megawatt-hour (MWh) from the EPA's Emissions and Generation Resource Integrated Database (eGRID). Finally, we calculated the energy contribution of each power plant supplying a data center by developing a weighted model based on energy generation. Further details on this model are provided in the next section.

S.1.4 Computing Data Center Energy Consumption, Attributable Carbon Emissions, and Carbon Intesity

The last part of the pipeline consisted of computing the annual energy load of each data center, distributing this energy load amongst its supplying power plants, computing the CO_2e emissions related to those energy load supplies, and calculating the carbon intensity.

S.1.4.1 Data Centers' Energy Load

To compute each data center energy load, we multiplied its power capacity by 8,760 hours/year, representing the total number of hours in a year. Finally, we assumed that the uptime is set for all data centers to 75%, meaning the data centers operate continuously throughout the entire year without any downtime. Therefore, the computation reads as:

$$\text{Data Center Energy Load (i, y)} = \text{Power Capacity}_i \cdot 8,760 \text{ hours/year} \cdot \textit{uptime} \quad \text{(S.1.1)}$$

where:

- Data Center Energy Load (i, y) is the total energy load for data center i in year y, measured in kilowatt-hours (kWh).
- Power Capacity$_i$ is the power capacity of data center i, measured in kilowatts (kW).
- *uptime* refers to a coefficient that ranges from 0 to 1, representing the proportion of time a data center is assumed to be operational at full capacity. A value of 1 indicates the data center was fully operational 100% of the time, while a value closer to 0 suggests it was active for only a small fraction of the time. This coefficient quantifies the actual usage or workload of the data center over the year.

By considering a 75% uptime, this calculation provides an estimate assuming the data center operates at full capacity for 75% of the year.

S.1.4.2 Energy Generation Weighted Model

In order to allocate each power plant within a BA region its respective share of the energy load stemming from the energy demand of the data centers in that region, we developed an energy

generation weighted model (EGW), that computes the energy load for each power plant and ultimately estimates the corresponding emissions.

The underlying assumption of the EGW model is that within a BA, each power plant supplies energy proportional to the total energy it generated over the year. The coefficient of energy production contribution was calculated as follows:

$$COEFF_{EGW}(y, j, B) = \frac{\text{Power Plant Annual Net Energy Generation}(y, j, B)}{\sum_{j=1}^{N_B} \text{Power Plant Annual Net Energy Generation}(y, j, B)} \quad \text{(S.1.2)}$$

where:

- y represents the year of analysis.
- j denotes the index of the power plant within the balancing authority.
- B stands for the balancing authority.
- N_B is the total number of power plants within the balancing authority B.
- Power Plant Annual Net Energy Generation(y, j, B) is the total energy generated by power plant j in year y within balancing authority B.

This coefficient represents the fraction of the total annual energy generation attributed to each power plant within a BA. By definition, the sum of these coefficients for all power plants in a BA equals one:

$$\sum_{j=1}^{N_B} COEFF_{EGW}(y, j, B) = 1$$

Data for these computations were retrieved from the EPA 2022 eGrid (*45*), for all 3,318 power plants above 25 MW capacity that reported their energy annual net generation of energy

and emissions of CO_2e per MWh of load.

Next, we calculated the attributional load assigned to each power plant using the EGW approach. The power plant's load was determined by multiplying the total additional energy demand from data centers by the plant's EGW coefficient:

$$\text{Power Plant Load}_{EGW}(i, y, j, B) = COEFF_{EGW}(y, j, B) \cdot \text{Data Center Energy Load (i, y, B)} \tag{S.1.3}$$

where:

- i denotes the index of the data center causing the additional load.
- Data Center Energy Load (i, y, B) represents the additional energy demand from data center i in year y within balancing authority B.

To estimate the emissions attributed to the load of each power plant, we applied the average emission factors specific to each plant. These emission factors are typically expressed as emissions per unit of energy generated (e.g., pounds of CO_2 per MWh). The emissions for each power plant were then computed as:

$$\text{Power Plant Emissions}_{EGW}(i, y, j, B) = \text{Power Plant Load}_{EGW}(i, y, j, B) \cdot \text{Emission per MWh}(y, j, B) \tag{S.1.4}$$

where:

- Emission per MWh(y, j, B) is the annual average CO_2 emissions factor for power plant j in year y within balancing authority B.

This approach allowed us to accurately attribute emissions to each power plant based on its proportional contribution to the additional energy demand from data centers. The calculated emissions take into account both the amount of energy each power plant generates and the specific emissions profile of each plant, providing a detailed and precise estimate of the attributional environmental impact of data center energy consumption.

S.1.4.3 Average Carbon Intensity

To quantify the efficiency of data centers' energy sourcing, we introduced a coefficient called carbon intensity of electricity generation attributed to data centers. Average carbon intensity was defined as the ratio of total carbon dioxide equivalents (CO_2e) emissions produced to the total energy generated by the power plant, expressed in grams of CO_2e per kilowatt-hour (gCO_2e/kWh). The carbon intensity of a power plant was calculated using the following formula:

$$\text{Carbon Intensity}(i, y, j, B) = \frac{\text{Power Plant Emissions}_{EGW}(i, y, j, B)}{\text{Power Plant Load}_{EGW}(i, y, j, B)} \tag{S.1.5}$$

where:

- Carbon Intensity(i, y, j, B) is the carbon intensity of power plant j for data center i in year y within balancing authority B.
- Power Plant Emissions$_{EGW}(i, y, j, B)$ represents the total CO_2e emissions (in grams) from power plant j attributed to the energy demand of data center i in year y within balancing authority B.
- Power Plant Load$_{EGW}(i, y, j, B)$ is the energy generated by power plant j (in kWh) to meet the additional demand from data center i in year y within balancing authority B.

The carbon intesity was computed at various geographical levels, from balancing authorities to the entire country. The formula for carbon intensity at the balancing authority level is:

$$\text{Carbon Intensity}(B, y) = \frac{\sum j = 1^{N_B} \text{Power Plant Emissions}_{EGW}(y, j, B)}{\sum j = 1^{N_B} \text{Power Plant Load}_{EGW}(y, j, B)} \tag{S.1.6}$$

where:

- Carbon Intensity(B, y) is the carbon intensity for balancing authority B in year y, expressed in grams of CO_2e per kilowatt-hour (gCO2/kWh).
- Power Plant Emissions$_{EGW}(y, j, B)$ is the total CO_2 emissions (in grams) from power plant j within balancing authority B in year y.
- Power Plant Load$EGW(y, j, B)$ is the energy generated by power plant j (in kWh) to meet the additional demand from data centers in balancing authority B during year y.
- N_B is the total number of power plants within the balancing authority B.

S.2 Consequential Analysis

We also conducted a consequential analysis of our carbon emissions results using data from WattTime. In the consequential analysis, we estimated the total emissions using the marginal power plants' emissions resulting from the WattTime's methodology, extensively presented in (*15*).

S.2.1 Marginal Emissions Rate Computation and Results

Results. Following this consequential approach, the total CO2 emissions caused by the 2132 data centers in our sample, keeping the uptime at 0.75, corresponded to 101.21 MT CO_2.

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REVIEW

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A systematic review on effective energy utilization management strategies in cloud data centers

Suraj Singh Panwar*, M. M. S. Rauthan and Varun Barthwal

Abstract

Data centers are becoming considerably more significant and energy-intensive due to the exponential growth of cloud computing. Cloud computing allows people to access computer resources on demand. It provides amenities on the pay-as-you-go basis across the data center locations spread over the world. Consequently, cloud data centers consume a lot of electricity and leave a proportional carbon impact on the environment. There is a need to investigate efficient energy-saving approaches to reduce the massive energy usage in cloud servers. This review paper focuses on identifying the research done in the field of energy consumption (EC) using different techniques of machine learning, heuristics, metaheuristics, and statistical methods. Host CPU utilization prediction, underload/overload detection, virtual machine selection, migration, and placement have been performed to manage the resources and achieve efficient energy utilization. In this review, energy savings achieved by different techniques are compared. Many researchers have tried various methods to reduce energy usage and service level agreement violations (SLAV) in cloud data centers. By using the heuristic approach, researchers have saved 5.4% to 90% of energy with their proposed methods compared with the existing methods. Similarly, the metaheuristic approaches reduce energy consumption from 7.68% to 97%, the machine learning methods from 1.6% to 88.5%, and the statistical methods from 5.4% to 84% when compared to the benchmark approaches for a variety of settings and parameters. So, making energy use more efficient could cut down the air pollution, greenhouse gas (GHG) emissions, and even the amount of water needed to make power. The overall outcome of this review work is to understand different methods used by researchers to save energy in cloud data centers.

Keywords: Cloud computing, Resources, Data center, Virtual machine, Energy consumption, SLAV

Introduction

Cloud Computing has become a flexible, resourceful, efficient, and prevalent computational technology that offers users reliable, customized, and dynamic computing environments. Cloud applications are hosted on high-capacity systems and storage devices in multiple locations around the world. Rapid demand for cloud-based facilities essentially requires the development of massive data centers that consume excessive amounts of electricity. Optimization of energy can be proficient by uniting resources based on current utilization, well-organized network, and the thermal position of nodes and computing equipment. Because maximizing the utilization of physical servers is essential in lowering a data center's (DC) energy demand, virtual machines (VMs) have been effectively introduced in DCs to increase server resource utilization. A method for cost-effective VM migration based on fluctuating electricity prices cuts the energy costs of running a cloud service by a large amount.

Cloud computing is an extension of parallel computing, utility computing, cluster computing, and grid computing. It is distributed in nature, so a group of independent

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resources are spread in remote locations. Cloud computing is defined by NIST as "a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., storage, networks, servers, services, and applications) that can be rapidly provisioned and released with minimal management effort or service provider interaction" [1, 2].

The service models of cloud computing are Software as a Service (SaaS), Platform as a Platform (PaaS), and Infrastructure as a Service (IaaS). In SaaS, the client has access to cloud services via a web browser to maintain user interaction and data in the cloud. PaaS is a service that allows customers to use the platform and tools instead of purchasing and paying for software licences for platforms such as operating systems, databases, and intermediary applications.

IaaS means the necessary environment to facilitate cloud services. It contains the pool of hardware resources related to computing, storage, networking, etc. Based on the model of deployment, clouds are categorized into four types. The term "public cloud" refers to an infrastructure that allows the general public to store and access data from any location using a client device with an internet connection. Private Cloud: A private cloud or enterprise cloud is one where the facilities and infrastructure are available for the organization or partner's use only. A Hybrid Cloud: When a private cloud is combined with public cloud computing. Community Cloud: Resources are shared by multiple organizations that serve a particular community with common concerns [3, 4].

Today, research community's top priorities are energy conservation and effectiveness. The issue of excessive energy utilization arises as a result of unexpected and rapid changes in the environment around the globe [5]. The levels of carbon footprint and Green House Gases (GHG) in the environment have rapidly increased. The information and communication technology (ICT) industry has been identified as the primary emitter [6]. The rise of sophisticated and diverse data-intensive services and applications has exacerbated energy challenges. The intensity and constant growth of ICT energy demand have necessitated not only meeting energy requirements but also developing and implementing efficient energy-savings methods. According to a 2016 survey, the total global energy consumption and CO_2 emissions are expected to rise by 48% and 34%, respectively, between 2010 and 2040 [7]. Also, the Climate Action Group found that the world released 32 gigatonnes of CO2 in 2015 [8].

The paper is organized as follows: First, a brief introduction of cloud computing, motivation, virtualization, energy consumption, SLAV, VM consolidation, CloudSim, workload datasets, purpose, and classification of the survey have been explained. Further next section defines the discussion, analysis, objectives, limitations, and evaluation of existing related work for heuristic, metaheuristic, machine learning, and statistical techniques with tools, performance metrics, and comparisons with their benchmark algorithms related to energy consumption. In last section, result analysis, major challenges, suggestions, and future work are elaborated. Finally, the summary and conclusion of the review paper is summarised to improve energy efficiency in cloud data centers.

Motivation

The idea behind cloud computing is to provide on-demand quick access to cloud data centers and to administer the operations from a remote location. Cloud computing operates on a pay-as-you-go pricing model, allowing organizations to reduce operational costs and manage infrastructure more effectively. The motivation for conducting the survey, entitled 'Effective Energy Utilization Management Strategies in Cloud Data Centers' is to reduce power utilization in well-organized data centers with the help of VM consolidation. There are several proposed resource management approaches for several computing domains, but only a few addresses the issue of energy efficiency in addition to optimizing profit and service quality. Many magnificent studies have been devoted to confirming the consolidation achieved to an appreciable value, but it is still in its developing stage. Various survey papers on load balancing [9, 10], resource provisioning [11], resource scheduling [12, 13], resource allocation [14], and resource utilization [15] have been published. These surveys explored resource management classification and compared state-of-the-art algorithms based on many significant characteristics of cloud computing. But the classification and techniques related to effective energy utilization approaches have not been discussed in detail in the current study. As a result, there is a need for a complete and systematic assessment of existing energy-efficient strategies, as well as their limitations, to entice academics to work in this domain. This study provides an attempt to investigate the categorization of energy-efficient virtual machine consolidation thoroughly, which will be useful for future research in developing new energy-efficient algorithms or methodologies. The limitations of current approaches are emphasized to inspire future research work challenges and the development of algorithms. The following are the primary contributions of the review paper:

- Investigate and analyze the various existing energy-efficient methods in cloud data centers.
- Classification of VM management using heuristics, metaheuristics, machine learning, and statistical techniques.

- The most important parts of each classification are explained, and a summary of future research goals is also given.
- An overview of the tools and workload traces that can be used in the cloud environment to measure how well an algorithm works has been shown.

Overall, the goal is to ascertain how well computers use their resources and consume the least amount of energy possible while still meeting SLA limits for RAM, CPU, bandwidth, etc.

analyzing, and implementing global energy reductions in a system providing quality of services while lowering costs [18]. We may conserve energy by consolidating hardware and minimising repetition. If necessary, services should be able to be virtualized and controlled within a data centre, as well as relocated to other locations. To support energy efficiency in the future, machine-readable accounting of the requirements and characteristics of applications, networks, servers, or even entire sites must be available [19]. Energy consumption in a cloud DC organization with m nodes and n switching elements is written as follows [20].

$$E_{Cloud} = m\left(E_{Memory} + E_{CPU} + E_{Disk} + E_{NIC} + E_{Mainboard}\right) + n\left(E_{Chassis} + E_{Ports} + E_{Linecards}\right) + \left(E_{StorageController} + E_{DiskArray} + E_{NASServer}\right) + E_{Others} \quad (1)$$

Virtualization

Virtualization technology manages massive data centers more efficiently by allowing several applications, software, and operating systems to run on a single host. It bridges the hardware resources and the operating system, dividing the cloud services into logical units called virtual machines (VMs) [16]. Virtualization solutions such as Xen, VMware, and KVM (Kernel-based VM) are used to construct virtual environments in cloud data centers [17]. Figure 1 displays the classification of energy management techniques.

Energy – efficient cloud computing

Cloud computing offers virtualized resources in cloud data centers for handling several requests for different tasks. A cloud data center's infrastructure often consists of thousands of huge computing hosts with fast processing resources that use a tremendous amount of energy. So, energy-efficient cloud computing is a step forward in

PUE (Power Usage Effectiveness) is a typical efficiency indicator for data center energy usage that describes how satisfactorily a data center utilizes energy. The PUE formula is well described by eq. (2), which says that it is the ratio of the total energy used in the building to the total energy used by IT equipment in a data center:

$$\text{PUE} = \frac{\textit{Total energy use in the facility}}{\textit{Total energy consumption of IT equipment}} \quad (2)$$

As measured at the meter, the electricity dedicated to the data center facility is included in the total facility energy which includes all loads, such as IT equipment, lighting systems, cooling systems, and power supply components. Total IT equipment includes all the energy used by storage, computing, networking, and other control devices like KVM switches, displays, workstations, and laptops, etc.

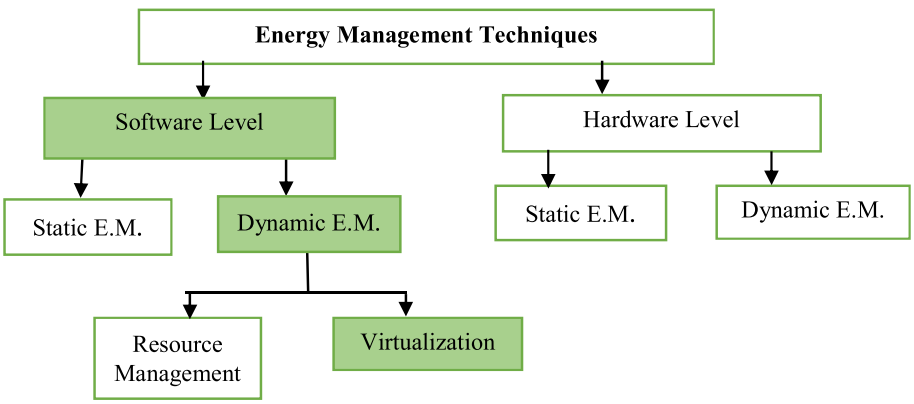


Fig. 1 Classifications of energy management techniques

Energy consumption and service level agreement

Cloud service providers develop an infrastructure where large numbers of high-end computers or servers are installed and interconnected. This hardware platform provides computing, storage, and different amenities to the customer via the internet. As a cloud service provider, the management of power consumption becomes a crucial task. Effective management of resources are required to optimize power utilization, quality of service, cost-effective, and maximize performance with accuracy. In addition to energy utilization and SLA violation, financial expenses and CO_2 emissions from data center cooling systems have a substantial impact on the environment [21].

The most significant challenges in cloud computing are task scheduling, resource utilization, load balancing [9], SLA, quality of service (QoS), scalability, disaster recovery, safety, fault tolerance, resource management, energy efficiency, virtual machine migration, and automated service provisioning [22]. This review work focuses on the previous study of energy efficiency or power consumption, which should be minimized. However, energy and SLAV are inversely associated, as illustrated in Fig. 2. There is a trade-off between energy consumption and performance (QoS). Performance is described in terms of SLA, which defines the standards and services with throughput, service time, delay time, and reaction time given by the deployed system. A simulation for the environment mentioned in [23] is performed using the LrMmt host overload detection method with various safety parameter values. The allocation strategy uses the tuning parameters to anticipate the CPU utilization by the host. For example, if the parameter is set to 1.2, the projected utilization is increased by 20%, providing the host a 20% safety buffer to enhance its consumption without violating SLAs. The results reveal that when this value drops, more VMs are packed into a host. Figure 2 shows that when the safety parameter falls, the EC drops and the number of SLA breaches grows. As a result, the parameters must be set to balance the SLAV and EC.

As a result, cloud providers must cope with the trade-off between energy-performance and reducing energy consumption while fulfilling QoS standards. Buyya et al. [23] showed that when the utilization threshold increases, energy usage is reduced but the percentage of SLAV is also increased. This is because a higher utilization threshold permits more aggressive VM consolidation but at the expense of an increased chance of SLAV. As a result, to save energy, aggressive VM consolidation may result in performance or QoS deterioration, resulting in SLAV. So, while reducing energy utilization, SLAV should also be considered to ensure high adherence to the SLA. To minimize EC and SLAV, the combined metric ESV that captures energy consumption and the level of SLAV is calculated for the performance parameter, as EC decreases with the increased level of SLAV.

VM consolidation

In a cloud data center, a central node routes customer applications to the appropriate servers. This facility is known as VM scheduling. To advance the quality of services and efficient management of power consumption, VM scheduling has been done in such a way that a minimum number of hosts are in a state of running. This method is also known as Dynamic Consolidation of Virtual Machine (DCVM) [23]. Predicting host utilization is an ongoing research effort, and a variety of solutions have been proposed. A single host can host more than one VM, and as per user request, VMs use hosts' resources. When the request of resource host is underutilized or

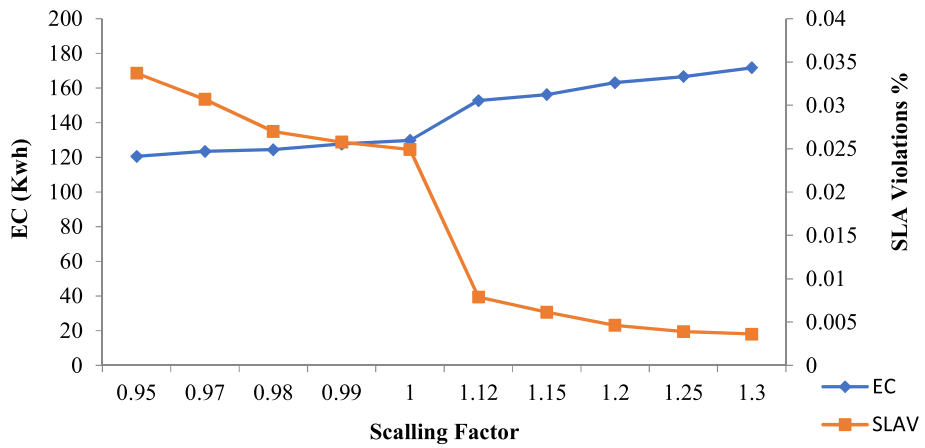


Fig. 2 The output of Energy consumption and SLAV by LrMmt policy

overutilized then VM has to be relocated. This action is known as VM migration and is a popular approach for controlling power consumption. Migration of virtual machines from underutilized and overloaded hosts is a difficult job. To shrink the quantity of VM migrations, appropriate VM selection, and VM placement methods must be developed. When a VM moves from a host that is too busy, both the source host and the new host use power without providing any services.

CloudSim

CloudSim [24, 25] is free, accessible software for simulating cloud computing services and frameworks. This simulator was designed by the CLOUDS (Cloud Computing and Distributed Systems) research laboratory at Melbourne University. Written entirely in Java, CloudSim is a toolkit used to prototype and imitate a cloud computing setting. It enables the modelling of virtualized environments, as well as their administration and on-demand resource management [11]. This simulator is also enhanced to allow for energy-aware models and power models to simulate service applications with variable workloads.

Workload data

As CloudSim simulator is the preferred tool for research where the workload traces of data is used to test the algorithm. Many researchers are working on PlanetLab or Bitbrains data workloads, where a file associated with one VM denotes the CPU utilization of physical machines. Some workload traces include dynamic data such as CPU, RAM, disc, and network I/O values [26]. PlanetLab workload traces [27] with statistical features are given in Table 9. Bitbrains is a cloud service agency that focuses on managed hosting and enterprise business computation [28]. Bitbrains' dataset comprises resources that are used by 1750 VMs from a distributed cloud center. This dataset is published online in the Grid workloads archive [29]. It is divided into fastStorage and Rnd traces. The fastStorage contains 1250 VMs, and Rnd traces have 500 VMs. The fastStorage data is divided into one file per VM, with each file comprising 30 days of data collected every 5 minutes. Bitbrains workload traces with statistical features are given in Table 10 Apart from PlanetLab or Bitbrains, some other workload traces such as Google cluster traces [30, 31], Alibaba cluster [32], Azure trace [33], microservices cluster [34], etc. are also used by researchers. In May 2011, Google released a 29-day cluster trace – a history of every job request, scheduling choice, and resource use statistics for all tasks in a Google Borg computing cluster. The Alibaba group publishes the Alibaba cluster trace program. Their initiative assisted researchers, students, and others interested in the subject by providing cluster traces from the real-world. This allows a better understanding of the features of current internet data centers (IDCs).

Purpose and classification of survey

The Cloud data centers that host and store data are the backbone of cloud computing, which consists of networked computers, power supply, cables, and other components. Data centers that host cloud applications require a lot of energy for resources, leading to high operational costs and carbon release. As expected from a survey, total global energy utilization and carbon dioxide emissions are expected to rise by 48% and 34%, respectively, between 2010 and 2040 [7]. According to a McKinsey analysis [35], "the entire expected energy expense for cloud data centers in 2010 was $11.5 billion, and cost of energy doubles every five years in a typical data center". So, cloud data centers are becoming very expensive and harmful to the environment. The authors of [36] has conducted a systematic examination of the present status of software solution that helps in reduction of energy consumption in data centers and also stated the impact of data centers on the environment. In [37] the use of big data, cloud, and IoT leads to higher demands for hyperscale data centers (HDCs) for data storage and processing. The analysis of 60 regions done by the researchers has predicted the overall increase in the energy consumption of HDCs, carbon emissions and electricity costs, that focus the purpose of the survey.

The main challenge is to set up a balance between system performance and energy utilization [38]. In this detailed systematic survey, a balance between energy efficiency and performance using VM placement [39], VM selection, and migrations [40], has been analyzed for data storage and processing [41]. This paper analyses the approaches performed by various academicians, organizations, researchers in the field of energy consumption in cloud data centers during VM scheduling. Researchers have also compared their method with the benchmark method using different algorithms of heuristics, metaheuristics, machine learning, and statistical methods. Their results show an improvement in energy-saving and thus reduces power consumption. Fig. 3 shows the detailed classification of effective energy management strategies in cloud data centers categorized into four groups i.e., heuristics, metaheuristics, machine learning and statistical. For efficient energy utilization the stages of dynamic VM consolidation is shown in Fig. 4.

Related work

In cloud computing effective energy management strategies related work has been provided by researchers. Many researchers have applied different techniques for VM management and energy-efficient strategies to

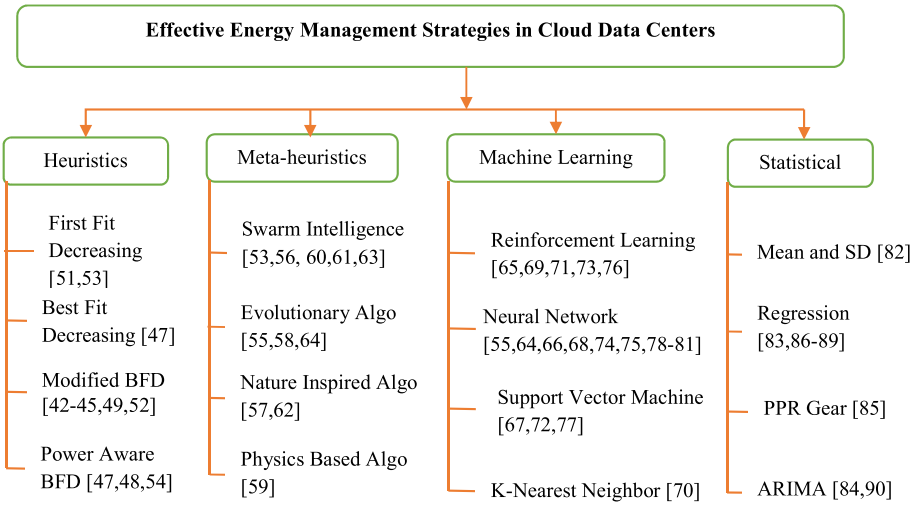


Fig. 3 Classification of Energy Management Strategies in Cloud

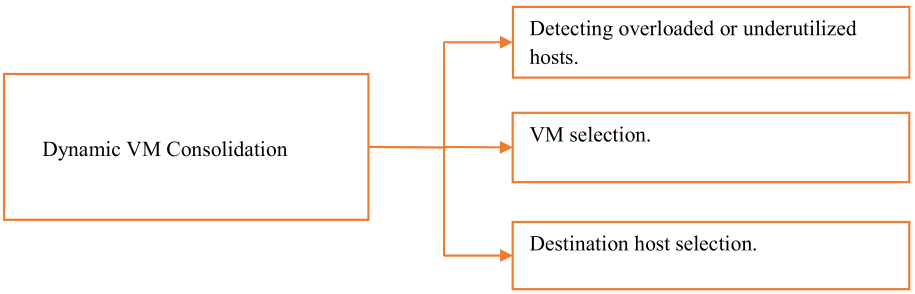


Fig. 4 Stages of Dynamic VM Consolidation

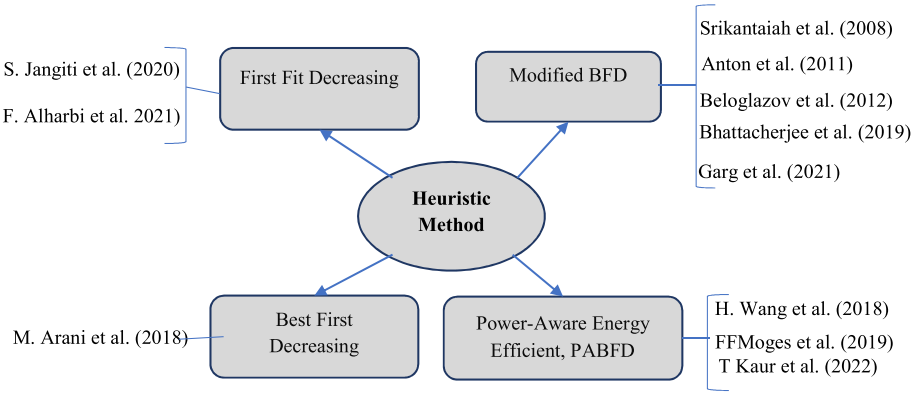


Fig. 5 Classification of existing research using a Heuristic method

reduce energy consumption in cloud data centers. Some have focused on heuristic methods as classified in Fig. 5, some on metaheuristics as classified in Fig. 6 and Fig. 7, some on machine learning as described in Fig. 8, and others on statistical methods categorized in Fig. 9. To balance the load and decrease energy usage, cloud data centers use live VM migration [42]. VMs are dynamically distributed among the hosts during a live migration to reduce the number of low utilization hosts and maximize the number of high utilization hosts. Although dynamic

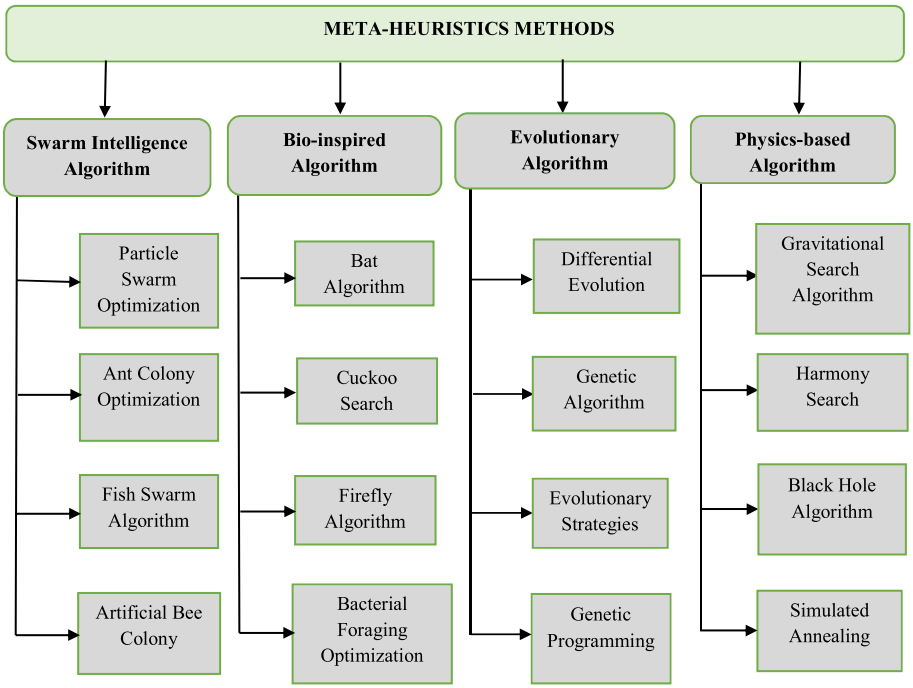


Fig. 6 Classification of Meta-Heuristic methods

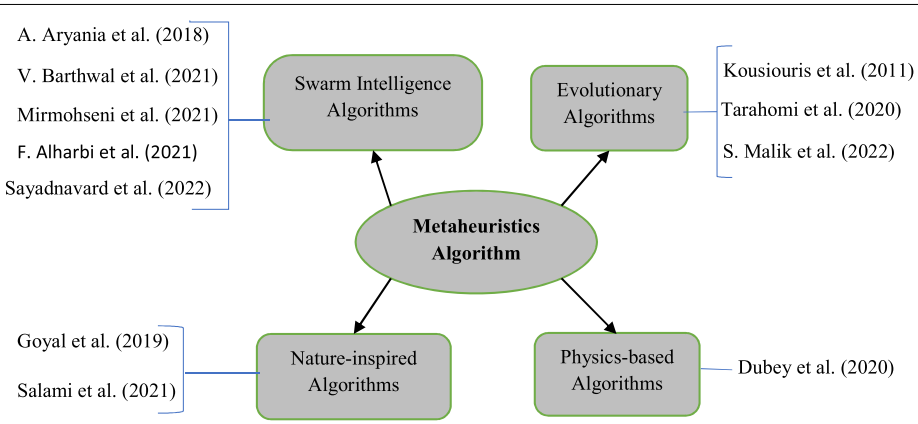


Fig. 7 Classification of existing research using the Metaheuristic method

VM consolidation can significantly reduce energy usage, live migration increases service level agreement violations. As a result, in order to decrease energy usage while satisfying service level agreements, cloud data centers require an effective dynamic VM consolidation solution. The dynamic VM consolidation procedure can often be divided into three parts [43].

Details of different techniques, algorithms, workload data, approaches, and the researchers' work are described below. In first section, the heuristic techniques and their different approaches are used to minimize energy usage. Many researchers work on the first fit decreasing (FFD), best fit decreasing (BFD), modified best fit decreasing, power-aware BFD, etc. Next, the metaheuristic techniques including swarm intelligence, evolutionary algorithm, nature-inspired algorithm, and physics-based algorithm are used to reduce energy consumption and to satisfy service level agreement. Machine learning techniques reinforcement learning, neural network (NN), support vector machine (SVM), and k-nearest neighbor (kNN) are elaborated in further section and finally statistical techniques using mean, standard deviation, regression, PPR gear, and ARIMA are explained.

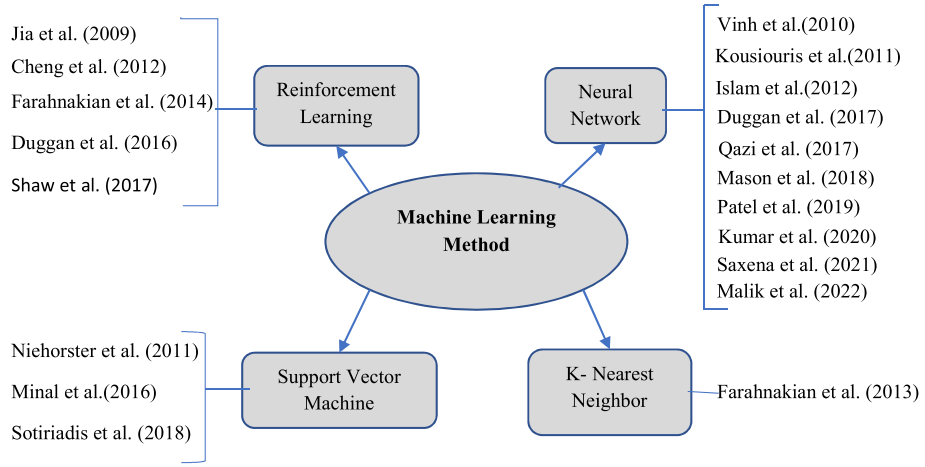


Fig. 8 Classification of existing research using a Machine learning method

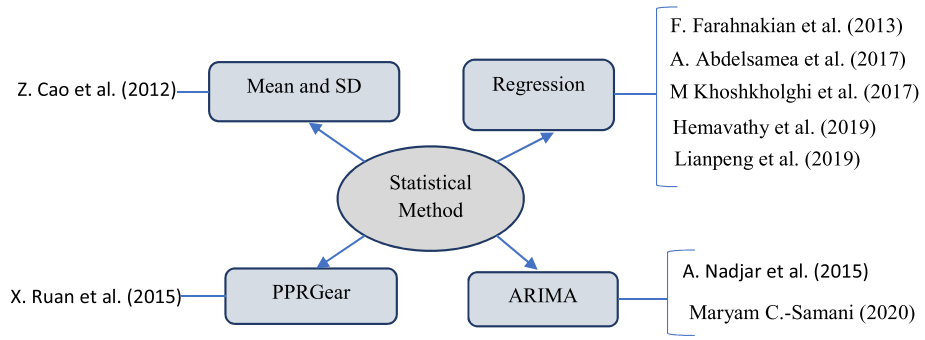


Fig. 9 Classification of existing research using Statistical method

Virtual machine management using heuristic techniques

A heuristic technique is a strategy for solving the problem, that is derived from the Greek term 'eurisko,' which means to search, find, or discover. It is about employing a practical technique that does not have to be perfect. Heuristic approaches reduce the time required to find a satisfactory answer. In cloud computing heuristic techniques are used for VM consolidation. In this approach, different researchers use FFD, BFD, MBFD, PABFD, and other algorithms for VM allocation, migration, and placement to reduce energy consumption.

Srikantaiah et al. 2008 [44], the virtual machine consolidation (VMC) problem was introduced as a bin packing problem. Researchers only examined two criteria: disc and CPU use. The analysis revealed that there is energy-performance compensation for consolidation, with the existence of optimal operating conditions. They constructed a cloud setting, collected data, and developed a bin packing issue using static random threshold values. Other resources, like memory and network, should also be measured, as they may be limiting resources for particular applications.

Beloglazov et al. (2010) [45] For VM consolidation with random data, researchers employed single threshold (ST), minimization of migration (MM), and bin packing strategies. The authors attempted to strike an ideal balance between energy savings and desired performance. They consolidated VMs based on current resource use, network topologies employed in VMs, and thermal status. An energy-aware resource scheduling system based on heuristics for VM allocation and live migration was suggested. The authors structured it as a bin packing issue and evaluated the effort using preset thresholds using the CloudSim toolbox. The results show that dynamic VM consolidation with adaptive thresholds outperforms static thresholds. Non-power-aware (NPA), dynamic voltage frequency scaling (DVFS), and ST methods were used to test the MM algorithm. Using energy savings, the MM algorithm outperformed ST, DVFS, and NPA by 23%, 66%,

and 83%, respectively, with thresholds set at 30–70%, resulting in SLA breaches of 1.1%. The MM policy resulted in 6.7% SLA breaches and 43%, 74%, and 87% higher energy savings than the ST, DVFS, and NPA policies when the threshold value was kept at 50–90%.

Anton et al. (2011) [46] provided a heuristic approach for resource distribution that is energy efficient. The policy allocated resources to consumer apps in an energy-efficient manner while ensuring QoS by utilizing energy-efficient mapping heuristics using the consolidation of virtual machines. For VM placement, an improved form of the best fit decreasing modified BFD (MBFD) technique was utilized, as well as three double-threshold VM selection policies, random choice policy (RCP), highest potential growth, and MM. CPU usage data were produced at random by utilizing fixed criteria. The results in the CloudSim toolbox showed that energy consumption was reduced by 77% and 53%, respectively, as compared to NPA and DVFS policies, with SLA breaches of 5.4%.

Beloglazov et al. (2012) [43] Researchers proposed a dynamic VM consolidation approach because fixed thresholds are not feasible in a dynamic cloud environment. The authors reported dynamic threshold values by statistically assessing four histories of CPU use. The reallocation was carried out utilizing a dynamic threshold method. The MBFD technique was utilized to place the VMs. SLA-aware metrics were also examined. The results obtained by running the algorithm on the CloudSim toolkit with a genuine PlanetLab trace demonstrated the validity of the suggested framework. But in the model only single-core CPUs were used, and only a single-core resource CPU was tested.

Arani et al. (2018) [47] by providing a VM placement strategy, researchers concentrated on reducing energy use (VMP-BFD). VMs were mapped to hosts using an approach centred on the best fit decreasing approach, which significantly decreased energy use and SLA violations. The developed algorithm employed the theory of learning automata, correlation coefficients, and the ensemble forecast technique for VM allocation to hosts. The method assigned a VM to a host whose VMs had the least association with the chosen VM for placement. Compared to other reference policies, the results of the simulations on the CloudSim platform showed a big improvement in lowering the energy use and the SLA violations.

Wang et al. (2018) [48] focused on energy-efficient dynamic virtual machine consolidation (DVMC) by introducing an approach for virtual machine placement called "Space-Aware Best Fit Decreasing" (SABFD). The authors also created a VM selection strategy called "High CPU Utilization-based Migration VM Selection" (HS). The suggested system was evaluated in several ways by utilizing the CloudSim toolkit and the Planet Lab workload. The results showed that DVMC designs with a range of SABFD and HS produced the better results.

F.F. Moges et al. (2019) [27] proposed the OpenStack Neat framework's VM placement method to address the issue of consolidation. They introduced VM placement methods that modify heuristics bin-packing to account for host energy efficiency. When linked to the reference algorithms PABFD and MBFD, the proposed algorithms improve energy proficiency. Depending on the host categories and workloads, the energy proficiency improvement over MBFD can be up to 67%. They also defined an innovative bin-packing method termed a "medium-fit" to avoid unnecessary SLAV and VM migrations. The MFPED (medium-fit power-efficient decreasing) offers a lower SLAV and VM migration rate compared to other VM placement methods. SLAV and VM relocations are reduced to 78% and 46%, respectively, when compared to MBFD, depending on the cloud scenario. They used CloudSim to test the suggested algorithms' performance in three different data-center situations: heterogeneous, homogeneous, and default. Data workloads that execute in cloud centers are derived from PlanetLab and Bitbrains cloud traces.

Bhattacherjee et al. (2019) [49] for large historical data sets, proposed prediction technique that was accepted and employed in the current strategy known as the minimization of migration and dynamic thresholding system instead of static thresholds. The MBFD algorithm is used in prediction-based minimization of migration (PMM) to place the VMs. Markov chain learning is applied to formulate the past data for upcoming forecasting deployments. CloudSim 3.0.3 has been used to run rigorous simulations, and the outcomes show a decrease in cloud data center energy utilization.

Xialin Liu et al. (2020) [50] proposed dynamic consolidation by using migration thrashing. It prioritizes VMs with high dimensions and remarkably decreases migration thrashing. The degree of relocations required maintaining service-level agreements (SLAs) by keeping VMs prone to relocation thrashing on the identical physical servers rather than migrating. Their method improves the relocation thrashing measured around 28%, the number of movements measured around 21%, and the SLAV measured around 19%. When the server is overloaded, their solution detects VMs with sufficient capacity by restricting that VMs with excessive capacity are not transferred. Imitations of a wide-ranging research setting employing a workload data set from numerous PlanetLab VMs were used to validate the suggested techniques.

Saikishor Jangiti et al. (2020) [51] DRR-FFD and DRR-BinFill are cutting-edge VMC algorithms based on the concepts of FFD (first-fit decreasing) and DRR (dominant

residual resource) that organize VMs based on a single VM resource. Researchers proposed an energy-efficient architecture — EMC2 — for an IaaS cloud service provider. The vector bin-packing techniques VMNeAR-E and VMNeAR-D are proposed. In a python context, simulation tests were conducted utilizing a dataset acquired from the EnergyStar® API for diverse physical servers. The suggested VMNeAR-D heuristic saved up to 3.318% of energy on the average across 40 schedules.

Garg et al. (2021) [52] provided load-aware three-gear THReshold (LATHR) and the MBFD algorithm to reduce overall energy consumption even though they improved service quality in terms of SLA. It produces promising results when used with a dynamic workload and a flexible count of virtual machines (1–290) on each host. The results of the projected work were evaluated concerning service level agreements (SLAs), energy utilization, the number of relocations against various numbers of virtual machines (VMs), and instruction energy ratio (IER). The proposed technique reduces SLA defilements (26%, 55%, and 39%) as well as energy consumption (12%, 17%, and 6%) when related to interquartile range (IQR), median absolute deviation (MAD), and double threshold overload acknowledgement strategies, respectively.

Alharbi et al. (2021) [53] improved existing research that manages data center resources using two independent layers: applications allotted to VMs and VM placement to hosts; both are bin packing problems. This sequential double-layered bin packing (Consec2LBP) solves issues easily and restricts added solution quality development. This research proposes an integrated ant colony optimization strategy to deal with the layers simultaneously to overcome this issue. It converts two-layer resource management into an optimization problem known as integrated double-layer bin packing (Int2LBP). Then, to solve this optimization challenge, a combined FFD technique known as Int2LBP_FFD is derived. To improve the quality of the result, a combined ant colony system, Int2LBP_ACS, has been developed, where the result of Int2LBP_FFD is used as a preliminary solution. In simulations of nine scales of data centers based on GTC data logs, integrated double-layer Int2LBP_FFD outperforms sequential Consec2LBP_FFD. They've also shown that Int2LBP_ACS is better than Int2LBP_FFD concerning energy investments. The Int2LBP_ACS and Int2LBP_FFD algorithms provide scalability.

T Kaur et al. (2022) [54] The Power Aware Energy Efficient Virtual Machine Migration (PAEEVMM) Method has been developed to migrate virtual machines in data centres depending on the temperature threshold value. Based on temperature, this approach moves the heavily loaded virtual machine to the less loaded virtual machine. The simulation was run on CloudSim Plus, and the outcomes are assessed against first fit algorithms. The experiment demonstrates that the suggested approach performs better in terms of CPU and electricity usage.

A brief description of the above detailed literature review and algorithms developed using heuristic methods with different workload data is given in Table 1. Table 2, summarises the work, method, and comparison with their benchmark methods/ algorithm to evaluate energy consumption. Figure 10 depicts the percentage difference in energy reduction or energy savings in graphical form. The implementation of these algorithms has been tested using different settings. The authors have already talked about the host specification, virtual machine description, datasets, simulators, and other criteria for comparing the proposed method to their benchmark algorithm.

Virtual machine management using metaheuristic methods

A metaheuristic is a problem-solving strategy based on a heuristic method that is independent of the problem's nature. A single-solution local search metaheuristic and a random search metaheuristic are the two types of metaheuristic methods. Metaheuristic approaches have been shown to produce near-optimal solutions in a reasonable amount of time and are problem-independent, allowing them to be used in a wide range of situations. It is advantageous in a cloud setting to locate a suboptimal solution quickly. Different metaheuristic techniques based on swarm intelligence, bio-inspired, physics-based, and evolutionary algorithms are used by researchers for VM consolidation to reduce energy consumption. This method was implemented for resource prediction, VM migration, VM placement, load balancing, etc.

Kousiouris et al. (2011) [55] worked on the analysis and performance of VM which depends on several parameters. They proposed the effects on VM performance prediction, persistent allocation proportions, VM co-placement, and instantaneous arrangement on the identical host. They applied a genetic algorithm (GA) to optimize an artificial neural network (ANN) and used linear regression to investigate degradation prediction.

Aryania et al. (2018) [56] proposed a technique using an ACS to resolve the VM consolidation (VMC) issue to reduce energy utilization in data centers. They took into account energy utilization through virtual machine migration. They presented an energy-aware VMC process based on an ACS to handle the VMC issue as a multi-objective optimization challenge. On the arbitrary workload in several circumstances, simulation findings showed that EVMC-ACS increased the number of sleeping hosts by 16% as related to ACS-VMC. Also, the suggested algorithm minimizes relocations by 89%, the

Table 1 Evaluation of Heuristic Methods for Cloud Data Center Resource Management

Author/Year	Algorithm/Method	Data set/ Workload	Tools/ Experiment Environment	Objective	Performance Metrics/Pros	Limitations
S. Srikantaiah et al. [44], 2008	Multi-Dimensional Bin Packing	Own data	Powermeter Xperf	CPU, Disk Utilization	Performance, Energy usage, and Resource utilization	RAM and Network usage are not considered
A. Beloglazav et al. [45], 2010	ST MM Bin Packing	Random data	CloudSim simulator	VM Consolidation	decreases operational expenses while maintaining required QoS, Savings on Energy	Utilization Threshold, Multiple Resources not considered
A. Beloglazov et al. [46], 2012	HeuristicBFD MBFD	PlanetLab	CloudSim	CPU Utilization	Energy Efficiency, QoS, Decreases CO_2 footprint, Cost Saving	Limited Scalability, Slow Optimization, only Simulation
A. Beloglazov et al. [43], 2012	DVMC THR MBFD	PlanetLab	CloudSim	Dynamic V M Consolidation, VM Migration, IaaS env	SLAV, VM Migration, ESV metric, Decreases CO_2 footprint	Complex workload, only simulation
M. Arani et al. [47], 2018	VMP-BFD	PlanetLab	CloudSim	VM Allocation, Learning Automata theory	Energy Consumption, SLAV, Migration Count	Required NN for better efficiency.
H. Wang et al. [48], 2018	SABFD HS	PlanetLab	CloudSim	VM Placement VM Migration, DVMC, Host overload detection	Energy Efficient, Suppressing SLAV, SLATAH, PDM, ESV, VM Migration, Host Shutdown	Real-world challenges, only simulation performance
F F Moges et al. [27], 2019	MFPED	Planet Lab Bitbrains	CloudSim	V M Placement, VM Migration	Energy Consumption, SLAV, VM Migrations Count	N/W devices and traffic effects are not considered
S. Bhattacherjee et al. [49], 2019	PMM-MBFD	PlanetLab Parallel Archive	CloudSim	V M Placement, Prediction based migration	Energy Consumption, Dynamic Thresholding	RAM and N/W uses are not considered, multi-objective optimization should be required
X. Liu et al. [50], 2020	DCMMT	PlanetLab	CloudSim	VM Migration Thrashing, Dynamic Consolidation	VM Migration, SLA Violation, Thrashing Index, SLATAH, PDM	No real-world cloud platform, required workload statistical properties
S. Jangiti et al. [51], (2020) and	EMC2, VMNeAR-D, VMNeAR-E	dataset extracted from EnergyStar® API	Python environment	multi-resource fairness, virtual machine consolidation	Energy-efficient, VMP, time complexity, IaaS	VM swapping into smaller PMs in case of very low resource occupancy in a huge PM
V. Garg et al. [52], 2021	LATHR MBFD	HPG4, 100 hosts, 290 VM	Matlab	VM Migration, Overload Detection Policy	QoS, Energy Consumption, IER, No. of Migration, SLAV	Limited workload, real-world implementation
F. Alharbi et al. [53], 2021	Int2LBP_FFD Int2LBP_ACS	GTC data logs	Java	Resource Management	QoS, Energy Saving, Integrated approach, Scalable	Dynamic decision required, Public CDC, Runtime VMC
T Kaur et al. [54], 2022	PAEEVMM	Dynamic data by user	CloudSim Plus	Temperature Threshold	CPU utilization, Power Usage	Load Balancing, Multiple Resources

Table 2 Comparison of benchmark concerning Energy Consumption for Table 1

S.No.	Reference	Year	Algorithm/Method	Benchmark Algorithm	Energy reduced in %
1	[44]	2008	MDBP	Optimal	5.4
2	[45]	2010	MM	ST	23
3	[46]	2012	MBFD	DVFS	53
4	[43]	2012	THR-MMT	DVFS	87
5	[47]	2018	VMP-BFD	PABFD	10.27
6	[48]	2018	SABFD	PABFD	72
7	[27]	2019	MFPED	MBFD	67
8	[49]	2019	PMM	MM	37
9	[51]	2020	VMNeAR-D	DRR-Binfill	3.318
10	[52]	2021	MBFD	THR	06
11	[53]	2021	Int2LBP_FFD	Consec2LBP_FFD	90

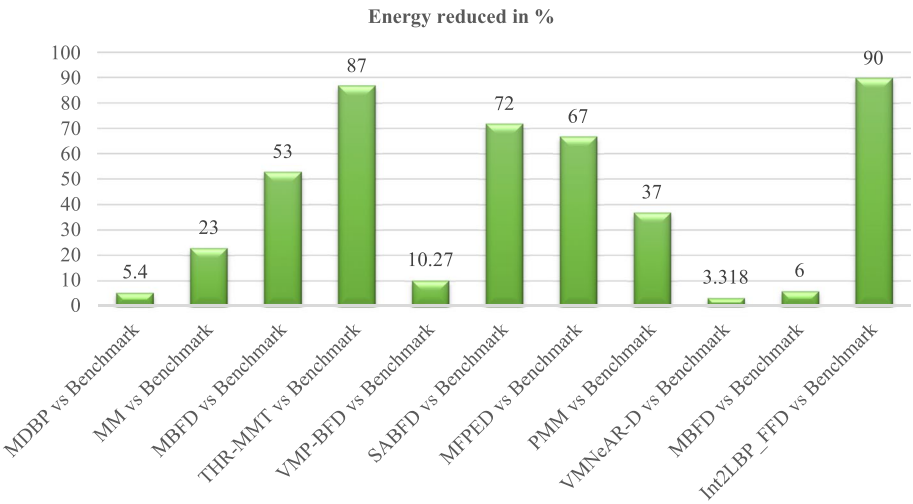


Fig. 10 Energy reduction using Heuristic techniques vs Benchmark

power consumption during a migration by 91%, SLA violations by 79%, and overall energy consumption by 25% relative to ACS-VMC.

Goyal et al. (2019) [57] worked on PSO and CSA algorithms. The goal of optimizing energy utilization in the cloud is also addressed in the article. CloudSim simulators and common programming languages were utilized in their suggested work. Several performance measures, such as energy efficiency, response time, and execution time, were used to judge how well the work performs.

M Tarahomi et al. (2020) [58] approached micro-genetic method for choosing the right physical host for a virtual machine. Their simulations reveal that the micro-genetic method enhances power consumption relations. The suggested approach was tested using CloudSim and their result was related to the reference algorithms (genetic and PABFD VM provisioning algorithms) in various scenarios with the datasets of 10 working days. According to experimental results by the CloudSim framework, the micro-genetic system reduced power consumption.

Dubey et al. (2020) [59] suggested a virtual machine placement approach that reduces the makespan while reducing power consumption. The proposed technique was tested in the simulator CloudSim toolkit, and the findings proved that it exceeded typical work utilizing FCFS, Round-Robin, EERACC, and Random algorithms. The result shows that the recommended technique beats the other four mentioned methods regarding energy and power usage, server utilization, and makespan.

Barthwal et al. (2021) [60] proposed AntPu ACO metaheuristic predicted utilization for dynamically placing VMs in the cloud data center to minimize SLAV and energy utilization (EU). In CloudSim, a simulated environment is created, and the PlanetLab dataset is chosen because of its real-world properties. The CPU usage of VMs in five-minute intervals is shown in this data set. To assess the results, extensive simulations were run, showing that the proposed approach offers a significant improvement in energy utilization and SLA compared with other methods. AntPu improves performance by satisfying SLA, QoS, EC, VM migration, and PM overloading constraints.

Mirmohseni et al. (2021) [61] combined the outcomes of the particle swarm genetic optimization (PSGO) process. The findings were improved and a viable solution for load balancing operations was introduced by combining the advantages of these two algorithms. Instead of arbitrarily assigning the beginning population or data set in the GA, the most acceptable outcome is obtained by giving the starting population in their proposed approach, load balancing PSGO Improve Resource Allocation (LBPSGORA). The LBPSGORA method is compared to GA, PSO, and a hybrid GA-PSO approach. This method outperformed similar methods in terms of execution cost, load balancing, and time to completion. With task changes, the hybrid GA-PSO approach performs similarly to the suggested method. The LBPSGORA technique is 7.32% more effective in makespan and 6.87% more effective in execution cost compared to the hybrid GA-PSO. LBPSGORA outperformed the hybrid GA-PSO by 8.42%, GA by 10.61%, and PSO by 11.71% in terms of load matching.

Alharbi et al. (2021) [53] improved existing research that manages data center resources using two independent layers: applications allotted to VMs and VM placement to hosts; both are bin packing problems. This sequential double-layered bin packing (Consec2LBP) makes easier the issue solving and restricts added solution quality development. This research proposes an integrated ant colony optimization strategy to deal with the layers simultaneously to overcome this issue. It converts two-layer resource management into an optimization problem known as integrated double-layer bin packing (Int2LBP). Then, to solve this optimization challenge, a combined FFD technique known as Int2LBP_FFD was developed. To improve the quality of the result, the combined ant colony system Int2LBP_ACS is refined further using the Int2LBP_FFD result as a preliminary solution. In simulations of data centers based on GTC data logs, Int2LBP_FFD outperforms Consec2LBP_FFD. They've also shown that Int2LBP_ACS is better than Int2LBP_FFD concerning energy investments. The Int2LBP_ACS and Int2LBP_FFD algorithms provide scalability.

Salami et al. (2021) [62] offer a virtual machine placement problem (VMPP) based on the cuckoo search (CS) algorithm. New cost and perturbation metrics have been created to increase the algorithm's performance. Two well-known benchmark datasets were used to evaluate the suggested technique. The main objective is to organize virtual machines into actual machines to minimize the number of devices required. It beat the reordered grouping genetic algorithm and the FFD, BFD, and multiCSA, an older CS approach.

M. H. Sayadnavard et al. (2022) [63] approached a technique for dynamic VMC, which included a prediction model based on DTMC, a VM selection algorithm, and e-MOABC-based VM placement. Using this model in conjunction with the dependability model of PMs results in a more exact classification of PMs depending on their condition. Then, a multi-objective VM placement approach is proposed using the e-dominance-based multi-objective artificial bee colony algorithm to find the optimum VMs to PMs mapping, which can efficiently manage overall energy consumption, resource usage, and system performance to meet SLA and QoS requirements. By completing a performance assessment study with the CloudSim toolkit and PlanetLab workload traces, the proposed system is proved to be effective. The suggested technique greatly decreases energy usage while avoiding excessive VM migrations, according to a competitive analysis of the experimental findings. The investigation of various parameters reveals that the suggested approach outperforms other algorithms. MOABC-VMC decreases energy consumption by 11.35% and 35.25%, respectively, when compared to RE-VMC and LR-MMT.

S. Malik et al. (2022) [64], proposed Evolutionary Algorithms and Machine Learning Methods to Predict Resource Utilization in cloud data centers. The primary goal was to resolve the over-and under-provisioning problems. Over-provisioning of resources results in higher expenses and increased energy use. However, under-provisioning results in SLA violations and a decline in quality of service (QoS). The research focuses on functional link neural networks (FLNN) using hybrid Genetic Algorithms (GA) and Particle Swarm Optimization (PSO) for multi-resource usage prediction. The suggested model produces improved accuracy when compared to conventional procedures, according to experimental results using data from Google Cluster Traces. This study's primary objective was to examine how well neural networks predicted multi-resource allocation. The proposed model predicts using FLNN and trains the network weights using a hybrid GA-PSO.

To manage a large number of users, resources must be dynamically scaled for effective usage, low energy consumption, low cost, and higher quality of service (QoS).

A brief report of the above detailed literature review and algorithms mentioned using metaheuristic methods with different workload data is given in Table 3. Table 4, summarises researchers work, methods, and comparison with their benchmark algorithm to evaluate energy consumption. Figure 11 depicts the percentage difference in energy reduction or energy savings in graphical form. The implementation of these algorithms has been tested with different settings. About the host specification, virtual machine characteristics, workload datasets, simulators or tools, and other measures for comparing the proposed method to their benchmark algorithm has already been discussed earlier.

Virtual machine management using machine learning techniques

Machine learning technique are approaches and set of technologies that use AI concepts. Machine learning enables researchers to use data to train a system on how to solve a problem using machine learning algorithms and improve over time. Machine learning is frequently classified by how an algorithm learns to improve its prediction accuracy. Supervised learning, unsupervised learning, semi-supervised learning, and reinforcement learning are the four fundamental methodologies. In a cloud computing environment reinforcement learning, neural network, k-nearest neighbor, and support vector machine algorithm are used by researchers to consume less amount of energy in cloud environment.

Jia et al. (2009) [65] have proposed a reinforcement learning method called VCONF, which automates the VM configuration process by addressing the system's scalability and adaptability problems. By learning from repetitions with the environment, virtual machine configuration (VCONF) generates policies for the auto-configuration of VMs. This method achieves the best cloud setup while improving adaptability and scalability also. Experimental results demonstrated the system's optimality in controlled problems, as well as its scalability and adaptability in a broader system. VCONF could be changed to a good configuration in seven steps and showed a 20% to 100% increase in throughput over simple RL approaches.

Vinh et al. (2010) [66] developed an energy-aware algorithm that uses a neural network (NN) to forecast upcoming load requirements built on previous data and reduces the number of hosts by shutting them down or restarting them as needed. Their research objective is to moderate the energy used in data centers. When the system load increases or decreases, the system turns on or off some hosts.

Niehorster et al. (2011) [67] have presented an approach for the provisioning of virtual machines using support vector machines (SVM). They created a self-configurable and self-optimized multi-agent system capable of learning its behaviour and estimating its cost. The system acquires performance models for various applications and develops a behaviour model, after which SVM is used to organize the data in the knowledge base.

Kousiouris et al. (2011) [55] depend on several parameters on VM performance prediction, persistent allocation proportions, VM co-placement, and instantaneous arrangement on the identical host. They used a genetic algorithm (GA) to improve an ANN and linear regression to study how well it could predict degradation.

Islam et al. (2012) [68] constructed a model for predicting future CPU resource requirements using the linear regression method. The input data set used historical data obtained by performing the Transaction Processing Performance Council (TPC), a typical client-server benchmark. To train the algorithm for prediction, the CPU utilization percentages of all VMs are used. They also used a neural network in the cloud for resource allocation and management. The neural network was trained with the back-propagation process, and experimental outcomes showed that NN-approximate predictions have a lower proportion error than LR-based predictions.

Cheng et al. (2012) [69] proposed a unified reinforcement learning technique for autonomously configuring virtual machines and their applications and adjusting the VM resources efficiently and providing quality service assurance. They came up with a good plan for running their research on Xen VMs using different workloads.

Farahnakian et al. (2013) [70] introduced a dynamic consolidation of virtual machines (DCVM) where the active number of hosts are minimized based on present and historical use. The k-nearest neighbour (KNN) method is used to forecast each host's CPU utilization. To optimize dynamic VM consolidation, their prediction technique focuses on identifying overloading and underloading of hosts. The results indicated that their system consumes the least amount of energy while maintaining the SLA.

Farahnakian et al. (2014) [71] suggested a Reinforcement learning (RL) technique for dynamic consolidation of VM that uses a learning agent to find out the host's power strategy. The agent selects the host to make it active or sleep. The RL learning agent optimizes the active host by learning system behavior. Experiments with PlanetLab workload traces show that their model lowers the cost of using energy, improves performance, and cuts down on SLA violations.

Table 3 Evaluation of Meta-Heuristic Algorithms for Cloud Data Center Resource Management

Author/ Year	Algorithm/Method	Data set/ Workload	Tools/ Experiment Environment	Objective	Performance Metrics/ Pros	Limitations
G. Kousiouris et al. [55], 2011	GA, ANN, LR	6 Matlab Benchmark tests	MatlabR2007b	VM performance, VM Analysis	Scheduling decisions, co-placement of VMs	No real-world application, 5% margin of error, premature convergence.
A. Aryania et al. [56], 2018	EVMC- ACS	Random Workload	Java	V M Consolidation, VM Migration	SLAV, Energy Consumption, migrations, sleeping PMs	No real workload, EC during VM migration not considered.
Goyal et al. [57], 2019	PSO and CSA	Cloudlets jobs	CloudSim	Resource migration, Utilization	Energy Consumption, Response time, and Execution time	Not for Hybrid Energy efficient model, SLAV not addressed.
M. Tarahomi et al. [58], 2020	Micro-GA	PlanetLab	CloudSim	V M Placement	Power Consumption, SLAV, VM migration, host shutdown	Only simulation, need real data center environment, required OpenStack-based cloud data center.
Dubey et al. [59], 2020	SA	Xen server	CloudSim	V M Placement, Resource Utilization	Power Consumption, Makespan, Mapping VM to PM	Static approach, Dynamic VM problem, Actual load during run time not considered
V. Barthwal et al. [60], 2021	AntPu ACO MH.	PlanetLab	CloudSim	V M Placement, multi-objective optimization	Energy Consumption, SLA Violations, PM Overloading, VM migration	Memory, disk, and B/W usage were not considered to predict the PMs utilization more accurately.
S M Mirmohseni et al. [61], 2021	PSGO LBPSGORA	Own data	Matlab, CloudSim	Load Balancing,	Cost, Energy Consumption, Resource management	Complex, real environment.
F. Alharbi et al. [53], 2021	Int2LBP_FFDInt2LBP_ACS	GTC data logs	Java	Resource Management	QoS, Energy Saving	Only static decision, Public CDC, Runtime VMC
Salami et al. [62], 2021	CSA	Benchmark datasets	MatlabR2018b	VM Placement, new cost, and perturbation functions are introduced	Power Consumption, Execution time, cost/fitness computation, servers required for VMP	Disk and bandwidth usage not considered, required VM placement with more resources, hybridizing new CS with other metaheuristics
M H Sayadnavard et al. [63] (2022)	MOABC-VMC	PlanetLab	CloudSim	DVMC, Prediction model, VMP	SLATAH, PDM, SLAV, EC, VM migrations, ESV.	Resource overcommitment and B/W resource constraints, static cloud environment
S. Malik et al. [64], 2022	GA, PSO	Google cluster traces	Simulation	Multi Resource utilization	Prediction of Resources, Accuracy, Resource Utilization	Predicting disk utilization, cost-effectiveness, and network, Multi-variate resource utilization datasets

Table 4 Comparison of benchmark concerning Energy Consumption for Table 3

S.No.	Reference	Year	Algorithm/Method	Benchmark Algorithm	Energy reduced in %
1	[56]	2018	EVMC- ACS	ACS-VMC	25
2	[58]	2020	Micro-GA	GA	7.68
3	[60]	2021	AntPu	PABFD	24.59
4	[61]	2021	LBPSGORA	PSO	11.71
5	[53]	2021	Int2LBP_ACS	Consec2LBP_FFD	97
6	[63]	2022	MOABC-VMC	LR-MMT	35.25

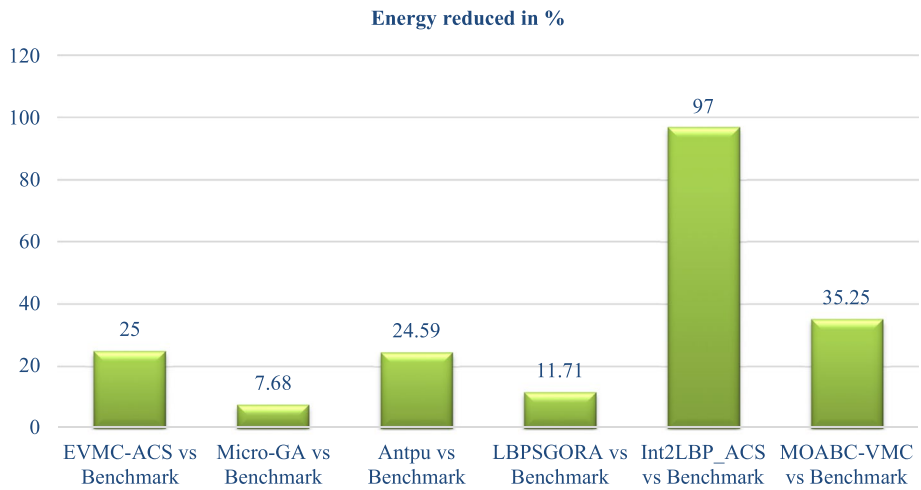


Fig. 11 Energy reduction in Metaheuristic techniques vs Benchmark

Minal et al. (2016) [72] Configure live VM migration using a support vector regression (SVR) model to forecast dirty pages using time series analysis. The service interruption time and migration duration were used to assess the performance of the live migration. They also created an ARIMA-based model, and findings show that SVR outperforms ARIMA in predicting dirty pages. Total pages transferred and migration time are the two most critical performance criteria for live migration in their proposed system.

Duggan et al. (2016) [73] developed a network-aware live migration technique that monitors bandwidth usage and takes appropriate action when there is network congestion based on experience Their structure functions as a decision support system, enabling a mediator to schedule VM migrations by determining the best time to do so. The amount of bandwidth available in the data center influences the migration process. According to their research findings, an agent in a cloud data center can learn available bandwidth during peak network capacity and schedule the migration of VMs from underutilized Hosts at the appropriate time using available bandwidth. They used the local regression approach to determine which hosts were overloaded. The Learning agent selects the best VM for migrating from an overloaded host while balancing migration and energy consumption. The findings of the research point to an autonomous VM selection method that can account for VM migration count and energy cost.

Duggan et al. (2017) [74] To create reliable predictions using time series data, researchers employed a recurrent neural network (RNN) to forecast future values of CPU consumption. They looked into the network's accuracy for prediction with a deep effect. Experiments have shown that it is possible to get a very accurate estimate of CPU usage for dynamic data sets that change.

Qazi et al. (2017) [75] provided a real-time resource consumption prediction classification that takes actual resource usage and sends it to multiple buffers built on time and resource type. A system with real CPU utilization traces from a cloud data center with 120 servers used the autoregressive neural network method on data blocks where the data did not track a Gaussian distribution. The

experimental findings suggest that AR-NN outperforms ARIMA for a given data set.

Shaw et al. (2017) [76] have presented the advanced RL consolidation agent method for VM allocation that is capable of optimizing VM circulation in the cloud data center while saving large amounts of energy and lowering SLA violations. They established a space for state-action. Action is defined as a combination of any host's utilization rate and the size of the VM to be deployed, and state is well-defined as the entire active host as a percentage of the total host.

Sotiriadis et al. (2018) [77] proposed a VM scheduling strategy that uses extracted data from past VM and host resource utilizations to define host weights based on the resource utilization of hosted VMs on that host. They used SVM to classify VM states based on historical records. They used the resource utilization dataset (percentage of CPU, RAM, and disc usage) in the X-Y planes and expressed the data as vectors. The results of the experiments reveal that, through learning the system's behavior, their method improved physical machine selection.

Mason et al. (2018) [78] using evolutionary NN, created a way to forecast the host's CPU utilization. For network training, optimization approaches such as particle swarm optimization (PSO), differential evolution (DE), and covariance matrix adaptation evolutionary strategy (CMA-ES) are used. The outcomes of the experiments showed that CMA-ES performs better than other optimization strategies and trains networks to predict CPU consumption accurately.

Patel et al. (2019) [79] presented a load-balancing method based on energy-aware VM Migration. They perform it by assigning a lower and higher threshold to an individual host, which specifies whether the host is underloaded or overloaded. Before initiating the migrations, they used a prediction approach that predicts the demand on the host. Their process uses an artificial neural network (ANN) with the dynamic double threshold (DDThr) technique to predict VM movement and energy consumption while considering CPU utilization. Not only does it reduce the number of VM movements, but it also saves energy. Graphs comparing VM movement and energy utilization show that when ANN is combined with existing techniques, both VM movements, and energy utilization decrease slightly, saving a significant amount of electricity. To create a cloud environment, the CloudSim simulator was employed, and Matlab2015a was used to implement ANN. Based on the experiments, the proposed strategy uses less energy and has fewer migrations than the competitive approach.

Kumar et al. (2020) [80] provide a workload forecasting framework based on a NN (WFNN) model with supervised learning. To increase the predictive model's learning efficiency, an upgraded and adaptable differential evolution method has been designed and developed. The algorithm determines the most appropriate crossover and mutation operators. Because of its adaptive nature in pattern learning from sampled data, the learning's prediction accuracy and convergence rate have been seen to improve. The prediction model's performance is assessed using real-world data traces from Google's cluster and NASA's Kennedy Space Center. A Python3 Jupyter notebook is used to implement the suggested model. The results are compared with other recent methods, and improvements of up to 97%, 91%, and 97.2% are observed over backpropagation, self-adaptive differential evolution, and average-based workload prediction techniques, respectively.

Saxena et al. (2021) [81] introduce an energy-efficient resource provisioning and management system to satisfy future applications' dynamic demands. The proposed system addresses power consumption, performance, resource wastage, and QoS depletion by accurately matching the application's expected resource demand with VM resource capacity. Consequently, condensing the whole load onto the smallest number of energy-efficient physical machines (PMs). The proposed work makes contributions in the form of online multi-resource feed-forward NN (OM-FNN) to predict resources, autoscaling of VMs, and allocation of scaled VMs on energy-efficient hosts. The suggested integrated solution has been rigorously evaluated using real resource usage traces from the Google cluster dataset, and it outperforms the other VMPs in terms of resource utilization and power savings by up to 21.12% and 88.5%, respectively. Also, the OM-FNN predictor is more accurate, takes less time, and uses less space than the single-input single-output feed-forward NN predictor.

Malik et al. (2022) [64] focuses on employing a hybrid Genetic Algorithm (GA) and Particle Swarm Optimization with a Functional Link Neural Network (FLNN) to anticipate the multi-resource utilization (CPU, memory, and network bandwidth). For resource usage prediction, the programme employs models from convolutional neural networks (CNN) and long short-term memory (LSTM). Experimental findings using Google cluster traces demonstrate that the suggested model outperforms conventional methods in terms of accuracy. This study's major objective was to examine how well neural networks forecast the use of several resources. FLNN is used for prediction, while hybrid GA-PSO is used to train the network weights. Therefore, to manage a high number of users, the resources need to be scaled dynamically for optimal use, decreased energy consumption, and cost, with better quality of service (QoS).

Table 5 Evaluation of Machine Learning Algorithms for Cloud Data Center Resource Management

Author/ Year	Algorithm/Method	Data set/ Workload	Tools/ Experiment Environment	Objective	Performance Metrics/ Pros	Limitations
J. Rao et al. [65], 2009	RLVCONF	TPC	A testbed of cloud with Xen VMs	VM Auto-Configuration, optimize VMs performance	SLA, Throughput, Response Time, Adaptability, and Scalability	Limited samples quality in model training, N/W, and disk B/W not included.
T. Vinh et al. [66], 2010	Neural Network	NASA, ClarkNet	CloudSim, GridSim	PM Selection, Load prediction	Energy Consumption, drop rate, predictor	Less diversity of workloads and application services
O. Niehorster et al. [67], 2011	SVM	RUBiS	Libvirt 0.8.3 interface, Eucalyptus	Utilization Prediction, Provisioning of VM, SaaS, private cloud	Service Level Objectives (SLO), QoS, self-optimizing, Autonomic Resource Management	Required parallel learning in larger cloud environments, cost estimate misses the SLO, more dataset required.
G. Kousiouris et al. [55], 2011	ANN LR	6 Matlab Benchmark tests	MatlabR2007b	VM performance, VM Analysis	Scheduling decisions, placement of VMs	Detection of workload, Real-world application, premature convergence
S. Islam et al. [68], 2012	NN LR	TPC-W	Java	CPU Prediction, resource management, forecasting resource utilization	SLA Fulfilment, Mean Absolute Percentage Error Root Mean Squared Error, R^2prediction accuracy,	Need more variety of workload generators, required utility functions for prediction, cost, performance.
C. Xu et al. [69], 2012	RL URL	TPC	Real environment	VM Configuration	Service Quality, Throughput, SLA assurance, system utilization	Time complexity, less impact on the quality of final configuration, and traffic perturbations deserve further investigations.
F. Farahnakian et al. [70], 2013	DC-KNN	PlanetLab	CloudSim	Utilization Prediction	SLA Violation, Energy Consumption	RAM and N/W resources not included, required K-NN regression for predicting overutilized and underutilized hosts
F. Farahnakian et al. [71], 2014	RL-DC	PlanetLab	CloudSim	Dynamic Consolidation	Energy Consumption, SLA Violation	Real environment required, optimum solution through trial and error in a dynamic context
M. Patel et al. [72], 2016	SVR	Real Data set of Xen	R language	Predict Dirty page	Migration Time, Total transferred pages	Model can be overtrained or undertrained, no live migration
M. Duggan et al. [73], 2016	AI tech RL RLLM	PlanetLab	CloudSim	Network-aware live VM Migration strategy	Energy Consumption, VM Migration, SLA Violation, PDM, ESV, performance	No real-world cloud applications,
M. Duggan et al. [74], 2017	RNN	PlanetLab	CloudSim	Predict CPU utilization	CPU Utilization, Energy Efficiency, Economy of Scale	RAM and disk utilization required, Back propagation through time prediction accuracy

Table 5 (continued)

Author/ Year	Algorithm/Method	Data set/ Workload	Tools/ Experiment Environment	Objective	Performance Metrics/ Pros	Limitations
Q Z Ullah et al. [75], 2017	ARNN	FastStorage	rJava	CPU Prediction usage	CPU Resource Utilization	Need more duration for prediction, size of training data, type of prediction patterns, temporal and spatial complexity
R. Shaw et al. [76], 2017	ARLCA	PlanetLab	CloudSim	Resource management	Energy Consumption, SLA Violation	RAM and N/W bandwidth are not considered, multi-objective optimization techniques are required.
S. Sotiriadis et al. [77], 2018	SVM	YCSB	OpenStack	VM Scheduling, VM placement	CPU Utilization, performance, CPU steal time, prediction of VM resource	Need model for classification and regression, time frame window, behavior of VMs and PMs.
K. Mason et al. [78], 2018	EvolutionaryNN CMA-ES	PlanetLab	CloudSim	Predict CPU consumption, performance	CPU Utilization, Mean Absolute and Squared Error, Multi-Step Prediction Accuracy	RAM and disk utilization not included, prediction accuracy of a system trained only on the PlanetLab.
D. Patel et al. [79], 2019	DT with ANN	Real System	CloudSim, Matlab2015a	VM Migration based Load balancing, performance, and accuracy	Energy Consumption, CPU Utilization, VM Migration	CPU, bandwidth, RAM parameter are not considered, ANN should be integrated with a cloud server for continuous load assessment.
J. Kumar et al. [80], 2020	WFNN	Google Cluster Trace, NASA, and Saskatchewan servers' weblogs	Python3 Jupyter notebook	QoS, Resource Utilization,	Performance, predict upcoming workload with precision, Accuracy, forecast accuracy, faster convergence	Forecast multivariate workload traces, computational complexity, high computation costs
D. Saxena et al. [81], 2021	NN	Google cluster dataset	Python version 3	Resource provisioning, VM Placement, VM Allocation	Performance, Power consumption, QoS, Resource Usage	Network traffic not included, manual selection of nodes in the I/O layer of OM-FNN predictor, more EC due to communication-intensive VMs.
S. Malik et al. [64], 2022	FLNN, CNN	Google cluster traces		Multi Resource utilization	Prediction of Resources, Accuracy, Resource Utilization	Predicting disk utilization, cost-effectiveness, and network, multi-variate resource utilization datasets.

Table 6 Comparison of benchmark concerning Energy Consumption for Table 5

S.No.	Reference	Year	Algorithm/ Method	Benchmark Algorithm	Energy reduced in %
1	[66]	2010	NN PP Mode	NM	46.7
2	[70]	2013	DC-KNN	LR	1.6
3	[71]	2014	RL-DC	LR	12.5
4	[73]	2017	AI tech RLRL-LM	Lr-Mmt	3
5	[76]	2017	ARLCA	Lr-Mmt	44.7
6	[79]	2019	ANN	DDT	2.4
7	[81]	2021	OM-FNN	BF-VMP	88.5

A brief description of the above detailed literature review and algorithms developed using machine learning methods with different workload data is given in Table 5. Table 6, summarises the work, methods, and comparison with their benchmark algorithm to evaluate energy consumption by different researchers. Figure 12 depicts the percentage difference in energy reduction or energy savings in graphical form. The implementation of these algorithms has been tested for different settings. The authors have already mentioned the host specification, characteristics of virtual machine, workload datasets, simulators environment, and other criteria for comparing the proposed method to their benchmark algorithm.

Virtual machine management using statistical techniques

Statistical methods are used in research planning, analyzing, data collecting, meaningful interpretations, and reporting the findings of various virtual machine management. In cloud computing researchers work on mean, standard deviation, regression, ARIMA, PPRGear, etc. to detect overload and underload hosts, resource prediction, VM allocation, VM migration, and VM placement to save energy consumption.

Cao et al. (2012) [82] proposed strategies for dynamically combining VMs in a virtualized data center to reduce SLAV and energy utilization. The authors suggested detecting host overload, VM selection, and allocation strategy. The author's uses mean and standard deviation CPU utilization metrics to determine overloaded hosts. The extension of the maximum correlation (MCE) strategy was utilized to select VMs for migration with mean and variance-related computations for VM allocation. Experiments using PlanetLab traces on CloudSim revealed that the new framework, which consists of the policies listed above, outperforms the previous policies in the requisites of energy utilization and overall QoS. However, it performed slightly worse in the requisites of energy utilization. As a result, managing the energy-performance trade-off is difficult.

Farahnakian et al. (2013) [83] Using PlanetLab historical data, a linear regression method was proposed to forecast the upcoming CPU use of the host (LIRCUP). Authors discovered a relationship between expected and current CPU use, where expected utilization is a dependent variable and current utilization is an autonomous variable. The LIRCUP algorithm detects overloaded hosts and maintains SLA and energy utilization by transferring some VMs from the overburdened hosts by comparing the expected CPU utilization value with the present utilization.

Nadjar et al. (2015) [84] present a decentralized scheduling strategy for DCVMs fitted with an auto-regressive integrated moving average (ARIMA) technique to progress resource provisioning by predicting VM resource

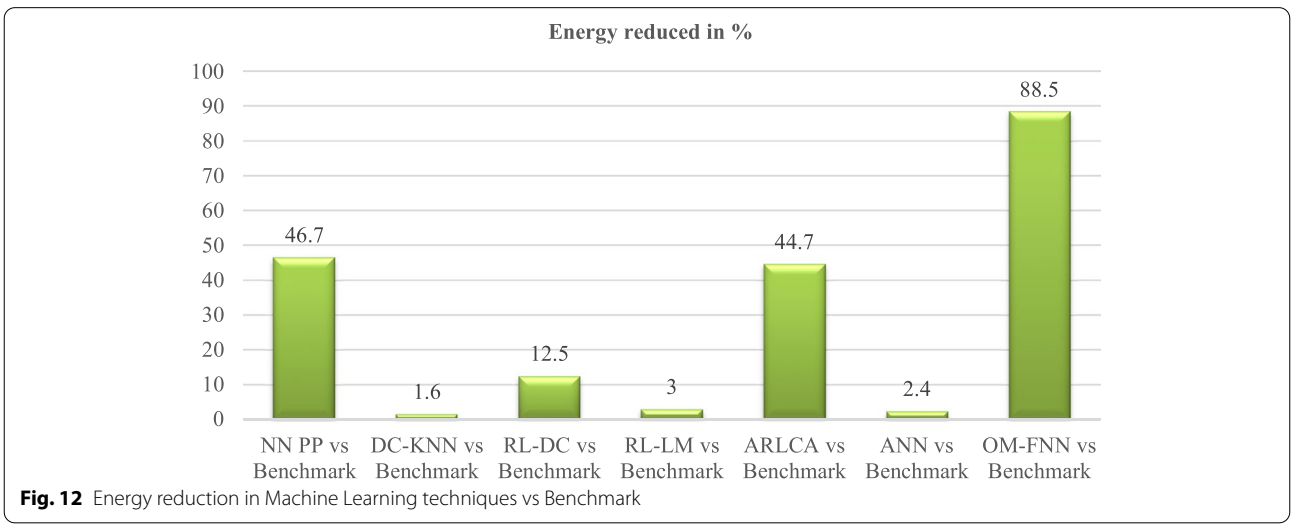


Fig. 12 Energy reduction in Machine Learning techniques vs Benchmark

usage to decrease SLAV and energy utilization in cloud data centers. Global Manager uses first fit decreasing, Cluster Manager uses max load VMP, and Local Manager uses the ARIMA model in their model. As a result, by utilizing ARIMA upper-bound prediction, it is possible to obtain a 90% reduction in migration and SLA violation rates and a 5.4% increase in energy savings. The CloudSim simulator was used to evaluate the method's efficiency with recently proposed approaches that employed the same workload and experimental settings.

Ruan et al. (2015) [85] define performance-to-power ratio (PPR) as conscious virtual machine distribution in energy-efficient clouds. They describe "PPRGear," a novel VM allocation mechanism that takes advantage of performance-to-power ratios for diverse types of hosts. PPRGear can ensure that the host devices use the least amount of power possible. Thus, this drastically lowers the energy usage with minimal performance loss. The proposed algorithm outperforms the competition.

Abdelsamea et al. (2017) [86] introduced multiple regression host overload detection (MRHOD) procedures that practice memory, CPU, and bandwidth to detect host overload and save energy significantly. They used a combination of factors to manage VMs while keeping energy consumption and SLAs low. They also created the hybrid local regression host overload detection (HLRHOD) method based on LR with hybrid variables. This algorithm outperforms single-factor methods.

Khoshkholghi et al. (2017) [87] by developing a method for overloaded host detection using iterative weighted linear regression (IWLR), which takes SLA constraints for data centers into consideration, researchers forecasted a dynamic, cost-effective, and energy-efficient management of virtual machines.

Hemavathy et al. (2019) [88] provide a prediction-based thermal aware server consolidation (PTASC) model, an integration technique that considers numeric and local architecture, as well as service level agreement. PTASC uses a statistical learning approach to consolidate servers (VM Migration). Cloud computing is a method of supplying essential resources by optimizing the usage of data-center resources, which raises energy costs. To reduce energy costs and enhance usage, new energy-efficient methods are proposed that reduce the overall energy consumption of computing and storage.

Lianpeng et al. (2019) [89] Based on the suggested robust simple linear regression (RobustSLR) prediction model, the authors developed a host overloading/underloading detection technique and a novel VM placement strategy for SLA-aware and energy-efficient virtual machine consolidation in cloud data centers. Unlike native linear regression, the proposed approaches update the forecast and slant toward over-prediction by including the error using eight ways of calculating the error. Researchers examined suggested techniques for the test by extending the CloudSim simulator with PlanetLab and random workload. The experimental findings demonstrate that the suggested approach can minimize SLA violation rates up to 99.16% and energy usage up to 25.43%.

Xialin Liu et al. (2020) [50] proposed dynamic consolidation using migration thrashing (MT), which prioritizes VMs with high dimensions, significantly decreasing MT. The degree of migrations required maintaining service level agreements (SLAs) by keeping VMs prone to relocation thrashing on the identical physical servers rather than migrating. Their method improves the relocation thrashing measured around 28%, the number of movements measured around 21%, and the SLAV measured around 19%. When the server is overloaded, their solution detects VMs with sufficient capacity by restricting the transfer of VMs with excessive capacity. The suggested techniques were proven to work by simulating large-scale research setting with a workload data set from many PlanetLab VMs.

Maryam C.-Samani et al. (2020) [90] suggested predictive consolidation of virtual machines (PCVM) using the ARIMA approach, which focuses on the DCVM over the fewest number of real servers. It also reduces the number of unnecessary migrations, detects PM overloading, and enforces SLAs using the ARIMA prediction model. Furthermore, the DVFS approach is utilized to determine the best frequency for heterogeneous physical devices. The experimental findings reveal that, the given framework greatly reduces energy usage while improving QoS characteristics as compared to various baseline techniques. The suggested solution was simulated using MATLAB and CloudSim with real-world PlanetLab workloads.

A brief description of the above detailed literature review and algorithms developed using statistical methods with different workload data is given in Table 7. Table 8, summarises the work, methods, and comparison with their benchmark algorithm to evaluate energy consumption by different researchers. Figure 13 depicts the percentage difference in energy reduction or energy savings in graphical form. The implementation of these algorithms has been tested with different settings. The authors have already discussed the specification of the host, characteristics of the virtual machine, workload datasets, simulator environment, and other criteria for comparing the proposed method to their benchmark algorithm.

Most of the above researchers have used PlanetLab workload traces, as shown in Table 9, or Bitbrains

Table 7 Evaluation of Statistical Methods for Cloud Data Center Resource Management

Author/ Year	Algorithm/Method	Data set/ Workload	Tools/ Experiment Environment	Objective	Performance Metrics/ Pros	Limitations
Z. Cao et al. [82], 2012	EV_MCE	PlanetLab	CloudSim	Host Overload Detection, VM Selection, DVMC, IaaS	Energy Consumption, QoS, SLAV, VM Migrations, SLATAH	Little worse than previous work for EC, simulation, required real infrastructure
F. Farahnakian et al. [83], 2013	LiRCUP	PlanetLab	CloudSim	Detection of Overloaded and Underloaded PM, Utilization Prediction	Energy Consumption, SLA Violation, power cost, CPU usage prediction	Simulation, Prediction utilization is approximated as a function
A. Nadjar et al. [84], 2015	ARIMA MSV_ML	PlanetLab	CloudSim	Dynamic Consolidation of VM, IaaS	SLA, Energy Savings, Migration count, performance, predicting resource usage, number of active hosts	Required real infrastructure, less accuracy in predicting VM and host resource requirements in the near future
X. Ruan et al. [85], 2015	PPRGear	PlanetLab	CloudSim	VM Allocation, VM Migration	Host Utilization, Energy Consumption, SLA, Shutdown times, migration times	Performance degradation, required primitive characteristics of host computers, heavy workload
A. Abdelsamea et al. [86], 2017	MRHOD HLRHOD	PlanetLab	CloudSim	PM Overload and Underload Detection, VMC, Better predictions of host overloading	Migration of VM, Energy Consumption, SLA Violation	Complex, required real cloud, less host utilization
M A Khoshkholghi et al. [87], 2017	PCM (IWLR,V-VMS,BRB,MRUHD)	PlanetLab	CloudSim	Utilization Prediction, VM Consolidation, workload-independent	Energy Utilization, VM Relocation, SLAV, heterogeneous physical servers, IaaS environment	N/W topology required, performance aware strategy, only CPU usage considered.
Hemavathy et al. [88] (2019)	PTASC model, Extended Multiple Linear Regression (EMLR)	Own data	CloudSim	workload prediction, load balancing, server consolidation, VM scheduling, VMP, resource provisioning,	energy efficiency, cost reduction, Response time	Required numeric and local architecture into consideration, statistical learning method, intrusion detection, and prevention systems needed.
Lianpeng et al. [89] (2019)	RobustSLR	PlanetLab and random workload	CloudSim simulator	VM consolidation, host overload, underload detection	Energy consumption, SLAV, SLATAH, PDM, Average SLAV, VM migration, host shutdown	Required RAM and N/W usage to improve energy efficiency and SLAV
X. Liu et al. [50], 2020	DCMMT	PlanetLab	CloudSim	VM Migration Thrashing, Dynamic Consolidation	VM Migration, SLA Violation, Thrashing Index, SLATAH, PDM	Real-world cloud platform needed, required workload statistical properties
Maryam C.-Samani et al. [90] (2020)	PCVM.ARIMA	PlanetLab	CloudSim	DCVM, Resource utilization, VM Placement	Energy Consumption, Migration of VM, SLA Violation, hosts shutdown	Memory and disk utilization are required for future prediction, required reduction in CO_2 emission, failure tolerance, and security.

Table 8 Comparison of benchmark concerning Energy Consumption for Table 7

S.No.	Reference	Year	Algorithm/Method	Benchmark Algo	Energy reduced in %
1	[82]	2012	EV_MCE	DVFS	84
2	[83]	2013	LiRCUP	LR	49
3	[84]	2015	MSV_ML	MAD_MMT_2.5	5.4
4	[85]	2015	PPRGear	THR_RS	69.31
5	[86]	2017	MRHOD	LR & LRR	20
6	[87]	2017	PCM (IWLR, V-VMS, BRB, MRUHD)	LR_RS/LR_MC	28
7	[89]	2019	RobustSLR	Threshold-based heuristics	25.43

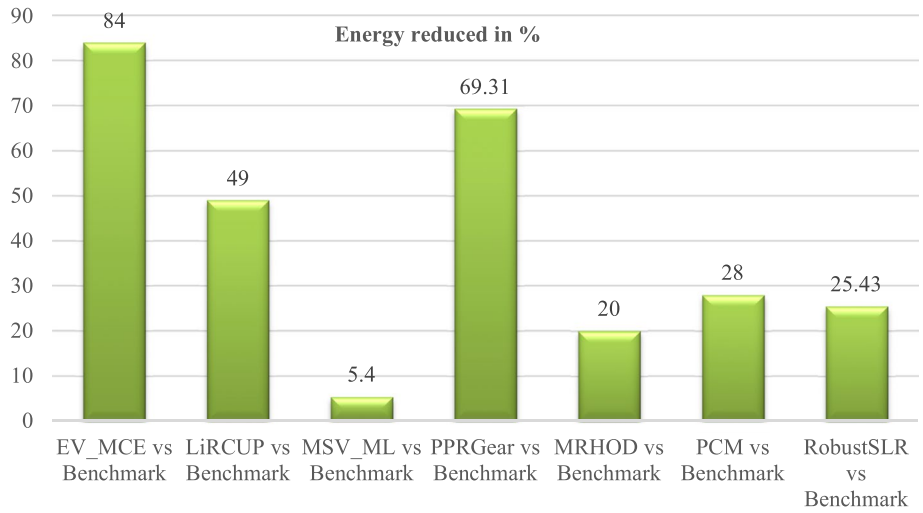


Fig. 13 Energy reduction in Statistical techniques vs Benchmark

Table 9 PlanetLab Workload traces with statistical features [27]

S.No.	Date	VM number	Mean (%)	SD(%)	Q1(%)	Median(%)	Q3 (%)
1.	03/03/2011	1052	12.31	17.09	2	6	15
2.	06/03/2011	898	11.44	16.83	2	5	13
3.	09/03/2011	1061	10.70	15.57	2	4	13
4.	22/03/2011	1516	9.26	12.78	2	5	12
5.	25/03/2011	1078	10.56	14.14	2	6	14
6.	03/04/2011	1463	12.39	16.55	2	6	17
7.	09/04/2011	1358	11.12	15.09	2	6	15
8.	11/04/2011	1233	11.56	15.07	2	6	16
9.	12/04/2011	1054	11.54	15.15	2	6	16
10.	20/04/2011	1033	10.43	15.21	2	4	12

workload traces, as shown in Table 10 for simulation in CloudSim, Matlab, Java, or other environments are given below. Half of the 800 physical nodes in PlanetLab's simulated data center are HP ProLiant ML110G4 systems, while the other half are HP ProLiant ML110G5 systems, as depicted in Table 11. For the smooth conduction of simulation, the power modeling has been configured in CloudSim as shown in Table 11.

Table 10 Bitbrains workload traces have statistical properties [27]

S.No.	Date	VM number	Mean(%)	SD(%)
1.	01/08/2013	1238	11.21	26.33
2.	02/08/2013	1237	7.60	17.52
3.	03/08/2013	1234	5.10	13.16
4.	04/08/2013	1233	8.48	21.11
5.	05/08/2013	1232	9.43	21.67
6.	06/08/2013	1231	8.63	23.19
7.	07/08/2013	1218	7.73	17.49
8.	08/08/2013	1209	10.78	24.07
9.	09/08/2013	1207	7.06	16.93
10.	10/08/2013	1205	8.64	21.62

Result analysis

The result of the review paper work is to find the current research outcomes in energy-efficient resource management as stated in different sections. Table 2, and Fig. 10 represent the saving of energy by up to 90% by different researchers using the heuristic method. The objectives addressed in the evaluation of this method were VM placement, VM allocation, VM migration, and resource utilization. In next section, the authors' metaheuristic approaches were performed to address the objectives of VM consolidation, load balancing, resource management, PM overloading, VM migration, and VM placement. Metaheuristic methods in Table 4 and Fig. 11 showed an improvement in energy savings of up to 95%. Similarly, machine learning algorithms were presented to address the objectives of VM performance, prediction usage of resources, VM scheduling, dynamic consolidation, and resource management. With this approach, the reduction in energy consumption up to 88% has been shown as compared with other methods which has been illustrated in Table 6 and Fig. 12. In the last approach mentioned in this paper, researchers used statistical methods to perform host overload/underload detection, dynamic consolidation of VMs, utilization prediction, and VM allocation. This approach reduces the energy consumption up to 84%, as shown in Table 8 and Fig. 13. The outcomes of the review work are measured in terms of SLA, energy consumption, and the number of migrations against the different numbers of VMs. This review work focuses on energy utilization by different approaches in consolidating virtual machines. The results show that there has been an improvement in energy saving in the outcome of all the researchers by using different techniques. Other research outcomes include the use of integrated and combined approaches for utilization prediction, utilization, virtual machine consolidation, overload detection, VM selection, VM migration, and VM placement.

Major issues, suggestions, and future works

In this paper, the authors have outlined energy-efficient strategies for cloud computing. Several methods have been investigated, and their findings with parameters are listed in the tables. This paper can help people to find out the pros and cons of proposed energy-efficient algorithms that are motivated by researchers.

One of the main issues in cloud computing is using energy effectively, which necessitates the development of an eco-friendly environment. To meet SLAs, service providers must provide continuous power to data centers. This way, the data centers consume a large amount of energy and raise the cost of investment. However, the rising demand for cloud infrastructure has significantly increased the data center energy usage, which has become a crucial concern. As a result, energy-efficient solutions are necessary to reduce this energy utilization. Another significant challenge is the system's reliability degradation because of the high frequency of consolidation and deploying VMs on PMs. Cloud efficiency is the capacity to make greater use of cloud resources at the lowest feasible cost. Other issues that must be addressed include scheduling challenges while PM-VM mapping for each user task, resource utilization prediction accuracy, overload, and underload host detection problems, and adaptive threshold estimation. Moreover, VM selection from the overloaded host, access to a real cloud data center to perform an experiment in a real environment, and improving user satisfaction along with the service providers are also various research challenges.

Most of the researchers have performed simulations in the CloudSim framework in an Infrastructure as a Service (IaaS) environment. In CloudSim, development

Table 11 Watts of electricity usage at several load points[a]

Server	Active idle	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
IBM X3250 M3	42.3	46.7	49.7	55.4	61.8	69.3	76.1	87	96.1	106	113
IBM X3550 M3	58.4	98	109	118	128	140	153	170	189	205	222
HP ProLiant G3	105	112	118	125	131	137	147	153	157	164	169
HP ProLiant G4	86	89.4	92.6	96	99.5	102	106	108	112	114	117
HP ProLiant G5	93.7	97	101	105	110	116	121	125	129	133	135

[a] https:/www.spec.org/power_ssj2008/results/power_ssj2008.html

tools, middleware technology, database management, resource computation, etc. help create and control cloud applications. Logical architecture is based on local and global managers. Cloud architecture is the organization of various components, including applications, databases, on-demand resources, storage, middleware, network devices, and software capabilities to provide services. Increased power use is a longstanding problem in today's computer environment. The rise of applications using complex data has resulted in the construction of large data centers, which has increased the need for energy. According to the above analysis of energy-efficient strategies, the majority of the effort to minimize energy utilization in data centers is done by utilizing dynamic VM consolidation and resource management methods. Some researchers suggest multi-objective [91] algorithms that primarily address SLA, QoS, and resource usage while consuming less energy in cloud data centers. There has been little work done on heterogeneous physical devices, which requires considerable attention from the scientific community. Some major issues in current energy management techniques are prediction utilization of different resources [64]; mapping of VMs to PMs; host overload issues; VM selection from overloaded hosts; access to a real cloud data center; and VM placement. As VM placement is an NP-hard problem, metaheuristic approaches are the best suitable technique, which increases the complexity.

This research contributes significantly to provide important information related to the reduction of data center energy consumption, financial expenses, and the provision of QoS, hence assisting in the development of a strong, competitive cloud computing sector. This is especially crucial in the current green environment, where customers are becoming more environmentally concerned. Furthermore, according to recent research, data centers are a huge and rapidly rising energy-consumption sector of the economy, as well as a substantial source of CO_2 emissions. Also, the research done by [92] the use of blockchain technology and cloud solutions facilitates and improves not only the aggregation of data and secured access to it, but also has a huge impact on the reduction of CO2 emissions and reduces the carbon footprint. Hence, reducing greenhouse gas (GHG) emissions is an important energy policy objective for many nations, as well as achieving the United Nations Sustainable Development Goal (SDG) to transform the world by 2030. As a result, global research efforts should focus on the open problems described in this work to improve energy-efficient resource management approaches in cloud computing systems. Also, the researchers' plan should be centred on reducing energy use and increasing resource use without hurting the performance of the system.

Summary and conclusion

Data centers consume a tremendous amount of electricity for computing user applications as well as cooling their equipment. Improving energy efficiency in data centers may reduce greenhouse gas (GHG) emissions, air pollution, and the amount of water utilized in power generation. So, minimizing energy consumption has been a key challenge in recent years. As a result, it is one of the key study areas in cloud computing. Many researchers are concentrating their efforts on lowering the energy usage of data center infrastructures. This review article looks at virtual and physical machine consolidation strategies using various methodologies to save energy. These strategies look at global energy conservation and resource management. As a result, resource usage increases, and data center energy consumption decreases. This paper aims to identify energy consumption research that has been conducted using various heuristics, metaheuristics, machine learning, and statistical methods. VM selection and migration, host CPU usage prediction, overload detection, and VM placement have been used to manage resources and efficient use energy. The energy savings achieved through various strategies are compared in this paper. Various researchers tested several strategies in cloud data centers to reduce energy consumption and SLAV. In the heuristic approach, researchers have saved from 5.4% to 90% of energy with their proposed method when compared with the existing methods. Similarly, the metaheuristic approach reduces energy consumption from 7.68% to 97%. The machine learning method and the statistical method save energy from 1.6% to 88.5%, and 5.4% to 84% respectively when compared to the benchmark approaches considering a variety of settings and parameters. So, energy saving can be maximized up to 90% using different approaches in respect of consolidation of VMs, prediction of workload traces, utilization of resources, host underload/overload detection, VM selection, VM migration, and VM placement. The results of this study could help researchers come up with new ideas for research that will add to their knowledge and make it easier to use energy efficiently in cloud computing. So, the overall outcome of this review paper is to understand different techniques of energy-saving applied in the cloud data centers. As the field of cloud computing is increasing day by day and its application area is increasing, focus must be on the different methods of energy consumption in cloud data centers.

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Authors' contributions
Throughout all of these stages of the study, the writers contributed equally. The final manuscript was reviewed and approved by all authors. Suraj Singh Panwar and MMS Rauthan contributed to the idea and design, data analysis, and interpretation; Suraj Singh Panwar and Varun Barthwal authored the paper, conducted a literature review, and critically edited it for key intellectual content, and confirmed the final version.

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From: Karla Stevens
To: AUARcomments
Subject: Data Center.
Date: Tuesday, March 31, 2026 11:15:24 AM

I am writing to express my strong opposition to the data center being considered in Hermantown.
We are in the district and do not want the probable and potential negative effects of having this in our wonderful community.
Please work to not allow this.
Thank you
Karla Stevens.

26-44

From: fartypoo22@yahoo.com
To: AUARcomments
Subject: Say No to the Data Center!!!!
Date: Tuesday, March 31, 2026 11:18:11 AM

I am extremely opposed to this terrible data center!

Sent from my iPhone

From: Adin Briggs
To: AUARcomments
Subject: Data Center Project
Date: Tuesday, March 31, 2026 11:23:00 AM

"Or you might be interested in the potential millions in economic development this may bring to our region."

'Potential' and 'may bring' are doing a lot of lifting here. What are the guarantees that this is going to happen? Possibilities are meaningless unless demonstrated. We would need *probabilities* at a high percentage.

"You might also be here because of excitement about the hundreds of jobs this would create for our area if it moves forward."

Hundreds of *consistent well-paying* jobs? Or just hundreds of jobs until it's completed? We already know, throughout America, that quality, well-paying jobs are needed. Although I am also a union member, what good is a single job over the course of a few years in comparison to what we could be having?

This is acutely problematic *especially* if the labor used isn't being paid fairly by a tech giant, more so if the labor isn't unionized.

"Currently this area generates about $80,000 per year in taxes, with the new project likely to generate more than 10 times that in commercial taxes upon full construction."

If, in 10 years time, the taxes which will be brought in are $800,000, what will they be used for? Will they go toward our public schools? infrastructure? healthcare? lowering our increasing home taxes? a municipal internet service owned by the residents of Hermantown?

What guarantees can the City of Hermantown *and* Google give us that these things are going to go well for our current residents and future residents?
If they don't adhere to any contracts, how likely is it the City of Hermantown will be able to adequately fight back against Google in a way which would help our local government and constituents? Certainly Class Action Lawsuits net nearly no amount of return when large companies don't follow the law.

This is an incredibly tenuous relationship CoH has with Google, especially since the reputation of the Representatives has gone downhill due to NDAs.

Thank you for your time,
Adin Briggs
3912 Getchell Road

From: Mackenzie Joice
To: AUARcomments
Subject: Hermantown data center
Date: Tuesday, March 31, 2026 11:35:00 AM

To whom it may concern:

There is an immense amount of research regarding data centers burdens to the environment, communities, local residents and utilities. Local communities within data center limits are already experiencing negative health impacts, interruptions of their daily life due to noise and operations of data centers, lack of water, immense hikes of prices of utilities and this is just the beginning. Data centers are destroying our environment and the impacts get worse day by day.

This data center is NOT worth any of these possibilities. Community members are not buying the proposed resolutions Google and MNpower (AKA Blackrock) have committed to prevent these issues.

There needs to be more research, years of research before any of these resolutions can be proven. We cannot be testing grounds for billionaires to guinea pig. This is not what the community wants, asked for and especially not what we expected our elected officials to sneak in through our back doors.

Please save this city years of lawsuits, money and do not risk the health of your citizens and local environment. The jobs will obviously not be worth the risks in the long term. Please do as you were elected to do and represent your community, not corporations.

From: Pamela Raiho
To: AUARcomments
Subject: Comment
Date: Tuesday, March 31, 2026 11:36:25 AM

Hello,

How were those 278 acres chosen for the Goggle data center? Who owns that land? How much are they getting paid? Are the homes being displaced going to be bought out?

Was any other area considered? Why not northeast of Duluth?
Hwy 53 is busy enough right now. I thought Midway Road was going to be extended from 35E towards Hermantown. What happened to that plan? How about south of Duluth? Not too much going on in Kerrick.

We have enough changes for now with the Blatnik bridge closing for years and other city plans.

What happens with the building and jobs when Google comes up with a different data method in 3 years? Technology changes by the minute. It's going to sit empty like the U.S. Steel plant?

I see more serious issues with this Google center than what is right for the city.

Pamela Raiho
Knife River

From: Jeanne Lahn
To: AUARcomments
Subject: Data Center Comments
Date: Tuesday, March 31, 2026 11:42:57 AM

The way that these Data Centers have been sneaking in everywhere, without enough notification to the affected communities is wrong! They got local officials to agree, with little environmental impact study, and practically no notice to residents. They use up massive community resources (water and electricity) and have been rejected in many other places for that reason, along with the pollution, costs, and noise. The benefits are short term and the potential harms are extremely long term. We want clean air and water, that's why we live here, not to support AI technology that will be obsolete before it's even completed. And the taxpayers always get left with the mess from these big companies. Remember 3M??? That's a no brainer and a big reason to say NO!
Sincerely,
Jeanne and Eugene Lahn - Duluth, MN
Sent from my iPhone

From: Katie Jorgensen
To: AUARcomments
Subject: AI data center public comment
Date: Tuesday, March 31, 2026 11:59:54 AM

Dear Erick Johnson,

I am writing to notify you that I am opposed to Google's data center that has been preposed for the corner of Morris Thomas Road and Midway Road. My concerns are as follows:

-Lack of transparency with the signing of non-disclosure agreements by people who are supposed to represent the public. This shows lack of transparency and attempt to hide, and bull doze the public into accepting a potentially harmful company due to lack of information.

-Scientists have found data centers having an alarming environmental impact including using a lot of energy, producing alarming heat, and other unknown effects. This is especially worrisome for those surrounding this area and all rely on well water.

-Who is really the beneficiary of this project? It certainly is not the public. AI data centers do not produce a lot of jobs or good paying jobs. Google also has accusations of retaliation against their own union workers. Will this project only use union construction workers?

Overall, the proposed location of the data center is prime raw land that could be used for housing, farming, or other more beneficial use to the community. An AI data center has no use or benefit at the proposed location for the community and that is why I am opposing it.

Sincerely,

Katie Jorgensen
5050 Lindahl Road
Duluth MN 55811

From: Karen Holden
To: AUARcomments
Subject: Data Center
Date: Tuesday, March 31, 2026 12:06:15 PM

Sent from my iPhone
Since the local population and Duluthians don't want it, why are you building it? It will lower surrounding property values and degrade the surrounding environment while creating few jobs and absorbing an unconscionable amount of water and electricity. Kill this project now! Karen B Holden

From: Kathy Riddle
To: AUARcomments
Subject: Data Center
Date: Tuesday, March 31, 2026 12:18:22 PM

To: Eric Johnson
Community Development Director

I am very much opposed to the use of an AURA to be used in place of a full environmental study for this Data Center, it is not sufficient. It is unforgivable that this process has gotten this far, with use of NDA's, without a full environmental study, and no public input!
I'm also 100% opposed to this Data Center! This is not a suitable site for a data center & will be very detrimental to myself, my neighbors & community.
Kathy Riddle
3950 Old Midway Rd
Hermantown MN
Sent from my iPhone

From: J Schmig
To: AUARcomments
Subject: Data center - Do not do this
Date: Tuesday, March 31, 2026 12:27:14 PM

Please do not bring a data center to Hermantown. It is such a bad bad bad idea for the community and for society in general. We cannot have unruly, resource-sucking projects with minimal regulatory oversight coming in just because AI is currently popular among out of touch CEOs. This does not bring jobs; everyone knows that the ultimate goal of things like these, if they're successful, is to be a net REMOVER of jobs.

It's bad for community, it's bad for the earth, it's bad for society, and clearly whoever approves things like these is only doing so for personal gain at the expense of everyone else, including everyone's children.

- A very concerned citizen

From: Alexandra Rees
To: AUARcomments
Subject: Data Center Comments
Date: Tuesday, March 31, 2026 2:31:57 PM

I am writing to express my opposition to the proposed data center in Hermantown.

While I understand the economic arguments made in favor of developments like this, I believe it is essential that we take a step back and consider the long-term environmental, social, and ethical implications, especially for a community like ours that values nature and quality of life.

As you know, data centers consume vast amounts of electricity and water, placing strain on local infrastructure and contributing to environmental degradation.

In a time when we are already seeing the effects of climate change and resource depletion, approving of this project feels misaligned with responsible stewardship of our land.

Beyond the environmental impact, I have deeper concerns about what this type of development represents. The rapid expansion of artificial intelligence and large-scale data operations is happening faster than our legal and ethical frameworks can keep up. There are currently few meaningful regulations governing how AI is developed or used, and even fewer protections for individuals and communities.

As residents and developers, we should be asking not just "Can we build this?" but "Should we?"

I feel a strong desire to preserve spaces where people can live more grounded, human-centered lives.

Approving a large-scale data center moves us in the opposite direction.

I am not opposed to progress. But I believe progress should be thoughtful, measured, and aligned with the values of the people who live here. Right now, the expansion of AI and data infrastructure feels anything but measured, it feels strictly financial.

I urge you to decline this build proposal, prioritize environmental preservation, and protect the character of Hermantown as a place where people can thrive.

Thank you for your time and consideration.

Sincerely,
Alexandra Rees

From: Stowhawk
To: AUARcomments
Subject: Say No
Date: Tuesday, March 31, 2026 2:41:27 PM

It will raise utility bills, cause noise pollution, Steal water from our lakes and streams and deplete our resources, all while taking up land that can be better spent on the community.

It is too early for the integration of this data center. There is no conclusive positive gains for building these data centers. Other than allowing wealthy people to use artificial intelligence to MAKE THEMSELVES MORE MONEY. After this data center is done siphoning off our water at 50,000 gallons per day, what then will it do? After the study inevitably reaches the conclusion that these data centers in fact do have an adverse effect on the local population. Then what. Will it just go away?

NO ONE WANTS THIS YOU ARE NOT PROPERLY REPRESENTING US ON THIS ISSUE.

From: Kyle Lindblad
To: AUARcomments
Subject: AI data centers
Date: Tuesday, March 31, 2026 3:24:58 PM

This data center is a super stupid idea and you should feel super stupid for wanting it approved if you do want it approved. It's going to devastate the surrounding environment by draining water from local systems and raising ambient air temperatures. It's also going to raise local power bills to make up for the use isn't it?

Hey this shit out of here.

From: Simon D. Erdmann
To: AUARcomments
Subject: Google Data Center
Date: Tuesday, March 31, 2026 3:39:49 PM

Hello,
I'm glad you all have opened up for comments, because I didn't think I'd be able to voice my opinion on this.
I'm 26 yrs old. I've lived in Hermantown all my life. I never thought that we'd ever want a Data Center, let along need one.
I do understand why they are cropping up more, but the problem is if we as a community expressed our disinterest before and nothing happened, why should I believe it to change?
I remember when the residents of Haines Rd & Mary Lane Dr, the area where I live, had fought against connecting to the sewer line when the road was being reconstructed. I remember my neighbor, Eric Anderson, giving an emphatic speech that echoed the sentiment of all those residents living their. City Administrator John Mulder had also said that we would have to eventually hook up when the old system eventually dies out, and we'd hook up by 2028. That was the last public meeting until we all of a sudden got 1 week to come to a new meeting where voting would take place. Unfortunately for almost all of the residents, they obviously had jobs and couldn't take off, and unanimously, it passed, and we were slapped with a $25,000-$30,000 hook-up that we didn't want. Since then, I've only ever seen elected officials look out more for their concerns, and less ours.
I'll also be linking a World Resources Institute article to the end of this because they had just came out with a new insights of Data Centers.
Thank you, once again, for allowing comments to made.

Sincerely,
Simon Erdmann
Council President of Salem Lutheran Church
Hermantown, MN - 55811

https://www.wri.org/insights/us-data-center-growth-impacts

From: Chance
To: AUARcomments
Subject: Data Center
Date: Tuesday, March 31, 2026 5:11:45 PM

Hello,

The answer hasn't changed since October, 2025. The answer is still no.

From the start this project has been an effort to obscure and push through a data center with as little oversight as possible.

No, we do not want a data center in Hermantown. I grew up there. My parent's house will be close by. I do not want them suffering from infrasound and noise. I do not want to waste thousands of gallons of water on abusive technologies like AI.I do not want my electrical bills to go up here in Duluth, as a result of this. And Duluth does have a voice in this. I do not want increased traffic accidents and loss of life due to construction, as has been evident in many data centers built across the country.

I suspect the council won't listen to their constituents. They voted to redistrict the map to BLM, even though Hermantown residents showed up in mass and made our voices heard. This has been noted. You will be voted out come next election.

Hermantown should not be the playground for billionaires. We should not have to pay more in utilities and destroy our wetlands so billionaires can make more money.

No data center in Hermantown. Period.

Chance Lasher

From: Kiera Simmons
To: AUARcomments
Subject: Public Comment
Date: Tuesday, March 31, 2026 5:31:32 PM

Hello Eric,

I have many concerns regarding the hyperscale data center and the AUAR. I'm pleased that the City of Hermantown has made the right choice to redo this with the transparency that it should have been done in the first place.
I am concerned that this 1.8 million square feet project is going to impact the St. Louis River watershed, which is one of eighty-one major watersheds in Minnesota. This is a huge concern as we need to protect our water. Water is not an infinite resource. There are states in our country that are projected to not have water in the near future. We need to protect our waterways, not let corporations exploit it.
There are concerns regarding the constant noise pollution that this project would emit. This doesn't just effect the people who live in the area, but our wildlife populations as well.
Data centers are known to create urban heat islands. They can increase the temperature up to 16.2 degrees Fahrenheit and this effect can be felt up to 6 miles away. This is alarming as we know that climate change is a real issue that we need to mitigate.
I read the scoping document and the words, "minimize significant environmental impact" stood out to me. As people we need to be responsible and not allow this project to happen at all. Data centers often times have very limited time spans and cause more destruction than create any positive impact to the communities they are located in.
Also, why are we allowing Google, a company worth $3 trillion dollars apply for tax abatement? What kinds of financial bribes have they been promising to the City of Hermantown to skirt their tax burden? Are they promising Hermantown a new elementary school?
Google's promises of population and tax base growth are all lies. St. Louis County's population is not expected to grow in the next decade. Having this data center be built here won't make people want to move here.
Google wants people to believe that this project will bring economic benefits such as job opportunities. Do you truly believe that Google will want to use local union labor? Even if they did these jobs are only temporary, not permanent like they want you to believe.
Even so, are the handful of permanent jobs (because it does not take much to staff a data center) worth the permanent environmental damage that cannot be undone?
The visuals from this scoping document showing the proposed buildings made me physically ill.
This project does nothing to create sustainable growth.
The City of Hermantown is allowing the wolf (Google) to pull the wool over its eyes. Don't be sheep.

Kiera Simmons

From: Harley S
To: AUARcomments
Subject: NO TO THE DATA CENTER
Date: Tuesday, March 31, 2026 5:47:37 PM

NO DATA CENTER!!! Terrible for the environment! Terrible for small businesses who we as a city love and rely on in so many ways! Terrible for low income families in the area! People will end up leaving our beautiful city and bringing their working bodies and spending money with them if this data center is built myself included.

From:	Brian Huberty
To:	AUARcomments
Subject:	Data Center Comments
Date:	Tuesday, March 31, 2026 9:23:12 PM

Subject: Feedback Regarding the Proposed Data Center Development

To the City of Hermantown,

I am writing to express some views for the proposed data center, while also highlighting the unique regional advantages that make Northern Minnesota an ideal home for such a project.

Minnesota has a foundational legacy in supercomputing, dating back to Control Data and Cray. It is encouraging to see the state re-asserting itself in this sector, especially as the demand for AI infrastructure grows. Our region offers three specific strategic assets that are often overlooked:

Natural Cooling & Climate: Our northern climate provides a built-in efficiency for heat management, reducing the energy overhead required to keep server arrays operational.

Water Infrastructure: Unlike many regions struggling with water scarcity, our area has access to non-natural, water-filled mine pits. For context, a single pit near Bovey contains a volume of water comparable to Google's annual global data center usage. Leveraging these resources for cooling is both environmentally and operationally logical.

Power Grid Readiness: The Iron Range possesses a robust, high-voltage transmission infrastructure originally built for the mining industry. Utilizing this existing, under-taxed grid is a far more efficient path than building new utility corridors elsewhere.

Modern data centers are the backbone of the next industrial revolution. By reviewing this project, Hermantown can leverage our region's vacant land and superior utility access to become a leader in the global "computer industry" once again. The proposed location is not ideal.

Thank you for your time and consideration.

Brian Huberty

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SharedGeo Geospatial Pixel Pusher

From: Cece Boyle
To: AUARcomments
Subject: Hermantown Data Center
Date: Tuesday, March 31, 2026 10:06:25 PM

Hello Eric Johnson,

I'm not sure how you sleep at night. Knowing that you are making one of the biggest mistakes of your life and career. A mistake that will outlast our time here on earth. Selling out the Northland to Google for a data center.

If you have a chance to think it over and add my public comment to the heaps of public input opposing this data center. I want it to be known that I am strongly against it.

I believe everyone is doing the best that they can to voice opposition. So many folks are barely scraping by within our communities to have a roof over their head, ability to get what they need to survive, have a steady job, and the ability to live. You likely have visited the area and moved here or grew up here. It's something special we have here. On some level you might be really proud of where you live like myself. What makes this area so special is its local magic, small businesses, and hard working REAL people. We don't drive fancy cars here, we are creative and scrappy people. No one said, "wow I would love it if my town had a data center". *These data centers are not things people wish to live among, it's large corporations coming into small and vulnerable towns and taking advantage of them for their personal gain.*

This proposed data center does nothing to add to our community. It does nothing for the people who live here. It only pumps more money into the massive corporations that take from every special place here on this earth. Have you ever visited a data center? Driven by one? I have! In Ellendale, North Dakota. It's the most god awful sight ever, loud, noisy and stupid. Does it help anyone in that town? No. Just made another evil man even richer.

To have a data center in this area would be the worst thing possible for the northland. The people want it known, that we are against it. I live just 5 miles from the data center. I drive past it's proposed location on my drive weekly to a local organic veggie farm where I get fresh produce every week. On the site currently sits people's family homes and farms. You can see the beauty of this area. Normal everyday people working people, trying hard to make a life that they love. We are people who LOVE to see our area thrive, we are proud of where we live and this is the greatest mistake for our area. Our fresh water lakes, paddling down stunning rivers, fishing, cold winters for recreation, etc.

When you make your decision to destroy another midwestern town. Know you are hurting the very cities and people who make this country so special. You are displacing communities of people for 7 of the richest people to get more rich, off the backs of the poorest or most simple and down to earth people. It doesn't make anything better or okay that a few jobs are being made, are they even going to be available to people who locally live here? These data centers are selfish to push through, don't pat yourself on the back like this is a "good" thing. No one wants this, no one asked for this and city officials are blatantly ignoring their people they work for is mortifying. It's infuriating that any of us have to spend hours of our time trying to stop the gutting of the culture, quality of life, and stand up against the largest corporations in the world.

NO DATA CENTER IN HERMANTOWN!

-Cece Boyle

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From: Yin Bloodburn
To: AUARcomments
Subject: Proposed Data Center
Date: Wednesday, April 1, 2026 5:10:48 AM

Please reject this proposal, it would be horrible not only for the enivornment, property value, and children. But it could lead to the ruin of current city infostructure due to rampant protest.

From: Bob K
To: AUARcomments
Subject: AUAR Comment
Date: Wednesday, April 1, 2026 6:39:35 AM

On page 67 thru 69 of the March 16, 2026 City Council agenda there appears an unsigned letter (presumed to be the Economic Development Director, Mr Chad Ronchetti) addressed to the Mayor and City Council regarding the SUBJECT: Selection of the AUAR review for the proposed Data Center project loon. Near the end of that letter, the following statement appears: "The AUAR was designed by state statute to save time and resources for the city, developer, and reviewing agencies by being a living-document that provides versatility." This statement tellingly says nothing about those of us who live in the communities targeted by the immensely impactful project loon.
In Minnesota, we are known for doing things right and that begins with working together.
By choosing the AUAR instead of the EIS, the COH has made it clear; they are not interested in working together with the public to serve and build our community. Therefore , the EIS is the clear and appropriate choice that truly does serve us all. It is a static document that leaves no stones unturned, regarding project impacts on our lives now, or later in the unknown future.

From: Bob K
To: AUARcomments
Subject: AUAR comment
Date: Wednesday, April 1, 2026 6:44:51 AM

I would like to propose an alternative, a far more environmentally sustainable alternative, without the myriad negative impacts imposed on residential districts, anywhere in the Northland region. That alternative is to locate project loon on one of many vacant mine sites along the 120 mile Mesabi Iron Range. It costs nothing to consider such a location that, in my opinion, would be a win, win, win for stakeholders and the communities of the entire Northland region. It is doable with little imagination. It is time we work together to do this project right from the start, and that begins with selecting a suitable and agreeable site for a project of this immensity.

From: Betsy Ott
To: AUARcomments
Subject: Data center comment (dissent)
Date: Wednesday, April 1, 2026 8:03:02 AM

Dear Eric Johnson,

I'm pleased that the city is collecting public feedback on the google data center and happy to provide my own opinion.

As a new resident to Hermantown, we moved here seeking reprieve from the business and traffic of a big city looking for larger properties and a quiet neighborhood to raise our children.

The data center goes directly against all of these very central tenant we and many other residents covet deeply. In addition, it is not clear a thorough and specific assessment of the impact of the data center was conducted. While an AUAR makes sense at an early stage of a project for scoping purposes, the future of the project should be re-evaluated through an EIS such that the impact of the data center is evaluated more rigorously and throughly. It seems perfectly reasonable that residents will not give up our little slice of heaven for a giant corporation if the risks to the community are still vague.

Finally, I also read there was potential to provide public support via residential taxes to the data center. Why on earth would we be paying for this building at all?? There is no direct benefit to residents and instead we give up other open spaces and quiet. Why would we pay for that?

I'm sure there is a potential for profit down the road but having residents foot part of the bill doesn't make any sense. Please voice my concern on the inadequacy of the AUAR and dissent in the data center as a whole. I trust you will listen to the community feedback.

Thank you,
Betsy Crowther

From: Mark Anderson
To: AUARcomments
Subject: Reject Data Center
Date: Wednesday, April 1, 2026 8:56:10 AM

Greetings

This project should be rejected for numerous reasons, including:

- water usage,
- electricity demands,
- adverse pricing impacts on the community that accesses electricity in Hermantown and the surrounding area, and
- The negative impact that AGI will have on humanity

Thank you,

Mark Anderson
1721 South Street
Duluth, MN 55812

From: Elaine Mundle
To: AUARcomments
Subject: DATA center
Date: Wednesday, April 1, 2026 9:21:09 AM

I am glad that the City Council is finally asking the citizens of Hermantown how they feel about the data center.

I am so against it in so many ways:
1. To start with, why did the council sign a NDA when this has never happened before? Why was it a secret for so long until it was almost too late?
2. Research has been proven that data centers use so much water that local wells have dried up. We must protect our local waters and Lake Superior, otherwise, where will our safe drinking water come from? The WHO has already projected that AI data will create a safe drinking water crisis in less than TEN years I'd they continue to be built at the current rate.
3. The noise levels are outrageous and will disturb many living near the data center. This includes local fauna, as well.
4. Environmentally, the trout streams in the area will be affected, which are places my that my own son fished at as a boy. As a long time resident for over 50 years, I have seen Hermantown grow, change, and evolve— generally for the better. I do not think this is the case this time.
5. It has been said that our tradesmen will be used to build this structure but I am wondering if this data center will bring in their own people to build it. Additionally, after the data center is built, how many jobs will it actually provide? What is the long term ROI? These jobs are temporary and could be put towards building infrastructure that actually benefits the Hermantown population.
6. When reading about other small communities that have data centers, they have only negative experiences with them. No one has been positively impacted by these data centers.

Please reconsider the building of this center. Listen to your citizens, listen to those you have chosen to represent. We do not want this. We do not need this.

Elaine Mundle
3989 Reinke Rd
Hermantown, Mn. 55811

Sent from Yahoo Mail for iPad

From: Josh B.
To: AUARcomments
Subject: From scientist, Hermantown data center comment
Date: Wednesday, April 1, 2026 9:23:20 AM

Hi there and thank you for reading my comment.

I am a scientist, business owner in the area, teacher at Denfeld, and former public policy deputy director for AIAA in Washington DC.

I'd like to send a comment NOT in support of the proposed data center and reasoning. As a scientist, I understand and have studied human impacts in ecological systems, and as a business owner, I understand the importance new technology can have on my business.

The Great Lakes area is on the map as a climate refugee zone. As the climate crisis worsens, we will continue to see large investors and water hungry industries begin to move into our area. It is with utmost importance that we clearly and openly let the public understand these impacts and how their water and land use affects housing and Lake Superior and its tributaries.

First, I denounce the project because of the NDAs signed by the council. At no point should this be acceptable.

Secondly, throughout the country we see disgruntled towns that are furious about the noise, land use, and environmental impact of these data centers, which would continue that trend here in Hermantown.

These centers generate enormous amounts of greenhouse gasses and strains to grid systems, and the purpose of AI, as a whole, is designed to use algorithms to sell adds to consumers via social media accounts. In rare cases AI is used to better business by streamlining operations, thus reducing employment opportunities. To add, these data centers are built at a pace where constant technology upgrades are needed throughout their lifespan. As quantum computing is emerging, will these data centers be necessary 5 years from now? 15 years from now?

Through numerous studies, environmental impact statements, and both economic and scientific research do I see a need or desire to have an AI data center here. As such, opening up these zoning laws would further permit more water hungry enterprises to enter our area. Instead of conserving water and reducing our energy demand, these companies are choosing to move to different locations who have those resources to exploit, like a virus, before moving on somewhere else.

Both in short and long term, I do not support this center or changing zoning laws to allow it. The public seems clear about that as well.

Regards,
Josh Borchardt

From: Nate Rickard
To: AUARcomments
Subject: Developer engagement
Date: Wednesday, April 1, 2026 11:30:48 AM

To all,
I'll start off as I'm in favor of the data center and I live in Hermantown 4 miles from the Data Center. In my opinion the developer needs to step up to the plate and provide more information on what exactly they are building and how it benefits and doesn't hurt Hermantown. Currently there are so many opposing comments and false information that anybody that is against are using to strengthen their view. The developer needs to get ahead of that and put out the real information. I do natural gas compressor stations that are have turbine generators (jet engines). Last year I just built a project right in a development (literally people's swimming pools on the other side of the wall of the station) in St. John's Indiana. Way before the project started we met with the neighborhood to tell them our plans and asked for input. We ended up building a sound wall, put strict construction noise times 8am-4:30pm in place, created a facebook page for input and donated money to their community even offered to build them a playground or public garden. We were there for over a year building it and got along great with the neighbors! We even put a 5 million dollar exhaust system on the turbines to silence them to next to nothing. Anyway I don't know if the developer can come back from not engaging the neighborhood at this point but it's better late than never.

I've included a photo of the site where the compressor station was built in a residential area and was a successful project. It can be done!

Nate Rickard
Superintedent
U.S. PIPELINE, INC.
8100 WASHINGTON AVE, STE 200
HOUSTON, TEXAS 77007
DIRECT: 218-428-1675

image001.jpg

From:	Jesse and Kely Dunsmoor
To:	CH-John Geissler; CH-Joe Peterson; CH-Andy Hjelle; CH-Brian LeBlanc; CH-Mary Melde; CH-Eric Johnson; CH-John Mulder; CH-Chad Ronchetti; CH-Wayne Boucher; AUARcomments
Subject:	Re: Support for Datacenter
Date:	Wednesday, April 1, 2026 12:48:23 PM

To the City of Hermantown Officials and Review Committee:

Subject: Public Comment in Strong Support of the Proposed Google Data Center

As a resident of Hermantown, I am writing to express my strong support for the proposed Google data center. This project represents a rare, transformative opportunity for our community to capture a share of the massive investments driven by global technology leaders, while simultaneously playing a vital role in securing our nation's technological competitiveness.

It is easy to think of the internet, cloud computing, and Artificial Intelligence as invisible services that just exist in the "ether." The reality is that these modern luxuries require massive, physical infrastructure. Every time we send an email, stream a movie, or use an AI tool, we are relying on a physical data center. As a society, we cannot bury our heads in the sand, demanding the endless conveniences of the digital age while opposing the physical infrastructure required to power it. The internet has a footprint. Instead of hoping that footprint goes somewhere else, Hermantown should embrace the opportunity to host it —and more importantly, to directly benefit from the massive capital investment it brings.

Hermantown and the surrounding region are uniquely positioned to be the physical backbone of this technology. We possess the critical resources required for a modern facility:

- **Abundant Natural Advantages:** Our uniquely cold climate is a massive asset, allowing for highly efficient, natural cooling of equipment and significantly reducing the energy required.

- **Ready Infrastructure:** We have ample land, robust power capacity, and sufficient water resources to sustain this project.

By acknowledging the physical reality of the tech boom and inviting it in, we stand to gain incredible direct benefits for our community:

- **Significant Economic Injection:** The construction and ongoing operations will drive higher employment, extensive utilization of local contractors, and the purchase of local goods and services.

- **Long-Term Revenue Generation:** A facility of this magnitude will significantly

expand our commercial tax base, allowing us to capture a piece of the wealth generated by the hyperscale tech industry.

While I am highly enthusiastic about this development, my support is grounded in the expectation that the City will proactively manage the localized impacts. To ensure this project is a true win for Hermantown, I ask that the planning committee prioritize the following:

- **Traffic and Safety Mitigation:** The Midway Road corridor between I-35 and Highway 2 is a critical artery. The city must implement comprehensive traffic flow and safety improvements to handle the increased construction and operational traffic.

- **Smart Fiscal Policy:** We must ensure that this project yields truly higher tax revenues. While initial incentives may be necessary to secure the project, we must not give away so much that it diminishes the financial benefit to the city.

- **Wise Allocation of Funds:** The additional tax revenue generated should be strategically allocated to benefit the community directly—specifically through improved local infrastructure, support for our schools, and ultimately, a reduced tax burden on everyday residents.

- **Protecting Adjacent Neighbors:** The city must enforce strict zoning and operational requirements to ensure the facility does not become a nuisance to the residents living directly adjacent to the site.

Summary:

If we want to enjoy the technologies of the future, we have to be willing to build the infrastructure that makes them possible. I love seeing our region step up to build highly useful assets that support the nation's technological advantage. Let's not shy away from this; let's bring a piece of the massive funds these tech companies control directly into our local economy. This data center can be a cornerstone asset for Hermantown. I support doing it right, and I urge the committee to make it happen!

Sincerely,

Jesse Dunsmoor

3980 Willow Pl

Hermantown, MN 55811

On Mon, Oct 20, 2025 at 12:42 PM Jesse and Kely Dunsmoor <kjdunsmoor@gmail.com>

wrote:

I can't make the meeting tonight. Here is my input as a resident.

We have ample:

- Land
- Power
- Water
- Cold air (less equipment cooling required)

We will receive benefits:

- Higher tax revenues
- Higher employment and contractor utilization
- Purchase of some local goods
- Our region will be helping in a small way to support competitiveness of the country's technology advantage

My concerns:

- Traffic flow and safety on Midway from 35 to 2
- Ensure there are truly higher tax revenues (don't provide too many incentives)
- Allocate the additional tax revenue wisely (improved infrastructure, lower tax burden on residents, support for schools)
- Ensure the project isn't a nuisance to directly adjacent neighbors who will actually be affected

Summary: I love to see us as a region build useful infrastructure that supports the nation's competitiveness and brings a piece of the massive funds the hyperscalers control into our community for our benefit. This can be a great asset for our community. I support doing it right! Let's make it happen!

Thanks,

Jesse Dunsmoor

From: Anna Nistler
To: AUARcomments
Subject: Hermantown Data Center
Date: Wednesday, April 1, 2026 2:34:28 PM

I'm writing in strong opposition of the proposed data center planned for the Hermantown area. As a local mother, I cannot imagine a scenario where this data center would be beneficial for any voter in the Twin Ports area.

Our hometown is unique and special because of our closeness with nature and strong local community. Greenlighting a data center is unnecessary beyond belief. Not only will it skyrocket the cost of living due to electricity prices increasing 30%, but they are proven to ruin local's water and pollute the air. Most families in the area are living paycheck to paycheck and simply cannot afford this unnecessary increase in our budgets.

After reading thoroughly through the AUAR for this proposed center, I feel the need to highlight a few of the extremely alarming statistics from this report:
- The planned annual energy consumption for this data center is nearly 37MM kWh. This is equivalent to the annual energy use of 3,600 homes! For what? AI chatbots so people don't have to come up with their own grocery list? This is unthinkable!
- The annual emissions of this data center are nearly 35,000 tons of greenhouse gas. After suffering through the increasing horrors of wildfires and weather-related natural disasters, do you truly think this is something your local voters want you to contribute to?

This data center will bring in ZERO jobs for local voters, ZERO benefit to the Twin Ports area. The fact that the AUAR also refuses to distinguish exactly what is included in the build, and who is responsible for the ownership and planning of this build is dirty and dishonest.

Please think of your local voters' wellbeing, the future of the Twin Ports, and the health of our local families.

From:	Walt Prahl
To:	AUARcomments
Subject:	AUAR Scoping Document Comments
Date:	Wednesday, April 1, 2026 3:29:02 PM
Attachments:	AUAR Scoping Document Comments.pdf

Please see the attached AUAR Scoping Document Comments.

Thank you for the opportunity to provide these comments.

Walt Prahl and Family
Fredenberg, Minnesota

To:
City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

From:
Walt Prahl & Family
5152 2nd Avenue
Bear Island Road
Fredenberg Township, MN 55803

Subject: AUAR Scoping Document / Data Center Proposal Comments

My name is Walt Prahl. My family and I are residents of Fredenberg Township, which is part of the Hermantown School District. This letter is to provide comments on the Scoping Document for an AUAR and more generally on the Data Center Project tied to this AUAR.

First let me comment on the overall Data Center Project being proposed:
We (myself and my family) **Strongly Support** the Data Center Project being proposed in Hermantown. Some of the specific criteria that led us to this position are as follows:

- This Project has the potential to improve the tax base for the City of Hermantown and thus reduce the tax burden of its residents. The Capital Investments being proposed is very significant.
- This Project will bring meaningful work / payroll to construction workers in this region during the multi-year construction period. This supports the growth of Hermantown's economy and positively impacts Hermantown Businesses supporting the buildout.
- This Project will bring long term high paying technical support jobs in managing the data center and also has the potential to provide long term revenue streams to Hermantown businesses that may provide supporting service for the ongoing management of the data center.
- Even though there has been much misinformation of this Project to date, Data Centers are truly one of the "cleanest" industries by far. We are not talking about a steel / smelting plant, an open pit iron ore mine, a chemical manufacturing plant, or a copper nickel mine. Technology, IT Services and Data Centers are globally defined as one of a small group of the cleanest industries in the world.
- The proposed location of this Data Center – right next to the MP Arrowhead HV Substation and DC Terminal is a key strategic benefit to the region. This Project should have a 100% load factor (uses the same amount of electricity 24/7), which should significantly enhance MP's ability to increase imports of clean Renewable Hydroelectric Power from Canada. The Arrowhead Substation / DC Terminal is a key MP Transmission hub from Canada and already is used to import clean Renewable Hydroelectric Power from Canada. Adding a large 100% load factor customer will no doubt, over the long term, require a more robust intertie with Canada to import this clean Renewable Hydroelectric power, which will benefit the region and residents of Hermantown.
- We do understand that local residents very close to the Project will be more impacted than others that are not close by. However, it is not like this 278 acres is in the middle of the BWCA. A very large Power Substation / DC Invertor Station is located adjacent to the Project site. Close by is a railway with regular train traffic and Highway 2 with significant vehicle / tractor trailer traffic. This area has lots of development already. Progress affects people. However, "The

good of the many far outweigh the good of the few" has been the way the world has always worked and is necessary for economic growth / progress.

Next let me comment on the AUAR Scoping Document:

Understanding this AUAR Scoping Document is preliminary and does not answer all the questions, but provides the "framework" on how the questions will be answered, here are my comments:

- I believe the AUAR is the correct process for this Project. This is a "clean" light industrial Project and a full EIS is way over-scope / over the top and not necessary.
- I did not see anything in the AUAR Scoping Document that causes me undo concern. It appears the proper framework has been set out to derive the final answers.

My last comment is with regard to ongoing / future negotiations with Google. Besides being a great opportunity for the City of Hermantown, this site has very strong "data center" strategic benefits for Google – an annual mean outdoor temperature of 42 degrees (significantly lower cooling costs than other parts of the US) and almost a direct transmission connection to (low cost) clean renewable hydroelectric energy from Canada. As such the City of Hermantown does have some negotiation "leverage". I would urge the City of Hermantown to negotiate some added benefits for Hermantown Businesses, especially Hermantown Technology related businesses. Something like a 'favored nations" clause that requires Google to favor Hermantown based businesses for data center supporting services that they require, outside of scope of what their in-house staff can perform. This would just be an added win for Hermantown.

Thank you for the opportunity to comment.

Walt Prahl and Family
Fredenberg Minnesota

From: Nikki Ehlenbach
To: AUARcomments
Subject: Concerns and dissent for Hermantown Data Center
Date: Wednesday, April 1, 2026 3:55:51 PM

To Whom It May Concern:

Thank you for taking the time to read my email today. I am writing to express my concerns and adamant opposition to a data center being built in Hermantown, MN.

These data centers are EXTREMELY bad for the environment. As a state that is known for its beautiful, vast northwoods, clean water, and cold weather, this proposed data center goes what northern Minnesota strives to be. They also tend to raise prices on utilities for the neighboring communities, and use up key space and resources.

Data centers, like the one proposed in Hermantown, are well known to consume electricity far surpassing thousands, sometimes millions, of normal households, and even businesses of a similar scale. This not only raises prices on electricity to other consumers (the people of Hermantown/Duluth/Proctor/etc.), but also increases greenhouse gas emissions and pollutes the air and water in a dangerous way. Our protected Boundary Waters are home to over 50 species of mammals, over 200 species of birds, and nearly half of Minnesota's native fish. This sudden increase in water temperature and greenhouse gasses will seriously affect these populations negatively.

These data centers are known to raise temperatures of land and water, causing huge detrimental effects to the local people and wildlife. They also USE vast quantities of water, which has been shown to drain water resources from homes in the community in the case of low water pressure, undrinkable polluted water, and dry wells.

In addition, these data centers also require a huge footprint and buffer zone taking up and destroying otherwise inhabitable land by people and animals. Clean, open land and mature trees are not infinite. If this much land is to be used, it should be used for something to benefit the community: housing, parks, locally operated businesses employing our neighbors, schools, concert venues, campgrounds, etc. We should not, and do not want, to be wasting it on a data center.

All of this being said, the local benefits of a data center are negligible, if there are any at all. These data centers employ a handful of permanent employees, unlike even a warehouse business of a similar footprint would, which would employ hundreds or thousands of employees. The construction jobs are temporary.

This email has not even touched on the incredible sound pollution that data centers are known to produce, or the undeserved tax breaks and public assistance the city is proposing to give to a data center, the NDAs that politicians signed to keep key details of this project from their own constituents.

There are numerous, proven, likely permanent negatives to a data center being built in Hermantown MN: increase in water and land temperatures, increase in greenhouse gases, increase in cost of water and electricity, decrease in clean and accessible water, decrease in animal and plant populations, etc. etc. and in-so-far, no foreseen benefits to anyone except the

politicians who may be lining their pockets with Alphabet payoffs.

I implore you to vehemently opppose this data center because it is what is right for the people, land, flora, fauna, and economy of Hermantown, MN.

Thank you,
Nikki

From: Coryl
To: AUARcomments
Subject: Data Center : NO
Date: Wednesday, April 1, 2026 4:42:44 PM

It is absolutely insane to me that anyone would think this is a good idea. Not only has no one really specified exactly what surrounding area and a hermantown residents are supposed to gain from this being built . (I.e tax reduction, public investment or plentiful long-term high paying jobs for locals) But no one has considered whether any potential gains from having this here is actually worth the long term impacts that this will have on our future generations .

If there is one thing that our government and huge corporations have shown us in the past and proven time and time again, is that they do not care about our health, happiness or over all well being. So you guys sold your souls to the devil and for what? I think everyone involved needs to have their finances scrutinized because they had to of taken some sort of compensation or bribe to be in support of this. Make it make sense otherwise. There are plenty of these data centers out there and I believe you would be hard pressed to find anyone living around these things that doesn't hate it or see the benefits from it. Literally all impacts to those effected are negative.

When this thing becomes outdated in ...(Let's give it a generous estimate at 30 years) What exactly is your plan for all of this ugly, industrial and toxic waste that will be left behind by Google. You do understand and realize that computer components are literally toxic waste right? What happens to the aging infrastructure when they are done looting and profiting from it not so far in the distant future? Do you have a plan for it then? Are they disposing of the waste? Properly ?(If there is such a thing) Or are we going to be left to deal with the mess like we usually are ?(ex. Mines) .

How do you plan to deal with forever chemicals ? You do realize those are carcinogens and that we do not currently have the technology or capacity to filter such chemicals from our water supply , and that they are indeed forever going to impact the health of everyone who depends on lake Superior to survive ....including yourselves.

Please rethink this project, no one supports it and no one will benefit from it.

From: savannah davis
To: AUARcomments
Subject: data center
Date: Wednesday, April 1, 2026 9:31:50 PM

hello! ive heard you guys are thinking about making a data center in the city of duluth/hermantown and i wanted to comment and say that our cities do not need a data center! i think its utterly disgusting that you'd want to ruin our perfect lake for ai and whatever else you use these disgusting centers for. we do not want nor need this!

From: Stacey G
To: AUARcomments
Subject: The google data center proposed for Hermantown, Duluth
Date: Thursday, April 2, 2026 8:56:30 AM

As a United States citizen watching multiple cities have to begin rationing water, or having to leave and abandon their cities because they are already out of water, it is absolutely insane that Duluth City Council, any suburb of Duluth or any area around the Great Lake Superior, would even consider putting their community much less the lake itself at such a risk. Lake Superior is NOT FOR SALE. Not to mention the actual damage it will do to the natural environment, the noise pollution it will cause, and the fact the job production while yes looks great during production of the complex, will only bring a permanent number of jobs of about 80-90. None of these seem like any logical reasons to be saying yes to any data center expansion or build projects on any of the United States soil. There should be absolutely no NDAs. The people need to know everything plain and simple, straight up front. If data companies refuse to disclose information, they'll stop trying to build here and look for somewhere else to build. This will affect northern Wisconsin and the rest of your sister states as well. The negatives greatly out-way the positives. Tech companies have already said out loud, in not so plain words, that they need to find a way to make AI profitable off of the people or all of this will have been nothing but a massive waste.
Vote no. Do not allow google to build a data center right outside of Hermantown, Duluth, Minnesota.

From: Alexis Scarbrough
To: AUARcomments
Subject: RGU: City of Hermantown Eric Johnson
Date: Thursday, April 2, 2026 8:56:32 AM

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

Alexis Scarbrough
1416 101 Ave W
Duluth, MN 55808
218 464-7490 (text ok)

Dear Eric Johnson,
Hi, I'm a long time resident of Duluth (26 yrs), and have chosen to raise my family here. My adult and school aged children and I feel that Hermantown is home as well, since we visit so often. I'd like to share my view of the proposed AI data center, and, because I live 12 miles from site, I feel my voice has validity.
In Nov, 2025 it came to me through the grapevine that a sneaky deal was made. NDAs were signed, and suddenly, zoning was passed for an AI data center and no one who lived within a 15 mile radius was asked about it.
I ran an internet search on "experiences of people living near data centers." It was bad; I viewed plenty of videos of folks with tap water that was brown and sluggish, electric bills, tripled, birds blotted out by sound pollution, complaints on light pollution to google being left unaddressed, and complaints of breathing issues and sudden heart palpitations with no one taking them seriously.
I love the naturalness of this land I live on, so I began to educate myself & others.
First off, we know this data center will light up our night sky, and we likely will feel it humming in the earth. I can feel the trainyards, nearby, and the steel plant's alternating hum within a mile of my home, already. The sky is already too bright with Duluth city lights, Spirit Mountain, the Amsoil plant in Superior, and the wood plant in Cloquet.
The odor of Amsoil is foul and can instantly be noticed as soon as you approach the area from any direction; we hate when we are downwind of it (10 miles away).
Besides the environmental issues and unusual droughts, health disorders and life quality issues were startling.
For instance, the AI data center built for Elon Musk in a low income, Tennessee residential area has been monitored and is meeting and exceeding vibration exposure levels, similar to warfare. Residents are leaving, to seek better health.
Hermantown is nextdoor to our great lake, this area is home to wildlife that we will no longer hear within the vicinity of a data center. There won't be more jobs available for locals, and if so it won't be many. Data centers require fewer than 15 workers, because data centers need little maintenance once operational.
And when there's one data center, they soon become many, with loud, exhaust venting generators and eventually nuclear power.
Are we prepared for this? I know I'm not!
Based off the data, we will lose nearly 400 acres of precious trees, protected plantlife and vital wetlands. Wild animals will be displaced, forced to move into residential areas, and the runoff from this data center, when, not if, there's a leak would be cataclysmic to our children's futures

here in the northland.
No amount of promised money is worth exchanging our children's clean water, fresh air and future. No amount of time, work, or land, in exchange for a giant mechanism that is proving disastrous in other places, is worth fulfilling the data center plan of our volitile president.
It took Wal-Mart forever to get into Hermantown. Residents had to petition for a Costco, but without any word & during the night, this proposal was pushed through and has been shoved down our throats, regardless of how badly we do not want nor need it.
Also based on data, we cannot afford to add on to a taxed electric infrastructure; your small city's sewer and water aren't built for millions more gallons of usage, per day -neither is Duluth's city water & sewer!
And we also know that we residents will all pay the price of higher electric bills and with our only water source; this data center will leave our deep reservoirs dry and faucets, murky.
If we truly want to evolve and make a better planet for our children, we need to get uncomfortable saying "no" to large promises of cash income and unproven success of technology.
Why aren't those impressing these data centers not using this money to improve lives?
Who profits the most?
Definitely not us and most definitely not Lake Superior!!

I can't stress this more: our children need hope and a safe, clean, sufficient space to invent and create in. We should want a better future for them, and I don't understand why anyone wouldn't! A data center offers nothing. If anything, it will use our information to gain income for its owners. We don't live in the upside-down & I'm not planning to.

I thank you for your time, and for allowing me to share my views. I sincerely hope you will use my opinion based on facts, among many others, to decide for the benefit of the people, not the already swollen thank you so corporations.

Sincerely,
Alexis Scarbrough

From: Julia Wisehart
To: AUARcomments
Subject: Hermantown Google Data Center Comments
Date: Thursday, April 2, 2026 10:13:45 AM

Hello,

I'm very excited about the economic growth and opportunity that the Google Data Center is bringing to Hermantown and the surrounding Duluth area.

I worked in the data center industry for over 10 years, handling operations, project management, and marketing for Ark Data Centers (formerly Involta). I can say that the megawatt data center coming to the Hermantown area will use as much sustainability as possible and follow Minnesota's strict guidelines (which are stricter than several other states in the U.S.).

Thank you for being transparent and telling the "truths" about data centers. One truth is that we use them daily, more than people realize. It is our new reality and what I believe to be an improvement to our ever-changing world.

Duluth and Hermantown should be honored that Google considered them the next best place to house their facilities.

Furthermore, the communities need to be asking, "What can Google do for Hermantown?" They have the funds and resources. They can do a lot to improve our area. We just need to ask the right questions of them, and they will provide. Thinking big picture, consider areas like schools, community centers, fire and police departments, parks, and roads. For example, what about the $19 million hockey arena that was just built and its subsidized costs? My daughter is on the Proctor/Hermantown swim team, and they desperately need a pool. Hermantown lacks a swimming pool; issues with the YMCA/Essentia Community Center build prevented them from having this resource. This project could be an example of something Google could sponsor in our community in the coming years.

We must all adopt a creative mindset and acknowledge the positive impact this build will have on our community, rather than viewing it as a threat.

Let me know if there is more you would like to discuss. I am happy to help.

Regards,
--
Julia Wisehart
5020 Pike Ln
Duluth, MN 55811
(218) 310-4512
julia.wisehart@gmail.com
LinkedIn Profile

CH-Joe Wicklund

From: CH-Joe Wicklund
Sent: Friday, April 3, 2026 12:08 PM
To: Bob K
Cc: CH-Eric Johnson
Subject: RE: I sent 4 AUAR comments and received only one automatic reply.

Bob –

We did receive all four comments. I will check to see if the automatic reply function only sends back once to the same e-mail address, which seems to be the issue here.

Thanks,
Joe

From: Bob K <bkkohlmeier@yahoo.com>
Sent: Friday, April 3, 2026 8:29 AM
To: CH-Joe Wicklund <jwicklund@hermantownmn.com>
Subject: Fwd: I sent 4 AUAR comments and received only one automatic reply.

Is the automated email reply broken? Of the 9 comments I sent, only the first one was confirmed as logged. Now I am not sure if the others were logged. Please verify.

Bob

Begin forwarded message:

> **From:** Bob K <bkkohlmeier@yahoo.com>
> **Date:** April 1, 2026 at 7:02:34 AM CDT
> **To:** eric.johnson@hermantownmn.com
> **Subject: I sent 4 AUAR comments and received only one automatic reply.**
>
> Dear Eric,
>
> Can you please verify receipt of my 4 AUAR comments that I emailed one after the other this morning. I received just one automated reply for the first email. That's all. Please let me know the status of the other three.
>
> Thank you,
> Bob Kohlmeier

CH-Joe Wicklund

From: Gail Garrick <hurricanegail@yahoo.com>
Sent: Thursday, April 2, 2026 1:40 PM
To: CH-Joe Wicklund
Subject: Data center

Hi Joe,

Can you tell me which 2 parcels have been taken out of the revised AUAR. Figured it would be quicker to ask you instead of going through all the parcels.

Thanks,
Gail
Sent from my iPad

CH-Joe Wicklund

From: Gail Garrick <hurricanegail@yahoo.com>
Sent: Friday, April 3, 2026 3:31 PM
To: CH-Joe Wicklund
Subject: Re: Data center

Thanks. First one must have gone to junk.
Sent from my iPad

> On Apr 3, 2026, at 3:24 PM, CH-Joe Wicklund <jwicklund@hermantownmn.com> wrote:
>
> Caution: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.
>
> Gail -
>
> As noted in the last e-mail, here was my original response.
>
> Thanks,
> Joe
>
> -----Original Message-----
> From: CH-Joe Wicklund
> Sent: Friday, April 3, 2026 9:32 AM
> To: 'Gail Garrick' <hurricanegail@yahoo.com>
> Subject: RE: Data center
>
> Gail -
>
> The two parcels different are 395-0010-09920 and 09225.
>
> Thanks,
> Joe
>
> -----Original Message-----
> From: Gail Garrick <hurricanegail@yahoo.com>
> Sent: Thursday, April 2, 2026 1:40 PM
> To: CH-Joe Wicklund <jwicklund@hermantownmn.com>
> Subject: Data center
>
> Hi Joe,
>
> Can you tell me which 2 parcels have been taken out of the revised AUAR. Figured it would be quicker to ask you instead of going through all the parcels.
>
> Thanks,
> Gail
> Sent from my iPad
>

CH-Joe Wicklund

From: CH-Joe Wicklund
Sent: Friday, April 3, 2026 3:24 PM
To: 'Gail Garrick'; CH-Eric Johnson
Subject: RE: Data center

Gail -

I sent you a response this morning at 9:32 a.m. - I will reforward that to you shortly.
The two that were removed were 395-0010-09920 and 09225. They were removed because they are no longer in the study area.

Thanks,
Joe

-----Original Message-----
From: Gail Garrick <hurricanegail@yahoo.com>
Sent: Friday, April 3, 2026 3:11 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>; CH-Joe Wicklund <jwicklund@hermantownmn.com>
Subject: Data center

I am having a real problem trying to find the 2 parcels that were removed in the revised AUAR. Can you please send me those numbers and let me know why they were removed. I asked Joe yesterday but have not received a response. Getting frustrated.
Sent from my iPad

From: JT
To: AUARcomments
Subject: Datacenter no
Date: Friday, April 3, 2026 11:52:17 AM

Hello,

Completely against the datacenter. Yall sold out your neighbors, sold out your state. For a couple bucks and a couple jobs.

Is there rules to hire only local residents for building and jobs after ? How long before those numbers drop, and they cut more and more as AI replaces more humans.

How many jobs is that center going to replace across the state or country?

Property values for folks around it decreasing.

Not being able to enjoy thier homes with a center as loud as a freeway

Air polution

How could yall think a us bank stadium size data center would be wanted ? Your action leading up to this shows you knew no one would want it.

How many folks will leave hermantown or not move here because of it ?

We are known for our nature and wildlife, not one study has shown a datacenter helps either.

Water usage?

Power costs being raised?

If google wants a datacenter, notice how they dont build it in their owners and leadera backyard. They tricked you to build it here. Blinded by dollars.

Should be ashamed of yourselves. Dont call yourself an outdoorsmen or women.

Congrats sellouts!

From: monica4frazer@gmail.com
To: AUARcomments
Subject: Hermantown data center
Date: Friday, April 3, 2026 9:18:34 PM

This letter is sent in strong opposition to the proposed data center for Hermantown, Mn. I own property adjacent to Lake Superior and have significant concerns about this project. It is planned to be located in a wetland and watershed area. Areas like this should be preserved, not filled in for a use that has been proven to cause damage to environment, animals and humans. I oppose the process used, especially the NDAs and purposeful misinformation on the proposed project. I oppose the environmental damage and negative impacts upon wildlife and residents, and eventual destruction of our Great Lake I oppose any financing or monetary incentives or benefits that might be provided to one of the richest companies on earth. The short term view is one of job creation, but the longer term impacts are a net loss of high paying jobs due to displacement by AI technology. People are making giant bets on a currently unknown and fully untested technology. I urge decision makers to halt this project and to support a moratorium on any data center project until we know more about the future of data center uses and impacts. I also urge the decision makers to insist on full review (such as EIS) rather than shortcut it through use of an AUAR. Please act to protect people, animals and environment, and not favor the interests of wealthy individuals and their businesses.
Thank you.

From: David Wahlberg
To: AUARcomments
Subject: Data Center
Date: Saturday, April 4, 2026 9:21:26 AM

No Data Center. This is not in the best interest of the City of Hermantown and most importantly the residents.
I have no confidence in our city counselors and mayor. Signing none disclosure agreements is wrong. There needs to be a full environmental impact study done and a charter setup to reel in our city officals.

Thank You
David S Wahlberg

From: Gail wahlberg
To: AUARcomments
Subject: Public comment submission: Hermantown Data Center - undergo a full EIS
Date: Saturday, April 4, 2026 10:24:05 AM

Regarding the proposed Google Data Center in Hermantown, Minnesota, I respectfully request that a full Environmental Impact Statement (EIS) be conducted rather than relying on an Alternative Urban Areawide Review (AUAR).

An EIS provides a rigorous, site-specific analysis that is widely recognized as the highest standard of environmental review. It ensures a comprehensive and legally defensible evaluation of potential impacts, offering stronger protection against future litigation than an AUAR. In my professional experience, it is essential to evaluate not only immediate consequences, but also the long-term implications for future generations.

An EIS is specifically required for projects with the potential for significant environmental effects, delivering a thorough and detailed examination of environmental, social, and economic impacts. Unlike an AUAR, which evaluates generalized development scenarios, an EIS focuses on the specific project, allowing for precise identification of risks and the development of targeted mitigation strategies. The resulting Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) provide a clear and durable framework for decision-making that is less susceptible to legal challenge.

While it is acknowledged that preparing an EIS requires greater time and financial investment, these upfront costs are often justified by the reduced risk of future legal disputes, project delays, or unforeseen environmental consequences. Additionally, although AUARs are useful for assessing cumulative impacts across broader areas and for planning phased development, they do not provide the same level of project-specific scrutiny required for a development of this scale and significance.

Given these considerations, I strongly urge that the project not proceed without first undergoing a full Environmental Impact Statement. This approach will ensure the highest level of environmental stewardship, informed decision-making, and long-term community protection.

Thank you for your thoughtful consideration.

Respectfully submitted,
Gail Wahlberg
218-390-5304
gailwahlberg@gmail.com
Hermantown, MN Resident

From: Ninja Hamster
To: AUARcomments
Subject: No data center
Date: Monday, April 6, 2026 5:46:56 AM

I am a resident of Duluth and not Hermantown but I do not want a data center in our area at all. I moved here 10 years ago because of the beautiful Lake and I don't think we should do anything that will compromise our natural resources.

From: Robert H Carleton
To: AUARcomments
Subject: Comment on Data Center AUAR
Date: Monday, April 6, 2026 9:02:11 AM

Hello!

My name is Robert and I reside in Duluth. I'm reaching out to state my opposition to the construction of this data center. I have three main reasons for this:

- **Insufficient transparency on the part of the developer.** The development company, "Harmony Group LLC", is incorporated in Delaware,[1] one of the only states in the union that doesn't require public disclosure of corporate ownership. As a result the registry doesn't list any ownership info. Who is funding this? Where is the money coming from? We don't know.
- **Insufficient transparency on the part of the contractor.** The contractor isn't listed in current public filings as far as I can tell, but after some web sleuthing I did find a potential candidate in Mortenson, who has three data centers in their current list of projects that have confidential locations in the Midwest[2, 3, 4]. I've nothing against Mortenson in particular, but why the secrecy? Any project that will affect the public utilities costs as much as a data center does[5] needs to be held to a much higher standard of public scrutiny than seems to be happening here.
- **High costs and few benefits.** Data Centers don't produce revenue by themselves[6]. Unlike other industry such as manufacturing, they don't add value or produce a product. Data centers are much more like roads - they're only as valuable as the traffic they carry. But unlike a public road, the "traffic" that this project will carry can't be publicly monitored and accounted for. When under high usage loads, data centers naturally consume more energy and water for their operation, and the community suffers for this because those costs are passed along to everyone around the project.

Secrets have no place in public projects. Any industrial project will have impacts, so we must have the highest level of transparency to ensure these can be accounted for properly.

Best,

Robert Carleton

1 Delaware Corporation Search, File Number 6319780

2 Mortenson, Midwest Data Center Campus 1

3 Mortenson, Midwest Data Center Campus 2

4 Mortenson, Midwest Data Center Campus 3

5 University of Michigan, What Happens when Data Centers Come to Town? (PDF)

6 Business Insider, Big Tech promised jobs. Cities gave millions. Where are the workers?

CH-Chad Ronchetti

From: Bob K <bkkohlmeier@yahoo.com>
Sent: Tuesday, April 7, 2026 7:23 AM
To: CH-Chad Ronchetti
Subject: The Data Center is NOT Light Industrial

Dear Mr. Ronchetti,

The proposed Google Data Center, by city ordinance, does not belong near our Hermantown residential district. Here is why:

Section 540.01 of Hermantown's ordinance Section 540 - M-2 Manufacturing Heavy Industrial states the Purpose of M-2 is "To provide suitable areas within the community for those uses of a heavy industrial nature which may have objectionable influences or noise, odor, fumes, air, vibration, light and the like. This district and its uses should be located away from residential districts or natural areas subject to environmental concerns either by linear distance or by manmade or natural mitigating and protective features."

The updated AUAR Scoping document refers to the Data Center as a Light Industrial development, but then goes on to state, "The data center development will be supported by new roadways, parking areas, utilities, landscaping, stormwater, perimeter fencing, and other associated infrastructure; including substations, transmission lines and mechanical/electrical equipment."

If this project were truly Light Industrial, the justification for Special Use Permitting (SUP) would certainty not require noise mitigating earthen berms 15' high plus fencing walls 10' high near existing residential properties. With 278 pristine acres scheduled for "Mass grading activities" on the data center campus, it is a Fairy Tale to call this project Light Industrial development.

The AUAR just isn't the proper study tool to move this M-2 hyper scale project forward. The EIS is that tool which studies a snapshot of the project today, not what it may or may not be tomorrow. The EIS will serve not only the City, the Developer, and the reviewing agencies, but more importantly, it will serve the entire community, especially those who live nearby. It will provide an unvarnished understanding of project specific impacts, openly and honestly, to every single one of us who actually live here, now and in the unknown future.

Sincerely,
Robert Kohlmeier
Hermantown, MN

CH-Alissa McClure

From: CH-Wayne Boucher
Sent: Tuesday, April 7, 2026 9:44 AM
To: CH-Alissa McClure; CH-Joe Wicklund; External-Gunnar Johnson; CH-Eric Johnson
Subject: Fw: The Data Center is NOT Light Industrial

From: Bob K <bkkohlmeier@yahoo.com>
Sent: Tuesday, April 7, 2026 5:14:26 AM
To: CH-Wayne Boucher <mayorboucher@hermantownmn.com>
Subject: The Data Center is NOT Light Industrial

Dear Mayor Boucher,

I know you were not at last evening's City Council meeting, but this is a follow up to my comment there.

The proposed Google Data Center, by city ordinance, does not belong near our Hermantown residential district.

Section 540.01 of Hermantown's ordinance Section 540 - M-2 Manufacturing Heavy Industrial states the Purpose of M-2 is
"To provide suitable areas within the community for those uses of a heavy industrial nature which may have objectionable influences or noise, odor, fumes, air, vibration, light and the like. This district and its uses should be located away from residential districts or natural areas subject to environmental concerns either by linear distance or by manmade or natural mitigating and protective features."

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Sincerely,
Robert Kohlmeier
Hermantown, MN

From: Hunter Polanka
To: AUARcomments
Subject: Data Center comment
Date: Tuesday, April 7, 2026 12:40:08 PM

No. Stop. It is unacceptable to allow a new datacenter to be built anywhere near the second largest body of fresh water on the planet, much less for the water that will cool it to come directly from that body. Where is the coolant water going to be dumped afterward? Are you aware of how toxic it becomes from use in a datacenter like this? Climate change is not the primary concern though it's good that you're at least VAGUELY showing some sign that you care. Outright damage to the environment and accidental human consumption from that toxic water if it gets into the drinking supply is the primary concern. You even have the gall to build the damn thing on wetlands which shows you aren't taking this seriously at all. Other datacenters are not having where that water gets dumped regulated much at all, and it's BAD for the environment.

In addition to that, you're making Hermantown and potentially nearby population centers a viable military target in an EXTREMELY volatile geopolitical wartime disaster due to the relationship between these datacenters and the Industrial Military complex. Iran can't hit the US, but with the White House running around like a headless chicken pissing off absolutely every other nation on the planet, if anyone with the range becomes an enemy of the US, do the math. Iran hitting datacenters in its range had an INSTANT large effect directly on Israel that rippled out onto the general World Wide Internet. Observable effects included various websites like Bluesky (the Twitter alternative) going down whose development involved the usage of AI hosted in those datacenters. While we're at it, did no one tell anyone trying to take Google's money exactly how much the general public hates AI and these datacenters? Good of you to go the extra mile to endanger the public you preside over while you're busy not representing it. Most places in this country only get one or the other.

Let's also look at the "energy efficient" line that was fed to us in the news. Yeah I bet Google wants an energy-efficient place to build. These datacenters are not energy efficient, in fact if you get ANY real information about this you'll find it's the opposite. Google wants our power grid not because it's resilient, but because they want to monopolize what's left of its supply capacity. They intend to max it out and it WILL create power supply problems because these things guzzle power and generate heat like crazy. I don't know if the person or people reading this e-mail have any actual expertise to understand exactly how bad that will be in the long term, especially if other areas of Minnesota fall for this scam. The entire state if Google's other datacenter plans pan out will be at risk of emulating Texas's energy supply problems. Have you read up on that? It's not great.

I understand part of this extended comment period and reduced zone size for the project is to vaguely gesture that you care about the climate ramifications. Look at how messed up our weather patterns have become just in the last 20 years. A hundred of these giant heaters (cuz they don't do a damn thing else) going up across the country while the AI peddlers panic to build them in time to keep their infinite money glitch working is going to accelerate that dramatically. Also has anyone in your team looked at how money is being traded around between corporations involved in the AI these datacenters are being built for? Lots of passing around the same individual chunk of money and pretending like it multiplied which I'm pretty sure is technically illegal... but what do I know I just listen to experts analyzing exactly how messed up this market bubble is becoming.

And if all that wasn't enough, Hermantown and Duluth are just more recent targets for Google to try to scam into this. They promise investment but it will all go toward these datacenters and the datacenters will provide nothing but problems of varying severity. No one wants it. No one needs it. It provides nothing of value to anyone except Google's executive suite. Google, like Microsoft and OpenAI, are just floundering around desperately trying to get these datacenters built ASAP so their billion dollar promises keep flowing for their stock value. That money isn't ever going to benefit the Hermantown area. This market bubble is rancid and creating all kinds of problems for the general public at the consumer level in electronics, which is starting to branch out into other industries because of the insane inflation of certain parts due to the market warping around these datacenters. By building this datacenter you are going to make our daily lives worse in several ways with absolutely nothing to compensate us except even higher energy bills that we have to foot on behalf of Google and the stupidity of the cretins that made a deal to let them loot our energy and water. Even if Google was building a NORMAL datacenter from before this AI nonsense I'd be telling you a lot of the same things. This isn't a good location for one. It's not good to give them so much of the fresh water that we are responsible for maintaining and protecting. Google has other, safer options. Let it explore them instead of turning the Hermantown/Duluth area into the next useful idiots that fell for the scam.

By the by, it may have escaped notice having taken fresh water for granted for all your life, but FRESH WATER IS KIND OF BECOMING A RESOURCE WE NEED TO VIGILANTLY PROTECT FROM THIS EXACT KIND OF EXPLOITATION AND POTENTIAL CONTAMINATION. It's bad enough whenever an oil company tries to shove an oil pipeline near fresh water (and pretty much ALL of them have spilled oil into the surrounding environment). There TECHNICALLY isn't a guarantee that the pipeline will do any damage (though they always do anyway). With this datacenter you are explicitly guaranteeing that fresh water will be pillaged from us and guaranteeing that it will be contaminated with toxic chemicals during the cooling of the datacenter servers, to be dumped... somewhere. I couldn't actually track down anything about where Google intends to dump it. Surprise surprise. I'm sure Minnesota has slightly more strict regulations for dumping toxic chemicals but with how Federal regulations have been getting demolished you'll forgive me for not trusting the powers that be in Hermantown to ensure the safety of the drinkable water supply and surrounding environment. I mean hell just in the last week before composing this e-mail there's news talking about how Minnesota's Pollution Control Agency ALREADY identified newly studied wildlife in the local watershed that would be harmed by this project. Get it together and learn how to say no to Google. Whatever money they're promising? It isn't even a fraction of enough to be worth the kind of ecological damage you're treating like potential entertainment by humoring this project in any capacity.

If Google wants these datacenters so badly they can build them near (not on) the coasts and use ocean water to cool their giant heaters instead.

From: Patrick@itsricetomeetyou.com
To: AUARcomments
Subject: Public Comment Period - Google Datacenter
Date: Tuesday, April 7, 2026 6:54:55 PM

Good Afternoon Eric,

I wanted to email and provide a public comment related to the proposed Google Datacenter Project in alignment with the AUAR comment period.

As a general rule, I *oppose* the build-out of this data center, but likely not for the reasons you would expect. I have no issues in *general* with a data center being built in Hermantown and acknowledge the level of economic benefits provided to the town. However, these projects tend to have *significantly* lopsided incentives leaning towards the corporation (Google in this case) building the datacenter and away from the community hosting them. Essentially, the community "pays the price" forever, and the corporation only provides short term gain. Let me explain what I mean by that, so my position is more clear.

Data Centers as a business have a large upfront cost, and large ongoing "utility" costs. These utility costs impact not just the initial build out (which Google says they will cover), but also ongoing maintenance on public utilities. Each extra sewer line, water line, and transmission line that is built as part of Google's upfront construction imposts an ongoing cost to the utility to maintain those lines. These costs are paid for by utility rates, which are covered by the citizens who use these resources, of course. In the event that Google doesn't turn a profit on the data center, their tax burden would be low compared to the maintenance cost of the additional infrastructure, leaving the city and residents to cover the operating costs of this infrastructure regardless of the fact that Google paid the initial build out fee. This imposes a potential "forever" cost on the residents, even if the data center were to shut down completely. This gets passed on in the form of higher utility rates to maintain the infrastructure. This point is critical to understand, because the current rush to build a significant amount of data center capacity is potentially related to the surge of AI usage which is widely considered be a "bubble" that will at some point stop growing, which increases the likelihood that existing data center proposals will either be shuttered or downsized, which dramatically increases this risk. This risk could be mitigated by a contract with Google that enforces a minimum fee for their utility usage, guaranteed for 15-30 years, sufficient to cover the ongoing maintenance cost of their new infrastructure.

Data centers as a business also consume finite resources that the community needs. This isn't just water (which is cited as not used for cooling, though I suspect it's actually just used in a closed-loop instead of open-loop system), it's also things like electricity and sewage capacity. This, again, is more than just the *transmission* lines, it's the actual treatment plant capacity for sewage and generation capacity for electricity. Especially for things like electricity, data centers use an outsized quantity of resources compared to the payment required for building the transmission infrastructure itself. I'm glad that the AUAR is considering the infrastructure and generation costs of bringing on the data center, however it also explicitly notes that Minnesota Power Co prides itself on its percentage of renewables. Even if it has a larger amount of capacity available, that capacity will, by definition, not be renewables. This is because you cannot "turn off" renewable capacity easily. This is why additional power capacity is nearly always served by fossil fuel generators - in Minnestoa's case, *usually* this is Natural Gas. Running fossil fuel generators will naturally push up the per-kW cost of energy generation even if the generation capacity is available, leading to a rise in costs for residents. While this may not be reflected immediately in prices, over the long-term the prices will certainly rise to account for this additional generation demand. This is re-enforced by the fact that Allete (the company who owns MN Power Co) was recently purchased by BlackRock. Asset management firms don't but companies to *maintain*

revenue. The power company has a strong incentive to increase prices, and data center build out projects provide consumption that facilitates that by increasing demand. This concern can be mitigated by a contractual requirement for Google to offset the power generation requirements of their datacenter using renewables, or by requiring an annual fee be paid to utility companies every year to expand renewable and battery storage programs regardless of their usage.

Let's also discuss noise and pollution. These resources are things that are "tragedy of the commons" items; they don't have an explicit dollar cost associated with them, so it's easy to brush the true "cost" to the community under the rug. While noise levels are "evaluated" and determined to be non-substantial, it's unclear if there are penalties to the data center if those evaluations end up being untrue, and a significant incentive to Google to ignore the evaluations if required. If Google has the choice between running twice the number of generators to keep the data center operational or keeping the noise levels under control, of *course* they will choose the former. Similarly, Google has no incentive to continually offset the carbon footprint of the data center not just in terms of energy production, but also in terms of the transportation required to bring in replacement parts. This is where a contractual obligation is required. To build a data center here, Google should be contractually obligated to continually offset the carbon usage of their data center by continual investment in clean energy in the community. They should also have a negative incentive to pollute more (both in terms of noise and carbon), by imposing fines based on how long and how many natural gas generators run past a maximum threshold. If they believe they can work with MN Power Co to get a reliable and consistent source of energy that is a large amount of renewable, they should put their money where their mouth is, and agree to the contractual guidelines that impose that continual investment.

Finally, let's talk about the economic benefits. It's unquestionable that there will be long-term jobs in the area. Data centers require personnel to secure them, and personnel on staff to monitor them. However, these are minimal long-term benefits compared to the potential above costs that would be potentially spread across every resident. While the "burst" of construction jobs is important for the local economy as well and would be far more substantial, there should be stipulations placed on the construction crews to use union labor to prevent Google from either bringing in external contractors at a lower bid, or cutting costs with local companies. While the project page cites that benefits would support other "operational contracts" it's unclear what contracts Google is asserting. However, the point of data centers is that they fundamentally don't require a significant amount of human interaction, which means there isn't a significant amount of service-related opportunities. While taxes also provide an economic benefit to the city, there are several considerations here as well. First and foremost, taxes are paid on revenue not on income. This means if the data center doesn't generate sufficient revenue, the tax benefits are limited to only property, sales, and income tax. After the initial years, income tax would be minor due to a smaller number of people being employed. Sales tax would also be minor since most server component wouldn't originate from the city. This means property tax is the major source of tax revenue absent any corporate revenue allocated to the data center, and Hermantown is considering a tax abatement per the AUAR, which means a portion of this would likely be offset anyway. This means that the tax benefits (touted on the project page) are *likely* imaginary unless the data center generates significant revenue. Depending on what workloads the data center runs, it is very realistic for the data center to generate no revenue. For example, data centers used to train AI models burn through GPUs at an astounding rate, causing significant capital expenditures. These capital expenditures get amortized over multiple years as an offset to income, meaning through creative accounting these data centers could realistically provide zero revenue for a nearly infinite amount of time with sufficient capital expenditures. Since those expenditures would come from outside the city, again, there's no tax offset to provide revenue to the city in exchange for its risks. I'm not asserting the corporation would pay no taxes, but I *am* asserting that there is no *guarantee* of the tax revenue while there *is* a guarantee of the risks.

This has been a very long-winded email, and there are undoubtedly aspects that I don't understand or get wrong. However, I hope it explain why I'm opposed to this project. On balance, the benefits of this project to Google significantly outweigh the benefits of the project to Hermantown. This isn't necessarily bad. What *makes* it bad though, is that the *risks* of the project are almost entirely borne by Hermantown. Those risks continue forever even if the profits stop.

This is why, again, I oppose the construction of the build out of this data center *without the contractual coverage and stipulations noted above to offset Hermantown's risk.* If Google believe that this site is ideal enough, that they will generate enough revenue to offset the costs, and that they're here to the long-haul, then the contractual obligations should not be an issue. If Google decides that the contractual obligations to the local community are non-starters, then in my mind, they've shown that they're only interested in moving the risk from themselves to the community.

Hermantown has the bargaining power to enforce these clauses. There are a limited number of sites in the US with sufficient interconnections, resources, and utilities to serve projects of this size. The city has a moral and financial obligation to enforce contracts that serve its residents. Use the resources you have to negotiate a contract that protects Hermantown and its residents. If Google walks away because of that, know that at least this resident will *thank* you for that instead of condemn you for it. If, instead, Google acknowledges and agrees to a well protected contract, I will *also* thank you for having the courage to protect your residents while also securing a significant economic benefit.

Thanks,
-- Patrick Rice

From: Mike Ralph
To: AUARcomments
Subject: Data Center
Date: Thursday, April 9, 2026 12:32:53 PM

Eric, My name is Mike Ralph 5781 St. Louis River Rd. Hermantown 55810. You say your volunteering changing the aura. No, you were forced to change it because it sucked so bad. The new one isn't any better. You don't seem to grasp the total picture here. This aera your destroying is pristine woodlands, wetlands, two designated trout rivers that will forever be affected by your decision. What's going to happen in the springtime comes and melts 10 feet of snow on 280 acres of pavement, and the ground is still frozen, your little stormwater ponds are going to pee their pants. This water is going to make it's way into the St. Louis River via Rocky Run on the west side, Midway River on the left and south side. Right now they're millions of dollars dredging out the St. Louis River to clean up somebody's else's mess, don't let yourself contribute to the problem. All the different pollutants that the data center will produce ie air, noise, light, and just the sight of it, is not just in the border of the property, this will effect all the neighboring communities ie Midway township, Proctor, Duluth, Pike Lake, Grand Lake, Soleway, Esko, the list goes on. Did you contact any of these communities for their input. Right now you're displacing more people and families that will be employed at the data center (40 people). This means there's only 10 people at any giving shift, on 280 acres of prime land, that seems like a whole lotta waste. Shame on you.

From: Nathan Acker
To: AUARcomments
Subject: Data Center comment
Date: Saturday, April 11, 2026 12:15:49 PM

This data center is a terrible idea. Data centers are being rejected by communities all over the country because it's quite obvious that they benefit nobody except for the already obscenely wealthy people and corporations who have ties to countless other shady enterprises. It would be the rest of us who have to deal with the excessive water and power consumption, the greenhouse gases it'll produce which will accelerate climate change, the noise, and so on. In return we get what, better facial recognition for the government, so it can finally figure out who the leader of antifa is? it's a lose-lose-lose for all of us.

Nathan Acker

From: BRETT Lundberg
To: AUARcomments
Date: Saturday, April 11, 2026 8:21:25 PM

I love living in the city of Hermantown. So, I am very disappointed in the data center coming to our city. I am very concerned about the noise and water use. I have seen stories on TV and it's not good what people are saying about the water use. Plus our monthly electric bill will increase. Please listen to the Hermantown residents. Look at the signs all over Hermantown say No to the Data Center.
Sharon and Brett Lundberg

From: HM Jacobson
To: AUARcomments
Subject: Google Data Center
Date: Sunday, April 12, 2026 1:29:03 PM

Dear Mr. Eric Johnson,

I am a resident of Hermantown writing to express my strong support for the proposed Data Center. I believe this project is vital for our community for several reasons:

First, we must embrace AI technology to remain competitive. Maintaining leadership in AI development is a matter of national importance, and supporting infrastructure like this data center is a necessary step forward.

Second, the project provides a significant opportunity to expand our tax base. Many residents are concerned that rising property taxes may force them out of their homes. This corporation would infuse millions of dollars into our city and school district budgets, providing essential revenue that can help alleviate the tax burden on individual homeowners.

Third, regarding concerns about noise, the project site is already located near a very active class-one railroad and a busy thoroughfare on Midway Road. Furthermore, the development will include specific noise mitigation devices to address these concerns.

Fourth, I believe the impact on the water table has been overstated. The development is expected to use approximately 50,000 gallons a day, or potentially operate as a closed-loop system with minimal usage. For context, the Duluth paper plant draws millions of gallons daily without destroying the local water system; instead, it helps subsidize rates for residents. I anticipate a similar benefit here.

Fifth, concerns regarding power consumption and electrical rates can be addressed by looking at existing models. Minnesota Power manages one of the largest industrial loads in the state due to the mining industry. Rather than increasing costs for residents, these industrial loads help subsidize residential rates.

Sixth, the project will adhere to strict current stormwater and wetland requirements. Any impacted wetlands will be reestablished within the watershed, and modern stormwater treatment will prevent pollution.

Finally, while some opponents rely on "not in my backyard" arguments and litigation to delay the project, I believe it is short-sighted to turn away such a beneficial development for our community's future.

Thank you for your time and for considering my perspective on this important project.

Sincerely,

Howard M Jacobson

From: Eric and Shelley Chandler
To: AUARcomments
Cc: Eric and Shelley Chandler
Subject: Comments on Proposed Hermantown Data Center
Date: Monday, April 13, 2026 9:30:13 AM

Dear Eric Johnson,

I am writing regarding the proposed Hermantown Google Hyperscale Data Center. I understand the Alternative Urban Areawide Review (AUAR) is being redone to better address the environmental impacts of this data center on Hermantown and surrounding communities, such as Duluth, where I live in.

I have many concerns about this proposed data center and data centers in general. As I have said, I live in Duluth but the impact of this data center goes beyond Hermantown. Data centers require an immense amount of electricity and water resources to function and I do not want my electric nor my water bills to increase to support this center. I believe the increased noise, air pollution and overall esthetics of these data centers on the community are a negative impact on the property value of nearby homes. Most people can't just pick up and buy another home somewhere else. Homes near data centers will most likely be difficult to sell. The wildlife habitat and wetlands in the proposed area will be negatively impacted, as well as nearby farms, some as close as within a few miles of the proposed site.

In addition, these centers only provide limited, short-term jobs for the local community during construction. Once they are built, the community is left to deal with the waste products and negative impacts (increased noise, air pollution, hazardous waste, etc.). What overall benefits do we get as the community?

Years ago, I worked in the Department of Defense's Environmental Planning office in Washington DC, assessing environmental effects of proposed federal actions prior to making decisions, as required by the National Environmental Policy Act. Although this proposed data center is not a federal project, the analysis of the impacts to the communities that surround it should be the same. In the past, when environmental analysis was not properly done and/or the public was not involved, the long term consequences have been detrimental and extremely costly to these communities. In some cases, the environmental cleanup is still going on decades later.

In my opinion, the overall benefit of building this data center does not outweigh the negative impacts to our communities. However, if it is to proceed, I recommend a moratorium on data center construction until a statewide full environmental review is completed. And similar to Port Washington, WI, I

support a ballot referendum, requiring voter approval before awarding these contracts and allowing residents clearer recall procedures. And demanding developer ethics and transparency obligations since it has been reported that this developer, Harmony Group LLC, hasn't been very transparent about the project.

Thank you,

Shelley Z. Chandler
(218) 213-5208
fourchandlers@msn.com

From: Jim Phillips (via Google Docs)
To: AUARcomments
Subject: AUAR comment period- Hermantown
Date: Tuesday, April 14, 2026 12:25:52 PM

Jim Phillips attached a document

Jim Phillips (phillijm56@gmail.com) has attached the following document:

Thank you for your consideration of this extremely important and critical subject.

AUAR comment period

Snapshot of the item below:

April 14, 2026

To: Eric Johnson- Community Development Director, Hermantown, MN
Re: AUAR comments as it pertains to the proposed Hermantown Hyperscale Data Center

It is very evident that we are learning more about hyperscale Data Centers everyday at the expense of other communities. Unfortunately, lessons and findings from around the country are raising many legitimate concerns as these Data Centers are pushed through as quickly as possible to avoid delays in permitting, while state legislators desperately write legislation to provide the checks and balances and guardrails needed to fairly and safely manage these massive (and not light industrial) centers the size of US Bank Stadium and some, even larger.

It recently has been discovered that Data Centers, (hyperscale Data Centers) increase ground temperature by 6 degrees up to 6 miles away from their location because of the tremendous amount of heat they produce. Historically, they use power generated by hundreds of diesel turbines (they say for "backup") to generate electricity since often electrical grids cannot handle the amount of power they need while these diesel turbo generators spew pollution throughout the city. Water usage has been grossly and purposely underestimated putting huge strains on city water and aquifers. The reality is this, we are now just learning about the negative effects of Data Centers on our environment and health. Look around the country. There are thousands of horror stories on what these

Data Centers are doing to communities. Unfortunately for many, it's too little too late and these Data Centers were pushed through using abbreviated AUAR studies which is exactly what the Google's of the world want while ignoring the concerns of the community.

Six hyper-scale data center environmental studies are currently being challenged in court for being inadequate including Hermantown. Legislators are desperately creating as quickly as possible commonsense guardrails - a full environmental study and a permit for data centers that protects our water, energy system, and communities.

At minimum, full Environmental Impact Studies should be required. Yes, many other regulations need to be implemented but protecting the environment, our water, health and communities should be a priority which starts with an EIS and not some abbreviated AUAR study that does little to protect our citizens and only benefits companies like Google who only care about pushing these massive centers through as quickly as possible. Doing it the "right way" is not in the vocabulary of trillion dollar companies. Doing it the right way should be the priority for all Hermantown council members and officials representing and working for the citizens of Hermantown.

Respectfully,
Jim Phillips
4924 Wildrose Trail
Hermantown, MN

Does this item look suspicious? Report

Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
You have received this email because phillijm56@gmail.com shared a document with you from Google Docs.

From: Some Folk Too
To: AUARcomments
Subject: Comments about industrial development site (Data Center)
Date: Tuesday, April 14, 2026 1:37:34 PM

Hello my name is Isaac Sullivan, I am a Duluth resident.

My comment is regarding the amazing public resource which is the free, available, delicious water at Eldes Corner.
I have absolutely adored that little gem since I discovered it some years ago. Not only is the free water an amazing community asset. I find the culture there to be very unique and encouraging as well. Everyone is so pleased filling-up there.
It is a fair estimate that 1000 people a week go there for water. It is easily a million dollar entity, but to even put a price tag on it is a travesty. Theres so few resources like that in the nation! The possible affects to this springs flourishing ought to be considered.
I am personally willing to help in this assessment/study as it pertains to the spring. Please ensure this valuable resource is treated accordingly.

Regards,
Isaac Sullivan
786 223 0369
2315 Vermillion Road
Duluth, MN 55803

CH-Eric Johnson

From: Joseph Barnstorf <jbarnstorf@gmail.com>
Sent: Tuesday, April 14, 2026 7:48 PM
To: CH-Eric Johnson
Subject: Concern

Good evening Mr. Johnson,

I am reaching out today regarding the proposed data center on Midway Road next to the artesian well. I understand that the entities pushing for this data center believe they have effectively studied the impacts this construction will have on the local ecology but it is my belief that this study was only accomplished with the immediate area containing the proposed data center and its immediate area. Time and time again, it has been proven that the construction of a data center has lingering and far-reaching impacts that are not addressed during proposal and drafting stages. Far too often, the effects are felt by surrounding citizens, local wildlife, and the ecosystem well beyond the scope of study.

This proposed data center has the distinct possibility to render miles of land in multiple directions not only less valuable but also untenable. I believe it prudent and essential that a study is conducted that broadens the scope and stretching impact of the propsed data center. We have multiple examples of poorly conducted research and review and little evidence that these corporations are acting as good neighbors to the communities they aim to uproot and profit off of.

I sincerely hope you will consider broadening your review and research prior to accepting something that could corrupt and ruin miles of Hermantown and the communities beyond.

Sincerely,

Joseph Barnstorf

From: Robert Pagano
To: AUARcomments
Subject: Regarding the Data Center. The voters of Hermantown dont want this. If you vote this in, we will vote you out.
Date: Thursday, April 16, 2026 9:53:13 AM

From: Elliot McDill
To: AUARcomments
Subject: NO TO THE HERMANTOWN DATA CENTER
Date: Thursday, April 16, 2026 10:56:07 AM

Hello,

I am a Duluth resident with big concerns about the proposed data center. Although I think it's a good thing city officials are finally taking what the people have to say into account and are showing that by proposing downsizing, it is necessary for the health of our earth, water, and people, to not build the data center at all.

I think it is disturbing how we claim to live in a democracy, yet when an overwhelming majority of the community is against something, the city officials ignore them and feed into greed instead. Signing NDA's as a public official is shameful. Please listen to the people and do your duty to represent us. The majority does not want this. Protect our environment, our home, temporary jobs are never worth the damage it will inflict on our lives.

Thank you,
Elliot McDill

From: Wendy W.
To: AUARcomments
Subject: Data Center in Hermantown
Date: Friday, April 17, 2026 10:29:28 AM

Please do not build a data center in Hermantown. There is so much information out there about the actual costs to these parasitic structures - noise pollution, 24/7, 365, exorbitant water and electricity consumption, air pollution, creating housing shortages from an influx of temporary workers, no real long term employees, light pollution, and not adding to the tax base because of tax rebates offered to these structures.
Our air, water, and pristine environment is what makes Mn so special. Please do your homework and learn from others mistakes. Do not bring a data center to our beautiful area.

Sincerely, Wendy and Jerry Waha

From: David Wahlberg
To: AUARcomments
Subject: Data Center
Date: Tuesday, April 21, 2026 8:09:13 AM

No Data Center. This is not in the best interest of the City of Hermantown and most importantly the residents.
I have no confidence in our city counselors and mayor. Signing none disclosure agreements is wrong. There needs to be a full environmental impact study done and a charter setup to reel in our city officals.

Thank You
David S Wahlberg

From: pamela pagano
To: AUARcomments
Subject: Data center
Date: Tuesday, April 21, 2026 10:06:28 AM

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you vote it in,we'll vote you out !!!

From: Miigis Gonzalez
To: AUARcomments
Subject: Concern for health and wellbeing of Hermantown community
Date: Wednesday, April 22, 2026 11:38:01 AM

Hi,

I am a homeowner in Hermantown, and we are deeply concerned about how the data center will change our young family's quality of life. We are concerned about the environmental impact and concerned that city leadership does not seem to care about the opinions of their constituents.

We do not support the data center here in Hermantown. The risk greatly outweighs any benefit.

Thanks for reading,

Miigis B. Gonzalez, MPH, PhD
Assistant Scientist
Johns Hopkins Bloomberg School of Public Health
Center for Indigenous Health, Great Lakes Hub
1901 South Street, Duluth, MN 55812

CENTER FOR
INDIGENOUS HEALTH

(formerly Center for American Indian Health)

From: brhafften
To: AUARcomments
Subject: AUAR Comment
Date: Thursday, April 30, 2026 9:43:46 AM

To City of Hermantown, Attention: Mr. Eric Johnson

My name is Bruce Hafften, 30820 Mattson Ln, Chisago City, MN 55013. I'm not a resident of Hermantown but am writing out of concern that the proposed data center may negatively impact my son, his wife, and my grandchildren who live in neighboring Proctor.

As discussed in a panel discussion regarding the future of data centers by Mr. Bo Bond, Vice Chair of Cushman &Wakefield, Brian Jaeck, VP Business Development at Bennett & Pless, Phillip Koblence of NYI, Critical Ventures, UIA and Nomad Futurist and Nabeel Mahmood an industry Top 10 influencer, CXO and co-founder of Nomad Futurist:

"The moment its construction begins, given how fast technology and use cases are evolving, a new data center becomes an old data center."

With that statement in mind, does the project description provided to Hermantown, and to be accounted for in the AUAR, reflect the probable request for future facility expansion? The growth curve which represents the explosion in AI generated demand for data use and storage is a strong indicator that the proposed data center will ultimately wish to expand beyond its proposed parameters of land, electricity, hard surface runoff, and water use. Will the revised AUAR Scoping Document take this important perspective into consideration?

Respectfully,

Bruce R Hafften

From: Peter Hafften
To: AUARcomments
Subject: Commenting on the Revised AUAR
Date: Thursday, April 30, 2026 9:53:22 AM
Attachments: City of Hermantown-AUAR Comments.pdf

To City of Hermantown, Attention: Mr. Eric Johnson

I have attached my comments below as well as to this email in PDF to be added for review.

City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

Thank you for the opportunity to comment on this updated AUAR scoping document.

My name is Peter Hafften, and I live on 5971 St. Louis River Rd. My wife and I, along with our 3 kids, live within 1 mile of the proposed Data Center site. I am strongly opposed to the building of the Data Center and the negative impacts that it will have on my property, the surrounding residents, and environment. It is my recommendation that the City of Hermantown complete a full Environmental Impact Study to fully understand how to best protect the residents of Hermantown and surrounding communities. The current AUAR is insufficient for a heavy industrial project like a hyperscale data center proposed to be built.

We purchased our home in 2015 and were thrilled to have found a home on a beautiful piece of property in the country. It's quiet, private, full of wildlife, surrounded by tall old growth trees, and even has a small stream that our kids nicknamed "The Maple". One might say it's a perfect setting to live and raise a family. That was until Minnesota Power purchased land directly bordering our property to build a new substation that was described as "essential" to the power grid of the Duluth Area and surrounding communities. The silence at our home was broken last summer when Minnesota Power started to clear all the trees from the north side of Oak Hill for the substation. Day after day of cutting was heard throughout the area. This lasted all summer. Oak Hill, named by locals, is a landmark and known for its incredible fall leaves that can be seen for miles around. Minnesota Power didn't care about the landmark as they cleared 100 acres of oaks to make room for the new facility.

Shortly after "Project Loon" was revealed publicly and so was the reason for the new Minnesota Power substation. Minnesota Power needed a new substation to be developed to power the proposed Data Center that would require an enormous amount of space and energy. If Minnesota Power was transparent initially and revealed that the substation was needed for the Data Center, I think the reaction would have been very different. Our rural home setting is now surrounded by industrial zoning and heavy industrial facilities that could rapidly change the countryside of the entire area. Due to the abrupt changes to the Hermantown Comprehensive Plan, this now puts the entire area in jeopardy for industrial development instead of rural residential property.

One major concern are impacts on the waterways. The proposed area will directly impact the

Rock Run and Midway River which are designated trout streams by the MNDNR with native Brook Trout. These rivers are enjoyed by anglers and flow through several communities including Hermantown, Proctor, and Esko before reaching the St. Louis River. The projected 1.8 million square foot Data Center will create massive impermeable surfaces and create large amounts of runoff. Pollution from runoff could negatively impact each waterway and destroy sensitive Brook Trout habitat. Furthermore, the groundwater and aquifer that many of us rely on for our well water could also be impacted or polluted. For this reason, I demand that the Hermantown City Council do a full EIS to fully understand the impacts of the hard surface runoff and the potential impacts to groundwater. How will the surface water runoff be treated and mitigated to prevent it from spilling into the designated trout streams. How will the groundwater be protected that lies directly beneath the proposed Data Center site? How will the Data Center treat spring snow melt, salt, warm rainwater, erosion, and contaminated parking lot fluids such as oil from draining directly into Rocky Run, Midway River, and the small streams of their watershed. The very stream running through our backyard that my kids nicknamed "The Maple" could be negatively impacted by the proposed data center if contaminated water is not treated properly.

Another major concern for me has to do with the constant sound. This comes in two stages;

First the construction stage. As listed, it may take up to 8-10 years of construction which would generate the sound of heavy equipment each season every day. Banging, dumping, grinding, pounding, cutting trees, and loud engines constantly. These would be the sounds my kids would hear every summer for their entire youth. Are there sound restrictions for heavy industrial sites during construction near residential areas? Are there set times during the day that work can occur and times they cannot? Are there limitations for work on weekends? This would have major impacts on the residents within several miles of the area for many years. For residents living within 1-2 miles of the proposed site the noise could be unbearable during the construction stage.

The second stage generating sound is the operational stage. Due to the lack of transparency with the Hermantown City Council and Google we can only speculate as to how this will be. Will there be hundreds of chiller fans running 24/7 to cool the facility? Will there be back up generators that are used and tested regularly? Are there regulations by the City of Hermantown about when backup diesel generators can be use or is this left up to the Data Center for what they determine to be a "backup". How many decibels are allowed in an Industrial Zone for the City of Hermantown. How will this sound be mitigated to reduce decibels for surrounding residential homes? It is well documented that Data Centers generate a loud constant humming that can be heard long distances away. It's even been linked to higher cases of mental illness due to the frequencies released by the sound. Is this really what we want for our community and rural landscapes? The existing Minnesota Power substation can be heard humming, and it is considerably lower decibels than that of a Data Center. What types of restrictions has the City of Hermantown placed on the Data Center to reduce the noise? Will there be a vegetation buffer similar to other projects of this nature? For these reasons I demand that a full-scale sound study be completed to measure the decibels with construction as well as the operation of the Data Center.

If allowed to proceed, our quiet home will no longer exist in the way that we had dreamed of just a decade ago. I call on the City of Hermantown to complete a full Environmental Impact Study to make the best informed and transparent decisions about the land. Our neighbors, community, and state are counting on you to honor these requests and allow for the public comments to be acknowledged with honesty and integrity.

Peter Hafften

City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

Thank you for the opportunity to comment on this updated AUAR scoping document.

My name is Peter Hafften, and I live on 5971 St. Louis River Rd. My wife and I, along with our 3 kids, live within 1 mile of the proposed Data Center site. I am strongly opposed to the building of the Data Center and the negative impacts that it will have on my property, the surrounding residents, and environment. It is my recommendation that the City of Hermantown complete a full Environmental Impact Study to fully understand how to best protect the residents of Hermantown and surrounding communities. The current AUAR is insufficient for a heavy industrial project like a hyperscale data center proposed to be built.

We purchased our home in 2015 and were thrilled to have found a home on a beautiful piece of property in the country. It's quiet, private, full of wildlife, surrounded by tall old growth trees, and even has a small stream that our kids nicknamed "The Maple". One might say it's a perfect setting to live and raise a family. That was until Minnesota Power purchased land directly bordering our property to build a new substation that was described as "essential" to the power grid of the Duluth Area and surrounding communities. The silence at our home was broken last summer when Minnesota Power started to clear all the trees from the north side of Oak Hill for the substation. Day after day of cutting was heard throughout the area. This lasted all summer. Oak Hill, named by locals, is a landmark and known for its incredible fall leaves that can be seen for miles around. Minnesota Power didn't care about the landmark as they cleared 100 acres of oaks to make room for the new facility.

Shortly after "Project Loon" was revealed publicly and so was the reason for the new Minnesota Power substation. Minnesota Power needed a new substation to be developed to power the proposed Data Center that would require an enormous amount of space and energy. If Minnesota Power was transparent initially and revealed that the substation was needed for the Data Center, I think the reaction would have been very different. Our rural home setting is now surrounded by industrial zoning and heavy industrial facilities that could rapidly change the countryside of the entire area. Due to the abrupt changes to the Hermantown Comprehensive Plan, this now puts the entire area in jeopardy for industrial development instead of rural residential property.

One major concern are impacts on the waterways. The proposed area will directly impact the Rock Run and Midway River which are designated trout streams by the MNDNR with native Brook Trout. These rivers are enjoyed by anglers and flow through several communities including Hermantown, Proctor, and Esko before reaching the St. Louis River. The projected 1.8 million square foot Data Center will create massive impermeable surfaces and create large amounts of runoff. Pollution from runoff could negatively impact each waterway and destroy sensitive Brook Trout habitat. Furthermore, the groundwater and aquifer that many of us rely on for our well water could also be impacted or polluted. For this reason, I demand that the Hermantown City Council do a full EIS to fully understand the impacts of the hard surface runoff and the potential impacts to groundwater. How will the surface water runoff be treated and mitigated to prevent it from spilling into the designated trout streams. How will the groundwater be protected that lies directly beneath the proposed Data Center site? How will the Data Center treat spring snow melt, salt, warm

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Peter Hafften

From: chickiebabe.cw@gmail.com
To: AUARcomments
Subject: AUAR Comments
Date: Thursday, April 30, 2026 9:54:56 AM

April 29, 2026

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Rd
Hermantown, MN 55811
AUARcomments@hermamtownmn.com

Dear Mr. Johnson and the City of Hermantown

The AUAR document is not adequate for the proposed Data Center. The potential immediate and long-term impacts of air pollution, noise pollution, water pollution, endangered or protected species, wetlands, wildlife, and human health demand a thorough and comprehensive study for the construction, production and end-of-life phases for this project.

There is overwhelming evidence that data centers are harmful to the environment and human health. The impacts of a hyper-scale data center are astronomical and irreversible. The proposed neighborhood is a prime example of what makes Minnesota special – family homes in a peaceful country setting, hardwood forests, evergreens, trout streams, wildlife breeding and nesting, as well as historical significance. The price is too high to take shortcuts and use semantics to ramrod this project through – or around – the proper process.

There are more appropriate sites for this project and in communities that would welcome this hyper-scale data center. Please take the opportunity to listen to the Hermantown residents, as well as residents of the neighboring townships, and consider all the true impacts this project has on our community.

Look at the research and studies done at other hyper-scale data sites to inform yourself. Take the time to discover what really happens at these sites instead of believing a huge corporation that has the funds to present data in a manner that support their proposal, buy their way around current legislation that may not thoroughly address unprecedented situations, and perchance resort to corruption and/or bribery to get their way.

Respectfully submitted,

Carol Walch

From: Judith Derauf
To: AUARcomments
Subject: Comment regarding proposed hyper scale data center
Date: Thursday, April 30, 2026 10:37:03 AM

Dear Eric Johnson,

I am writing to comment on the proposed construction of a 1.8 million square foot hyper scale data center in Hermantown. I live in Duluth and the magnitude of this project will definitely impact me. The demand for resources; electricity and water, and the environmental effects of this massive project will not stop at the Hermantown city limits.

An Environmental Impact Statement is definitely in order here. This project is not our garden variety development and must not be entered into lightly. The shear size of the parcel of land under consideration, 278 acres, is an enormous sacrifice for a community. How else might that land benefit the people of our area in real tangible ways? Clean air, dark skies, quiet neighborhoods, clean water, habitat for birds and wildlife, land for agricultural activity, wetlands for flood mitigation. These are things that provide for quality of life.

Certainly jobs are important but this data center would provide relatively few of those. The tax benefits to the school system would pale by comparison to the cost to the city of taking responsibility for this data center. I don't see how this project benefits the area in any measurable way.

Before any decision is made about building this data center an EIS is needed. Public officials were less that transparent with community and
area residents in the early stages when this project was first considered. That is not ok. It is time to get serious about the gravity of what is being proposed. An EIS is appropriate for this proposal.

Yours truly,

Judith Derauf
3422 E 1st St, Duluth, MN 55804
218-393-0622

From: Bruce Derauf
To: AUARcomments
Subject: Google data center
Date: Thursday, April 30, 2026 10:42:40 AM

Dear Eric Johnson - i'm a resident of Duluth, Minnesota and writing to comment on the proposed Google hyper scale data center in Hermantown.

Below are a few of my concerns:

1. A project of the size merits an environmental impact statement given the use of wetlands for development, water utilization and potential increase in ambient air temperature related to massive air cooling.
2. What percentage of the proposed 300 MW of new Minnesota power renewable energy will be used by the data center?
3. Does Google have a sweetheart arrangement with the electrical rate it will be charged?
4. Site and infrastructure improvements and City of Hermantown tax abatement to Google appear to be a no net gain situation for the community.
5. The proposed potential payments to the school district appear to be a relatively small number over the course of 30 years.

Thank you for your consideration.

Sincerely, Bruce Derauf

3432 East 1st St.
Duluth MN 55804

From: Sue Browne
To: AUARcomments
Subject: Stop the Data Center
Date: Thursday, April 30, 2026 11:27:10 AM

I am a resident of Grand Rapids, MN and want to stop the Data Center in northern Minnesota or anywhere in Minnesota!

Sue Browne
Sent from my iPhone

From: Kirk Deen
To: AUARcomments
Subject: AUAR Comments
Date: Thursday, April 30, 2026 12:21:57 PM

Good Day,

My name is Kirk Deen and I live at 328 N 53rd Ave W Duluth, MN. I am writing to provide comments on the AUAR scoping document, Hermantown-Industrial_AUAR-Draft-Order-and-Scoping_March-2026-1.pdf

While I understand that this is a scoping document (SD), the lack of specific details makes it difficult to make meaningful comments/suggestions. It would be helpful if the SD included attachments or links to the additional documentation referenced in the SD. For example, the City website contains several documents that are relevant to the SD that could be linked to.

The site selection process is not described in the SD nor is there a discussion of whether alternative sites were considered. Given the complex ecological and environmental challenges of the site--forest, wetlands, trout streams, etc.--perhaps an alternate site would better serve the project. Sites in the Iron Range such as existing brownfields might be a better choice as they would not have the complex ecological and environmental challenges of the current site.

Page 32 of the SD states

> According to historical well records provided by the Minnesota Department of Health (MDH) and geotechnical soil boring tests conducted within the Study Area, groundwater is typically present 7-60 feet beneath the current ground surface. The Minnesota Hydrogeology Atlas (Minnesota DNR, 2016) indicates that groundwater is likely present between 0-10 feet below the ground surface within and surrounding the wetlands within the Study Area.

which suggests a high water table in areas of the site. The SD states that construction site dewatering will be required and that "[h]andling of any required temporary construction dewatering discharge will be addressed in the AUAR." The SD does not address the possible effects of temporary construction dewatering on the wetlands, trout stream, and other water features of the site nor on the wells of neighboring properties.

Further, the SD states "[n]o permanent dewatering is proposed" without providing any documentation.

Thank you for considering my comments,

Kirk Deen

—

dkd@skyblueaster.net

From: Jared Schminski
To: AUARcomments
Subject: AUAR comments
Date: Thursday, April 30, 2026 12:41:42 PM

Dear Mr. Johnson and the City of Hermantown:

Hi, my name is Jared Schminski and I am writing in regard the AUAR. I have many concerns but today my biggest concern is the impact this data center will have on my children, friends, and the surrounding ecosystem. We live less than a half mile from the proposed data center.

One of my concerns regarding the revised AUAR has to do on page ten of this document. On this page is a small paragraph about "Urban Heat Island" and it is stated that it isn't a reason for concern. This worries me a great deal. As these data centers are being completed across the country there is new data emerging about their environmental impact. These data centers do create an increased temperature zone around the data center. It has been studied that downwind of these data centers have increased night time temperatures, more frequent heat waves, and reduced cooling winds. Surrounding the data center location are rivers and streams that are a vital part of the ecosystem. The streams, rivers, and other wildlife all depend on the current environment, and with the constant increased temperatures downwind of the data center there is no way that the natural environment wouldn't be impacted.

Along with the surrounding ecosystem our health would also be impacted. In these areas there has been an increase in health illnesses and air quality due to the data centers. Also, in the area west of this proposed data center is construction on a HVDC terminal which would also contribute to the rise in temperatures. Both of these projects are not being looked at together in the AUAR. The word Urban in the Urban Head Island is misleading and doesn't look at the true impact that this project will have on the environment and this rural community. Some studies have said the land around data centers are impacted multiple miles away. Due to the scale of this project, I would urge that an environmental impact study be performed.

In conclusion I don't think that our natural resources should be put into harms way because a AUAR is the easiest path forward. Take the time and provide the public with a vetted study that should be the standard for projects of this magnitude. Thank you for your time.

Jared Schminski

Get Outlook for iOS

From: Jeremy Thompson
To: AUARcomments
Subject: Public Comment on Revised AUAR: Demand for a Full EIS on the Proposed Data Center
Date: Thursday, April 30, 2026 1:04:56 PM

Dear Hermantown City Council, Planning Commission, and Mr. Johnson,

Thank you for your continued service to our region. As a resident of neighboring Rice Lake, I am submitting my formal opposition to the updated Hermantown Industrial AUAR ahead of today's deadline. I proudly stand with the "Stop the Hermantown Data Center" organization and share their concerns regarding the recent comprehensive plan changes and rezoning of this rural neighborhood.

A 1.8 million square foot Google campus clearly meets the threshold for a mandatory Environmental Impact Statement (EIS). Pushing this through via an AUAR is entirely inadequate. The secrecy surrounding this development, including the use of Non-Disclosure Agreements by local officials, has severely damaged public trust. Our region deserves a transparent and strictly independent EIS.

Additionally, the massive amount of impervious surface required for a 278 acre campus will generate significant industrial stormwater runoff. This runoff poses a direct threat to the temperature and water quality of West Rocky Run Creek and the Midway River. Both are highly sensitive, designated MnDNR trout streams that we cannot afford to compromise.

Please prioritize the long term health of our shared environment over corporate development. I respectfully urge you to reject this AUAR and mandate a full EIS.

Sincerely,
Jeremy S Thompson
Rice Lake, MN

From: veggiepear
To: AUARcomments
Subject: Proposed Hermantown Data Center Concerns
Date: Thursday, April 30, 2026 1:24:39 PM

Hello,

I read the draft order files and I have concerns. Firstly, I am concerned with how small the distance is for which you are studying the impacts, from the proposed data center. The trout stream is right on the study area, and I'm concerned about the stream beyond the scope of the 250 FT+. The entire trout stream that could be affected should be shown on a map, as well as other waterways, surface waters, and ground waters, so we can grasp the full effects of this (IE: will local resident's gardens be impacted by contaminated or polluted ground water, and how far out should residents worry about this). The air quality in the summer is especially harmful these past few years, and I'm wondering how the air quality could be affected by this proposed data center. I'm concerned with how the noise pollution, light pollution, air pollution, and water pollution will affect the migration, food supply, and mating patterns of animals like butterflies, birds, bears, foxes, and squirrels. I am also concerned with how local resident's household pets will be affected by these types of pollution (IE: will pet dogs hearing be affected by the infrasound or other sound pollutions). Lastly, I am concerned about the industrial wastewater being excluded from the report as well, how will it be measured or tested if it is excluded from reporting.

Thank you so much,

Ava Point

From: Kandise Garrison
To: AUARcomments
Subject: E-waste
Date: Thursday, April 30, 2026 2:02:40 PM
Attachments: AUARComments043026.pdf

Good afternoon - I have attached my comments relative to e-waste and the proposed data center. Thank you for your attention to my concerns.

Regards,

Kandise Garrison

Kandise Garrison
3935 Solway Rd
Duluth MN 55810
218.343.4116
kandi.garrison@gmail.com

DATE April 30, 2026

TO City of Hermantown
Erin Johnson
5105 Maple Grove Rd
Hermantown MN 55811
AUARcomments@hermantownmn.com

RE AUAR Public Comment

Dear Mr. Johnson and City of Hermantown Officials,

I am writing in my capacity as a resident within the 1-mile radius of the proposed data center and also as a former Chief Technology Officer. My comment relative to the proposed data center focuses on e-waste and the lack of a plan in the AUAR to properly remove, dispose and recycle the equipment required to operate such a facility. This includes, but is not limited to, servers, racks, networking components and cabling.

I am certain you are aware that a facility of this nature will contain up to 100,000 servers. Each of these contains metals that can be recycled and hazardous material that needs to be handled by qualified asset disposal companies. I am certain you are also aware that the average life span of a server is 3-5 years. Nevertheless, as someone who has managed electronic assets, I can assert that every day there will be servers that need to be retired and replaced.

The AUAR needs to contain a detailed process for managing e-waste to ensure that environmental, safety and data security concerns are addressed and that maximum recycling steps are in place.

Thank you for your attention to this important aspect of the AUAR. I look forward to your response.

From: Dorian Levine
To: AUARcomments
Subject: Infrasound Pollution Concern
Date: Thursday, April 30, 2026 2:03:24 PM

Hello,

The infrasound pollution generated by a data center being built close to a city poses deeply concerning health hazards for the residents of the whole Hermantown and Duluth areas. Here is a video that documents the drastically negative health effects from other current data centers: https://www.youtube.com/watch?v=_bP80DEAbuo.

If it must be built, please consider building it somewhere further from city limits. These harmful vibrations travel a long way.

Thank you,
Dorian

From: Richard Hilton
To: AUARcomments; CH-Eric Johnson
Subject: H-Town Resident AUAR Comment
Date: Thursday, April 30, 2026 2:04:27 PM
Attachments: AUAR Comment.pdf

Attached is my AUAR Scoping Document Comment.

To the City of Hermantown, Environmental Quality Board, and reviewing agencies:

I am submitting this public comment regarding the updated Hermantown Industrial AUAR scoping document for the proposed Google data center campus. I believe the current AUAR scope is inadequate for a project of this size, intensity, location, and public controversy. I am requesting that the city require a full Environmental Impact Statement, or at minimum revise the AUAR scope to include EIS-level project-specific analysis, independent review, enforceable mitigation, and direct responses to the deficiencies listed below.

The updated scoping document now identifies the project as a data center campus with up to 1.8 million square feet of industrial building area on a 278-acre project area. The existing land cover table identifies approximately 142 acres of woodland, 58 acres of wetlands, 67 acres of grassland/landscaping, and only 11 acres of existing impervious surface, while the proposed acres of woodland, wetlands, impervious surface, and stormwater remain listed as TBD. The same document also identifies nearby sensitive water resources, including West Rocky Run Creek along the western boundary, identified as a DNR trout stream and public watercourse, and the Midway River as a DNR public water and trout stream. Groundwater is also described as likely being 0–10 feet below ground surface within and around wetlands in the study area. Those are not minor details; they are central environmental constraints. A document with wetlands, stormwater, impervious surface, and tree-clearing impacts still listed as "TBD" is not adequate scoping for a project of this magnitude.

Minnesota's AUAR rule[1] requires the review to identify the nature, location, and intensity of anticipated development and to provide a level of analysis comparable to an EIS for the impacts being reviewed. The rule also requires the RGU to revise the environmental analysis document based on timely substantive comments and specifically respond to those comments. Hermantown's own city code defines an AUAR as a form of environmental review whose content and format are similar to an EAW but which provides analysis comparable to an EIS. If the City intends to use an AUAR as a substitute for further environmental review, then the scope must actually require EIS-level detail before the project is approved, not after.

[1] Minn. R. 4410.3610, subps. 3-4

The City's updated scoping document says the project would include up to four data center buildings, non-evaporative mechanical cooling, electrical substations, equipment yards, cooling/electrical equipment, and backup generators. But many of the most important impact-driving details remain unknown or deferred, including backup generator count, generator capacity, fuel storage, exact equipment-yard locations, operational noise, power demand, substation/transmission needs, wetland impacts, impervious-surface impacts, and stormwater design. These are not cosmetic design choices. These facts determine the project's noise, air pollution, fire risk, water quality impacts, wetland impacts, greenhouse gas emissions, emergency response needs, and cumulative regional impacts as well as the impact upon local citizens and neighborhoods.

For comparison, the Nobles County Data Center AUAR scoping document[2] is more explicit about evaluating data center impacts. It identifies the AUAR as the first step in reviewing a data center, includes multiple scenarios, discusses sensitive receptors, and scopes analysis around generator emissions, mechanical equipment noise, monthly generator testing, emergency generator operation, and rural residential receptors within and near the study area. Hermantown should be required to do at minimum that level of analysis, and more, as this proposal is located in a wetland-heavy, wooded, rural-residential area near trout/public waters. I do not believe that Nobles County Data Center AUA scoping document would be sufficient for this location for those reasons.

1. A full EIS is needed because this is not a generic "light industrial" planning exercise

This project is no longer a vague future industrial development scenario. It is a known, specific hyperscale data center campus proposed by a known developer for a known end user. The updated scoping document itself now identifies it as a Google data center campus, and the City publicly announced the comment period as being associated with the proposed Google data center campus.[3]

The City should not use a broad AUAR as a shortcut around a project-specific EIS. This is an unprecedented project for Hermantown: up to 1.8 million square feet, 278 acres, 58 acres of wetlands, massive electrical infrastructure, backup generators, mechanical cooling equipment,

[2] Nobles County Data Center Scoping Document
[3] City of Hermantown, "Scoping Document Comment Period Opens for Google Data Center," March 31, 2026.

substations, and potential impacts extending beyond the city boundary into neighboring rural areas.

Prior to changing the zoning rules for this specific project, this data center would not have fit within the rules of being within light industrial zoning, rather it would have been listed as heavy industrial. Because the city changed the land use zoning/framework in bad faith I believe this data center should be treated as a heavy industrial project with all the protections and environmental review that a heavy industrial site would require.[4]

The AUAR should not simply ask whether a giant data center can be made to fit a land-use label. It should ask whether this specific project, in this specific wetland and rural-residential location, creates potentially significant environmental effects that require a full EIS.

2. The City acting as RGU creates a serious conflict-of-interest concern

I object to the City of Hermantown serving as the sole Responsible Governmental Unit for a project it has actively promoted, planned around, negotiated for, and defended. The City has a direct institutional interest in the outcome of this project, including rezoning, infrastructure expansion, tax abatement agreements, development agreements, and public messaging. That creates at minimum the appearance of a conflict of interest and raises serious concern about whether the environmental review can be conducted with the independence and neutrality this project requires. I am concerned that the City of Hermantown is not capable of representing the citizens fairly.

The concern is even stronger because the public record shows a pattern where major decisions occurred before the public fully understood that a hyperscale data center was the project driving those decisions. The original public framing used "light industrial" language while the actual project was a hyper-scale data center. The 2045 Comprehensive Plan and future urban services area have been repeatedly used to justify this project, but residents have raised serious concerns that the future urban services area was not meaningfully discussed with the Comprehensive Plan steering committee during the 18-month process between 2022 and 2024.

[4] Opposition group sues Hermantown, alleging data center project violates zoning restrictions.

Because of the public controversy, the prior secrecy, the use of NDAs, and the City's financial and political interest in the project, I request that an independent RGU or reviewing body with no project interest be appointed, or that the EQB require independent third-party review of the AUAR and all technical studies. At minimum, the City should not be allowed to rely only on materials prepared by the proposer, the developer, or consultants tied to the project.

3. The Comprehensive Plan claim should be independently reviewed

The scoping document relies on the idea that this project is consistent with Hermantown's comprehensive planning. I object to that claim unless the AUAR fully discloses the timeline and decision-making process that led to the plan language being used today. I believe the Current Comprehensive plan language was adopted in bad faith as evidence by Data Practice Documents that have been released.[5]

8/8/22 – City of Hermantown invited residents to become part of a steering committee created to help with the details of the 2045 comp plan.

5/21/24 – Joe Wicklund Sign NDA with Mortenson

7/11/24 The last steering committee meeting

A steering committee member states that the committee was never contacted again, never invited to review the report before it went in front of the planning commission.

They state that what was presented had been changed by city staff and did not reflect what the steering committee advocated for in the Adolph area. (keeping it rural and agricultural)

10/30/24 – City of Hermantown Delivered Presentation to Project Loon team at Allete headquarters, Project Loon was revealed to be the project title but hidden to the public through NDA. This presentation includes slide about zoning changes that will need to take place for this project to move forward, Ronchetti reports that he hopes ratify and adopt the new comp plan by December 2024. Also noted, "re-zone to BLM necessary Updates to BLM to allow data centers required."

[5] Public records obtained through Minnesota Government Data Practices Act requests and posted in STOP Hermantown Data Center's public document archive; see "Minnesota Government Data Practices Act – City of Hermantown Documents," STOP Hermantown Data Center, Data request results.

12/3/24 – Chris Bates from Mortenson (the developer) emails Hermantown Economic Development Director Chad Ronchetti stating "Please see attached zoning language as discussed." The attachment reads "Suggested city of Hermantown code amendment language." This email is the exact language used to define communication services within the later approved BLM zoning description. This was discussed prior to the comprehensive plan being approved by the city council.

4/21/25 – The Hermantown City Council adopted the language stated above from 12/3/24 to be added to the 2045 comprehensive plan update without ever contacting the steering committee.

Due to these series of events, I do not believe we can say that this project is consistent with the 2045 Comprehensive Plan language as the public process had been circumvented. There is a direct connection when the city staff signed (NDA's) and when the public process to form the 2045 comprehensive plan came to an end. Between 2022-2024 the steering committee helped guide the 2045 comprehensive plan, at no time during 18-month process did the group ever discuss a future urban services area in the southwest area of Hermantown. It was planted by Google and nurtured to life through the secrecy of non-disclosure agreements.

The AUAR should explain:

Whether a hyperscale data center was ever disclosed to the 2045 Comprehensive Plan steering committee.

Whether the future urban services area was discussed during steering committee meetings.

Who proposed the future urban services area changes.

Whether the changes were made before or after project-specific discussions with the developer.

Whether the land-use changes were driven by community planning or by the needs of a specific private development.

If the current comprehensive plan language was materially changed without meaningful public understanding that it would enable a 1.8-million-square-foot data center campus, then the AUAR should not use that plan as neutral evidence of community support or planning consistency.

4. The surrounding neighborhood must be explicitly studied

The scoping document does not adequately discuss the fact that there are actual neighborhoods, homes, and rural residents around this project area. That matters especially for noise, low-frequency sound, traffic, lighting, air emissions, emergency response, and property impacts including residents' wells with measurements and analysis before breaking ground and continued monitoring post construction in order to prove no ill-effects to residents well water due to this project.

The AUAR must identify and map all residences, neighborhoods, schools, churches, trails, public gathering areas, and sensitive receptors within at least 0.5 miles, 1 mile, 1.5 miles, 2 miles, and 3 miles of the site at minimum. If impacts are found to extend beyond that distance, further analysis should be completed to fully understand resident and area-wide impact. The analysis should include not only Hermantown residents, but also residents in Solway Township and Midway Township who may experience impacts without receiving direct city benefits or voting representation.

5. Noise analysis must include low-frequency sound, not only dBA

The proposed data center would include mechanical cooling equipment, ventilation systems, transformers, substations, equipment yards, heavy machinery, and backup generators. The scoping document acknowledges that operational noise may include mechanical systems, generators, and low-frequency noise, but the scope still appears too dependent on standard dB(A) compliance.

The AUAR should analyze the effects of noise from the construction and operation of the data center on human receptors and wildlife. This analysis should include disclosing the area within which noise would be audible in mapping, along with sound level contours. Mapping should include predicted effects with mitigation included.

The AUAR should not rely on A-weighted measurements alone or dB(A), to evaluate noise from the proposed data canter. A dB(A) only analysis understates low-frequency sound that residents are likely to hear and feel, especially at night. The AUAR should require dB(C) modeling and measurements including ⅓ octave-band, tonal analysis, and receptor specific modelling at

nearby homes, property lines, and outdoor use areas as these low frequency sounds may be heard for miles and are not accurately measured using dB(A) measurement and analysis. These low frequency sounds are measured accurately only using dB(C) measurements and are also the sounds most likely to impact residents' health, sleep, and surrounding wildlife.

This dB(C) noise analysis should also model worst-case real-world conditions. This includes night time operation, leaf-off conditions, temperature inversions, calm/stable night time air, frozen ground, snow cover, downwind propagation, and full-buildout cumulative operation of all buildings and equipment. The AUAR should also use dB(C) measurements and analysis to evaluate whether the proposed berms, equipment screens, or other mitigation actually reduce low-frequency sound. Low frequency noise has longer wave-lengths and can diffract over, around, and through barriers, meaning berms and walls may appear effective on paper using dB(A) analysis while doing little to address the type of mechanical hum residents are most likely to notice which can only appropriately and effectively be measured using dB(C) measurements and analysis.

The AUAR should require a full low-frequency mechanical noise study prepared by qualified acoustical engineers using dB(A), dB(C), L10, L50, Leq, octave-band, ⅓ octave-band, and tonal analysis under night time, and worst-case operating conditions including the thermocline conditions as our local climate changes. The AUAR should not treat compliance with Minnesota's dB(A)-based noise limits as proof of no significant noise impact unless the applicant also demonstrates acceptable low-frequency and tonal performance during night time, winter, leaf-off, temperature-inversion, and full buildout conditions. Without this dB(C) analysis, the AUAR will not accurately disclose the sound and health impacts residents may experience from a 24/7 industrial-scale data center. These dB(C) measurements should also include the maximum distance in which these sounds may be measured and experienced by residents.

The mitigation plan should include required design features to reduce sound emissions. The mitigation plan should cover construction and operations, including both the cooling system and backup generator operation. It is well known that data centers emit significant adverse noise that can harm human health and degrade quality of life. Data center noise would also adversely impact wildlife, including migratory birds, impacting navigation, foraging, communication, and reproductive success. Analysis for and compliance with Minnesota Rules on Noise alone does not adequately protect the quality of life and health of adjacent residents because this noise

would occur constantly, 24 hours a day, indefinitely. Project operational noise also includes low-frequency sound, which has been shown to adversely affect human health.

Again, the mitigation plan should provide stronger protection than that provided by Minnesota Rules on Noise to protect quality of life and health of adjacent residents. This may involve designing equipment such as chillers to emit less sound, including low-frequency sound, in addition to mitigations such as sound barriers. See also comments above on an alternative for a closed-loop water cooled system to emit less sound.

The mitigation plan should also require limited hours and days of construction to reduce noise at this phase. To better protect quality of life from noise impacts for this long phase (more than 5 years; the AUAR fails to state specifically how many years), limit construction hours to 8 am to 5 pm, Monday-Friday in the mitigation plan. Because of the very long timeframe of construction, this increased mitigation compared to existing Hermantown rules is justified. In comparison, Costco states it builds new stores an average of 110 days. This project, taking more than 5 years, is an unusual circumstance.

That is inadequate. dB(A) weighting is known to underrepresent low-frequency noise that residents may still hear or feel, especially at night. For an unprecedented project of this size and scope with large air-cooled mechanical systems, rooftop or yard equipment, transformers, and diesel backup generators, the AUAR should require a full acoustic study that includes:

dB(A), dB(C), and unweighted dBZ measurements and modeling.

Octave-band and one-third-octave-band analysis.

Tonal noise analysis.

L10, L50, and Leq metrics.

Nighttime modeling.

Winter leaf-off modeling.

Temperature inversion and stable-atmosphere conditions.

Cloud cover and pre-storm pressure-front conditions.

Worst-case simultaneous operation of cooling equipment, transformers, substations, and generator testing.

Emergency scenario modeling with all backup generators operating.

Low frequency noise impact measurements dB(C) at nearby homes and up to 3 miles away, not just the property line as there are ~1500 residential dwellings or ~3,000 residents including Proctor School within this 3 mile distance.

Modeling beyond Hermantown city limits.

The AUAR should not rely on berms, walls, or generic screening as mitigation without proving they work for the relevant low-frequency bands. Earthen berms and walls may reduce some line-of-sight higher-frequency noise, but they are often much less effective for low-frequency sound.

I request that the AUAR specifically reference FHWA noise guidance, ASHRAE materials relevant to mechanical equipment sound, and accepted acoustic engineering standards for low-frequency, tonal, and octave-band analysis.

Scenery and Dark Skies

The AUAR should analyze effects on scenery and dark skies. This includes change to scenery (see alternatives, above) and light pollution. This should include effects of light pollution on adjacent residences. The mitigation plan should include measures to reduce light pollution and align with dark sky guidelines during construction and operation as well as the effects on local residents during night-time hours including during the winter and daylight-savings time changes.

6. Diesel generator emissions must be studied in this AUAR, not deferred

The AUAR must include a detailed air-quality analysis for backup generators. The scoping document acknowledges backup generators but indicates that backup generation details may be addressed through a separate environmental review or later permitting process. That is not acceptable for scoping.

Backup generators are not a separate project. They are a necessary operational component of the data center. Their count, capacity, testing schedule, runtime, stack configuration, fuel

storage, and emergency operating profile directly affect air quality, noise, fire risk, spill risk, greenhouse gas emissions, and nearby residents. If project cannot be built without generators, they should be included within the AUAR process, not deferred until a later date.

The AUAR should require analysis of:

Number of generators.

Generator size and total MW capacity.

Fuel type.

Fuel storage volumes and locations.

Monthly and annual testing schedule.

Emergency operating assumptions.

Worst-case simultaneous generator operation.

1-hour NO_2 concentrations.

PM2.5 and diesel particulate matter.

NOx, CO, VOCs, SO_2, and hazardous air pollutants.

Cumulative impacts from generators, traffic, construction equipment, and regional power generation.

Impacts on nearby homes and sensitive receptors under various weather and wind conditions that are consistent with Hermantown MN.

7. Wetlands, wetland credits, and water impacts are under-scoped

The existing project area includes approximately 58 acres of wetlands, but the proposed wetland impacts are still listed as TBD. That is not sufficient. The AUAR should require a complete wetland delineation, wetland function and value assessment, hydrologic analysis, wetland buffer analysis, and WCA sequencing analysis before the project is approved.

The AUAR should disclose:

Acres of wetland fill.

Acres of wetland excavation or alteration.

Acres of temporary construction impact.

Wetland buffer loss.

Hydrologic changes to wetlands not directly filled.

Stormwater discharge points.

Thermal impacts to trout streams.

Chloride/salt impacts from roads and parking areas.

Dewatering impacts.

Groundwater impacts.

Whether wetland credits will be used.

Where wetland credits would come from.

Whether mitigation would occur in the same watershed.

Whether mitigation replaces the same wetland type and function.

The AUAR should not simply state that wetland permitting will happen later. Once the land use is approved and the project momentum is created, later permitting becomes a narrower technical exercise. The public deserves to understand the full wetland tradeoff now.

8. Trout streams and impaired waters require more careful analysis

The AUAR should require a project-specific trout-stream impact analysis, including stormwater temperature, runoff volume, sediment, chloride, wetland hydrology changes, erosion risk,

construction impacts, groundwater interactions, and cumulative downstream effects. A massive conversion of woodland and wetland landscape into industrial buildings, equipment yards, roads, substations, and impervious surface can change runoff patterns even if individual permits are obtained.

A recent DNR study reviewed possible impacts to the trout stream. [6] While the study does not name the data center specifically, and this could be because Data Center was purposefully not inserted into the previous AUAR, however it clearly identifies the Hermantown industrial development area adjacent to West Rocky Run and Elm Creek, two of the highest-quality trout streams in the watershed, and notes the site contains forest, wetlands, and prominent groundwater springs. That means the AUAR must evaluate this project as a potential threat to coldwater habitat, groundwater recharge, stream temperature, stormwater runoff, wetlands, and fish passage. Not simply as ordinary industrial development. This study also found 59 coldwater protection areas, 70 miles of previously unmapped streams, West Rocky Run and Elm Creek among the highest-quality coldwater systems, several streams that could reach exceptional use status, and identifies development pressure near headwaters and cold water tributaries as a threat.

The AUAR should map whether the project overlaps or drains towards these areas, should not rely only on old/known stream maps as field verification matters. The AUAR should treat these areas as sensitive receiving waters and not generic drainage features. The AUAR should also analyze whether the project would prevent future protection or degradation-prevention goals as there is strong evidence that these streams are unusually valuable and vulnerable which is another supporting point for requiring a project specific EIS.

Because of this new MPCA study, the project should include:

A full groundwater/spring inventory

Thermal stormwater analysis

Field verification of unmapped streams and wetlands using 2025 maps

Coldwater protection area overlay

Cumulative development impact

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[6] MPCA Midway River Watershed Protection Study (2025) https://www.pca.state.mn.us/sites/default/files/wq-ws4-104p.pdf

Riparian buffers and forest/wetland preservation

Fish passage and culvert impacts

9. Stormwater and impervious-surface impacts cannot remain "TBD"

The project area currently has only about 11 acres of impervious surface, but the proposed amount of impervious surface is still listed as TBD. That is one of the most important numbers in the entire AUAR. Impervious surface drives stormwater volume, runoff speed, pollutant loading, erosion, flooding, wetland hydrology, stream temperature, and infrastructure demand.

The AUAR should not be considered complete unless it includes:

Total proposed impervious acreage.

Building footprint acreage.

Road and driveway acreage.

Parking and equipment yard acreage.

Substation and utility pad acreage.

Stormwater pond/basin acreage.

Pre- and post-development runoff volumes.

Pre- and post-development peak flow rates.

Cold-climate stormwater performance.

Maintenance responsibilities.

Failure scenarios.

Downstream receiving-water impacts.

10. Energy demand, power infrastructure, and greenhouse gas emissions are under-scoped

The scoping document says greenhouse gas emissions will be analyzed, but it does not require disclosure of the project's expected peak MW demand, annual MWh consumption, power usage effectiveness, cooling energy demand, substation capacity, transmission upgrades, or backup generation capacity. Without those numbers, the GHG analysis will not be meaningful.

The AUAR should require:

Expected peak electrical demand in MW.

Expected annual electricity consumption in MWh.

Power usage effectiveness.

Cooling system power demand.

Substation size and locations.

Transmission upgrades.

Whether new generation is required.

Whether regional ratepayers will pay for any related infrastructure.

Indirect GHG emissions from electricity consumption.

Diesel generator GHG emissions.

Construction emissions.

Tree-clearing carbon impacts.

Wetland carbon impacts.

Lifetime GHG emissions.

A project that may consume electricity at the scale of an entire city should not be reviewed without disclosing its basic power demand. The AUAR cannot meaningfully climate impacts, air emissions from generation or backup power, transmission needs, utility infrastructure, or alternatives if the projects expected peak load and annual electricity consumption are withheld.

11. Waste heat and microclimate impacts should be studied

Data centers consume enormous amounts of electricity, and nearly all of that electricity ultimately becomes waste heat. A 2026 preprint[7] analyzing AI data centers found an average land-surface temperature increase of about 2°C after AI data center operations began, with larger effects in some cases. The author describes this as "data heat island effect". The study is new and not yet peer reviewed, so it should not be treated as settled fact, but it is serious enough that the AUAR should evaluate local heat, waste-heat rejection, microclimate effects, and whether waste heat can be recovered or mitigated. The AUAR should evaluate who is financially responsible if project-related impacts are later found, including impacts to wetlands, groundwater, trout streams, wells, stormwater systems, road infrastructure, or surrounding properties. The city should require enforceable mitigation commitments, long-term monitoring, and financial assurance sufficient to cover remediation, restoration, and damages if impacts occur. Residents should not be left paying for litigation, cleanup, infrastructure repair, or environmental restoration after the fact.

This matters because the project would replace large areas of woodland and wetlands with buildings, mechanical equipment, roads, substations, and impervious surfaces. The AUAR should evaluate whether the data center's heat rejection and land-cover conversion could affect local temperatures, vegetation stress, wetland conditions, snowmelt, invasive species, and nearby residential comfort.

12. Battery storage and fire suppression must be included if batteries are part of the system

If battery energy storage systems are planned or reasonably foreseeable, the AUAR must include them in the scope. Battery systems can raise fire, toxic smoke, runoff contamination, emergency response, thermal runaway, and fire-suppression concerns.

The AUAR should disclose:

Whether battery storage is proposed.

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[7] Marioni et al., The data heat island effect: quantifying the impact of AI data centers in a warming world (2026) The paper is pre-print and has not yet been peer reviewed. Authors include University of Cambridge-affiliated researchers.

Battery chemistry.

Battery capacity.

Location of battery systems.

Fire suppression system design.

Emergency response plan.

Water demand for fire response.

Contaminated runoff containment and impact on surrounding environment.

Coordination with local fire departments.

Whether Hermantown emergency services are equipped for this risk.

The AUAR should not wait until building permits to address battery fire risk.

13. Public financial assistance, tax abatement, and enforceable mitigation must be included

The scoping document states that public financial assistance and development obligations would be implemented and enforced through a Development Agreement and Tax Abatement Agreement. It also says the AUAR will identify reasonably anticipated public infrastructure improvements and known public actions related to those improvements.

That needs to be expanded. The environmental review should disclose all public financial assistance, tax abatements, infrastructure subsidies, utility extensions, road improvements, water/sewer extensions, and public costs related to the project. Environmental impacts and financial arrangements are connected when mitigation depends on who pays, who monitors, and who is responsible if things go wrong.

I request that the AUAR include a developer-funded escrow or financial assurance requirement to ensure that all mitigation measures are enforceable, independently monitored, and funded before construction or operation begins. The escrow should cover noise monitoring, air monitoring, stormwater monitoring, wetland mitigation verification, emergency response planning, independent technical review, citizens wells who may be affected, and corrective action if impacts exceed predictions.

The AUAR mitigation plan should not be a list of promises. It should be enforceable.

14. Permits should not be issued before environmental adequacy is determined

The City should not continue zoning, permitting, infrastructure approvals, development agreements, or financial agreements while the core environmental facts remain unknown. The public process should not be reduced to a formality after the project has already been politically committed to.

No grading permits, wetland permits, utility permits, building permits, tax abatement agreements, development agreements, or infrastructure approvals should be finalized until the AUAR or EIS is complete, independently reviewed, and found adequate.

If the City proceeds despite unresolved environmental deficiencies, residents may need to consider all available legal remedies, including appeal or injunctive relief, to prevent irreversible site work before adequate environmental review is completed.

15. The public process has damaged trust and requires a higher standard of transparency

The City's handling of this project has created a serious public-trust problem. Residents were not originally told plainly that the land-use changes and infrastructure discussions were tied to a massive data center. The project was described in broad industrial language while key decisions were being made. The City now asks residents to trust the AUAR process, but many of the most important numbers are still unknown, deferred, or labeled "TBD."

If this project truly benefits the community, the City and developer should be eager to disclose the data. They should be publicly releasing the power demand, water/sewer impacts, generator details, wetland impacts, noise modeling, tax-abatement math, infrastructure obligations, and mitigation commitments. Instead, the public has repeatedly had to ask basic questions after decisions were already in motion. We have yet to receive anything more than vague answers.

That pattern is why independent review is necessary.

Requested changes to the AUAR scope

I request that the City revise the AUAR scope, but highly suggest that a full EIS is required a full, to include the following:

A full project-specific EIS-level analysis of the data center campus.

Independent third-party technical review paid for by the developer but selected by an independent public body.

A different RGU or additional oversight from an entity with no financial or political interest in the project.

Full disclosure of all development scenarios.

Full wetland delineation, wetland function analysis, wetland credit disclosure, and WCA sequencing analysis.

Full trout-stream and impaired-water analysis.

Full stormwater and impervious-surface analysis.

Full low-frequency noise study including dBA, dBC, dBZ, octave-band, one-third-octave-band, tonal, nighttime, winter, inversion, and worst-case operating analysis.

Full diesel generator air-emissions analysis, including 1-hour NO_2.

Full fuel storage, spill, fire, and emergency response analysis.

Full battery fire-suppression analysis if batteries are proposed or reasonably foreseeable.

Full power demand, substation, transmission, and GHG analysis.

Full waste-heat and microclimate analysis.

Full neighborhood and sensitive-receptor mapping.

Full disclosure of public financial assistance, tax abatement, infrastructure obligations, and mitigation funding.

A developer-funded escrow or financial assurance mechanism for independent monitoring and enforcement.

A requirement that no permits or agreements be finalized until the environmental review is complete and adequate.

Closing

For these reasons, I believe the updated Hermantown Industrial AUAR scoping document remains inadequate. This is not an ordinary light-industrial development. It is an unprecedented, massive, specific, hyperscale data center campus proposed in a wetland-heavy, wooded, rural-residential area near trout streams and public waters. The project involves major unknowns regarding wetlands, stormwater, power demand, generators, air pollution, low-frequency noise, public infrastructure, financial assistance, and cumulative impacts. The previous AUAR and current AUAR scoping document provides vague details that do not allow in any way a proper analysis of the impacts of this project. I do not understand how you can study the effects of a project that is so unprecedented in size while only having vague project descriptions. This is incredibly concerning as a resident of Hermantown who lives just over a mile away from this project.

An AUAR may be appropriate for general planning where the future uses are uncertain. But here, the project is known. The site is known. The end use is known. The scale is known. The impacts are potentially very significant. The public controversy is substantial. The City has an institutional interest in the outcome. Therefore, a full Environmental Impact Statement is needed before this project proceeds. For all of these reasons, I urge you to refuse this AUAR in order to protect the community, citizens, the environment of Hermantown Minnesota, neighboring townships, and beyond.

Respectfully submitted,

Richard Hilton

Hermantown Resident

5502 Hermantown Road

4/27/2026

Sources Cited:

Minnesota Environmental Quality Board, Data Centers FAQ / Environmental Review Guidance

City of Hermantown. Updated Hermantown Industrial AUAR – Draft Order and Scoping Document March 2026.

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City of Hermantown, "Scoping Document Comment Period Opens for Google Data Center," March 31, 2026.

The Minnesota Star Tribune. Jana Hollingsworth, Opposition group sues Hermantown, alleging data center project violates zoning restrictions, April 29, 2026.

Minnesota Pollution Control Agency, Midway River Watershed Protection Study, 2025.

Marinoni et al., The Data Heat Island Effect: quantifying the impact of AI Data Centers in a warming world, arXiv preprint, 2026. Not peer reviewed.

From:	Sarah L
To:	AUARcomments
Cc:	CH-Wayne Boucher; CH-Eric Johnson
Subject:	Comments on the Updated AUAR Scoping Document
Date:	Thursday, April 30, 2026 2:08:43 PM
Attachments:	Updated AUAR Scoping Document Comments 043026 SLofald.pdf

Attached is a copy of my comments on the Updated AUAR Scoping Document.

Regards,
Sarah Lofald

Sarah Lofald
5502 Hermantown Road
Hermantown, MN 55810

April 30th, 2026

ATTENTION:
City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

Introduction:

Thank you for the opportunity to comment on the Updated AUAR Scoping Document proposed by the City of Hermantown (which will be further referred to as CoH or RGU). I am a current resident of Hermantown who has been living the better part of 40 years on Hermantown Road. My family history in the area dates back to well before Hermantown was considered a city, some of this is recorded in the Hermantown History Center located on Maple Grove Road. My father, aunts and uncles, cousins, grandfather, sisters, and I all grew up on the same 160 acres that consists of old farm land spotted with hand-picked rock piles, pine and poplar forests, rivers filled with brook trout, and wetlands that erupt with the voices of frogs every spring; very similar to the land proposed in the AUAR. A historical Red Cross shelter from after the 1918 Cloquet Fire still exists on the original property.

To start, I would like to put forth that I am opposed to a hyperscale data center in the location proposed. The overwhelming opposition to this project has been apparent since it was publicly revealed by local media back in September of 2025. Despite a massive negative response, CoH has continued to approve changes to the 2045 Comprehensive Plan, zoning language, zoning ordinances, and land zoning while hiding the fact that all of the changes have been specifically manipulated by a single project, a hyperscale data center by Google. This information becomes particularly apparent when reading the Data Request emails sent by CoH staff that were requested by MCEA and other residents, after significant delay by the city. Though I oppose the project, I will address the deficiencies in the proposed Updated AUAR Scoping Document below.

Project Description: Pages 6-9

This section fails to identify the now known Proposer for this project. On March 3rd, 2026, after courting CoH since May of 2024, Google came forward as the Proposer. Since this is a specific data center project, the multi-trillion-dollar Alphabet corporation (Google's parent company) should be named in the Updated AUAR Scoping Document.

This section also fails to give any details on what changes have been made by the Proposer that led to the update of the AUAR. The original AUAR that was approved by the Hermantown City

Council on October 6th, 2025 also did not properly describe the proposed project or even reveal that the intention behind the AUAR was for a specific data center project. In both, the RGU presents only vague accounts of equipment yards holding "electrical and cooling equipment," storage buildings, backup power, etc. The vagueness of this section leads too much to be surmised to effectively evaluate the environmental effects of a very specific Data Center project by Google.

"The Proposer anticipates that some combination of battery energy storage and/or emergency backup generation may be required to support data center reliability. At the time of scoping; however, the type, number, capacity, location, operating profile, and fuel storage volumes for any backup generation are not final and may vary based on final interconnection requirements, reliability standards, and equipment selection."

This paragraph is too vague to reliably interpret the expectations of the project. Without the actual specifications of the "type, number, capacity, location, operating profile, and fuel storage volumes" you cannot reasonably study any aspect of backup generation on the environment. To propose that the AUAR will, "Analyze potential environmental effects using reasonable worst-case or envelope assumptions where sufficient information exists to do so" is a bold statement that holds the Proposer and RGU to minimal, if not non-existent, standards.

Any environmental review for a known, specific project from a Proposer (like Google) should have a full and detailed project description BEFORE the environmental review is prepared or accepted. This Updated AUAR scoping document should be postponed until full project details can be obtained so that a proper Environmental Review, like an EIS, can be completed.

Climate Adaption and Resilience: Pages 9-13
Section 7, Part a: Climate Trends in the general location of the project

This section fails to emphasize that the data stated in this section resulted from projected ASSUMPTIONS based on predictions for the evolution of urbanization, economic growth, etc. This does not study the actual effects of a hyperscale data center on the local climate/temperature. The Updated AUAR Scoping Document references the phenomenon called "Urban Heat Islands" but then dismisses the term stating, "the AUAR Study Area is located in an area of low heat vulnerability." This is inherently untrue considering the proximity of the cold-water trout streams within and around the Study Area. Any changes in soil permeability, especially at as large of a scale as this Specific Project, will have irreversible and harmful effects on these delicate environments.

According to a preprint study conducted by Andrea Marinoni et. al.[1], the average Land Surface Temperature (LST) increase of the area surrounding the 6,000 data centers studied increased by

[1] Marinoni, Andrea & Lio, Pietro & Cambria, Erik & Dal Zilio, Luca & Lin, Weisi & Mura, Mauro & Chanussot, Jocelyn & Ragusa, Edoardo & Mengaldo, Gianmarco & Tso, Chi & Zhu, Yihao & Horton, Benjamin. (2026). The data heat island effect: quantifying the impact of AI data centers in a warming world. 10.48550/arXiv.2603.20897. Available

2.07°C (about 3.6°F); in extreme cases, the LST increased by 16.4°F. This study also notes that, *"it is evident that the impact of LST increase reaches up to 10km [6.2miles] distance from the AI hyperscalers."* This suggests that the effect of a hyperscale data center in a delicate environment would be incredibly damaging and deserves to be studied further with full and detailed project specifications from the Proposer.

Permits and Approvals Required: Pages 16-18
Public Finance Assistance

This section fails, once again, to state the project Proposer. On March 3rd, 2026, after courting CoH since May of 2024, Google came forward as the Proposer. Since this is a specific data center project, the multi-trillion-dollar Alphabet corporation (Google's parent company) should be named in the Updated AUAR Scoping Document as the Proposer. This is especially important when CoH is considering PUBLIC financial assistance and tax abatements. Before any monetary benefits, Development Agreements, or Tax Abatements are offered, the Proposer should be named in the Updated AUAR Scoping Document and give full project details.

The footnote stating, "Additional environmental review may be necessary should potential improvements and supporting infrastructure for the development scenario exceed mandatory environment thresholds" is a provocative statement. This project should have already triggered the mandatory threshold for an EIS, but somehow that is being avoided by the RGU.

Land Use: Pages18-24
Section 10, Part a, subsection i: Existing land use of the site as well as areas adjacent to and new the site

This section fails to accurately describe the area surrounding the project site. A wide majority of the Adolph area consists of single-family homes on acreage, with ~27 homes within .5 miles and ~121 within 1 mile of the project site. Commercial sites within a mile of the project site are a minority, with the majority of those businesses being on less than 10 acres of land.

It also fails to mention that the recent change from S-1 residential zoning to Business and Light Manufacturing BLM zoning was only recently passed AFTER the Proposer started courting CoH for their hyperscale data center project in May of 2024, which will be discussed below.

Section 10, Part a, subsection ii: Planned land use as identified in comprehensive plans

This section fails to mention that the 2045 Comprehensive Plan was changed AFTER the Proposer started courting CoH for their hyperscale data center project in May of 2024. In 2015, the Adolph Neighborhood Small Area Plan was adopted into the prior Comprehensive Plan; it stated that the residents wished to keep the rural feel of their neighborhood. Between 2022-

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at:https://www.researchgate.net/publication/403073048_The_data_heat_island_effect_quantifying_the_impact_of_AI_data_centers_in_a_warming_world

2024, a Steering Committee was engaged to help create a new Comprehensive Plan before being suddenly disengaged without warning in July of 2024. The Steering Committee was never contacted again but was mentioned multiple times as being key figures in the creation of the new Comp Plan. A member of this Steering Committee has come forward to guarantee that NO discussion to extend the Urban Services Boundary in the SW corner of Hermantown was had. It is these facts, and many others, that has led to the Complaint Against the City filed by the resident-led Stop The Hermantown Data Center Non-profit group on April 29th, 2026.

Because the 2045 Comprehensive Plan was changed in bad faith and without the input of the Steering Committee that the CoH engaged itself, it is unconscionable to make the statement that "According to this plan, the Study Area is designated as Business and Light Manufacturing."

This statement opens up a cascade of issues arising from the clearly manipulated 2045 Comprehensive Plan by the CoH due to this specific data center project by the Proposer.

Section 10, Part a, subsection iii: Zoning, including special districts or overlays

This section fails to mention that the Zoning changes in the SW corner of Hermantown were changed AFTER the Proposer started courting CoH for their hyperscale data center in May of 2024.

In October of 2024, Chad Ronchetti delivered a presentation to the Project Loon Team, which was later revealed to be the project name for the data center, at ALLETE headquarters. In the documents obtained by the MCEA Data Request, Ronchetti reported that he hoped to ratify and adopt the new Comp Plan by December 2024. He continues with "Rezone to BLM necessary, updates to BLM to allow data centers required, changes to performance standards for hours of operation necessary." Subsequent emails from other Project Loon members contain information regarding how to define "communication services" so that it includes data centers, how to add "communication services" into the BLM language, and how long the Comp Plan will take to approve so that the zoning language can be added to the City Council agenda.

Due to this, I would argue that a specific data center project did not conveniently fit the 2045 Comprehensive Plan. Instead, I would propose that this specific data center project was the absolute catalyst to the changes that were made to the 2045 Comprehensive Plan, Zoning Language, and Area Zoning for the SW corner of Hermantown.

Hazardous Waste: Pages 38-41
Section 13, Part d: Project Related Generation/Storage of Hazardous Waste

This section fails to address the presence of PFAS in this project. Data centers use perfluoroalkyl and polyfluoroalkyl substances (PFAS), also referred to a "forever chemicals," for cooling and fire suppression. These chemicals are resistant to environmental breakdown and are present in our

food, water, air, and soil. [2] PFAS have a variety of effects on the human body. The National Institute of Environmental Health Sciences has funded studies that have found that exposure to PFAS was linked to delayed onset of puberty in girls, a decrease in bone mineral density, increased risk of Type 2 diabetes in women, increased risk of thyroid cancer, liver damage, reduced ability of immune response, etc. [3]

It also does not address the e-waste from computer/server parts that include lead, cadmium, and mercury; all of which can have devastating effects on our soil, water, and air. Data centers house THOUSANDS of computer and server parts that are built using hazardous materials. These parts have a lifespan where efficiency of the part decreases the longer it is used. Once it is no longer efficient, it would need to be replaced by a new part. Considering the thousands of computer and server parts that will be contained in EACH data center building, the number of spent parts that need to be replaced will be immense. These parts will need to be stored until they can be sent for recycling. This is why municipal waste facilities, like the WLSSD Material Recovery Center[4], have specific instructions on how to handle electronic waste that are guided by US Law.

"AUAR Guidance: Not required for an AUAR. Not applicable."

To suggest that the study of how the above hazardous materials, that have been widely researched and are present in data centers, does not need to be included in the AUAR is highly irresponsible. Any environmental review should indicate the presence, use, handling, storage, and disposal of ALL hazardous materials in a project. If any of these chemicals were breach storage or be improperly recycled/disposed of, the contamination of our natural resources and human health would be devasting and have long-term effects.

Visual: Page 45

Section 16: Discuss the potential visual effects from the project

This section fails to address that the Proposer is still working on the design of the project. The project description states it will use "reasonable worst-case or envelope assumptions where sufficient information exists to do so" in reference to backup power concepts. This same concept is being used to "discuss" the visual effects on the landscape and how it will be mitigated. How can any aspect of this project be accurately studied without the full and developed project description?

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[2] Hardin, Andie May (2026), Data centers are contributing to PFAS forever chemical pollution, *Environmental And Energy Study Institute*, https://www.eesi.org/articles/view/data-centers-are-contributing-to-pfas-forever-chemical-pollution

[3] Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), (2026, March 6). *National Institute of Environmental Health Services*. https://www.niehs.nih.gov/health/topics/agents/pfc

[4] WLSSD Disposal Guide, https://wlssd.com/disposal-guide/

Before discussion on how the visual effects will be mitigated, the CoH should receive a full and detailed project description by the Proposer.

Greenhouse Gas (GHG) Emissions/Carbon Footprint: Pages 46-48
Section 18, Part b, subsection i.: Describe any mitigation considered to reduce the project's GHG emissions
Section 19, Part b, subsection ii: Describe and quantify reductions from selected mitigation

This section, again, fails to address that the Proposer is still working on the design of the project. Before discussion on how the GHG emissions will be mitigated, the CoH should receive a full and detailed project description by the Proposer.

Noise: Pages 48-50
Section 19: Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation

"As stated in the AUAR guidelines, construction noise need not be address unless there is some unusual reason to do so. Not unusual circumstances have been identified that would necessitate detailed construction noise analysis."

This section fails to address construction noise at all. CoH indicates that there are no unusual circumstances identified in this project. However, CoH also predicts that construction phases would last up to 8 years. Considering the average length of time to build a Costco (approx. 148,000 square feet) is 110 days from the start of construction[5], I would argue that the length of construction is an "unusual circumstance."

This section also fails to address dB(C) measurements and relies solely on dB(A) measurements. The AUAR should not rely on A-weighted measurements alone or dB(A), to evaluate noise from the proposed data canter. A dB(A) only analysis understates low-frequency sound that residents are likely to hear and feel, especially at night. The AUAR should require dB(C) modeling and measurements including ⅓ octave-band, tonal analysis, and receptor specific modelling at nearby homes, property lines, and outdoor use areas as these low frequency sounds may be heard for miles and are not accurately measured using dB(A) measurement and analysis. These low frequency sounds are measured accurately only using dB(C) measurements and are also the sounds most likely to impact residents' health, sleep, and surrounding wildlife.

This dB(C) noise analysis should also model worst-case real-world conditions. This includes nighttime operation, leaf-off conditions, temperature inversions, calm/stable night time air, frozen ground, snow cover, downwind propagation, and full-buildout cumulative operation of all buildings and equipment. The AUAR should also use dB(C) measurements and analysis to evaluate whether the proposed berms, equipment screens, or other mitigation will, in reality, actually reduce low-frequency sound. Low frequency noise has longer wavelengths and can

[5] MG2 – Costco construction partner https://mg2.com/projects/costco-wholesale/

diffract over, around, and through barriers, meaning berms and walls may appear effective on paper using dB(A) analysis while doing little to address the type of mechanical hum residents are most likely to notice. The mechanical hum can only appropriately and effectively be measured using dB(C) measurements and analysis. The AUAR should require a full low-frequency mechanical noise study prepared by qualified acoustical engineers using dB(A), dB(C), L10, L50, Leq, octave-band, ⅓ octave-band, and tonal analysis under nighttime, and worst-case operating conditions including the thermocline conditions as our local climate changes.

The AUAR should not treat compliance with Minnesota's dB(A)-based noise limits as proof of no significant noise impact unless the applicant also demonstrates acceptable low-frequency and tonal performance during nighttime, winter, leaf-off, temperature-inversion, and full buildout conditions. Without this dB(C) analysis, the AUAR will not accurately disclose the sound and health impacts residents may experience from a 24/7 industrials cale data center. These dB(C) measurements should also include the maximum distance in which these sounds may be measured and experienced by residents.

Transportation: Pages 50-52
Section 20, Part b: Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary

This section fails to address the nearby train intersections that cross Midway Road at Old Hwy 2 and St. Louis River Road. These train intersections were studied by St. Louis County due to traffic delays, safety, and congestion.[6] The St. Louis County website states, *"When a line of vehicles is formed to wait at a railroad crossing, also known as a traffic queue, there is a risk of a high-speed vehicle crashing into the back of the traffic queue. There is also a hill located approximately 0.4 mile south of the railroad crossing in Adolph that reduces the available stopping sight distance for northbound drivers to the back of the northbound traffic queue, increasing the risk of a high-speed vehicle crashing into the back of this traffic queue."* The specific data center project area is exactly within the area described in the Midway Rd Railroad Crossing Planning Study. The addition of construction traffic in an already compact and congested area is inviting further risks of accidents and should be included in the Update AUAR.

Cumulative Potential Effects: Page 53

This section, again, fails to address that the Proposer is still working on the design of the project. Before discussion on the cumulative potential effects, the CoH should receive a full and detailed project description by the Proposer.

Other Potential Environmental Effects: Page 54

[6] St. Louis County Website https://engage.stlouiscountymn.gov/midway-rd-railroad-crossing-planning-study

This section, again, fails to address that the Proposer is still working on the design of the project. Before discussion on other potential environmental effects, the CoH should receive a full and detailed project description by the Proposer.

This section also fails to state that the energy resources needed for this specific data center project are tied to past and current upgrades to the electrical grid and nearby substation by Minnesota Power. These upgrades were proposed as simple upgrades due to aging infrastructure but have been cited in the decision to select the SW corner of Hermantown as a primary location for this specific data center project in City Council Meetings and on the CoH website[7]. Other things to note is that Minnesota Power was recently sold to Blackrock, which is a 7% stakeholder in Google and that Minnesota Power has been a part of the Project Loon Team since 2024.

Mitigation Plan: Page 54

Any mitigation plan needs to include strategies to contain and handle an emergency due to structural fire, fire suppression, chemical leak, and other emergency situations. These strategies should also include the realities of the capability of CoH and surrounding area Fire Departments and Emergency Services to respond to such emergencies. This section should also include information on what Fire and Emergency Services would need to be expanded to handle the potential for a large-scale emergency at the Data Center Project Site. The CoH should also create a Data Center Emergency Fund that is funded solely by the Proposer and does not include any public tax dollars.

Conclusion:

Due to the shortcomings of the Updated AUAR Scoping Document and the failure of the Proposer to submit a full and detailed project description to allow for real environmental impact to be studied, CoH should reject any further use of the AUAR to review this data center project. Instead, CoH should prepare a full Environmental Impact Statement (EIS) AFTER the Proposer completes a full and detailed project description.

Respectfully,

Sarah Lofald

[7] Question and Answers: Why this location? https://hermantownmn.com/project/#1760043040978-5215401e-a476

From: CMM
To: AUARcomments
Subject: AUAR
Date: Thursday, April 30, 2026 2:16:49 PM

Hello. My name is Chris Moir and I've been a Hermantown resident for over 20 years. I've also lived in this general area for most of my life and have always been proud to live in a place with clean air, water, woods and wildlife.

I am writing to let you know that I am deeply concerned about the City's new AUAR for Google's hyper-scale data center that is planned for this area. I think that the City should be using an EIS for this project due to the large scale and environmental impact this data center could potentially have. If a thorough study isn't completed, it could have a detrimental impact on our wetlands, water quality, health issues, wildlife, etc. I just ask you to please reconsider doing an EIS instead of an AUAR so we can take precautions and not affect the area for our future, or for future generations to come.

Thank you for your time,
Chris Moir

From: Sarah Shelerud
To: AUARcomments
Subject: Comments for Revised AUAR
Date: Thursday, April 30, 2026 2:18:43 PM

My name is Sarah Shelerud and I live in Esko, MN - 11 miles south of the proposed data center, and I am one of the many residents in the area that has concerns regarding this data center and its impact on our communities. My parents are 8 miles from the proposed site and my aunt and uncle, cousins and their small children are all within 5-6 miles of the proposed site.

With the way this project has unfolded, from the signed NDAs of city officials (who by the way are elected by residents to represent and inform them), quietly changing zoning language, the major backlash this project is facing from the community to now a revised AUAR, tells me that either we have incompetent people in the City of Hermantown or an agenda is trying to get pushed and hidden from it's community. In October 2025, the City of Hermantown adopted the Hermantown Industrial Alternative Urban Areawide Review (AUAR) but since then, Harmony Group LLC, now has additional project details and analyses that don't line up with the original AUAR from what I understand so a new revision of the AUAR is being asked for. Is this because the city wants something broader so if the scope or plan of the project changes again, they will be able to do so without needing another environmental review such as an Environmental Impact Statement? A data center of this scale should have a more rigorous review that addresses all scenarios regarding all potential and future environmental effects - including water usage, electrical demand on the current grid and our future energy bills, pollution, and the health of residents near the data center just to name a few. Why are shortcuts being made? So Google doesn't back out? Google doesn't live here, we do.

I am concerned with the environmental impacts a data center brings to its community. I am concerned about water usage and pollution of a data center - just a reminder I am downstream of the proposed site. I am concerned about the noise pollution of data centers. We live in the country and in rural areas for peace and quiet, not to listen to the hum of a data center. I am concerned that parcels of lands can just be quietly changed with zoning language to allow "light industrialization" aka a large scale data center. I am concerned that Google seeks millions in tax rebates for this data center. I am concerned for the residents nearby and their home values - some people can't just pick up and leave.

I am concerned that this whole thing is being rushed, information is being kept secret, and the long term effects of a data scale of this size, in a rural neighborhood with real people, is something that needs to be well understood and studied before you say yes.

At a bare minimum, the City should have a full Environmental Impact Statement for this project instead of an AUAR.

Thank you for your time.

Sarah Shelerud

From: RaeAnn Nordwall
To: AUARcomments
Subject: AUAR Comment
Date: Thursday, April 30, 2026 3:16:00 PM
Attachments: AUAR.pdf

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown MN 55811

Mr. Johnson,

My name is RaeAnn Nordwall Johnson and I am a resident of Hermantown, MN. I am reaching out at this time to raise concerns about the development of what we now know is a Google Hyperscale Data Center in our city. It was brought to my attention that the current AUAR for the data center is due to be revised as the City of Hermantown has indicated there is additional information and data to add to the current AUAR. I would like to offer input on concerns during this time.

While technology has become such a large and integrated part of our lives, I believe there needs to be very careful consideration in the development of the land and resources of our area to supply our technological needs. Many residents of Hermantown, myself included, have chosen to live in this area as it offers a great balance between development and the great north woods that we all know and love. The development of such a project as a Hyperscale Data Center will create vast changes on the landscape around us. The sheer scope of the project needs to be studied carefully to determine the full effect of the area surrounding it.

My concerns around this particular project are many and I am against its development in the Hermantown area or others. While I cannot list a primary concern, I do want to highlight the majority of them. The sheer amount of land clearing and wetland destruction will absolutely have a direct impact on our water quality and wildlife habitat. I live in Hermantown because I enjoy the wildlife I share my land with. To know hundreds of acres will be destroyed in our area for an energy guzzling concrete wasteland is something I cannot stand the thought of. I also have concerns about the amount of sound and light pollution that will come from this project, even after its completion. To have such a large project built in such a small city will very much create a negative social impact on our area.

Lastly, I am also concerned about the economic repercussions from this project. I believe that the brunt of the costs of this project will fall to the community. Other data center projects have been shown to create a massive demand on the energy grid, thus raising prices for the community. Compound this in economic times that are getting more difficult by the day and it is unsustainable for the community. The tax burden that will also get passed on to the citizens is something

that needs to be addressed as this project and its consequences will turn our City of Quality Living into something much different. Once the project is completed, there will not be a significant increase in job opportunities that boost our economy and it cannot even be confirmed that it will bring many local jobs during the construction phase as non-local companies are typically used.

I am hopeful the city will take into consideration these concerns as they revise the AUAR. I also strongly recommend that an EIS should be prepared so we know the true and full scope of the implications this massive single project will have on our small city.

I appreciate your time and look forward to hearing our city has made better decisions.

Sincerely,

RaeAnn Nordwall Johnson
4234 Ugstad Rd
Hermantown, MN 55811

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown MN 55811

Mr. Johnson,

My name is RaeAnn Nordwall Johnson and I am a resident of Hermantown, MN. I am reaching out at this time to raise concerns about the development of what we now know is a Google Hyperscale Data Center in our city. It was brought to my attention that the current AUAR for the data center is due to be revised as the City of Hermantown has indicated there is additional information and data to add to the current AUAR. I would like to offer input on concerns during this time.

While technology has become such a large and integrated part of our lives, I believe there needs to be very careful consideration in the development of the land and resources of our area to supply our technological needs. Many residents of Hermantown, myself included, have chosen to live in this area as it offers a great balance between development and the great north woods that we all know and love. The development of such a project as a Hyperscale Data Center will create vast changes on the landscape around us. The sheer scope of the project needs to be studied carefully to determine the full effect of the area surrounding it.

My concerns around this particular project are many and I am against its development in the Hermantown area or others. While I cannot list a primary concern, I do want to highlight the majority of them. The sheer amount of land clearing and wetland destruction will absolutely have a direct impact on our water quality and wildlife habitat. I live in Hermantown because I enjoy the wildlife I share my land with. To know hundreds of acres will be destroyed in our area for an energy guzzling concrete wasteland is something I cannot stand the thought of. I also have concerns about the amount of sound and light pollution that will come from this project, even after its completion. To have such a large project built in such a small city will very much create a negative social impact on our area.

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significant increase in job opportunities that boost our economy and it cannot even be confirmed that it will bring many local jobs during the construction phase as non-local companies are typically used.

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I appreciate your time and look forward to hearing our city has made better decisions.

Sincerely,

RaeAnn Nordwall

RaeAnn Nordwall Johnson
4234 Ugstad Rd
Hermantown, MN 55811

From: Shelby Capacio
To: AUARcomments
Subject: No AI datacenters near Lake Superior
Date: Thursday, April 30, 2026 3:27:35 PM

Good afternoon,

I am writing to express and formally register my strong and complete opposition to the Google data center near Lake Superior. The risk to the world's largest source of fresh surface water is unacceptable, and so is the prospect of increasing emissions and pollution in and near spaces that are already experiencing rapid warming, weather volatility, and increased wildfires due to climate change. Furthermore, I do not think our ecosystem should be asked to endure light and sound pollution, or the loss of hundreds of acres for a corporate-owned facility that will dramatically increase energy and water consumption in the region for little local economic or ecologic benefit.

The North Shore of Minnesota is one of the most important areas in the state for conservation, tourism, and natural resource management. More personally, it's also one of my favorite places on Earth, and I am not willing to see a problematic tech trend mar hundreds of acres here. The proposed energy rebates reported by The Star Tribune sound more like bribes to overlook the increased resource consumption, as well as impacts on demand, grid infrastructure, and how the facility creates a destructive climate feedback loop.

I firmly believe the City should not be initiating this revised AUAR at this time, particularly in light of growing public opposition to projects like these and the currently rising energy costs we all are coping with which will certainly be exacerbated by a hyper scale site. I also don't believe these facilities are prepared for the reality of Minnesota winter. Instead, an Environmental Impact Statement (EIS) should be prepared to understand the effect on the community, ecosystem, and water table, as well as impacts of sound and light pollution. Further, I support state legislation to place a two year moratorium on data center permitting, and a statewide environmental review to consider if, where and how hyper scale data centers might be permitted.

Personally, I do not believe that the so-called AI economy is durable, especially with mounting negative public sentiment across demographics. Hermantown and Minnesota can not afford to build based on an economic bubble that very well may burst, leaving our people and the environment holding a nearly 2-million square foot bag. I'm also not convinced we want to get in the economic bed with a company that is actively eroding its products, trust, and ethical standing.

Sincerely,

Shelby Capacio
Founder, Taproot Media
P: +1 (612) 607-3541
Let's connect on LinkedIn

From: Emily Helgeson
To: AUARcomments
Subject: AUAR comments
Date: Thursday, April 30, 2026 3:40:13 PM

Eric Johnson / City of Hermantown,

The most appropriate environmental assessment for a project of this scope and magnitude is a full Environmental Impact Statement (EIS). Comments regarding the updated AUAR:

1. Why is a hyperscale data center being inaccurately described as a light industrial development when it's heavy industrial? The land was rezoned for Business Light Manufacturing however a 1.8 million square foot hyperscale data center isn't comparable to a warehouse or "commercial and industrial land uses . . . including office, light industrial, and retail/service uses."
2. Why aren't alternative locations being reviewed for this project? Why was the Adolph 2045 Comprehensive Plan specifically altered to meet the needs of this developer and this project?
3. What exactly are the needs of this developer? Why doesn't the AUAR clearly state the project's purpose?
4. Significant public infrastructure upgrades are REQUIRED for this data center ("substations, transmission lines, mechanical/electrical equipment" and water/sewer expansion). Reducing the AUAR study area boundary so it doesn't include electrical transmission, substations and other necessary infrastructure upgrades fails to assess the full environmental impact and true scope of this project.
5. What is the anticipated daily power consumption of this project, both through the phased buildout and at completion?
6. "The specific number of equipment yard areas needed, as well as the number of backup generators and locations, will be determined as site planning advances." If the needs of this project aren't accurately defined now; how will environmental impacts be adequately assessed? Will fully defining the scope of this project at a later date trigger any additional environmental review?
7. Construction Traffic: my children both attend Hermantown Middle School and take the morning bus; theirs is the single route in the district impacted by train traffic. Wait times can exceed 10-15 minutes when the bus gets stopped; this is significant in winter temperatures. How will construction further impact traffic flow and accessibility?
8. "Only domestic wastewater should be considered in an AUAR—industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process." This alone should trigger an Environmental Impact Statement; hazardous waste (including e-waste from hardware obsolescence) needs to be defined and assessed.
9. Low-frequency noise, including dB(C) noise should be measured and analyzed.

10. The AUAR should address the safety of the community in case of emergency. Will this project require updates to fire ordinances, safety plans or evacuation plans?
11. Hyperscale data centers create high intensity light disturbances with their constant exterior lighting; how will this impact light pollution / dark skies?

Thank you,
Emily and Saul Helgeson

From: Lisa Fitzpatrick
To: AUARcomments
Subject: comment on Hermantown Data Center AUAR
Date: Thursday, April 30, 2026 3:42:16 PM

Dear Eric Johnson:
I am a Duluth resident, concerned about the environmental impacts of the proposed Hermantown Data Center, which are far-reaching. This Google Data Center will have environmental impacts on the water system of Duluth. Data centers are huge users of water. Lake Superior is a beloved treasure of our whole county. Therefore, conducting an EIS (Environmental Impact Statement) on the proposed data center would be prudent, especially with regard to water. Additionally, the potential of this huge buzzing data center would have a negative effect on the bucolic rural community surrounding it.
Thank you for your time.
Sincerely,
Lisa Fitzpatrick
Duluth, MN

From: Grace
To: AUARcomments
Subject: Comment on Proposed Data Center
Date: Thursday, April 30, 2026 4:03:24 PM

City of Hermantown

Eric Johnson

5105 Maple Grove Rd

Hermantown MN, 55811

To whom it may concern,

My name is Grace Aho. I am currently a resident of Hermantown. I grew up here and graduated from Hermantown High School in 2021. I then went to Minneapolis to study biology and environmental geography at the University of Minnesota before returning to Hermantown upon graduation to work on a research project in Cloquet. I am very concerned about the environmental implications of the proposed data center and the impacts it may have on the local environment. I have concerns about a variety of topics including noise pollution and heat island effect. However, I will specifically be focusing on my concerns related to water.

The stormwater runoff currently drains to the Midway River, which is expected to be maintained should the project go through. However, the large increase of impervious surfaces would increase the amount of runoff from the site. This runoff will collect pollutants such as heavy metals (construction material), pesticides and fertilizers (lawn care), and salt concentrations (deicing) (Source: https://www.mdpi.com/2076-3298/12/11/446). West Rocky Run Creek, which meets the Midway River just south of the site is classified as an impaired water body, and I believe that strict treatment methods must be required in order to discharge stormwater runoff into these waterways.

Additionally, this stormwater runoff would have the risk of polluting local ground water supply. With those directly neighboring the proposed data center location relying on wells to draw water, the risks of groundwater contamination must be thoroughly laid out before construction should commence to ensure the safety of neighboring homes. The AUAR scoping document indicates that "impacts on ground water will be addressed in the AUAR" but it is unclear how this will occur.

The impacts of this project in terms of water usage are currently unclear. The project must

outline the specific amounts of water input and output, as well as the quality of water output and the impact on local streams and the greater water table.

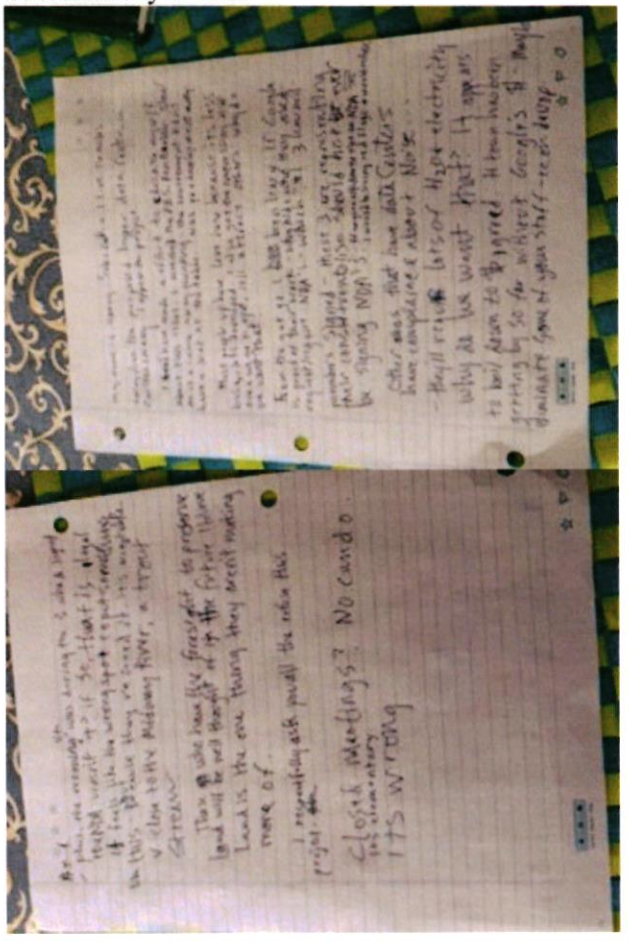
Thank you for your attention,

Grace Aho

39— Lavaque Rd, Hermantown, MN

From: Nancy Sobczak
To: AUARcomments
Subject: H'town Google data center
Date: Thursday, April 30, 2026 4:10:04 PM

Sent from my iPhone



From: Andrew Ensign
To: AUARcomments
Subject: NO AI datacenters near Lake Superior or ANYWHERE
Date: Thursday, April 30, 2026 4:12:08 PM

Good afternoon,

I want to start by thanking you for the opportunity to comment on this serious matter.

This is a terrible idea. Generative AI datacenters are responsible for polluting what would otherwise be potable water sources across the country and the world. Our drinkable water sources are already dwindling, and that is putting it mildly. These monstrosities drastically heat the surrounding area, consume massive amounts of electricity (which raises consumer prices for energy, but that is nothing compared to the environmental destruction), and would generate PFAS that linger in the ecosystem for effectively forever.

Do not allow this to threaten one of the most beautiful parts of North America. It would be profoundly foolish to do so. There are no benefits that could possibly outweigh the extremely negative effects.

Sincerely,
Andrew Ensign, resident of Minnesota for 20 years

From: Brea Schminski
To: AUARcomments
Subject: AUAR Comment
Date: Thursday, April 30, 2026 4:14:08 PM

Good Afternoon,

My name is Brea Schminski and I am writing to share my comments to the updated AUAR. I have many concerns but today my biggest concern is the detrimental health effects this data center will cause for my family and children. I have three amazing kids, ages 7, 5 and 3. We live less than a half mile from the proposed data center. While there are many concerns I'm going to focus on are the sound and pollution.

Before making my comments, I want to express that I absolutely do not want a data center. There are way more negative effects than positive effects on our area. Please look into other communities that are experiencing these detrimental effects.

Sound

The AUAR needs to focus on the noise from the proposed data center. We need to know the decibels it will be both during the day and at night, in the summer and in the winter. The plan to have trees planted around the data center to prevent sound from traveling is quite alarming, knowing these trees will not grow for many years. Not only do we need to consider the effects on humans that will be caused by this, but the effects on the wildlife. The AUAR also needs to consider a full low-frequency mechanical noise study. According to Noiseawareness.org, "noise is one of the most common forms of sleep disturbance and when sleep disruption becomes chronic, adverse health effects are great." The article also stated exposure to noise is associated with elevations in blood pressure.

The noise can also have a big effect on my children and children surrounding the area of the proposed data center. There is already a hum from Minnesota Powers substation, what will it be with an added 4 datacenters to the area? This current hum needs to be included in the study. This is unfair to our family to have to deal with possible health effects with this proposed hyperscale data center.

Pollution

Another concern I have is the pollution from the back up generators. Backup generators need to be included in the air quality study as they will need to be tested frequently to make sure they are working. According to page 45 of the AUAR, it states that "The AUAR will not be used to support any Air Permits or Backup Generation Site Permits." This shows me the AUAR is not adequate and we need to have an Environmental Assessment Worksheet. I do not want my children breathing these fumes as we are less than a half mile from this proposed site. According to an

article written by the National Library of Medicine titled "Diesel exhaust: current knowledge of adverse effects and underlying cellular mechanisms." "The toxicity of any inhaled environmental agent is the result of its interaction with the respiratory tract, which is in constant contact with the air. Also according to this article, "studies of the last two decades have shown positive correlation to pulmonary diseases, cardiovascular disease, genotoxicity, and has been judged as a group 1 carcinogen to humans." Being a group 1 carcinogen, there is sufficient evidence that this level can cause cancer. There will be hundreds of backup generators that will be in correlation to this data center and I am quite appalled that the AUAR does not pay any attention to these backup diesel generators when the health of everyone surrounding this hyperscale data center would be at risk.

In conclusion, these are only a couple of many other concerns of the proposed data center. An AUAR is not sufficient in this colossal project. An Environmental Impact Statement is the only option. Please keep my family's health in mind with this hyperscale data center.

Thank you for reading my concerns.

Brea Schminski

From: CH-Eric Johnson
To: CH-Ed Worden
Subject: FW: AUAR Comment
Date: Thursday, April 30, 2026 4:19:13 PM

Update to a previous comment.

Thanks
Eric

From: Brea Schminski <bschminski@gmail.com>
Sent: Thursday, April 30, 2026 4:15 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>
Subject: Re: AUAR Comment

Good Afternoon,

I wanted to update my comments on the last paragraph:

In conclusion, these are only a couple of many other concerns of the proposed data center. An AUAR is not sufficient in this colossal project. An Environmental Impact Statement is the only option. Please keep my family's health in mind with this hyperscale data center.

Thank you for reading my concerns.

Brea Schminski

On Thu, Apr 30, 2026 at 7:06 AM Brea Schminski <bschminski@gmail.com> wrote:

> Hi my name is Brea Schminski and I am writing in regards to the AUAR. I have many concerns but today my biggest concern is the detrimental health effects this data center will cause for my family and children. I have three amazing kids, ages 7, 5 and 3. We live less than a half mile from the proposed data center. While there are many concerns I'm going to focus on are the sound and pollution.
>
> **Sound**
> The AUAR needs to focus on the noise from the proposed data center. We need to know the decibels it will be both during the day and at night, in the summer and in the winter. The plan to have trees planted around the data center to prevent sound from traveling is quite alarming, knowing these trees will not grow for many years. Not only do we need to consider the effects on humans that will be caused by this, but the effects on the wildlife. The AUAR also needs to consider a full low-frequency mechanical noise study. According to Noiseawareness.org, "noise is one of the most common forms of sleep disturbance and when sleep disruption becomes chronic, adverse health effects are great." The article also stated

exposure to noise is associated with elevations in blood pressure.

The noise can also have a big effect on my children and children surrounding the area of the proposed data center. There is already a hum from Minnesota Powers substation, what will it be with an added 4 datacenters to the area? This current hum needs to be included in the study. This is unfair to our family to have to deal with possible health effects with this proposed hyperscale data center.

Pollution

Another concern I have is the pollution from the back up generators. Backup generators need to be included in the air quality study as they will need to be tested frequently to make sure they are working. According to page 45 of the AUAR, it states that "The AUAR will not be used to support any Air Permits or Backup Generation Site Permits." This shows me the AUAR is not adequate and we need to have an Environmental Assessment Worksheet. I do not want my children breathing these fumes as we are less than a half mile from this proposed site. According to an article written by the National Library of Medicine titled "Diesel exhaust: current knowledge of adverse effects and underlying cellular mechanisms," "The toxicity of any inhaled environmental agent is the result of its interaction with the respiratory tract, which is in constant contact with the air. Also according to this article, "studies of the last two decades have shown positive correlation to pulmonary diseases, cardiovascular disease, genotoxicity, and has been judged as a group 1 carcinogen to humans." Being a group 1 carcinogen, there is sufficient evidence that this level can cause cancer. There will be hundreds of backup generators that will be in correlation to this data center and I am quite appalled that the AUAR does not pay any attention to these backup diesel generators when the health of everyone surrounding this hyperscale data center would be at risk.

In conclusion these are only a couple of many other concerns of the proposed data center. I believe that an AUAR is not sufficient in this colossal project. An Environmental Assessment Worksheet would be a better option. Please keep my family's health in mind with this hyperscale data center. Thank you for reading my concerns.

Brea Schminski

From: Lois Aho
To: AUARcomments
Subject: Hermantown Data Center
Date: Thursday, April 30, 2026 4:33:07 PM

Hello,

My name is Lois Aho and I've been a resident of Hermantown for the past 23 years. I want to reach out and share my strong opposition to the proposed data center in Hermantown. The secrecy around pushing this project through is unsettling, coupled with the environmental impacts, (water and energy usage, light and noise pollution), impacts to residents nearby and property values make this data center a bad investment for the future of Hermantown. I hope the city takes mine, (as well as many other disgruntled residents), thoughts under consideration as they move forward.

Lois Aho

Sent from my iPhone

From: CH-Eric Johnson
To: CH-Ed Worden
Subject: FW: Hermantown Data Center AUAR
Date: Thursday, April 30, 2026 4:42:13 PM
Attachments: Notes on the Herm Data Center.pdf

Here's another one.

Thanks
ERic

-----Original Message-----
From: Thomas Bates <blitzenjaeger@gmail.com>
Sent: Thursday, April 30, 2026 4:40 PM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>
Subject: Hermantown Data Center AUAR

Dear Eric,

Please see attached notes regarding the Hermantown Data Center. Thank you for your interest in this matter.

Sincerly,
Thomas Bates

Notes on the Hermantown Data Center

AUAR means "Alternative Urban Areawide Review"

Q: How much energy does a Hyper Scale Data Center use?

Some new data centers are planning for power usage in 1.2 giga watt range.

That would power 300,000 to 750,000 or 525,000 homes on average.

This would easily power 1/2 of all the homes in the Twin Cities area.

The AUAR for Loon estimated the electrical usage based on a typical light industrial plant.

The Hyperscale installation planned for Hermantown would be many times that amount.

Q: As time goes on and more hyperscale plants are built in our area, where will the power come from?

The Hyper Scale Data Centers in other parts of the country have turned to natural gas to run gas turbine generators to meet their electrical needs.

The gas turbines are loud, (about 90 dbs) and run constantly. It seems they use diesel generators when the gas turbines need maintenance.

Data Centers grew by 35% nationwide last year.
Renewable energy grew by 15.1% last year.

The Electrical utilities are left with natural gas and nuclear power to serve these Data Centers, when the projected power demand exceeds their projected ability to supply the needs of Data Centers.

The Data Centers will use Natural Gas Turbines or Diesel Generators to power their installations if the grid's power is insufficient or unavailable.

Moreover, if the grid tries to pick up the slack, the utilities will more than likely turn to natural gas as renewables fall further and further behind.

Q: So what about our grid, you know, the one we all invested in?

From the Smithsonian Magazines Sept. 29, 2025.

Norman Bashir, a computer engineer at MIT found out that the big data centers often disrupt the electrical grid, and decrease the lifespan of household appliances.

Moreover, every time a new data center comes in, it means that the grid needs to be upgraded. And we will pay for that.

Q: What about the noise?

There will be the constant din and dust of construction;
EarthMovers 7 days a week;
Pile Drivers heard, for up to 2 miles, and pile driving 7 days a week
Blasting that goes on and on to level the site.
Trucks hauling fill away.
Trucks hauling building materials to the site.
This will destroy our peace and quiet for the next 10 years.

And then there's the hum.

The low hum can be heard for 2 1/2 miles, and in the quiet of the evening, up to 5 miles.

This 2 1/2 mile distance is pretty constant across the board when people talk about how far you can hear the low hum.

The higher frequencies can be filtered out, but the low hum is near impossible to stop.

The Studies (Found easily on YouTube) by American Universites Braxton Boren said that Data Centers produce very, very low frequencies, primairly below 200Hz. You cannot block them the way you can with other sounds. The Trees they are planning for their sound buffer won't help here at all.

The fans and the chillers taken individually wouldn't be much of an issue. But each building will have 40 chillers and many giant vent fans on the side of their building, plus the hum of their transformers..

Now think of a Big Harley Davidson driving by your home. It's noisy but not horrible. Now imagine 100 Hells Angels riding 31 abrest past your home. The windows rattle, the the house shakes and the very earth vibrates.

Now consider an orchestra. One violin playing a solo, then another joins in and another, then a cello and another until the whole orchestra is playing. If you give it a moments thought, the sound intensity between that one violin and the whole orchestra is truly remarkable.

It's the same with the Data Center. Its the cumulativel compounding of sound from 40 Chillers, perhaps as many giant wall vent fans, transformer cooling fans plus the hum of the transformers themselves. It will be a lot of sound, imposible to mitigate and impossible to live with.

There is research coming out that shows that the low frequency sound is harmful to people. I will summerize here. First of all, it disturbs our sleep. We seem to acclimate to sounds like the occasional car or truck, the train passing, the dog barking. But a constant multi frequency low hum cannot be acclimatized. We never truly rest

because the hum keeps our body on constant low level alert, our sleep is disrupted, and we have a growing feeling of fatigue. That low level, multi frequency hum and infrasound brings on hypertension, heartdisease, and increased stress hormones.

The Data Center will also have giant diesel generators. If they want a truly fail safe system then they will need perhaps 113 of these giant gen-sets per building. Each gen-set produces between 100 and 130 dbs per unit. You will hear it in downtown Hermantown when they run their monthly maintenance checks. That's just for just one building, and they are planning for four buildings.

Q: How much water does a Hyperscale data center use?

A single hyperscale data center can use between 1 and 5 million gallons of water per day for evaporative cooling.

Hermantown's AUAR for project Loon claims it would use 55,000 gallons of water per day. That's less than a light industrial site would of this size would use per day.

The Data Center Microsoft is building in Racine, WI will have access to Lake Michigan water because of building in Racine. Moreover, they won't even say how much water they will use.thing on the order of 1-1.5 million gallons per day.

Big Tech has it's eye on the Great Lakes because of the climate and the endless water resources.

Q: Why did this seem to come out of nowhere?

In simple terms, Big Tech is in a race to build stand alone Artificial Intelligence. Whatever company gets there first wins the brass ring.

All the information about the projects is hidden due to this competition.

Big Tech doesn't want anyone to know what they are up to.

Hermantown was essentially told nothing, that is the plan.

Small towns, tell them little to nothing. Get the Data Center built as fast as possible. We are the the Tech Bros simpleton suckers. Offer some incentives and they come running up like obedient dogs.

Im done.
Sincerely
Tom Bates
5369 Morris Thomas Road
HERMANTOWN, MN 55810
651 442 5001

From: Jim Phillips
To: AUARcomments; Jim Phillips
Subject: AUAR comments/ need for full EIS
Date: Thursday, April 30, 2026 4:44:58 PM

April 14, 2026

To: Eric Johnson- Community Development Director, Hermantown, MN
Re: AUAR comments as it pertains to the proposed Hermantown Hyperscale Data Center

It is very evident that we are learning more about hyperscale Data Centers everyday at the expense of other communities. Unfortunately, lessons and findings from around the country are raising many legitimate concerns as these Data Centers are pushed through as quickly as possible to avoid delays in permitting, while state legislators desperately write legislation to provide the checks and balances and guardrails needed to fairly and safely manage these massive (and not light industrial) centers the size of US Bank Stadium and some, even larger.

It recently has been discovered that Data Centers, (hyperscale Data Centers) increase ground temperature by 6 degrees up to 6 miles away from their location because of the tremendous amount of heat they produce. Historically, they use power generated by hundreds of diesel turbines (they say for "backup") to generate electricity since often electrical grids cannot handle the amount of power they need while these diesel turbo generators spew pollution throughout the city. Water usage has been grossly and purposely underestimated putting huge strains on city water and aquifers. The reality is this, we are now just learning about the negative effects of Data Centers on our environment and health. Look around the country. There are thousands of horror stories on what these Data Centers are doing to communities. Unfortunately for many, it's too little too late and these Data Centers were pushed through using abbreviated AUAR studies which is exactly what the Google's of the world want while ignoring the concerns of the community.

Six hyper-scale data center environmental studies are currently being challenged in court for being inadequate including Hermantown. Legislators are desperately creating as quickly as possible commonsense guardrails - a full environmental study and a permit for data centers that protects our water, energy system, and communities.

At minimum, full Environmental Impact Studies should be required. Yes, many other regulations need to be implemented but protecting the environment, our water, health and communities should be a priority which starts with an EIS and not some abbreviated AUAR study that does little to protect our citizens and only benefits companies like Google who only care about pushing these massive centers through as quickly as possible. Doing it the "right way" is not in the vocabulary of trillion dollar companies. Doing it the right way should be the priority for all Hermantown council members and officials representing and working

for the citizens of Hermantown.

Respectfully,
Jim Phillips
4924 Wildrose Trail
Hermantown, MN

From: Stacy Ringwelski
To: AUARcomments
Cc: CH-Wayne Boucher; CH-John Geissler; CH-Andy Hjelle; CH-Brian LeBlanc; CH-Joe Peterson
Subject: Request for Greater Environmental Oversight of the Proposed Hermantown Data Center Project
Date: Thursday, April 30, 2026 5:01:24 PM

Dear Mr Johnson,

I am writing as a resident of Hermantown deeply concerned about the proposed 1.8 million-square-foot data center development near Midway and Morris Thomas Roads. While I understand the economic promise such a project may bring, I believe the current environmental review, the Alternative Urban Areawide Review (AUAR), is not comprehensive enough to ensure protection of our community's natural resources, especially those within the Lake Superior watershed.

The AUAR, as approved, appears to rely on incomplete data and hypothetical scenarios rather than site-specific, project-based analysis. The Minnesota Department of Natural Resources (DNR), the Minnesota Center for Environmental Advocacy (MCEA), and local conservation districts have all expressed concern that the document lacks sufficient detail regarding groundwater impacts, wetland delineation, and trout-stream protection. Without knowing the developer's identity, energy demand, or final design specifications, the environmental modeling remains speculative at best.

I am particularly troubled by the prospect of clearing over 400 acres of undeveloped land within the upper watershed that drains toward the St. Louis River and, ultimately, Lake Superior. This area supports critical cold-water habitat and serves as part of the region's natural stormwater filtration system. Once forests, soils, and wetlands are replaced with impervious surfaces, their ecological functions, groundwater recharge, carbon storage, and temperature regulation are permanently diminished. These impacts cannot be fully mitigated through engineered stormwater control.

I am not opposed to technological progress or economic development. I am opposed to development that disregards ecological boundaries and the cumulative impact on the health of our watershed. I respectfully ask that you advocate for:

1. A supplemental environmental review or full Environmental Impact Statement (EIS) for the Hermantown site before any construction approvals are granted.

2. Transparency and public participation requirements that prevent nondisclosure agreements from limiting early public input on projects of this scale.

Thank you for your attention to this issue and for your service to our community. Please understand that a 'hyper-scale data center' is not a light industrial project by any means. I hope you consider the community's request to keep the area peaceful and the need to protect the habitat for future generations.

With respect and great concern as a neighbor in the Solway Township close to the proposed site,

Stacy Swanstrom

6322 Rose Road

Duluth, MN 55810

From: kate moran
To: AUARcomments
Subject: Against data center
Date: Thursday, April 30, 2026 7:14:14 PM

Hello. Lake Superior is a natural treasure and should not be used as a reservoir for a data center. Data centers are toxic to the communities around them. Please save the Lake.

Respectfully,
Kate Moran

From:	John Swanstrom
To:	AUARcomments
Cc:	CH-John Geissler; CH-Andy Hjelle; CH-Brian LeBlanc; CH-Joe Peterson; CH-Wayne Boucher
Subject:	Request for Greater Environmental Oversight of the Proposed Hermantown Data Center Project
Date:	Thursday, April 30, 2026 6:37:45 PM

Dear Mr. Johnson,

I am writing as a resident of Hermantown deeply concerned about the proposed 1.8 million-square-foot data center development near Midway and Morris Thomas Roads. While I understand the economic promise such a project may bring, I believe the current environmental review, the Alternative Urban Areawide Review (AUAR), is not comprehensive enough to ensure protection of our community's natural resources, especially those within the Lake Superior watershed.

The AUAR, as approved, appears to rely on incomplete data and hypothetical scenarios rather than site-specific, project-based analysis. The Minnesota Department of Natural Resources (DNR), the Minnesota Center for Environmental Advocacy (MCEA), and local conservation districts have all expressed concern that the document lacks sufficient detail regarding groundwater impacts, wetland delineation, and trout-stream protection. Without knowing the developer's identity, energy demand, or final design specifications, the environmental modeling remains speculative at best.

I am particularly troubled by the prospect of clearing over 400 acres of undeveloped land within the upper watershed that drains toward the St. Louis River and, ultimately, Lake Superior. This area supports critical cold-water habitat and serves as part of the region's natural stormwater filtration system. Once forests, soils, and wetlands are replaced with impervious surfaces, their ecological functions, groundwater recharge, carbon storage, and temperature regulation are permanently diminished. These impacts cannot be fully mitigated through engineered stormwater control.

I am not opposed to technological progress or economic development. I am opposed to development that disregards ecological boundaries and the cumulative impact on the health of our watershed. I respectfully ask that you advocate for:

1. A supplemental environmental review or full Environmental Impact Statement (EIS) for the Hermantown site before any construction approvals are granted.

2. Transparency and public participation requirements that prevent nondisclosure agreements from limiting early public input on projects of this scale.

Please understand that a 'hyper-scale data center' is not a light industrial project by any means. I hope you consider the community's request to keep the area peaceful and the need to protect the habitat for future generations. The only investment that this project benefits is the company coming in and not the community. In no terms does this project generate income, as it is essentially a hub. Any projects taken into consideration should seek and account environmental information from other sites before proceeding without community support. Thank you for your attention to this issue and for your service to our community.

With respect and great concern as a neighbor in the Solway Township close to the proposed site,

John Swanstrom

6322 Rose Road

Duluth, MN 55810

From: Brian Dourn
To: AUARcomments
Subject: Data center
Date: Thursday, April 30, 2026 6:29:12 PM

Hello,

I am writing to express my disappointment in this data center being covered up in development, and then forced on people wo their consent. I live in solway township just outside hermantown, but still w in the affected area of this monstrosity.

That we will be forced into giving a billion dollar company that just posted an 80% increase in profits a tax break to come destroy the natural resources (2 different trout streams) and groundwater is among the dumbest things I've heard this year. And we have a Trump presidency. The stupidity daily is astonishing. This short term short sighted approach highlights our broken systems.

Please for the sake of residents and environment reconsider forcing this on us. There is no long term positive and the data center will be obsolete in 3 years. It makes no sense.

Please remove your heads from sphincters and do what right for people and not rich out of touch people's wallets

Brian Dourn

From: Peter Taylor
To: AUARcomments
Subject: comments on AUAR scoping
Date: Thursday, April 30, 2026 7:37:11 PM

City of Hermantown,

Thank you for the opportunity to comment on the revised AUAR scoping document (AUAR SD).

Project Description
-The AUAR SD, given that it contains a large specific project, does not comply with Minnesota Rules at 4410.3610 ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS. Subp. 5a. Additional procedures required when certain large specific projects reviewed:

> B. Prior to final approval of the order for review pursuant to subpart 3, the RGU must conduct a public process to receive comments about the scope of the review. The RGU shall prepare a draft order for review and distribute and provide notice of its availability in the same manner as for an EAW pursuant to part 4410.1500. The draft order for review must include the information specified in subpart 3 and a description of the specific large project or projects to be included in the review comparable to that of a scoping EAW pursuant to part 4410.2100, subpart 2.

The reason for lack of compliance is that the AUAR SD (i.e. draft order) does not contain a purpose and need, nor is the project description adequate (i.e. what is needed for project description in a scoping EAW pursuant to part 4410.2100 subpart 2). Regarding project description, the special use permit application and supporting documents on the City website contain project description details that are not included or referenced by the AUAR SD. Why are they not included or referenced by the AUAR SD, or an updated version of them? That said, a key missing piece of the project description in this AUAR SD includes a more complete description of the cooling system for the data center. There is only one moderately cryptic sentence in the AUAR SD on cooling system. Is the cooling system air cooled, or closed loop water cooled or something else? How many chillers and what type? What if any water will be consumed by the cooling system? Will the cooling system use chemicals, and if so which? Another key missing piece of project description is number, size and type of backup generators, and how long they would be estimated to run. These are only two examples of an inadequate project description for a large industrial project that likely has significant adverse effects.

The project description and study area are also inadequate because it fails to identify the water system buildout and road improvements described at Appendices G and I to the Development Agreement on the City website as connected actions. The specific large project proposed in this AUAR SD-the hyperscale data center- is inducing the water system buildout and road improvements identified in the Development Agreement. As evidenced by the Development Agreement, the data center proposal is causing the water system buildout and road improvement projects to occur. Further, they would not occur unless the data center project occurs. They are connected actions under the Minnesota Environmental Policy Act and need

to be studied in the same environmental review with an expanded study area.

Alternatives

While the ability to offer environmentally superior alternatives is diminished because of lack of a purpose and need and a lack of an adequate project description, here are some alternatives to consider.

-An alternative that has a scenario with a smaller data center complex. Instead of 4 data center buildings, analyze 1 data center building. This would be environmentally superior because less forest, wetland, and farmland of statewide importance would be eliminated by the scenario; and sound, light, and air pollution and greenhouse gas emissions and power consumption would be reduced. There is nothing about the study area that uniquely supports the existence of a data center, they could be located in many places as shown by nationwide buildout. The proponent could locate the other 3 proposed data center buildings elsewhere outside the study area.

-An alternative that has a scenario with no data center; instead analyze other potential businesses (e.g. such as those in the UMD economic study on the City website). This may be environmentally superior because data centers have significant adverse impacts that other businesses likely do not. This includes constant 24/7/365 and long-term significant adverse noise, backup generator impacts and massive power consumption with potentially resulting GHG emissions.

-A no build alternative should be analyzed displaying outcomes if no development occurs. This would be environmentally superior because it would not eliminate any forest, wetland, or farmland of statewide importance; nor generate air pollution or constant noise.

-An alternative that locates the development scenario in a brownfield. This would be environmentally superior because it would not eliminate forest, wetland or farmland of statewide importance. In addition, noise and air pollution may impact less receptors, depending on brownfield choice. Brownfields on the Iron Range should be examined for this alternative.

-An alternative that requires battery backup power generation only. This would be environmentally superior because it would reduce or avoid air pollution and noise from what would very likely be a large number of huge diesel generators.

-Analyze air cooled versus closed loop water cooled systems. Closed loop water cooled system would likely emit less noise than air cooled; however this alternative would need to compare tradeoffs on other resources such as water use, hazardous waste, and power consumption.

-Under no circumstances should an evaporative water cooled system be allowed because that risks massive drawdown of groundwater or water from Lake Superior. The mitigation plan should ban this cooling system design at any time.

Issues

While the ability to offer comments on issues is diminished because of a lack of an adequate project description, here are some issues to consider. Recommendations on the mitigation plan are also offered.

-Analyze noise from construction, operations and backup power generation from the scenarios. This project is not typical-it has a 5+ year construction timeframe, and would emit noise constantly and long term during operations. As such, compliance with Minnesota Rules on Noise alone will leave human receptors still experiencing significant adverse impacts. Additional mitigation above compliance with Minnesota Rules on Noise needs to be included in the mitigation plan. To determine what mitigation will actually work, noise modeling is needed which includes modeling low-frequency sound. Modeling only sound emissions as measured in A-weighted decibels is not adequate; include modeling for low-frequency sound which is produced by data centers. Modeling needs to analyze how far sound will travel and the area it will be audible or affect receptors-including low-frequency sound. Model for quiet conditions to capture those times-especially night and leaf-off conditions. Based on modeling, add mitigation to the mitigation plan and project design to reduce impacts. This may include designing chillers/cooling equipment to emit less sound, and using battery backup instead of diesel generator backup. See also above comments on closed-loop water cooling systems and battery backup only to reduce noise. In addition, the mitigation plan should prohibit construction activities outside of weekdays, 8 am to 5 pm because 5+ years is an unusual circumstance.

-Analyze light pollution produced by the scenarios and include in the mitigation plan required measures to reduce it.

-Analyze air pollution and greenhouse gas emissions produced by the scenarios, including construction, operations, and backup power generation. The mitigation plan should require battery backup only to reduce noise and air pollution from this part of the project; and include adequate management and response plans in the event of any battery fires. On-site power generation for operations is likely an extremely terrible idea with massive adverse impacts (i.e. running diesel generators constantly instead of during power outages). Ban it in the mitigation plan.

-Analyze and disclose water draws and discharges to the WLSSD system from the scenarios. The mitigation plan should ban groundwater withdrawals and discharges to avoid risks of adversely impacting area residents wells and farms. Analyze impacts of converting greenfield to impervious surface to the watershed and water bodies from the scenarios, including wetlands, the Rocky Run trout steam, Midway River, St. Louis River, and Lake Superior. The mitigation plan should buffer any nearby streams with a no ground disturbance zone. The mitigation plan should ban the production of industrial wastewater; or otherwise provide a detailed plan for managing it if it would be produced. The project description should clarify if any hazardous materials or hazardous waste (e.g. heavy metals from e-waste, biocides, etc) will be produced by the scenarios and what the controls in the mitigation plan are if they are produced.

-Analyze impacts to forests, wildlife habitat, plants, and farmland of statewide importance from the scenarios. Nesting and denning sites of threatened, endangered and sensitive wildlife species should be buffered; and occurrences of sensitive plant species buffered as well.

-Analyze tax and revenue outcomes for the City budget, net of tax abatement and other relevant factors from the scenarios. Analyze impacts to property values within the area noise would be audible from the scenarios. Analyze if residents would end up seeing utility bill increases as either a direct or indirect result of the scenarios. Disclose how much power each scenario would use.

-The mitigation plan should include a reclamation bond that is sufficient to either repurpose the development, or decommission it and restore the forest and wetlands in the event the project is abandoned or closed.

-The mitigation plan should require the use of local union labor.

-The mitigation plan and the special use permit, if issued, needs to have sufficient ability to enforce its terms. This could include a clause requiring shutdown of construction or servers if compliance is willfully ignored.

-Analyze general cumulative effects of projected development in the BLM zoned area per the UMD economics study posted on the City website. Also analyze cumulative effects from other nearby existing and anticipated development (power substation etc). If the City decides the water system and road improvements are not connected actions (even though they are), they should be analyzed for cumulative effects. Cumulative effects analysis should estimate conversion of greenfield to developed area from cumulative actions and then analyze what the impacts to wildlife, wildlife habitat, wetlands, watershed, and farmland of statewide importance is. Also analyze the cumulative change of the area from rural residential character to industrial character, discussing scenery, traffic, noise and light.

-The City should consider that a large majority of residents oppose this particular project before taking next steps, as shown in the University of Wisconsin-Superior survey.

Peter Taylor
Hermantown, MN

From: Julie Maurer
To: AUARcomments
Subject: Public comment on Hermantown Datacenter AUAR
Date: Thursday, April 30, 2026 7:32:11 PM

To Mr. Eric Johnson,

I am writing to express my concerns as a citizen and natural resources professional about the proposed hyperscale data center, to be located in Hermantown. My chief concerns are that the location planned for this datacenter will impact several hundred acers of irreplacable wetland habitat and will cause a significant amount of light pollution, industrial noise, and rising energy costs for surrounding residents such as myself, living within 15 miles of the site.

Wetlands provide irreplacable water filtration which improves water quality for humans in addition to the numerous habitats within the wetlands themselves and surrounding areas. Forested wetland in particular is already threatened by human development. Now more than ever, it is critical that we protect what is left as insect populations are crashing around the world. The insects in wetlands provide food for fish, which are integral to the cultural livelihood of minnesotans, and pollinators which help us grow our food. Wetlands themselves can store carbon, offsetting climate change impacts. Meanwhile the proposed datacenter will consume more electricity than all the residents of Hermantown and Duluth combined, increasing local greenhouse gas pollution by several times the current level and severely setting back our progress towards a sustainable and livable future.

Additionally, the data center will only provide short term jobs, not the long term, stable economic growth our region needs. Meta, the company for whom this data center will store and process information, is a social media empire and as such will not provide any tangible societal or economic benefit with the development of this data center or others like it.

I fundamentally oppose the entire data center project on environmental, human health, and economic grounds. This project will cause irreversible harm to our communities and the natural areas we depend on for culture, clean water, air, fish, and so much more. Please listen to your constituents and shut down the entire project.

Sincerely,
Julie Maurer

From: Colten Danelski
To: AUARcomments
Subject: Stop The Hermantown Data Center
Date: Thursday, April 30, 2026 7:23:06 PM

To whom it may concern,
My name is Colten Danelski and I have been a proud Hermantown community member since the time I was born. I'm currently studying at Yale University and am sad to see the changes that are affecting the place I am proud to call home. I am concerned about the water requirements of the data center, the AUAR does not address how much water will be used and how it will be disposed. After the devastating loss in the boundary waters, I do not believe that this unsustainable data center belongs in a community that prides itself on clean water and quality outdoor living.
Please reconsider your decision to go forward with this plan for the betterment of the community and the water we all rely on.
Best regards,
Colten Danelski
Yale University '27

From: Marshall Boone
To: AUARcomments
Subject: AUAR Comments
Date: Thursday, April 30, 2026 8:19:46 PM

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

I hope this finds you well. As a resident of Duluth, the proposed data center cocnerns me a lot. time and again we see boom industries scramble to build infrastructure in small remote places then leave when the boom is over. AI may be here to stay, but it seems clear that the motivation to build a data center in Hermantown, rather than the suburbs of New Jersey, or L.A. can only be seen as nefarious. The company proposing this has targeted this area for three reasons;
Large amounts of fresh water, access to a local workforce, and relaxed environmental/ developmental policies.
As a resident of a neighboring town, I would like to see water use, energy use, noise and light pollution all considered. These data centers have already been shown to wreck the local aquifers, pull huge amounts of energy at times and none at others, and emit sound frequencies that make the surrounding areas nearly unliveable. I would like to see all of these effects addressed thoroughly in you AUAR revision. Don't let a short term cash flow ruin the water, power grid, and neighborhood.

--
Marshall Boone
Duluth, MN
boonemarshall @gmail.com

From: Lisa Parks
To: AUARcomments
Subject: Hermantown Data Center public comment
Date: Thursday, April 30, 2026 8:03:37 PM

Good evening,

I am writing to express my deep concern regarding the potential Hermantown Data Center coming to this region. It is my understanding that this project is being pushed through without buy in from the community, adequate environmental studies, or transparency about the plans and the major impact to the environment. This would cause negative impact on our waters, wildlife, as well as animal and plant life habitats. The residents of Hermantown moved to the area for peace and the rual community. This Data Center would be catastrophic for all in this region. More time needs to be taken to do your due diligence and work out a true mitigation plan that will address all of the dangers that Data Centers cause.

Thank you for your time and consideration.

From: Lee Werner
To: AUARcomments
Subject: Lee Werner - Comment on the revised AUAR
Date: Thursday, April 30, 2026 8:02:39 PM

Hello,

My name is Lee Werner, resident of Duluth, MN at 701 N 20th Ave E. I am writing this email out of concern for my neighbors in Hermantown with respect to the ecological and societal concerns that the Google Hyperscale Data Center will have on its planned footprint, its immediate neighbors, and the local area.

I will keep this short and to the point – an AUAR is a tragically inadequate environmental assessment for a project of this scale. At minimum, an Environmental Impact Statement (EIS) should be conducted. A data center of this scale is also a relatively new phenomenon, where in 2017 only 10% of all data center capacity were Hyperscale Data Centers (link), thus the effect of data centers over time, notably of this scale, is largely unknown.

This lack of information around how Hyperscale data centers affect communities long-term also makes a case for a one or two year moratorium on any new data center development. The State of Minnesota does not have any kind of strong regulating body to keep data centers specifically in check, and more time is needed to ensure that if Google does build a data center, it will not be at a steep cost of the livelihood of your neighbors.

To re-iterate, I am requesting that the City of Hermantown institute a 1 or 2-year moratorium for new data center development, and to conduct an EIS instead of an AUAR.

Thank you,

Lee Werner

From: Rachel Poppe
To: AUARcomments
Subject: Public Comment on AUAR Scoping Document
Date: Thursday, April 30, 2026 7:45:21 PM

The following are my comments on the AUAR Scoping Document put forth for the Google Hermantown Hyperscale Data Center:

On AUAR vs EIS
-An AUAR is insufficient for a project of this scale. An EIS should be prepared instead.

Project Location
-This site seems unsuitable for the project given its size, proximity to housing, and the serious risks given the high water table at the site.

Specific Comments on the AUAR
-Project related use and/or storage of hazardous materials should absolutely be studied in the AUAR. This should be required for this project.
-Existing Cover Types: What specific forest cover types are there? What is the quantified loss of carbon storage with the removal of the forest?
-Wetlands: I believe the large amount of wetlands on the site makes it a poor choice for such a large development. The AUAR should make a survey of ephemeral wetlands including vernal pools, which are at-risk habitat. Furthermore, a comprehensive study of the wetlands including a search for rare or endangered species should be completed.
-The soil erosion risk is too high for this project. 69% of the soils being moderately erodible is a high risk for a project of this size.
-I strongly oppose tax breaks for this project. They do not benefit the public and only serve the company.

Thanks,
Rachel Poppe

From: Elizabeth Weigler
To: AUARcomments
Subject: AUAR Comments
Date: Thursday, April 30, 2026 8:21:45 PM
Attachments: II AUAR Comments.docx

Thank you!

Date: April 28, 2026

To: RGU: City of Hermantown

Eric Johnson

5105 Maple Grove Road

Hermantown, MN 55811

AUARcomments@hermantownmn.com

Re: AUAR Public Comment

Dear Mr. Johnson and the City of Hermantown,

My name is Elizabeth Weigler and I live at 2044 Dunedin Avenue, Duluth, MN 55803. I would like to offer public comment on the existing AUAR regarding the scope of the hyperscale data center in Hermantown and the data that has thus been collected. **My comments will be related to the need for public health and social impacts assessment.** Moving from the AUAR to an EIS will potentially address what I want to focus on here – the inclusion of two assessment inadequacies:

- Social Impacts and Health Impacts Assessments
- Risk of Project Abandonment

Social Impacts Assessments (SIA) are an important tool for understanding the impacts to individuals and communities. **The potential impacts of the project on the people of Hermantown from a public health and psychosocial perspective should be addressed.** A SIA would investigate multiple areas, but I am particularly concerned about:

- "Their health and wellbeing: health is a state of complete physical, mental, social, and spiritual wellbeing and not merely the absence of disease or infirmity;
- Their personal and property rights: particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties;
- Their fears and aspirations: their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children." (International Association for Impact Assessment)

Regarding health, wellbeing, and perceptions of safety: A 2026 assessment in Virginia found that,

> "Large-scale land conversion for data center development alters local ecosystems and built environments, indirectly affecting health through loss of green space, increased heat exposure, air pollution, and psychosocial stress. These effects are cumulative and long-term... [and] This rapid transformation threatens rural populations, contributing to increased psychological stress," (Gour et al, 2026).

This describes, in part, solastalgia (grief that come from the loss of place), which a 2026 scoping review found positively associated with depression, anxiety, and post-traumatic stress disorder (Sandquist et al, 2026). According to a 2025 study of and by front-line nurses: "These cumulative effects often lead to anxiety and uncertainty about the future, highlighting the enduring impact of cultural and environmental change on mental health," (Er et al, 2025, pp87-88).

This AUAR does not address the psychological stress that can (and from what I've seen *has*) occur(ed) from perceived threats to health and safety that is often exacerbated by the feeling of being left out of the decision making process (e.g. NDAs, increased litigation). It should be noted that persistent psychological distress can manifest as increased cardiovascular disease, decline in memory, and reduced immune response (HPHC pp. 32).

Hermantown needs to assess the potential public health costs. The AUAR inadequately addresses important state assessments for environmentally sensitive and critical habitat, and explanation for the re-zoning described on pages 22-24. **The research is clear that this project will have lasting impacts on the social and physical wellbeing of the community; continuing with this project without quantifying and assessing these potential harms (and benefits) is inadequate**. *Health Impacts Assessments* (HIA) have been used with positive effect in Minnesota and are of the utmost importance in addressing the potential public health risks of this project.

Regarding personal and property rights, the risk of project abandonment is a very real concern. The way data centers are being financed, supply chain issues, and lack of developer experience in a rapidly evolving space make it necessary to plan ahead in the event that this project is not viable in the long-term. According to a Report by Public Enterprise,

> "**[P]olicymakers ought to evaluate the consumer, regional and energy infrastructure-related impacts of a market correction. Policymakers should be wary of extending tax incentives** that do not pay off or yield any benefit, as well as of hitching local budgets to this one growth industry. More importantly, though,

> policymakers should prepare an investment strategy centered on acquiring distressed energy infrastructure assets and repurposing them to serve future demand," (see report).

What protections are in place for the risk of abandonment? The section on Public Finance Assistance and attendant analysis needs to be completed with this in mind prior to approving the project.

I recognize the extraordinary effort that has gone into the AUAR and the attendant hopes of policymakers and some residents. I submit these comments with respect and the best of intentions for our communities, and with an eye to not just the hopes but the science that informs the concerns of many residents. **Thank you for your consideration in expanding this assessment to include the social and health impacts.**

Best,

Elizabeth Weigler, PhD

From: Alyssa Burr
To: AUARcomments
Subject: NO DATA CENTER!
Date: Thursday, April 30, 2026 8:56:17 PM

Good evening, I will keep this short and to the point.
I and NOT in favor of the data center being built in hermantown, MN for an exhausting amount of reasons including but not limited to the location, environmental impacts with water contamination, air pollution, electrical impacts and more. So I am NOT in support of the data center being built.

Thank you,
Alyssa

Sent from my iPhone

From: Susan Nordin
To: AUARcomments
Subject: AUAR Public Comment
Date: Thursday, April 30, 2026 9:35:58 PM

To: RGU: City of Hermantown

I am writing to express concern regarding the Alternative Urban Areawide Review Scoping Document for the proposed Google Hermantown Hyperscale Data Center project. As a physician concerned with human health, I find this document inadequate. As a resident of Duluth concerned with ecosystems, natural habitats and wildlife, I find this document inadequate. It is imperative that large industrial projects fulfill their obligation to show the health and environmental impacts that such projects are likely to have.

I understand that the AUAR SD does not adequately reveal the purpose and need of the proposed project, and after the document was published, more information has come forward. This is unacceptable. The public needs to be able to weigh in on a project of this scale and have a chance to comment. Before it can be determined what impacts a project will have, what the project IS must be stated clearly. This is not the case here. Additionally, now that we understand that this is a much larger project than one that would only require an AUAR, there are other considerations. One is that hyper scale data centers require water and power. What are the impacts of building this infrastructure? Are underground pipes needed? More power lines? Sources of water? Road and transportation issues? These are examples of some of the questions that are unanswered by the current AUAR.

An AUAR SD is inferior to an EIS which large scale projects typically are required to do. An AUAR or EIS should assess the effect of proposed project on wildlife habitat. The proposed area has abundant wildlife and some species which are endangered or threatened. The fact that the Minnesota Power substation is in that area may be convenient for the project, but it does not preclude the obligation to study and disclose the environmental impacts of what such a project would have. The AUAR SD does not adequately do this.

Noise needs to be evaluated and clearly disclosed to residents in the region. It is not acceptable to simply say "there is already road and train noise in that area" and call it good. Noise impacts human health, migration patterns of birds, and quality of life for humans and wildlife. There are residents that live in that area who will be impacted. They need to know what the noise levels are likely to be, and also it is imperative for that noise to be minimized so as not to negatively impact human health and quality of life.

Details of how much water the project will use, and whether chemicals will be needed to treat the water, and how the wastewater will be handled is all critical information that is required for the public to know about. An AUAR or EIS needs to evaluate the effects and impacts this project will have on water as well as downstream effects and economic effects having to do with water handling, and environmental effects on area groundwater as well as streams and wetlands.

What are the emissions and effects on air quality? These affect human health both locally and also distant from the proposed project, if one takes into consideration greenhouse gas emissions. Again, details are needed, and not adequately addressed in the AUAR.

There is more to say, but I will keep this short and to the point. The current AUAR fails to adequately evaluate and disclose the environmental and human health impacts of this project. I want to see a proper Environmental Impact Study done with time for public comment and appropriate and reasonable responses to concerns raised by the public.

Sincerely,

Susan Nordin, MD
Duluth, MN 55808

From: Anita F
To: AUARcomments
Subject: Hermantown Data Center
Date: Thursday, April 30, 2026 9:29:05 PM

To whom it May Concern:

As a resident who lives near Hermantown and on behalf of all residents affected by this Data Center, I am expressing my disdain for its existence.The residents had not been informed with honesty about exactly what this project would entail. Not even calling it a Data Center. That in itself is unacceptable. Not only will it pollute the environment causing harm to wildlife, ecosystems, our waters and plant life, but will endanger the health and well being of the residents in its wake. Quality of life will be impacted by the tremendous light and sound that will be emitted. It would have negative economic impacts by rising utility rates, increased tax rates etc. Folks choose to live in this rural environment for peace away from city "noise." To build said center here is unconscionable and I go on record to vehemently oppose this project.

Sincerely yours

From: Emily Gustafson
To: AUARcomments
Subject: Data Center
Date: Thursday, April 30, 2026 9:05:00 PM

Nobody wants this data center! The amount of pollution it produces should be reason enough. It is shameful you feel so comfortable going behind peoples backs to get this data center passed. Not just how it affects the environment but the light and sound pollution as well. I know they are necessary but not so close to a town. There are plenty of places in the middle of no where that would be perfect.

From: Matt Butorac
To: AUARcomments
Subject: AUAR Comments
Date: Thursday, April 30, 2026 8:58:12 PM

Date: April 28, 2026

To: RGU: City of Hermantown

Eric Johnson

5105 Maple Grove Road

Hermantown, MN 55811

Re: AUAR Public Comment

Dear Mr. Johnson and the City of Hermantown:

We think that this project should be treated as 3 or 4 (or however many phases and changes they make) as separate projects, each with their own EIS and not with a generic AUAR. There is no need to fast track this process.

The updating of the original AUAR due to updated information from the developer **may** be a reasonable process, as long as you commit to continue to update it as changes or additions to the current plan are proposed. If the current plans are not what they end up wanting to build, we need to update the AUAR. With the current timeline of years between each phase, there are bound to be changes to the designs and our knowledge of the effects on the environment of data centers. Without updating the AUAR when the subsequent phases, (or changes to the current one) go to permitting, we should not approve any permits until the environmental reviews are done on the actual construction plans, not a generic version of what they will actually build.

Matt and Mary Butorac

4089 Lavaque Road

Hermantown MN 55811

From: Lindsey Ploetz
To: AUARcomments
Subject: Against Data Center
Date: Thursday, April 30, 2026 10:22:12 PM

From: Ethan Kilburg
To: AUARcomments
Subject: Please Help Protect the Midway River Watershed
Date: Thursday, April 30, 2026 9:55:05 PM

To the City of Hermantown,

Please strongly consider the potential negative impacts of the proposed Google data center development within the Midway River Watershed. The proposed site lies between West Rocky Run and Adolph Creek, two of the most important coldwater streams in the region and critical habitat for native brook trout. Converting 278 acres of undeveloped forest and wetlands into impervious surfaces threatens groundwater recharge, increases runoff and stream temperatures, and risks permanently degrading one of the highest quality brook trout systems in northeastern Minnesota. The MPCA's own watershed study identified this exact area as a priority for protection.

There are clearly more appropriate locations for a project of this scale within already developed portions of the watershed, including the East Rocky Run or Lower Midway River subwatersheds. At minimum, a far more comprehensive environmental review is necessary before any permits are considered. Once cold spring systems and native trout habitat are damaged, they are extremely difficult — if not impossible — to restore. This watershed should be protected for future generations, not sacrificed for development in one of the most environmentally sensitive areas in the region.

Sincerely,
Ethan Kilburg

From: nfbecher@gmail.com
To: AUARcomments
Subject: Data Center
Date: Thursday, April 30, 2026 9:42:21 PM

I believe the City should not be initiating this revised AUAR at this time. Instead, an Environmental Impact Statement (EIS) should be prepared. Further, I support state legislation to place a two year moratorium on data center permitting, and a statewide environmental review to consider if, where and how hyper scale data centers might be permitted. A key issue the City's revised AUAR may not adequately examine is siting-if hyper scale data centers would be built in Minnesota, where are the optimum sites?

From: JackieOD@proton.me
To: AUARcomments
Subject: AUAR Scoping Document (SD) Comments
Date: Thursday, April 30, 2026 9:40:25 PM

I am writing with comments for the AUAR scoping document. I do not support the data center and this input should not suggest otherwise.

CONSTRUCTION NOISE:
Page 48 / AUAR Guidance states that construction noise need not be addressed in an AUAR, unless there is some reason to do so. It also states that the study area is currently single family residential with single family residential homes to the east, west and north of the Study Area. Besides the substation, the area is residential, regardless of how it has been rezoned.

The SD states that no unusual circumstances have been identified that would necessitate a detailed construction noise analysis. How is more than five years of construction noise not unusual?

The SD states the City of Hermantown limits constructions activities to 7am - 10pm. Is that Monday - Friday or 7 days a week? Allowing construction until 10pm, 5 (or 7) days per week, is absurd. Again, as the SD states, this is a residential area. There will be massive tree clearing, grading, excavation, blasting (?), dump trucks, excavators, large tractor trailers, etc.. Please limit construction *noise* to 8am - 5pm, Monday - Friday.

Please study construction noise. Let's do more than just the bare minimum..

This data center does NOT belong in a residential area.

Jackie Dolentz

Sent with Proton Mail secure email.

From: Joeleen Torvick Hacker
To: AUARcomments
Subject: AUAR Comment
Date: Thursday, April 30, 2026 10:45:54 PM
Attachments: AUAR Comment.docx

Hermantown Elected and Appointed Officials,

Attached is my AUAR Comment. Thank you for taking the time to review it.

Sincerely,

Joeleen Hacker

4/30/2026

Hermantown Appointed and Elected Officials,

My name is Joeleen Hacker. My family of five lives at 3604 Lindahl Rd. in Hermantown. We have lived in Hermantown for almost 10 years and have enjoyed being a part of The City Of Quality Living. I have concerns regarding the City's new AUAR for Google's hyper-scale data center.

While there are many concerns I have, one the main concerns involves the health risks associated with data centers and those living near them. People are concerned that they may have a higher risk of brain related injuries due to electromagnetic fields and decibel levels, as well as higher risks of asthma due to pollution.

These concerns are not only concerns to our local area, but are concerns shared by communities that are being affected by this all across the United States. So much so that Missouri's Senator Josh Hawley addressed concerns, specifically brain injuries and cancer, from his constituents to Robert F. Kennedy Jr. Forbes Breaking News documented the meeting and posted the clip on April 23, 2026. Robert F. Kennedy Jr. even stated "there are a range of injures that are very well documented. They are neurological, very, very grave neurological injuries, cancer risk, and then just making the blood barrier in the brain more permeable for toxins to get into the brain." He went on to say, "The risks to me are horrendous."

There is no note, of which I could find, listed in the AUAR about this concern. RFK Jr. is asking for multiple agencies to do case studies on these issues. It seems appropriate, before risking the health of our neighbors, to wait until these studies are finished and can publish their findings. Afterall, our health and our neighbors health is undeniably important.

Thank you for taking the time to review one of the many concerns that go along with a hyper-scale data center.

Sincerely,

Joeleen Hacker

From: King, Melissa J
To: AUARcomments
Subject: Google Data Center comment
Date: Thursday, April 30, 2026 11:03:09 PM

Hello,

I'm writing to oppose the data center being considered in Hermantown. I oppose it in any location, but with the current proposed location, as a watershed with trout streams home to brooke trout, where those streams could be warmed or polluted I request that if you will not decline this development project you at least move it to a location with fewer cold water streams and risk to local, fragile habitat.

That said, research from data centers around the world show that they use a disproportionate amount of power and water resources, which results in the increase in prices for all residents in the area. This is deeply concerning to me as we reside in an area with existing economic strain, worsening with current inflation. Additionally, I'm concerned about the risk to our fragile habitats and Lake Superior, which if/once polluted affects the access to freshwater, the sport, and the food it provides to all of us in the region and to our visitors from elsewhere. Lastly, although there are big hopes that AI will identify strategies to address the climate crisis, there's great risk that it'll damage our planet and society more quickly than it solves the problem, putting us all at risk.

Please at a minimum, move the planned location but preferably, don't take this money at the expense of our ecosystem and on the backs of the poorest residents who can't afford utility increases.

Thank you,
Melissa King

Pronouns: she/her/hers What's this?
Located in Duluth, MN. Land that is past and present home to the Ojibwe and Dakota people.

From: Brian Ruggle
To: AUARcomments
Subject: Please don"t allows a Data Center in Hermantown
Date: Thursday, April 30, 2026 10:47:27 PM

Hello,

My name is Brian Ruggle, and I live in Duluth. I love to fly fish. I'm strongly opposed to any data center in our area. The amount of water and energy needed for these data centers is tremendous. Please don't allow one of these to be built in our area. Harming local streams and fish is one of many reasons not to allow these data centers. Is it a coincidence that companies wanting these are trying to secure these deals quietly, without communities knowing? If it were really good for the community with little risk and high reward, they'd be open and loudly trying to convince the public what a great thing this is. Clearly, they know it's bad for communities and for the environment.

This is not unlike the removal of the ban on mining in the boundary waters. These things take just one time, one building, to ruin the environment forever. Do you all want to be responsible for allowing this to happen?

Please don't allow a data center to be built anywhere in or near our area.

Respectfully,
Brian

From:	Allison Hafften
To:	AUARcomments; CH-Eric Johnson
Subject:	AUAR SD Comments - Incompatible Project Area AH
Date:	Thursday, April 30, 2026 11:17:39 PM
Attachments:	AUAR SD Comments - Project Area Incompatible Zoning Land Use AH 04302026.pdf

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

April 30, 2026

City of Hermantown (City):

In response to the AUAR Scoping Document (AUAR SD) opened for public comment on March 31, 2026, I submit the following comments for consideration:

AUAR Project Area Incompatible with City land use, community desires; Unlawfully Rezoned

I have studied the Hermantown zoning map (hermantownmn.maps.arcgis.com), which appears may not be current as it does not reflect the 17 parcels in the SW quadrant that were rezoned from rural residential to BLM in September 2025.

What I realized when I studied the zoning map is that nearly every square inch of Hermantown is spoken for: residential zones of light, medium, and rural, high density commercial, and a sprinkling of public and open space. This is a typical mix for a small city like Hermantown, but what stands out to me is how inconsistent the zoning of the 17 parcels in SW Hermantown are when looking at the full zoning map. A sizeable commercial sector is in the NE quadrant bordering the Duluth mall area and Miller Trunk Highway. The rest of Hermantown is comprised of varying density residential zones, public and open spaces, and a couple business light manufacturing (BLM) zones. I find it odd that Hermantown has commercial and BLM zones overtop of resident's homes. This is evident in the Hermantown Marketplace zone and in the BLM zone on Lightning Drive. I wonder if those homes were also rezoned from residential to Commercial or BLM against residents' desire or even knowledge.

Specific to the 17 parcels in the SW corner, the zoning of those from residential to BLM doesn't make sense from a city planning perspective to drop a BLM zone into the middle of a rural residential area, directly on top of homes. The spot was chosen because there is no other spot in Hermantown that can accommodate 240+ acres of industrial space. The zoning and development of Hermantown has been sporadic and hasty such that it has dissected the City leaving no large swaths that doesn't contain homes within or nearby. What does this mean? It means there isn't a place for a large BLM or industrial project (data center) in Hermantown. The rural, small community feel of Hermantown doesn't align with BLM industrial projects (data centers). The neighborhoods laced with trout streams and wetlands are not a place for BLM industrial projects (data centers). The City created a place for this project by illegally spot-zoning an area against the desires of its people based on a fraudulently and secretly modified comprehensive plan. Such a project conflicts with the City's own motto: "Hermantown, Minnesota has the advantages of accessible big-city amenities while still allowing for country living and a small-town community feel." No one

living in a small town, rural community wants a data center for a neighbor.

The in-congruently rezoned parcels for this large specific (data center) project, were rezoned against public desires, claiming to align to a fraudulently modified comprehensive plan, and do not fit amongst the rural residential area of the SW quadrant of Hermantown and bordering Solway Township, and therefore, the location of the project is inherently unsuitable and illegitimate in the method of which it was rezoned, therefore the entire use of an AUAR for this project is unlawful.

Allison Hafften
5971 Saint Louis River Road
Proctor MN 55810

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

April 30, 2026

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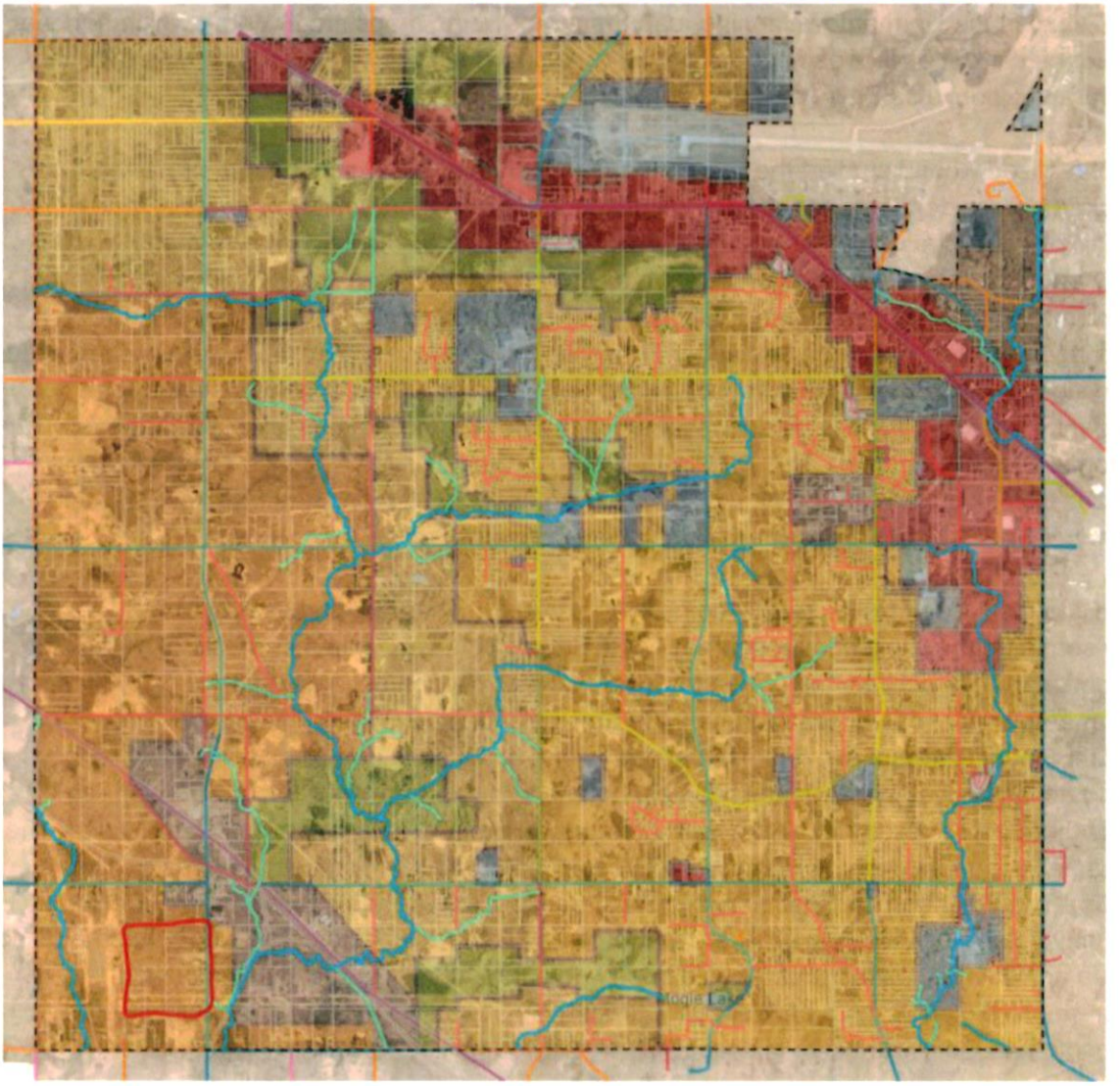
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living and a small-town community feel." No one living in a small town, rural community wants a data center for a neighbor.

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Allison Hafften
5971 Saint Louis River Road
Proctor MN 55810

Figure 1 Hermantown zoning map per https://hermantownmn.maps.arcgis.com/ April 2026



From: Jon Amst
To: AUARcomments
Subject: Data center
Date: Friday, May 1, 2026 8:07:56 AM

Good afternoon,

Im writing this in opposition to the proposed data center. This will negatively impact the city of quality living. As a 2003 high school graduate and avid trout fisherman i strongly oppose this project.

John

From: ijkrfan@yahoo.com
To: AUARcomments
Subject: Comment - AUAR for Google"s hyper-scale data center...
Date: Thursday, April 30, 2026 11:34:29 PM

Hello,
I'm Jana Roach, and I have concerns regarding the city's new AUAR for Google's hyper-scale data center.
We live in one of the most amazing places in the world. I'm thankful every day for our peaceful setting and fascinating wildlife. I want to do everything I can to keep our little corner of the world a wonderful place to live!
I'm concerned at how this project might effect wildlife and general quality of life for residence.
We don't have enough information to determine what effects this hyper scale data center might have (for example, there is no specificity regarding the cooling system). **It is essential that we evaluate the environmental impacts that could result from this.** To what extent will water quality, wildlife habitat, and air quality be impacted? What level of sound pollution can be expected? Once we know more, we will have a better picture of how this project would effect us all, and can make informed decisions going forward.
Because this project could so deeply influence wildlife and human residence of the area, a full environmental impact statement is needed.
Thank you for your time,
Jana Roach

From: Netzero
To: AUARcomments
Subject: Comments on Updated Hermantown Industrial AUAR– Scoping Document
Date: Friday, May 1, 2026 8:46:51 AM

Dear Mr. Johnson (Community Development Director) and City of Hermantown:

I took a look at the Data Center AUAR Scoping Document dated March 24, 2026, and have the following comments.

1. Other than some figures and tables, there was very little substance to review and provide suggestions. I understand it is a scoping document and a full AUAR will follow, but at this point in the project, one would expect at least some basic information included in this document. For example, how much water the set of data centers in the project area will use and how much wastewater will be generated (consistently or intermittently). These numbers need to be discussed with WLSSD/Resource Renew and the City of Duluth Water District technical personnel as soon as possible to ensure there will be no significant impact to current equipment, processes, chemistry, pumping capacity, etc. Large amounts of wastewater from the data center project may result in significantly different wastewater characteristics for treatment, chemically and biologically.

2. Why is the wastewater is considered domestic rather than industrial? Typically, domestic wastewater is from bathrooms, sinks, etc. There will like be some of that on site. However, data center process/cooling wastewater is not clean water, but can contain contaminants, including PFAS, heavy metals, corrosion inhibitors, biocides, salinity, etc. Even if it will be a closed cooling system, at least periodically (maintenance, leaks, changing out the water as contaminants build up, unplanned emergencies, etc), wastewater will need to be released. (https://www.datacenterknowledge.com/sustainability/4-strategies-for-eliminating-data-center-water-pollution; https://www.eesi.org/articles/view/data-centers-are-contributing-to-pfas-forever-chemical-pollution; https://ketos.co/closed-loop-cooling-water-saver-or-chemical-time-bomb).

3. What type of cooling system will be used for the project? Will recycled wastewater be used? Ref: https://www.fwpcoa.org/content.aspx?page_id=5&club_id=859275&item_id=130961

4. What protections will be put in place to manage the noise emitted from the data center complex, as it can have a significant effect on communities? Data Centers have been banned in some cities due to their impact on quality of life for nearby residents, even though they may have "met" noise design criteria/state limits. If this project is approved, there should be specific actions and timelines in the legal documents/permits requiring the company to resolve noise and other issues, since once approved, there will be no incentive for them to act. Since they have plenty of money and lawyers, they will just require that the city go through the courts/expenses to try and get anything resolved. They may anyway, but specifics in the legal agreements/permits may help (https://www.eesi.org/articles/view/communities-are-raising-noise-pollution-concernsabout-data-centers).

5. No data center process wastewater holding tank(s) are identified in the figures in the case of data center equipment maintenance issues or emergency storage of water if the WWTP cannot immediately accept a slug (contents of the data center volume) of wastewater.

6. Piping needs to be verified as large enough to transport the volume increase in wastewater from the data centers such that the increased volume will not result in or exacerbate overflowing/backflowing of wastewater into streets, residences, businesses, and other industries.

7. No emergency tank storage for stormwater is shown in the figures in case there are unusually heavy precipitation events risking overflowing of the retention ponds.

8. I am surprised the City is considering tax abatement for this data center project. I believe helping to reduce residents' taxes was supposed to have been one of the benefits of having this project brought into the city.

Thank you for your attention.

Best regards,
Diana Deming
Duluth, MN

Sent from my iPhone

LINCOLN ELECTRIC
No association

Hermantown
Eric Johnson / City Council
Community development director:

Hey i live in Duluth but this Data Center doesnt just effect folks in Hermantown... its going to have wide reaching effects its going to effect us in Duluth and every other ecosystem downstream. This project NEEDS a thourough environmental review!

The wetland displacement / wetland destruction that is ~~in~~evitable for a project of this size is going to have irreverasible detrimental impacts. Im concerned for the endangered / at risk plants that live in swamp / bog ~~W~~etlands in the region. there needs to be a survey of plants in the area to see what plants are living there.

Im concerned about Tamaraks, Eastern Hemlock, Great ~~L~~akes Jacobs ladder, Also in addition to the plants this ~~new~~ ~~facility~~ ~~does~~ project will destroy animal, insect population, fish This property has a TROUT stream on it. Fishing is a much better boost to our economy than this Data Center when this environment is destroyed we cant get it back when fish population is decimated we cant come back from that. Its time we VALUE the enviroment, plants, animals

LINCOLN ELECTRIC
No associations

and realize theyre worth protection
I am a Welder in Superior
I have worked for the plumber
and pipefitters union. I left
that union- even tho it was
the best job i ever had because
the culture of JOBS over everything
was not aligned with my own.
I want jobs. i want people
to have finicial security
But not at the risk of ruining
our PRECIOUS environment.
As a community Development Director
you should be working hard to
find innovative, RESPONSIBLE
ways to develop the economy.
You ought to be considering the
environment- you definatly should
be thinking about the impacts
on the future - on the world we
live in and the world the children
and grandchildren will inherit.
Do not just take cheap opportunities
that are handed to you.
Do not make shady deals
NDA's are sketchy and should
be OUTLAWED. We demand
TRANSPARENCY in development.
WORK HARDER to find better opportunities
ALSO AI is actually SKETCHY
too... AI is being used in warfare
wrongfully bombing school in IRAN
being utilized by ICE to
detain folks wrongfully. Police departments
making bad arrest based on AI mistakes
Not to mention this level of

Surveilance is FUCKING INSANE who wants to like in this word where were all being watched 24/7. I know i do not consent to this.
I Do not want ANY more GOOGLE / AI intrusion into my life Welcoming GOOGLE into our community is opening the door to whatever fucked up things they have decided to profit off of at the moment.
As the nature of capitalism they will only WIDEN their operations & Data Collection / theft. as time goes on. where they are at right now is all ready too big they are taking too much of our Data and they have a MONOPOLY on maps, phones email Storage and Data collection. Google is not a SAFE investment into our community.
GOOGLE has alteriror motives and can not be trusted to GIFT money to hermantown public schools I do not want to see more google, more google chromebooks more AI in our schools.
We need to get student OUTSIDE and teach the VALUE of our ecosystems.

ENVIRONMENTAL REVIEW IS NESSICARY FOR A PROJECT OF THIS SCALE.
But we dont want it anyhow.

- Nicole Charles

STOP HERMANTOWN
DATA CENTER

April 26, 2026

Eric Johnson,

How can you move forward with the data center project with any confidence for its health on the Lake Superior watershed? It is borrowing too much from the Future. And if you can't be convinced to stop on behalf of the natural landscape, can you be convinced on behalf of your own concious? What are you getting out of this? Is it worth a shitty legacy for your name? When Project Loon does not create 120 jobs, will you be okay blaming someone else instead of yourself? When taxpayers have to fit the bill for continuous upkeep and remediation of hazards, can you easily wash your hands of it? I just don't understand what makes you better than the people and habitats that you share in the Northland.

Don't Cop Out!

Alex Breilein

April 27th 2026

Eric Johnson,

I'm writing to you today in opposition to the proposed Google data center in Hermantown. I believe that the negative impact of this proposed project vastly overwhelm the potential positives. Please do everything in your power to prevent this data center project from moving forward. Our community does not need or want this. Thank you for your time and consideration.

DO THE RIGHT THING.

STOP THE DATA CENTER.

Sincerely,

Samuel

LINCOLN ELECTRIC

TO ERIC JOHNSON AND HERMANTOWN CITY COUNCIL,

I'D LIKE TO LET YOU KNOW I MOVED TO THE DULUTH AREA IN 2018. I CAME FROM THE HEAVILY DEVELOPED AND DISTINCTLY NON-PRISTINE LAND OF CHICAGO, SEEKING CLEAN DIRT, CLEAN WATER, AND THE ABILITY TO EXPLORE.

AND I FOUND EXACTLY THAT. BUT MORE IMPORTANTLY I FOUND A CITY WIDE COMMUNITY FULL OF PEOPLE WHO LOVE THIS TOWN BECAUSE OF ITS CLEAN DIRT, CLEAN WATER, AND ITS ABILITY TO EXPLORE. THESE PEOPLE PROP UP THE CITY, SPEND THEIR MONEY IN THE CITY, RAISE THEIR KIDS IN THE CITY, AND FRANKLY, MAKE UP THE VERY FABRIC OF THIS CITIES COMMUNITY. DULUTH AND HERMANTOWN ARE MADE OF PEOPLE WHO LOVE OUR LAND AND WATER.

ITS A SLAP IN THE FACE TO THIS CITY, AND ITS PEOPLE TO BUILD AN AI DATA CENTER. IT GOES AGAINST WHO WE ARE AS PEOPLE, AND WHO WE ARE AS A COMMUNITY, AND TO PUT IT INTO WORDS YOU MIGHT UNDERSTAND, WHO WE ARE AS AN ECONOMY.

THERES A REASON I MOVED UP HERE. THERES A REASON MANY OTHER PEOPLE WANT TO MOVE UP HERE. THERES A REASON PEOPLE FROM ALL OVER MINNESOTA, THE MIDWEST, THE COUNTRY, THE WORLD COME HERE TO VACATION AND SPEND THEIR MONEY, AND IT AINT TO SEE AN UGLY, WATER SUCKING, LAND DESTROYING DATA CENTER.

- TYLER BONAM

4005 W 8TH ST
DULUTH, MN

LINCOLN ELECTRIC

To: Eric Johnson / Hermantown City Council

This Google Hyperscale Data Center Project is a serious mistake. First we need to address the harm it will do - to the environment, to the people of Minnesota, and to the economy. The plot this project is proposed on is a massive wetland and would require a destructive and likely permanent removal of a critical level of water for the life surrounding. The fact that an environmental review hasn't been considered tells us that the proposers of this data center don't care about the considerable amount of risk they're putting on our natural resources. Our leaders need to stop entertaining the whims of billionaires and their greedy company executives and actually poll the people they serve. Especially in this case. You'll see a clear rejection of this data center among the people of this region. We know it will not provide the jobs that Google touts it will. We know it will pollute more than they estimate it will, most of all we know Google is getting a tax break to build this, and →

WHEN THE AI BUBBLE BURSTS, WE WILL BE THE ONES SUBSIDIZING ITS FAILURE WHILE THE ALREADY RICH PEOPLE WALK AWAY WITH MORE PROFITS.

DO NOT ALLOW THIS PROJECT TO GO FURTHER. AT THE VERY LEAST, DEMAND THAT AN ENVIROMENTAL REVIEW BE COMPLETED SO GOOGE CAN PROVE THAT THEY AREN'T GOING TO RUIN OUR LAND, WATER, AND AIR.

SINCERELY,

CHRIS ROURKE
623 N 39TH AVE W
DULUTH, MN 55807

APRIL 27, 2026

ERIC JOHNSON + CITY COUNCILORS ——

LET ME BE BLUNT: THE PUBLIC DOES NOT WANT BIG TECH'S PROPOSED HYPERSCALE DATA CENTERS. ANYWHERE. THE PROPORTED BENEFITS ONLY SUPPLY GOOGLE, MINNESOTA POWER (AND GIIP/BLACKROCK), AND THE POLITICIANS THOSE CORPORATIONS HAVE BOUGHT OUT WITH SHORT-TERM FINANCIAL GAINS AND THE VENEER OF POLITICAL POWER. THE ECONOMICS OF THIS MANUFACTURED INDUSTRIAL HYPE IS CLEAR — BIG TECH EXECUTIVES, UTILITY LEADERSHIP, & SHAREHOLDERS DISPROPORTIONATELY WIN OUT FROM THESE PROJECTS WHILE 60-80% OF AMERICANS CONTINUE TO LIVE PAYCHECK TO PAYCHECK, ASKING ELECTED OFFICIALS TO DO SOMETHING ABOUT THE COST OF LIVING CRISIS + THE CLIMATE CRISIS. THIS PROPOSED

PROJECT WILL ONLY PRODUCE NET PUBLIC HARM BY IRREPARABLY DAMAGING THE LOCAL ECOSYSTEM + WATER BODIES, POLLUTING + INCREASING GREENHOUSE GAS EMISSIONS, AND BOLSTERING THE CORPORATE-MILITARY-SURVEILLANCE PIPELINE. THE CITY OF HERMANTOWN COULD INVEST IN PROGRAMS + PROJECTS THAT ACTUALLY IMPROVE RESIDENTS' LIVES AND SUPPORT A THRIVING LOCAL ECONOMY. LISTEN TO YOUR CONSTITUENTS. LOOK AT THE POLLING. DO YOUR JOB.

APRIL 26, 2026

DEAR ERIC JOHNSON -

I'M WRITING TODAY TO ASK FOR YOUR CONSIDERATION OF COMMUNITY CONCERNS AROUND THE PROPOSED DATA CENTER IN HERMANTOWN. THIS PROJECT IS BEING SOLD AS AN ECONOMIC BOON AND SMART INVESTMENT, BUT IN REALITY, IT'S A BIG TECH PUSH TO GET A FOOT IN THE DOOR IN ORDER TO RUN THE AGENDA OF A SMALL TOWN. GOOGLE DOESN'T WANT TO JUST BUILD THIS DATA CENTER, THEY WANT A BLUEPRINT TO PROLIFERATE EVEN MORE AI-DRIVEN DEVELOPMENT.

THE SCALE OF THIS PROJECT IS DISSTRESSING BECAUSE OF THE IMPACTS TO THE AREA'S HYDROLOGY. DESTRUCTION OF WETLANDS HAS WELL-DOCUMENTED IMPACTS TO THE ECOLOGICAL HEALTH OF LANDSCAPES. PUMPING AND PAVING THIS "UNDERUTILIZED LAND" WILL ADVERSELY EFFECT NATURAL WATER SYSTEMS IN THE AREA AND DISPLACE WILDLIFE.

AS MUCH AS GOOGLE HAS CHARACTERIZED THE PROJECT AS UNOBTRUSIVE, IT WILL BE NOTICEABLE IN SIGHT, SOUND AND ASSOCIATED ACTIVITY. FOR ONLY CREATING 40 INITIAL JOBS, THE FOOTPRINT SEEMS EGREGIOUS. IT HAS ALSO COME TO MY ATTENTION THAT SEVERAL FAMILIES LIVING IN THE AREA WOULD LOSE PROPERTY OR BE FORCED TO RELOCATE.

PLEASE CONSIDER WHAT HAPPENS IF THE AI-BOOM THAT DATA CENTER IS PREDICATED ON DOESN'T PAN OUT THE WAY THE TECH HUCKSTERS SAY IT WILL. HERMANTOWN WILL BE LEFT WITH A POSSIBLY UNSEABLE BUILD OUT, AND AN EMBARASSING LEGACY OF BEING SWINDLED.

THANK YOU FOR HEARING THESE CONCERNS AND FOR THINKING MORE DEEPLY ON THE CONSEQUENCES OF LETTING GOOGLE RUN THE SHOW, AT THE COST OF LOCAL CONTROL AND RESIDENT WELFARE.

SINCERELY,

BEAN BAKER
DULUTH, MN

Dear Eric Johnson & Hermantown City Councilors,

I am writing to express my opposition to the proposed Hermantown Data Center project.

I am a public worker, I drive semi trucks & operate heavy equipment full time, and I am a union member with AFSCME local 66.

Creating some jobs (allegedly) is not always worth the cost, and I don't believe the positives outweigh the massive negatives, costs, damages, and future impacts here.

- Quality of life for neighbors has value
- Wetlands have value for all of our water quality, wildlife, and ecosystems.
- Google is not a team player, they do not give a damn about us, even when they do attempt to "sweeten the deal."
- Hyperscale data centers are straining our nations electrical ~~grids and infrastructure~~ in an uncertain AI bubble that has shown many detriments and little real value creation for real working people.

You can choose to value the working and local residents in your city by opposing and stopping the data center project, and promote healthy ~~w~~holistic development that benefits the entire community & greater region.

Please stop the proposed Hermantown Data Center.

Evan Hawbaker
2567 W 6th St
Duluth MN 55806

26-310

4-27-26

To whom it may concern,

I am concerned about the proposed data center in Hermantown.

The area of proposed development, while rural, is home to streams, wetlands, and habitat that would be forever altered by this development. The sheer increase in impervious surface would dramatically change how groundwater and wetlands are recharged.

~~The noise & light~~

The noise and light pollution will also adversely affect not only wildlife but nearby residents.

In conclusion, I am strongly against the construction of this data center. It will forever alter the landscape and change what makes this area special.

Sincerely,

Andy

TO WHOM IT SEEMS TO NOT CONCERN –

"PROJECT LOON" IS AN OFFENSIVE TITLE CHOICE FOR SOMETHING THAT WILL BE HARMFUL TO OUR WATERWAYS & WETLANDS. THIS SHOWS HOW LITTLE HEART THE FOLKS THAT BACK THIS PROJECT, HAVE.
LISTEN. TO. THE. PEOPLE. / SEE. THE. LAND.
WE ARE BEGGING YOU.
234 ACRES IS AN OUTRAGEOUS AMOUNT OF LAND THAT YOU SAY WILL NOT BE HARMED.
IS REALLY ALL YOU CARE ABOUT IS POWER, MONEY & CONVENIENCE? WHAT A JOKE.
THIS WILL NOT BENEFIT US. THIS WILL BE HARMFUL FOR US.
- WETLAND DESTRUCTION
- NOISE, LIGHT & WATER POLLUTION
- MONEY

ALL OF THE FACTS & STATS ARE THERE FROM OTHER DATA CENTERS BEING BUILT.
FOR THIS TO MOVE SO FAR INTO THE PROCESS SHOWS HOW LITTLE OUR CITY COUNCIL & POLITICIANS CARE.
NO TO THE DATA CENTER. NO NO NO.
WHY WAS THIS KEPT A SECRET FOR SO LONG IF IT IS A GOOD THING FOR THIS COMMUNITY?
SELFISH. COWARDICE.
ALL YOU WANT - MONEY, POWER, CONVENIENCE.

WE ARE MAD. WE ARE TAKING EVERY STEP WE CAN TO DO THE RIGHT THING & YOU WONT LISTEN.

ALL YOU ARE DOING IS BACKING THE LARGE CORPORATIONS THAT ARE TAKING OVER THIS COUNTRY - WORLD. LIKE, SERIOUSLY? FEEDING THE BILLIONAIRES. FEEDING THEM MONEY & FEEDING THEM POWER OVER EVERYTHING.

I HOPE YOU JOIN THIS FIGHT.

EAT THE RICH, FEED THE HUNGRY, HOUSE THE HOUSELESS, CARE FOR THE LAND.

PLEASE, DONT LET THIS HAPPEN. JOIN THE FIGHT. BE ON THE SIDE THAT CARES.

NO TO THE DATA CENTER.

WE WONT GIVE UP.

-HANNAH PLOURD

From: Kristen Schmitt
To: AUARcomments
Subject: Comments on AUAR for proposed Industrial Building Area (data center)
Date: Sunday, April 26, 2026 8:25:50 AM

Dear City of Hermantown,

Thank you for the opportunity to review and comment on the proposed development scenario for the industrial area/data center and relevant issues to be evaluated in the AUAR. I appreciated the fact that the document will be doing an analysis of climate trends in the area and how these interact with the project. I am urging the AUAR to consider the elements below in order to make this analysis more robust.

1) Throughout the report's climate adaptation and resilience section, SSP 245 and SSP 370 are cited (not SSP 585). For some of the tools that are using older model data, the report cites RCPs 4.5 and 8.5. Please include in the final report the rationale behind which emissions scenarios were chosen for analysis - for example since SSP 585 and RCP 8.5 are comparable, why was climate information under SSP 585 left out?

2) The section on the urban heat island notes that roads, parking lots, and buildings absorb and re-emit more heat from the sun than natural landscapes; this section then notes that the Study Area is in an area of low heat vulnerability; however this is in part due to the fact that it currently has natural surfaces. In the AUAR it will be important to analyze how the project will change these surfaces and how that may change or contribute to the urban heat island effect.

3) Along with the flood risk section, please include a description of how adequately the FEMA flood maps represent future flood risk under a range of future emissions scenarios (SSPs/RCPs). In addition, please explicitly include an analysis of extreme/heavy precipitation trends and projections and what this might mean for components of the study, specifically contamination/hazardous waste considerations.

4) A critical component of considering climate trends will be analyzing the interaction between climate trends and resource use of the facility (not explicitly listed in table 2). The scoping document notes the need to analyze the change in cooling degree days anticipated in the study area. It will be critical to analyze in the AUAR what this change means for the amount of energy and water required to run the facility. Please include this interaction in your analysis.

5) While this document notes the need to analyze the effect of increasing heat on project design, it does not note the need to analyze the effect of the project on increasing heat (see point #2 above about the urban heat island effect). Since an increase in hot days is a major climate concern, please include an analysis of how the project will contribute to surrounding temperature and how this will interact with climate projections.

6) In the section of the report on GHG emissions and carbon footprint, please include an analysis of how GHG emissions may change as the climate changes (e.g. increased cooling costs).

Thank you,

Kristen Schmitt
Duluth, MN 55807

--
Kristen Schmitt
c: (734) 730-8771

From: E EN
To: AUARcomments
Subject: Comments for AUAR scoping document
Date: Sunday, April 26, 2026 12:26:02 PM

4/25/26

To: City of Hermantown, Minnesota
% Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

From: Eric Enberg, 5425 Morris Thomas Road, Hermantown

Dear Mr. Johnson,

Thank you for the opportunity to make comments on the AUAR scoping document.

We live approximately one mile from the proposed data center and as I have stated publicly in several city council meetings, I am not reflexively or unalterably opposed to data center development at the proposed site. However, I want it to be the best that it can be for its neighbors, our security, and the environment. Therefore, I suggest the following areas be explored in the new AUAR.

If the following minimum standards were followed, resistance to the data center would likely fall dramatically. Please comment if the proposed data center cannot be low profile (the new proposal does limit the height to one story), dark at night with motion detection lights for security, and virtually silent because it uses a liquid cooled system.

Please comment on the reach and health effects of low frequency noise if the cooling system will be air cooled.

If the cooling system is liquid cooled, please comment on how an advanced-generation heat district could be utilized to provide the data center with a silent cooling system and heat for the region. Here are some helpful resources but by no means is this exhaustive.

https://www.mdpi.com/2076-3417/16/1/323

https://energy-solutions.co/articles/sub/data-center-waste-heat-district-heating

https://www.allthingsdistributed.com/2024/03/district-heating-using-data-centers-to-heat-communities.html

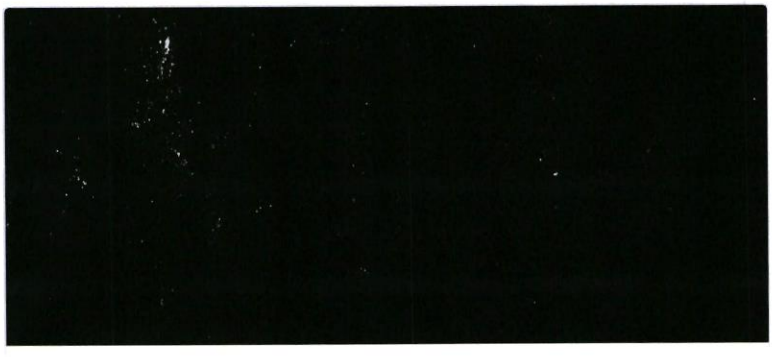
https://colloide.com/harnessing-data-centre-waste-heat-for-district-heating-networks/

Please comment on the greenhouse gas reductions from using clean electricity to produce clean waste heat through a data center and its use to provide domestic and industrial heat.

Please comment on the improvement in health if people in Hermantown would no longer have to have an explosive gas or fluid brought into their homes which contains carcinogens and releases harmful NOx pollutants when burned if they had a district heating system.

Please comment on the potential publicity value if Hermantown found a way to do data centers in a manner pleasing to existing residents and therefore attracted businesses and residents who appreciate those can-do values.

While AI data centers are needed, the present, frenetic pace of data center development is likely to undergo a significant slowdown. Tokens are the basis of AI computational expense. The initial flush of venture capital and lending which has led to the explosion of data center development is slowing as the promised profits fail to materialize. This in turn is causing much more expensive token-based billing to be used, depressing sales and causing businesses to reconsider layoffs. Furthermore, the Chinese are closing in on American AI excellence with lower quality chips but optimized software powered by cheap renewable energy. The American approach is to optimize with expensive chips, powered by expensive natural gas plants. The Chinese will probably win this one. Please comment on the plan to deal with a half-constructed or abandoned data center complex including other uses for the property. Please comment on why or why not a two year pause in the development of this project to let the AI bubble burst would be advisable. AI tokens explained: What are AI tokens and why China is winning the global pricing race



AI tokens explained: What are AI tokens and why China is winning the glo...

China AI token: AI tokens are not just a technical unit but the basis of pricing, as companies charge per token,...

Finally, please comment on the hazards of living near a soft and high value, target-rich industrial park with four data centers and two large substations. Such areas have been a constant target of Russian ballistic missiles against Ukraine. Please discuss the risks of having so many assets co-located together. Please detail the blast radius of weapons and their potential impact on local residents

Thanks for considering these areas of concern. As I have stated in several meetings, I am very willing to be part of a task force to explore these issues, particularly the district heating

plan. Unfortunately, my offer has so far gone unanswered.

Sincerely,

Eric Enberg, MD

From:	Brian Fredrickson
To:	AUARcomments
Cc:	catherine.neuschler@state.mn.us
Subject:	Comments on AUAR for Hermantown Data Center
Date:	Sunday, April 26, 2026 2:29:03 PM
Attachments:	AUAR Wrong Tool for Data Center Analysis.pdf

Dear Eric,

Attached are my comments with regard to the environmental analysis proposed for the AI data center in Hermantown, MN. My concern in a "nutshell" is that the use of the AUAR is unsuitable as a review tool for the reasons stated in the attached letter. The AUAR is better suited to analyzing the impacts of changes in development patterns. It is not an appropriate tool to analyze the myriad of well known impacts associated with a large scale, interconnected industrial project like a data center.

This AI data center project is extremely unpopular in the community in part due to the secretive arrangements between the St. Louis County Board and the project proponents. The use of the AUAR to dilute the true environmental and social impacts will only add to its unpopularity and likelihood of a legal challenge.

Cordially,

Brian Fredrickson

"Our lives begin to end the day we become silent about things that matter." MLK

7501 West Skyline Parkway
Duluth, Minnesota 55810-1377

April 26, 2026

City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811

RE: Inadequacy of AUAR as Tool to Analyze Proposed Hermantown, MN AI Data Center

Dear Mr. Johnson,

I submit these comments raising substantial legal and environmental concerns regarding the use of an **Alternative Urban Areawide Review (AUAR)** for the proposed hyperscale artificial intelligence (AI) data center in Hermantown, Minnesota. The AUAR framework, as applied here, is inadequate under the **Minnesota Environmental Policy Act (MEPA)** because it fails to take the required "hard look" at project-specific environmental effects, instead relying on generalized assumptions that obscure the true magnitude of impacts.

The proposed development presents clear potential for significant environmental effects, including high-volume water use, thermal discharge, substantial energy demand, infrastructure strain, noise pollution, lifecycle environmental burdens, and adverse socioeconomic impacts. These impacts require a project-specific Environmental Impact Statement ("EIS"), not a generalized AUAR.

I. The AUAR Is Legally Inadequate for a Known, High-Impact Project

The AUAR process is governed by Minn. R. 4410.3610–.3690 and is intended for evaluating **hypothetical or multi-use development scenarios**, not a defined industrial facility with known characteristics. [1] Where a project's environmental effects are reasonably foreseeable, MEPA requires a detailed, project-specific analysis.[2]

Minnesota courts have repeatedly held that environmental review must take a **"hard look"** and rely on accurate, complete information:

- *No Power Line, Inc. v. Minnesota Environmental Quality Council*, 262 N.W.2d 312 (Minn. 1977)
- *Citizens Advocating Responsible Development v. Kandiyohi County Board*, 713 N.W.2d 817 (Minn. Ct. App. 2006)

Use of an AUAR to evaluate a specific hyperscale data center risks unlawful **segmentation and under-disclosure**, undermining MEPA's procedural requirements. [3]

II. Water Consumption and Groundwater Impacts

Hyperscale data centers are intensive water users, particularly for cooling. MEPA requires evaluation of impacts to natural resources, including groundwater.[4] Minnesota law further mandates sustainable management of groundwater resources under the **Minnesota Groundwater Protection Act.[5]

A legally sufficient review must quantify:

- Total and peak water demand from wells and municipal sources
- Aquifer drawdown and recharge rates
- Cumulative impacts with other water withdrawals
- Consumptive water use

An AUAR that relies on generalized land-use assumptions fails to meet these requirements and is data deficient to meet Minnesota's water appropriation permitting regime.[6]

III. Thermal Discharge and Water Quality Impacts

If the facility uses evaporative or once-through cooling, discharge of heated water may constitute thermal pollution regulated under the **Clean Water Act.[7]

Thermal discharge must ensure the protection of aquatic ecosystems, including maintaining balanced indigenous populations.[8] Minnesota water quality standards impose parallel obligations.[9]

Without disclosure of cooling systems and discharge characteristics, the AUAR fails to provide the information necessary for compliance with these statutory and regulatory requirements.

IV. Infrastructure Impacts and Public Costs

The proposed facility will require substantial upgrades to electrical, water, and transportation infrastructure. MEPA requires evaluation of **economic effects that are interrelated with environmental impacts.**[10]

Failure to analyze:

- Grid expansion and transmission upgrades
- Water and wastewater system capacity
- Road improvements
- Public financing or subsidies

precludes informed decision-making and violates MEPA's requirement for comprehensive environmental review.

V. Noise Pollution and Community Impacts

Data centers generate continuous industrial noise from cooling systems and backup generators. Minnesota noise standards require protection of public health and welfare.[11]

A project-specific analysis must evaluate:

- Decibel levels at receptors
- Nighttime noise impacts
- Cumulative industrial noise

An AUAR lacking site-specific modeling cannot satisfy these regulatory requirements.

VI. Equipment Lifecycle and Cumulative Environmental Effects

Data centers involve rapid hardware turnover, generating significant electronic waste and upstream environmental impacts from material extraction and manufacturing. MEPA requires evaluation of **cumulative potential effects**, including long-term and indirect impacts.[12]

An AUAR framework fails to account for:

- Repeated equipment replacement cycles
- Long-term operational intensification
- Supply chain environmental burdens

VII. Energy Demand, Air Pollution, and Electric Costs

AI data centers are among the most energy-intensive industrial uses. Their development can increase regional electricity demand, require new generation resources, and raise costs for ratepayers.

Minnesota law requires consideration of energy policy and resource planning impacts,[13] while the **Clean Air Act** regulates resulting emissions.[14]

An adequate review must include:

- Load forecasts
- Generation sources
- Emissions impacts

The AUAR's generalized approach fails to provide this analysis.

VIII. Socioeconomic Effects and Job Displacement

Data centers typically provide limited permanent employment relative to their resource consumption and may displace alternative land uses with greater economic benefits. MEPA requires consideration of **social and economic effects linked to environmental change.**[15]

A generalized AUAR prevents meaningful evaluation of:

- Job creation versus displacement
- Opportunity costs of land use

IX. Transparency and Public Participation

Effective environmental review depends on public access to complete and accurate information, as required under the **Minnesota Government Data Practices Act.[16]

Failure to disclose key project details undermines:

- Public participation
- Procedural fairness
- Legal compliance with MEPA

Conclusion

The proposed data center presents clear potential for significant environmental effects. Use of an AUAR in this context is legally insufficient and inconsistent with MEPA's requirements for rigorous, project-specific environmental review.

I respectfully request that the Responsible Governmental Unit:

1. Require a full Environmental Impact Statement;
2. Discontinue reliance on the AUAR for this project;
3. Conduct comprehensive analysis of water use, thermal discharge, infrastructure, noise, energy demand, lifecycle impacts, and socioeconomic effects; and
4. Ensure full compliance with applicable state and federal law.

Cordially,

Brian Fredrickson

Brian Fredrickson

Footnotes

1. Minn. R. 4410.3610–.3690 (2025).
2. Minn. Stat. § 116D.04, subdiv. 2a (2024).
3. Minn. R. 4410.2000; see also *Minn. Ctr. for Env't Advoc. v. Minn. Pollution Control Agency*, 660 N.W.2d 427, 435–36 (Minn. 2003).
4. Minn. Stat. § 116D.04, subdiv. 6 (2024).
5. Minn. Stat. ch. 103H (2024).
6. Minn. Stat. § 103G.271 (2024).
7. 33 U.S.C. §§ 1251–1387 (2024).
8. Id. § 1326(a).
9. Minn. R. ch. 7050 (2025).
10. Minn. Stat. § 116D.04, subdiv. 2a(c) (2024); Minn. R. 4410.2300(G).
11. Minn. R. ch. 7030 (2025).
12. Minn. R. 4410.1700, subp. 7(B) (2025).
13. Minn. Stat. § 216B.2422 (2024).
14. 42 U.S.C. §§ 7401–7671q (2024).
15. Minn. Stat. § 116D.04, subdiv. 2a(c) (2024).
16. Minn. Stat. § 13.03, subdiv. 1 (2024).

From: Amelia Cohoes
To: AUARcomments
Subject: AUAR comment - Large Scale Data Center
Date: Sunday, April 26, 2026 3:49:11 PM

Hi,

My name is Amelia Cohoes and I live in Hermantown with my husband and children.

Below are my comments on the AUAR

Back-up generators: seem very unnecessary and loud and have the ability to leak gas and other chemicals.

Animals: this section was extensive and I appreciate it. The potential to harming any local wildlife is important, but especially with bumble bees being affected. The trout in the streams were not named in that section but seem to be the most at risk to me.

Wells: it seems like anyone nearby with wells could be impacted by this.

Money: Google is asking for public assistance in this?! How insulting to me personally. I work hard and had pay my taxes - what are now over $7K per year - to live in a town where the schools are still underfunded and we don't have even have a library, but Google deserves a break. Come on.

I also wish traffic disruption would have been discussed, especially as it will affect the environment with all the excess noise and air pollution from idling vehicles during the construction of this ephemeral data center.

Regards

Sent from my iPad

From: Barbara Opal
To: AUARcomments
Subject: AUAR comments
Date: Sunday, April 26, 2026 10:22:21 PM

Hello. My name is Barbara Opal and I live at 328 N 53rd Ave W in Duluth. Thank you for taking my input on the AUAR.

I believe an AUAR is not the right tool to determine the impacts of a hyper-scale data center, because a hyper-scale data center is not light industrial. A project like this requires a full environmental impact statement.

I am concerned about the light pollution that will be generated by a hyper-scale data center. We live in an important corridor for migrating birds. Most birds migrate at night. According to the US Fish and Wildlife Service, bright lights can attract and disorient migrating birds. Lights can also impact the survival of insects that birds depend upon for food. (https://www.fws.gov/story/threats-birds-collisions-nighttime-lighting)

Light pollution also affects humans. It affects people's circadian rhythms and sleep patterns, potentially causing adverse physical and mental health effects.

Furthermore, light pollution brightens the night sky, causing us to see fewer stars. People who choose to live in Hermantown do so in part to be in a rural area and enjoy benefits like visible stars on clear nights.

I hope you will honestly study the effects of this project's light output and mitigate the light pollution caused by both the data center itself and the construction process.

Sincerely,
Barbara Opal

From: Andy Olson
To: AUARcomments
Subject: Data Center
Date: Sunday, April 26, 2026 11:57:08 PM

Nobody wants the data center.
With utility bills already rising its insane to bring in a super user, especially when they are negotiating for a reduced rate. They claiming an offset by investing in clean energy..... that they will then use multiple times over. You know this will not create many long term jobs and doing this in the dark under NDAs and trying to spin it as a benefit to anyone but Blackrock is disgusting. Not only should this project not go through, but you should resign and probably move.

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Kathleen Martin
To: AUARcomments
Subject: Comments on the Hermantown Data Center Proposal
Date: Monday, April 27, 2026 8:24:20 AM

I am writing in regard to the proposed hyperscale data center in the southwestern portion of Hermantown. Clearly, a massive and transformative project that will impact Hermantown and the surrounding region must be subject to a full Environmental Impact Statement EIS) to better assess its impact on the environment and human community. More specifically, an EIS is required to address the following:

- The data center will require a long list of improvements (power, water, and sewer) that are beyond the proposed building site. What are the implications of those improvements to the land, air, and water? The AUAR only considers the impact to the parcel, which is inadequate. An EIS is needed to assess the cumulative impacts to the environment.
- An EIS is required to better assess the destruction of wetlands and the degradation of wetland function. There are 58 acres of wetlands that currently store potential flood waters, retain nutrients, store carbon in the soil, and provide wildlife habitat for migratory birds and resident species. How will construction of this industrial complex, road, parking lots, and other associated development impact those functions and what will be the consequences to adjoining and downstream landowners?
- The proposal for use of the AUAR is deficient in assessing the direct climate impact of the data center itself. As reported by CNN on March 30, 2026, researchers have found that data centers increased ground temperatures by 3.6 degrees Fahrenheit and those impacts can extend out over 6 miles. What is the environmental consequence of increased temperatures? Will the project as formulated account for the increase in energy demand by home owners from elevated high temperatures during the summer?
- Finally, the AUAR is not adequate to address the human community impacts. We live in Hermantown because of the quality of life. Implications of the project need to better address the impacts to homeowners adjoining the site and the consequences to everyone that will deal with added traffic congestion, increased pollution from more vehicles on the roads, and more noise associated with construction.

Take the time to do this right. There is only one chance. Google and others need great places like Hermantown, but they don't live here, we do. The EIS is the right pathway to increase understanding of the impacts, build trust, and ensure we all get the outcomes we can live with.

Brian Martin
5347 Maple Grove Rd
Hermantown

From: Jim Thor
To: AUARcomments
Subject: AUAR comments
Date: Monday, April 27, 2026 10:26:48 AM

The water usage for the proposed Data Center will be supplied by the city of Duluth water pumping and filtration systems. While this pumping station is working fine at this time it is well known that it is in need of some upgrades due to the age of its infrastructure. The funding that was applied for has been rejected by the federal government. These costs will have to come from somewhere. The cost should be paid for by the Data Center developers seeing that they are going to be a large consumer of water if it is completed as planned. Also future Data Centers if built elsewhere such as the cities of Ricelake or Proctor would be an additional strain on the water infrastructure.

Thank you for your consideration

James Thorstensen
5784 Hermantown Rd

From: Elizabeth Albers
To: AUARcomments
Subject: Commenting on the Revised AUAR
Date: Monday, April 27, 2026 10:44:34 AM

Dear City of Hermantown,

I am writing to submit my formal opposition to the proposed Google Hermantown Hyperscale Data Center and to urge that this project not be approved. My primary concerns are environmental in nature. A hyperscale data center of this scale poses significant risks to local water quality, wildlife habitat, and all other natural resources that are foundational to the health and character of our community. The fact that the original AUAR failed to adequately identify the project as a data center, failed to properly describe its scope, and failed to thoroughly analyze its environmental impacts only deepens my concern that this review process has not been conducted with the rigor and transparency that residents deserve.

I do not believe the benefits of this project outweigh the risks to Hermantown residents. Rather than proceeding with a revised AUAR, I urge the City to require a full Environmental Impact Statement (EIS) before any further consideration of this project. I also support a statewide moratorium on hyperscale data center permitting until a comprehensive environmental review can determine if, where, and how such facilities should be sited in Minnesota. The proposed location does not appear to be an optimal site, and community members should not bear the environmental, social, and economic costs of a project that primarily benefits a private corporation. I respectfully ask that this project not be approved.

Sincerely,
Elizabeth Albers

From:	Trevhonte O.
To:	CH-Eric Johnson; AUARcomments
Cc:	taopack@proton.me; haralaa@stlouiscountymn.gov; CH-Wayne Boucher; boylep@stlouiscountymn.gov; grimma@stlouiscountymn.gov; CH-John Mulder; CH-Chad Ronchetti; CH-Andy Hjelle; CH-John Geissler; CH-Brian LeBlanc
Subject:	Google Data Denter - Local Voice
Date:	Monday, April 27, 2026 2:35:58 PM

Dear Eric Johnson and Hermantown City Council,

I'm not a Hermantown resident, but as someone who lives just a few zip codes away (Duluth) and cares about our shared communities, I wanted to submit these thoughts before the April 30th deadline -

I've followed the project since it was still a mystery Fortune 50 proposal under NDAs and I worry that many of us - including your council haven't yet seen the full picture that could change how we weigh this long term decision.

What stands out most to me are the important details that seem to be under-discussed thus far. These details have (or will have) a significant impact on us, not google. The question is, who will benefit ***most*** upon the completion of this project? Or - who do we ***want*** to benefit most upon the projects completion? As of right now, it certainly won't be us.

It may seem like an attractive proposal given the initial workforce demand, but that number will significantly drop as each phase of the project is completed.

See visual representation below for better understanding:

Initial High Workforce → Steady Decline → AI-Driven Operations

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Phase 1: Construction (2026–2028) [redacted] 1,000–1,800 workers

- Heavy construction crews
- Site prep, buildings, infrastructure
- Peak **temporary** jobs

↓ (workforce shrinks as buildings finish)

Phase 2: Fit out and Commissioning (2028–2029) [redacted] 400–800 workers

- Installing servers, cooling systems, networking
- Testing & ramp-up

↓ (most physical work complete)

Phase 3: Early Operations (2029 onward) [redacted] 40–120 permanent staff

- Handful of on-site technicians & maintenance
- Monitoring, security, occasional repairs

↓ (AI takes over)

Final Steady State (2030+) [redacted] 40–60 full-time employees

- AI/Automation run 24/7 core operations
- Servers self-manage cooling, workload balancing, maintenance alerts
- Human staff mainly handle exceptions & physical security (Work will likely will be outsourced. Not local)

There are even more important details that appear to be under-discussed:

- The servers won't be random or "somewhere else". They'll anchor a northern Midwest Google Cloud region or zone for low-latency service to Duluth, the Twin Cities, northern users, and growing AI/cloud workloads, plus built in redundancy. That ties us to a real, sustained commitment of **hundreds** of MW on our local grid for decades.

- The air-cooled design saves municipal water (which is good), but it ramps up electricity demand and will bring constant operational noise from hundreds of chillers and backup generators—especially noticeable near homes, farms, wetlands, and trout streams. Light pollution, construction traffic, and potential runoff also need deeper modeling.

- Economically - the tax base boost sounds strong, but the recent abatement and state exemptions will shrink the net benefit, while permanent on-site jobs stay modest (dozens, not hundreds).

- Once built, this facility has a 50+ year footprint that's basically locked in.

I'm not here to stop progress, Just want the updated AUAR to fully study the real hyperscale realities instead of the earlier "light industrial" assumptions.

Please include detailed workload driven power forecasts, comprehensive noise and livability modeling (There will be a **constant** hum and loud noises that do not stop - they run 24/7 for 7 days/week) upstream water impacts, **binding mitigations**, and an honest look at alternatives so everyone can decide with eyes wide open.

Something worth acknowledging: Our nation has already opened Pandora's Box—we've let a fully autonomous, intelligent machine into our house. A machine that does not have an On/Off switch and is instead its own entity, **with it's own mind**.

And what makes this project even more concerning, and reinforces a STRONG consideration - is that Google especially, and other forms of intelligence are entirely incapable of allowing human

override. This proposed data center in our community will soon be included.

Thank you for taking a moment to read my message here. I truly believe we all deserve the best possible future, and better education/awareness + full information + transparency is a good place to start.

(please let me know if your admin doesn't support this email's format)

Regards,

Tre Opack
Duluth, Minn.

From: P M (via Google Docs)
To: AUARcomments
Subject: Comment AUAR
Date: Monday, April 27, 2026 6:26:58 PM
Attachments: Comment AUAR.pdf

P M attached a document

P M (mecciapieper@gmail.com) has attached the following document:

Comment AUAR

Does this item look suspicious? Report

Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
You have received this email because mecciapieper@gmail.com shared a document with you from Google Docs.

City Of Hermantown

I'm a concerned citizen of Duluth and this is my public comment on the Data Center. For starters, the proposed site is wetlands, with groundwater located between 0 to 10 feet below the surface. There needs to be more research done on the plans to remove this water, the AUAR is inadequate in describing how this process will take place. How will it affect the nearby trout streams? Or the floodzones on either side of the site? Will permits be acquired to dispose of contaminated water? The AUAR mentions needing new public infrastructure as there's no current hookups yet fails to provide any specifics on where this would be located.

From: no name
To: AUARcomments
Subject: Hermantown data center
Date: Monday, April 27, 2026 7:51:55 PM

I am writing to ask what the projected range of potential impacts of this project are. From the low end to high end for cost, water usage and pollution.

For example, will there be higher energy costs for the surrounding communities, what water source and how much of it is going to feed the data center and what kinds of air and water emissions are typical from this size facility?

Additionally, will the project be allowed to expand in the future as many operating centers around the country continue to do.

Sincerely,
Lea Friesen

From: Alicia Navetta
To: AUARcomments
Subject: Wastewater and water use
Date: Monday, April 27, 2026 9:32:04 PM

Dear Eric Johnson,

My name is Alicia Navetta and I live in West Duluth, about 15 minutes from the proposed hyper-scale data center site in Hermantown. I am extremely concerned about the limitations of the city's new AUAR for this data center project.

One of my most significant concerns is regarding wastewater treatment. The water that leaves the data center campus can pose a variety of environmental threats, due to toxicity in temperature, as well as composition. Wastewater safety is unaddressed in the updated AUAR scoping document. While the AUAR states that industrial wastewater is excluded from review in the AUAR process, wastewater is a critical environmental issue that affects the public, and should be addressed. Will the data center produce industrial wastewater, and if so, which document will discuss treatment of industrial wastewater?

The scoping document also provides no details on the composition of the domestic water discharge. The following questions should be addressed in the AUAR to help the public understand what kind of wastewater is generated:
-How much water would this data center campus use, both initially and in routine operation?
-How would water in the data center be used?
-What processes and/or equipment would the water go through prior to becoming waste water?
- What testing would be done on wastewater prior to exiting the data center [e.g. pH, temperature, flow rates, total dissolved solids (TDS), metals, chemical oxygen demand (COD), and per- and polyfluoroalkyl substances (PFAS)]?
-What metrics are acceptable on the above quality testing?
-What is the safety plan if wastewater did not pass quality metrics?

Another related issue that is unaddressed by this AUAR is the type of cooling that will be performed. The AUAR describes the cooling as non-evaporative, but provides no other details. With so little information, it's difficult to know if the wastewater is part of the cooling process or comes in contact with other chemicals that are part of the cooling process. Here are some additional questions the AUAR should address that would help link the cooling process to the wastewater:
-What process would be used for cooling in the data centers?
-What chemicals would be involved in the cooling process?
-Would water be involved in the cooling process?
-Would water come in contact with other chemicals as part of the cooling process?
-What volume of wastewater is expected?
-What is the plan if additional wastewater were to be generated?
-What is the mitigation plan to reduce the amount of water used by the data centers?

Overall, there is a very limited amount of text dedicated to water use and wastewater generation and treatment in this AUAR. Given the importance of this critical and also finite public resource, I am in favor of an Environmental Impact Statement (EIS) for this project. An EIS would provide a more thorough environmental review than an AUAR, which is highly appropriate given the enormous size and scope of this project.

Thank you,

Alicia Navetta
5219 Wadena St #2
Duluth, MN 55807

From: Angel Dobrow
To: AUARcomments
Subject: RGU: City of Hermantown Attn: Eric Johnson
Date: Tuesday, April 28, 2026 9:57:50 AM

Dear Hermantown officials--

I am writing to voice my concerns about the Google data center project. Full disclosure, I have major concerns about the rapid expansion of AI projects as it feels the general public is being pulled into a future we did not craft, nor ask for.

But, specifically, as a resident of north Duluth (my neighbors are Hermantown residents) I am truly alarmed by this proposed data center. I have attended Hermantown City Council meetings, rallies opposing the data center, scoured newspaper articles all in hopes of getting information, slowing this project down, and maybe even stopping it altogether.

1. The initial planning and reveal violated all transparency rules as far as I can tell. The stated need for secrecy exposes the intention of moving the project forward as far as possible without the knowledge and consent of the public. At some point Google's hand would be shown, but it feels they, and you, were hopeful at that point it would be too late to revise plans.

2. You have been repeatedly asked to undertake an environmental review that the public can understand, weigh in on, and agree to. How hard can this be? How important is this? VERY. Elected officials carry the trust of their citizens; sloppy and unnecessarily rushed pre-planning reflects poorly on the officials' capacity to (actually) govern. And, most area residents do not approve of this data center, so to rush anything is to violate that trust, and calls into question: what do these officials have to gain?

3. The this-will-bring-jobs argument is a serious slap in the face; the construction jobs will end quickly enough, leaving us with this behemoth building staffed by a handful of people…most likely imported from California or elsewhere.

4. The citizens of Hermantown and the surrounding area oppose this project for good reasons; tens of thousands of data center neighbors report mental health issues, light and sound pollution problems, weird health impacts due to the intense and unrelenting vibrations emitted by the building. I propose testimony from these people be included in future decision-making.

I sincerely urge all of you to reconsider this project, and incorporate ALL

Hermantown residents in future discussions and joint planning.

Angel Dobrow
Duluth MN 55811
angel.dobrow@gmail.com

From: Brent Notbohm
To: AUARcomments
Subject: Midway River/Data Center Concerns
Date: Tuesday, April 28, 2026 10:54:46 AM

To Whom It May Concern:
I'm writing to express my deep concern over the data center proposal in Hermantown and the potential impact it will have on the Midway River watershed. I strongly request this project be redirected so as not to negatively impact the water resources of this area. The trout water tributaries of the Midway, in particular, are special places that need protection from this project. Even though we live in the land of 10,000 lakes, cold, clean water is not an infinite resource - as the decades long superfund cleanup on the St. Louis River illustrates. Industrial impacts on our watersheds have a negative impact on the environment that can last generations. Please protect these sacred resources. Thanks!
-Brent

Brent L. Notbohm
Duluth, Minnesota

From: Michael Nordin
To: AUARcomments
Subject: Revised AUAR Scoping comments
Date: Tuesday, April 28, 2026 12:26:45 PM
Attachments: Hermantown AUAR scope letter.doc

MICHAEL W. NORDIN
1029 Grandview Avenue • Duluth, MN 55812 (218) 464-7617

April 28, 2026

ATTN: City of Hermantown
Eric Johnson
5105 Maple Grove Rd
Hermantown, MN 55811
AUARcomments@hermantown.com

I grew up in Hermantown (Adolph) and my family is a pioneer family of that region (six generations – Andersdotter, Anderson, Johnson, Bjorlin, Nordin). My parents currently live directly across from the proposed data center land (old 1800s homestead) on Morris Thomas Rd. This area is rural in character and has salt of the earth descendants of the original farming community. These folks survived pandemics, fires and world wars and are written about in the history of Hermantown.

Location

First I'd like to say that this proposed location for a hyperscale data center is far from optimum and quite frankly is the worst possible location due to the many reasons I'll cover in this letter.

The current proposal would greatly harm wetland areas, cold water fisheries, forested areas and groundwater aquifers and ruin the character that is the heart of Hermantown and Adolph. An alternative site that has already been disturbed should be a priority – and no data center in Hermantown would be the best option.

Health Effects

Constructing a data center will cause a myriad of negative health effects on the residents of this part of Hermantown through excessive noise, fugitive dust, and traffic snarls to name a few. The area has rolling hills and blind spots along several of the nearby roads. Its definitely not flat like the majority of the City so it would be an accident waiting to happen.

Once a data center is completed its existence would create cumulative noise, heat and EMF concerns along with e waste (containing hazardous materials like mercury, lead, and cadmium) associated with such an operation.

Stormwater

Destruction of wetlands which act as sponges holding rainwater and snow melt and creating impervious surfaces would increase velocity of rainwater and stop water infiltration to the groundwater aquifers in that area. There are several high quality trout streams nearby that would directly suffer from such development. Duluth recently was fined for a trout kill due to negligence.

Obsolescence

When a development of this magnitude is installed and its shelf life expires due to advancing technology, it is the City's duty to return that damaged area to its original state. As City leaders you represent the citizenry not corporate interests. A plan for obsolescence needs to be included.

Finally, an AUAR is not appropriate for the hyperscale data center, rather an EIS should be prepared. Turning a rural area into an urban area (city building) is not in the comprehensive plan and not what Hermantown, Midway, Esko, Proctor, Solway and surrounding areas want.

Thank you,

Michael W. Nordin

From: Don Romano
To: AUARcomments
Cc: Stop the Hermantown Data Center
Subject: Data Center AUAR Comments
Date: Tuesday, April 28, 2026 1:40:40 PM

I'm writing with comments and questions in regards to the AUAR for the data center project. I write as a life long Hermantown resident, home owner, husband, father and sportsman.

Firstly, I would point out the obvious fact that you, the City of Hermantown, already did an AUAR for this proposed project. There was known information on the scope and purpose of this project which was left out of the original AUAR. This always was a hyperscale data center project. When residents, including myself, signed a petition asking for a more in depth EIS, the responsible government authority, again the City of Hermantown, ruled the previous study was sufficient. We now sit here months and numerous lawsuits later, and now you want to do an updated AUAR. So you did an insufficient study to begin with, were challenged on it, doubled down on it's adequacy, but now want to spend more of our tax dollars to use the same company which failed to do the right study the first time? No way! Why not do a more in depth EIS? I know the real answer is that it will take too long and Google will possibly get cold feet.

Water. Where will it come from? Will this solely use water from a yet to be built water line extension? Will there be any wells drilled to support this project? This sits over an aquifer, and the daily amount of water which has been disclosed could drastically affect that. How often will it be tested both for quality, ensuring it's not contaminated, and quantity making sure it's not drawn down? I have a well and live less than a mile from this project. What is the City and Google prepared to do if mine, or my neighbors wells' are adversely affected? Needless to say, putting in a well cost me over $18,000 15 years ago, my house or anyone's house, if it doesn't have water is worth nothing. My house isn't in an area included in water main extensions planning either, so you can understand why I'd be concerned about effects to my well.

Additionally, how much water will be used daily and what will it be used for? 50,000 gallons daily is the number thrown around and if that is the continued claim, then I want the City to get that in writing. Facilities around the county use far greater amounts for similar sized data centers and given the lack of transparency from both the City and Google, I would expect there to be an independent authority which could hold them to this amount. What would the water be used for? Is this an open loop system or closed like some are claiming? If it's not an open loop system, where is 50,000 gallons daily going? The reported '50' people who will eventually work there won't use that daily for drinking water and toilets. So that already doesn't add up, but if that's the claim, then I expect we will be able to limit intake to that and not exceed it by one drop. Next, what will that water be exposed to? Don't hide behind 'proprietary' information. We deserve to know what it will be exposed to because eventually it will be released. Presuming (if not where will it go?) it will be piped back to the water treatment center, are the systems currently able to treat what it's been exposed to? Is the water reused multiple times, likely resulting in greater concentrations of chemicals?

How will runoff be managed? How will salt, oil, warm water etc. be treated and mitigated before reaching the Midway River? I've fished for brook trout for years on local streams; what will ensure that this resident population won't be adversely affected? What happens if 20 or 30 years down the road, the technology becomes obsolete and Google shuts down

operations? The imperious surfaces will remain, along with any chemicals, there should be an escrow account with will ensure storm water ponds are maintained and that should be figured out before construction begins.

Air. How many generators will be on the property? What will they run on? Propane, natural gas? How often will they be run for testing? A sizable amount of generators run regularly will significantly worsen air quality in the area. Will they be used for regular operation if the grid isn't able to compensate during initial operation? Will local authorities be able to completely shut down any generator use if local air quality, like from wild fire smoke, has degraded local air quality? Generators will only further decrease already poor air quality. Who will test the air in this area? What money will be set aside now for health effects like asthma or other lung issues down the road?

Noise and light. Who will monitor these? If they are exceeded what are the steps which will be taken to correct them? If national or state standards change how long will the data center be given to become compliant? A multi trillion dollar company shouldn't be able to hide behind being grandfathered into anything.

At the end of the day, this isn't a game. This project doesn't need another AUAR, it needs full transparency and an environmental impact statement. I have better things to do than have to read council minutes, guarding against the next step of our local officials selling us out or writing to officials, like Hermantown's, and not getting so much as an acknowledgment that the messages were even received. The reason I care is because this affects me, my family and my neighbors directly. We are the people who will be affected most by the negative impacts of this project. When that happens, do you think Google will care? There are numerous examples at the national, state and local level of entities causing disproportionate damage to residents and resources over the years. To think a project of this size couldn't have the same adverse effects is foolish and naive at best. I know Google won't care, and I shouldn't have to ask this, but will you care?

Don Romano 5555 St. Louis River Rd Hermantown, MN 55810

From: Jim Thor
To: AUARcomments
Subject: AUAR comments
Date: Tuesday, April 28, 2026 3:35:43 PM

The water usage for the proposed Data Center will be supplied by the city of Duluth water pumping and filtration systems. While this pumping station is working fine at this time it is well known that it is in need of some upgrades due to the age of its infrastructure. The funding that was applied for has been rejected by the federal government. These costs will have to come from somewhere. The cost should be paid for by the Data Center developers seeing that they are going to be a large consumer of water if it is completed as planned. Also future Data Centers if built elsewhere such as the cities of Ricelake or Proctor would be an additional strain on the water infrastructure.

Thank you for your consideration

James Thorstensen
5784 Hermantown Rd

From:	Stop the Hermantown Data Center
To:	AUARcomments
Cc:	CH-John Geissler; CH-Joe Peterson; CH-Andy Hjelle; CH-Brian LeBlanc; CH-Wayne Boucher
Subject:	SHDC AUAR Comments
Date:	Tuesday, April 28, 2026 8:44:12 PM
Attachments:	SHDC Comments to AUAR.pdf

Dear Mr. Johnson and the City of Hermantown:

Please find attached Stop the Hermantown Data Center (SHDC)'s comments to the proposed development scenario and relevant issues to be evaluated in the AUAR prior to issuance of a final order for review pursuant to Minn. R. 4410.3610, subp. 5a(B).

Respectfully submitted,

SHDC



Stop the Hermantown Data Center

www.stopthehermantowndatacenter.com
stopthehermantowndatacenter@gmail.com

Date: April 28, 2026

To: RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

Re: AUAR Public Comment

Dear Mr. Johnson and the City of Hermantown:

The grassroots, citizen-led non-profit organization, Stop the Hermantown Data Center (SHDC) continues to strongly oppose development of a hyper-scale data center in the rural, residential SW corner of Hermantown, located in the Adolph area, surrounded by residential homes, farms, agricultural lands, pristine wilderness and water resources.

SHDC is a group of concerned residents and neighbors from Hermantown, Midway Township, Solway Township, Duluth, Cloquet, Esko, Saginaw, and other area communities. SHDC is concerned about the negative impacts of the proposed hyperscale data center on our community, quality of life, property values, health, and the environment.

As an initial reminder, a public survey conducted by the University of Wisconsin-Superior found that 74% of local people oppose or strongly oppose the data center. The City should act in the interest of this huge majority and cancel this project.

With that said, the following are SHDC's public comments to the updated City of Hermantown Industrial project Alternative Urban Areawide Review (AUAR), released on March 24, 2026, to be evaluated by the City of Hermantown as the Responsible Government Unit (RGU) pursuant to Minn. R. 4410.3610, subp. 5a(B).

Project Purpose and Need Is Inadequate

The scoping document is inadequate because it fails to meet requirements of Minnesota Rules where large specific project(s) are included in the proposal. The AUAR scoping document (SD) claims to include a large specific project (AUAR scoping document or AUAR SD, p. 0).

Minnesota Rules state at 4410.3610 ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS. Subp. 5a. Additional procedures required when certain large specific projects reviewed:

> B. Prior to final approval of the order for review pursuant to subpart 3, the RGU must conduct a public process to receive comments about the scope of the review. The RGU shall prepare a draft order for review and distribute and provide notice of its availability in the same manner as for an EAW pursuant to part 4410.1500. The draft order for review must include the information specified in subpart 3 and a description of the specific large project or projects to be included in the review comparable to that of a scoping EAW pursuant to part 4410.2100, subpart 2.

Thus, the description of the specific large project comparable to that of a scoping EAW for an EIS must address what is required for a project description in a scoping EAW for an EIS. Turning to what is required for a project description in an EAW:

4410.1200 EAW CONTENT.

> C. description of the project, the purpose of the project, methods of construction, quantification of physical characteristics and impacts, project site description, and land use and physical features of the surrounding area

Guidance from the Minnesota Environmental Quality Board (EQB) in 2013 explains more on this requirement, see p. 11-12.

While there is guidance from EQB dated 2008 on AUARs, that guidance appears to have been preceded by, and does not directly address, the 2009 Minnesota Rule amendments) for large specific projects. The City is required to follow the requirements in Minnesota Rules explained above and should implement the guidance from 2013, as it pertains to project description in the AUAR SD.

A key deficiency in the AUAR SD is a failure to disclose the purpose of the large specific project- the Google Hermantown Hyperscale Data Center (see 4410.1200 above). The AUAR SD states at p. 8:

> Consistent with Minn. Rules 4410.3610, the updated AUAR will evaluate reasonable alternatives identified through the scoping process and any alternatives directed by the City of Hermantown's scoping decision, including alternatives related to site layout, infrastructure routing within the AUAR area, stormwater management approaches, and other design level alternatives that would avoid or minimize significant environmental effects while meeting the project purpose and need.

Further, 2010 EQB guidance at p. 39 for large specific projects in an AUAR states: "the RGU must use the same criteria for excluding a suggested development scenario as for excluding an EIS alternative as given at part 4410.2300, item G." Item G references project purpose and need.
A search of the AUAR SD does not reveal any stated project purpose and need.
Is it to provide AI computing capacity to allow for Google to provide AI computing services and generate profits for Google? This is unknown. This omission is critical because it precludes the public and agencies from offering recommended alternatives that would avoid or minimize significant environmental effects while meeting the (unknown) project purpose and need. This omission renders the AUAR SD itself legally deficient.

Project Description Is Inadequate

Further, the project description is inadequate beyond the missing project purpose and need. This is another legal deficiency of the AUAR SD. EQB guidance on project description includes:

> The project description is the most important item in the EAW. It must be completed thoroughly and accurately. It is best to assume your reader is not familiar with your industry or proposed facility.
>
> Clear, complete and detailed project descriptions are essential to understanding the potential for environmental effects. If any portion of the project description is vague or incomplete, reviewers may have difficulty understanding the project and may assume certain environmental considerations have been overlooked.
>
> The detailed description should be focused on aspects of the project that may directly or indirectly manipulate, alter or impact the physical or natural environment. This can include: construction methods, especially in regard to site preparation; operational features (ongoing operations), especially in regard to waste production and management; and in some cases such as mining and landfilling activities, project closure actions. The description should distinguish between construction and operational activities. It should describe scheduling, timing, and locations of the activities as well as the time of year, frequency, and duration of the activities. It should also highlight any special concerns, such as proximity to a significant resource. Typical things to consider as part of detailed project description include:
>
> • Project components and structures
> • Permanent and temporary structures
> • Construction methods, timing (including when construction would begin), and equipment used
> • Size of the main components
> • Locations and relationships of project components
> • Associated infrastructure including new or expanded public utility services or public works necessary to serve the project such as sewers, storm sewers, streets, water mains, water towers, power lines, gas lines
>
> NOTE: Any infrastructure constructed to serve the project and not independent of project must be treated in the EAW as part of the project. For example, a road built to serve a specific project must be treated as part of the project and its impacts should be included in the EAW. According to Minn. Rules 4410, all “connected actions” are to be reviewed as one project. Connected actions are defined as projects related in any of the three following ways: (1) one project would induce the other; (2) one project is a prerequisite for another and the prerequisite project is not justified by itself; or (3) neither project is justified by itself (4410.0200, subpart 9c).

The AUAR SD fails to meet the requirements for project description as described above. Multiple City-published documents show that far more information about project description has been developed, than has been disclosed in the AUAR SD.

The City website hosts documents that contain numerous details about the project description, yet these are not referenced or linked in the AUAR SD as containing details on project description. One example is the special use permit application that discloses building height (30-50 feet depending on building), whereas the AUAR SD does not. Another example is sources of noise and/or air pollution. Specific estimates of diesel generators and air-cooled chillers-are described in the Acoustic Study (pp. 4-5), yet the AUAR SD does not. Comparison of the special use permit application and supporting documents publicly available information on the City's website and what is in, or referenced, by the AUAR SD is needed.

While it is possible that Google/Harmony has updated their proposed project as compared to what is on the City's website, it is the City's duty to update that information as needed and include it in the AUAR SD description (and if necessary, post longer documents as appendices to the AUAR SD). The many documents providing project description details on the City's website contradict any claims by the City that project description details are not, and cannot be, reasonably included in the AUAR SD or AUAR document.

To summarize, a large specific project is included in this AUAR, that means the City needs to provide in the AUAR SD a project description per that required for a scoping EAW for an EIS.

Public Infrastructure Description Inadequate

Another concern with the project description is that the Study Area does not incorporate the area where utilities will be built to accommodate this project. AUAR SD at p. 7:

> Additionally, new public infrastructure would be required for City water service, sanitary sewer, stormwater management, streets, and utilities extending from or upgrading existing publicly owned systems to accommodate the new development. A new private driveway access will be needed on the northwest side of the Study Area from Morris Thomas Road that will include a shared access with the parcels on the western half of the Study Area as well as a construction staging area. No development is anticipated near the southern portions of the Study Area where the existing transmission lines are located.

The water utility aspects of the new public infrastructure extend beyond the current study area to connect the existing WLSSD water system to the project site and include a water tower near Rose Road, water utilities along Morris Thomas and Midway Road. This is displayed at Exhibit I to the proposed Development Agreement between Google and the City posted on the City website. There are also road improvements at Appendix G. This document demonstrates that the water utility buildout and road improvements needs to be analyzed as a connected action to the data center project because the data center project is inducing the water utility and road improvement projects. The City should also analyze energy utility activities and projects that are connected actions in the AUAR (see AUAR SD, p. 54).

For the reasons stated above, and that this is the second attempt at an AUAR with a large specific project by the City, the AUAR should be withdrawn and an EIS prepared instead. This is a major industrial project with significant adverse effects, as discussed below. The City, regulatory agencies and the public deserve to have complete information about the project design and its effects.

Recommendations on Alternatives to Study, Issues, and Mitigation

Alternatives

As noted above, the undisclosed project purpose and need preclude being able to determine alternative scenarios. Further, inadequate project description reduces the ability to offer recommendations on alternatives. That said, here are some alternative scenarios to study:

First, the City should include a "no build" scenario in the AUAR. This would describe existing resources and how the area would be in the future with no data center project being built. It is reasonable to assume the water or road infrastructure would not occur either if the project is not built.

Second, the City should consider sites outside the study area for a hyperscale data center. *This consideration should extend beyond the City of Hermantown city limits. Given the need to consider sites outside of the study area, this suggests a state agency should be the responsible government unit (RGU).* ***The study area consists mostly of forests, wetlands, streams and farmland of statewide importance. In contrast, brownfields, closed mining areas, and old mining infrastructure typically consist of impervious surface, old buildings, or subsoil and rocks with little to no vegetation. This contrast alone renders these types of alternative sites environmentally superior to the proposed site.***

In particular, the City should discuss potential sites at brownfields, closed mining areas and old mining infrastructure on the Iron Range with the Iron Range Resources and Rehabilitation Board (IRRRB). IRRRB may have multiple such sites in mind and moreover, significant infrastructure (e.g. feasible road, electrical and water connection) may already exist at such sites that would allow for a hyperscale data center. In addition, such sites may have greater local community support than that at Hermantown (74% opposed or strongly opposed) and be located further away from residences (i.e., there may not be residences right next to an old iron mining site or facility). The greater isolation of a hyperscale data center at such sites from residences and other human-occupied buildings would be a superior environmental benefit compared to the proposed site. Less noise, air pollution, light pollution, and scenery impacts would reach receptors. While this comment does not identify a precise alternative site, it is reasonable for the City to consult with the IRRRB. The IRRRB is likely to be in a position to provide extensive insight and recommendations on alternative sites on the Iron Range.

Third, the City should also study in detail alternative ways to cool the proposed hyperscale data center. The choice of cooling system, including details and mitigation, are one key to the human impact effects of a hyperscale data center. The AUAR SD says "the data center buildings will use non-evaporative mechanical cooling equipment." (AUAR SD p. 6). However, this is an example of the inadequacy of project description. The cooling system should be explained further, and in more detail, in a way that is understandable to a lay person. Does the one sentence in the AUAR SD on cooling system mean the project is "air cooled"? Does it mean the project is "closed-loop water cooled"? Previous documents say the project will be air cooled, but a web search on the meaning of the sentence in the AUAR suggests this could mean closed-loop water cooled.

In general, it appears that "air cooled" hyperscale data centers emit significant adverse noise, but consume little or no water in their cooling process. On the other hand, "closed-loop water cooled" systems may emit less noise and consume little water after initial startup, but may need biocides or other hazardous materials to keep the water usable, which present their own issues and need an adequate disposal plan.

The City should study “air cooled” and “closed loop water cooled” system alternatives in detail, comparing effects for noise, water use, and consumption, use and disposal of hazardous waste, and energy consumption. Such a study may reveal that one or the other is environmentally superior, and/or display tradeoffs to various resources to inform a decision. The City should also include consideration of proximity to residential dwellings as it considers the cooling method.

Fourth, another alternative to consider is to reduce the height of all buildings to render them less visible. A reduced height could potentially reduce sound emissions. Presumably, the four buildings with the data processors would be 50 feet tall (based on description in the special use permit application; the AUAR SD does not include the specific height). Are the buildings visible from locations outside the project site, such as scenic overlooks including Ely’s Peak, or driving on Midway or other roads? This would change the character of the area. Consider driving through a rural to semi-rural area and then seeing massive buildings loom overhead. An alternative scenario is needed that reduces the height and square footage of buildings is needed if they are visible from Midway road or Ely’s Peak.

A fifth alternative to consider is how backup power generation is handled. The project description once again is inadequate because it does not specify the number and type of generators proposed for the large specific project (whereas, some information is in the Acoustic Study linked above). That said, the City should consider alternatives of a proposal that includes diesel powered generators and the noise and air pollution from those, an alternative that requires battery backup only, and a combination of the former two. Overall, battery backup is likely environmentally superior to diesel backup (even biodiesel) because of avoiding or minimizing noise and air pollution. However, there are risks from battery backup-such as fires from lithium batteries that require specialized response plans. These tradeoffs should be analyzed in these alternatives. In addition, a mitigation under all alternatives should be to require Google/Harmony to run backup for only so long as to conduct orderly shutdown of equipment and transfer of computing activities to other data centers, instead of running backup for the entire duration of a power outage. Perhaps this could reduce the amount of time backup must run from hours/days to minutes/seconds and render battery backup only more feasible; or dramatically reduce adverse impacts from diesel generators.

ISSUES

As noted previously, project description in the AUAR SD is inadequate to inform commenting on issues, therefore the City should withdraw the AUAR SD and complete an EIS. However, the following are comments on issues to analyze in the AUAR.

Air Quality

First, the AUAR should analyze the air pollution, including greenhouse gas (GHG) emissions, during the construction phase, and during operation of the facility. Consideration of backup generator use should also be included in the air quality study.

The AUAR SD states on page 46, “The AUAR will include discussions of dust control ordinances." There are currently no ordinances relating to dust in the City’s zoning chapters, other than what is included in "surfacing". What happens to residences and businesses outside the Study Area who will be impacted by construction dust? There are currently no protections in place as an ordinance does not exist.

It is unacceptable to say that a "discussion" would occur. The City needs to determine tolerance, thresholds, impacts, and mitigation to protect the people and wildlife in this community. For a project that will move thousands of cubic feet of dirt to build a 1.8 million square foot campus, it is imperative that a dust ordinance be included in the mitigation plan and adopted *before* any permits are issued. In addition, only one intersection is identified in the Study Area, per Figure 2: AUAR Study Area Boundary. However, Figure 14: Traffic Study Intersections, depicts 3 additional intersections outside the Study Area which will be impacted by construction traffic. Dust ordinances must include major routes utilized by construction traffic and the impacts to the surrounding environment, residences, and businesses.

Greenhouse Gas Emissions

Second, because of the likely massive power consumption of this facility and number of large diesel generators (undisclosed in the AUAR SD project description), air pollution and GHG emissions may be significant. The AUAR SD states that "The back up generation needs will be identified through a separate environmental review process outside of this AUAR…" Who will conduct this review process and when? The AUAR should analyze effects to human health from the air emissions for the entire project, which should include the backup generators. Chemicals used in the cooling process present significant hazards to health. Nitrogen oxides and other particles released from diesel generator pollution can cause a whole range of health problems, from heart disease, cancer, to asthma and other respiratory diseases, let alone the particles can be deposited in the water and soil. How will these be addressed and mitigated?

The mitigation plan should include a bond that funds future construction of renewable energy equal to the facility power consumption to reduce GHG emissions and air pollutants. In addition, the mitigation plan should require battery generator backup only (see also alternative on this above).

Furthermore, it is misguided to say the proposer will provide "the best estimate of average annual emissions over the proposed life/design service life of future development." This approach is not in line with EQB rules for an AUAR with a large specific project, requiring details about the specific project proposed. Additionally, on page 48 of the AUAR SD, "The proposer will evaluate implementing the sustainability measures described in the AUAR to reduce operational emissions to the extent practicable." The mitigation plan must detail the specific sustainability measures that will be required. This way, the City, as informed by public comment, would identify these measures and require Google to follow them. How can we reach net zero and Minnesota's Climate goals by 2040, when the proposer is contributing to GHGs? According to an article in The Guardian from June of 2025, "Google's carbon emissions have soared by 51% since 2019 as artificial intelligence hampers the tech company's efforts to go green." This is reinforced by the Kairos Fellowship report of Google's Eco Failures.

Additionally, in an article posted by National Public Radio in November of 2025, using data analytics, Cornell University cited that "by 2030, the rate of AI growth in the U.S. would put an additional 24 to 44 million metric tons of carbon dioxide into the atmosphere." While Google has stated in its Electronic Service Agreement with Minnesota Power that they are committed to using clean energy sources in Minnesota, what can be said about the 17 data centers Google locations already built elsewhere in the United States, with an additional 13 under construction? These figures do not represent any additional projects that have been proposed, but not yet permitted, as is the case in Hermantown.

The research from Cornell goes on to state, "the emissions [is] equivalent of adding 5 to 10 million cars to U.S. roadways. It would also drain 731 to 1,125 million cubic meters of water per year – equal to the annual household water usage of 6 to 10 million Americans. The cumulative effect would put the AI industry's net-zero emissions targets out of reach."

Temperature

The AUAR should analyze how the project would heat the surrounding ecosystem. Even though the Minnesota's Heat Vulnerability Map Tool indicates the Study Area is of low heat vulnerability, the removal of mature trees to be replaced with 1.8 million square feet of concrete and asphalt will alter the local microclimate. A study cited in a March 2026 CNN article that analyzed waste heat of large data centers reported that large data centers increase surrounding area temperatures by 3.6 degrees Fahrenheit on average, with impacts reaching up to 6 miles, creating heat islands. Given the location of the site between two cold water trout streams, a long-term temperature increase in the immediate area could alter the stream temperature and trout habitats. Heating may also change soil conditions and chemistry, create conditions for the spread of invasive species, increase algae blooms, and change wildlife habitat.

The City should consider the feasibility of capturing waste heat and finding alternate uses for it.

Water Quality and Water Use

The AUAR should analyze effects on water resources. This includes effects to the watersheds and receiving water bodies (Rocky Run trout stream, Midway River, St. Louis River, Lake Superior) impacted by conversion of forest and wetland to impervious surface. The AUAR should study effects to wetlands, and include in the mitigation plan means to avoid, minimize or compensate (i.e. wetland credits) for wetland impacts. The mitigation plan should include required setbacks from the trout streams in the area and analyze impacts to the aquatic life in these streams. The mitigation plan should include erosion control measures to minimize sediment reaching streams.

As noted above, the project description is inadequate as it relates to the cooling system. How many cooling units per building would there be for the proposed project? How much if any water would be consumed by the cooling system? Will any hazardous chemicals be needed to run the cooling system (e.g. biocides, PFAS, etc.)? The mitigation plan should spell out how biocides, PFAS or other hazardous materials would be managed, if needed under an air cooled or closed-loop water cooling system.

The AUAR SD states, "Wastewater from the proposed development scenario will be limited to wastewater from domestic sources (i.e., no industrial wastewater) and will be discharged to the City of Hermantown collection system." Accordingly, the mitigation plan should prohibit any activity that produces industrial wastewater. If the mitigation plan does not make this commitment, the AUAR should disclose if industrial wastewater will be treated on site, or transported and treated at Resource Renew/formerly WLSSD. If so, is Resource Renew equipped to treat these chemicals in the water? If Resource Renew is not capable of treating these chemicals, where, how, and when will they be addressed?

What is the total amount (gallons/month) of water drawn and domestic wastewater discharged every month?

Whether the project is air cooled or closed-loop water cooled, the mitigation plan should prohibit groundwater withdrawals and injections from on-site wells. Given there may be a very shallow water table at the building sites, the AUAR should disclose dewatering impacts, including on the viability of groundwater resources, how dewatering may affect existing wells of surrounding residences, and the plan for and effects of discharging this water.

The undisclosed fuel source of the backup generators (possibly battery and/or diesel) provides a risk of fuel leaks and discharges into the ground or stormwater storage ponds. The mitigation plan should address leak detection systems or protection mitigations.

Noise

The AUAR should analyze the effects of noise from the construction and operation of the data center on human receptors and wildlife. This analysis should include disclosing the area within which noise ***would be audible*** in mapping, along with sound level contours. Mapping should include predicted effects with mitigation included.

The AUAR should not rely on A-weighted measurements alone or dB(A), to evaluate noise from the proposed data canter. A dB(A) only analysis understates low-frequency sound that residents are likely to hear and feel, especially at night. The AUAR should require dB(C) modeling and measurements including ⅓ octave-band, tonal analysis, and receptor specific modelling at nearby homes, property lines, and outdoor use areas as these low frequency sounds may be heard for miles and are not accurately measured using dB(A) measurement and analysis. These low frequency sounds are measured accurately only using dB(C) measurements and are also the sounds most likely to impact residents' health, sleep, and surrounding wildlife.

This dB(C) noise analysis should also model worst-case real-world conditions. This includes nighttime operation, leaf-off conditions, temperature inversions, calm/stable night time air, frozen ground, snow cover, downwind propagation, and full-buildout cumulative operation of all buildings and equipment. The AUAR should also use dB(C) measurements and analysis to evaluate whether the proposed berms, equipment screens, or other mitigation will, in reality, actually reduce low-frequency sound. Low frequency noise has longer wavelengths and can diffract over, around, and through barriers, meaning berms and walls may appear effective on paper using dB(A) analysis while doing little to address the type of mechanical hum residents are most likely to notice. The mechanical hum can only appropriately and effectively be measured using dB(C) measurements and analysis.

The AUAR should require a full low-frequency mechanical noise study prepared by qualified acoustical engineers using dB(A), dB(C), L10, L50, Leq, octave-band, ⅓ octave-band, and tonal analysis under nighttime, and worst-case operating conditions including the thermocline conditions as our local climate changes. The AUAR should not treat compliance with Minnesota's dB(A)-based noise limits as proof of no significant noise impact unless the applicant also demonstrates acceptable low-frequency and tonal performance during nighttime, winter, leaf-off, temperature-inversion, and full buildout conditions. Without this dB(C) analysis, the AUAR will not accurately disclose the sound and health impacts residents may experience from a 24/7 industrial-scale data center. These dB(C) measurements should also include the maximum distance in which these sounds may be measured and experienced by residents.

The mitigation plan should include required design features to reduce sound emissions. The mitigation plan should cover construction and operations, including both the cooling system and backup generator operation. It is well known that data centers emit significant adverse noise that can harm human health and degrade quality of life. Data center noise would also adversely impact wildlife, including migratory birds, impacting navigation, foraging, communication, and reproductive success. Analysis for and compliance with Minnesota Rules on Noise alone does not adequately protect the quality of life and health of adjacent residents because this noise would occur **constantly, 24 hours a day, indefinitely**. Project operational noise also includes low-frequency sound, which has been shown to adversely affect human health.

Again, the mitigation plan should provide stronger protection than that provided by Minnesota Rules on Noise to protect quality of life and health of adjacent residents. This may involve designing equipment such as chillers to emit less sound, including low-frequency sound, in addition to mitigations such as sound barriers. See also comments above on an alternative for a closed-loop water cooled system to emit less sound.

Construction Noise

The mitigation plan should also require limited hours and days of construction to reduce noise at this phase. To better protect quality of life from noise impacts for this long phase (more than 5 years; the AUAR fails to state specifically how many years), limit construction hours to 8 am to 5 pm, Monday-Friday in the mitigation plan. Because of the very long timeframe of construction, this increased mitigation compared to existing Hermantown rules is justified. In comparison, Costco states it builds new stores an average of 110 days. This project, taking more than 5 years, is an unusual circumstance. When does an light industrial project become heavy industrial due to construction noise and adverse effects on residents?

Scenery and Dark Skies

The AUAR should analyze effects on scenery and dark skies. This includes change to scenery (see alternatives, above) and light pollution. This should include effects of light pollution on adjacent residences. The mitigation plan should include measures to reduce light pollution and align with dark sky guidelines during construction and operation.

Traffic

Only one intersection is identified in the Study Area, per Figure 2: AUAR Study Area Boundary. However, Figure 14: Traffic Study Intersections, depicts 3 additional intersections outside the Study Area which will be impacted by construction traffic. A traffic study is needed of the proposed project area. The traffic study should include how Canadian National mainline affects the needed 24/7 access to the proposed study site, particularly in the event of fire, fuel, or other contaminant leak requiring immediate attention.

Historic Properties

The AUAR should analyze effects to historic properties and the mitigation plan should provide for avoidance or mitigation of impacts to any such sites. The AUAR SD also states results from Minnesota OSA database review as well as a Phase I Archaeological Study completed for the Study Area will be discussed in the AUAR. What parcels/locations encompass Phase 1? Can it be assumed that Phase 1 of the archaeological review/study coincides with Phase 1 of construction?

When would subsequent phases of any form of archaeological studies be executed? How many phases in total will there be? Will tribal representatives be notified if any cultural indigenous artifacts are discovered? Also, will tribal governments be consulted that retain treaty rights in the 1854 Treaty Territory?

Ecological Resources and Wildlife Habitat

The AUAR should analyze effects on forests and wildlife habitat. The project study area is a mix of forest, grasslands, and wetlands, including two MnDNR designated trout streams, which provides valuable habitat for wildlife including seven state or federal listed threatened, endangered or sensitive plant or animal species as identified in the previous AUAR. Identified species with sightings or habitat within the study area or near proximity include the American goshawk, a state listed species of concern, the clustered bur-reed, a state watchlist plant, two federally listed threatened species, the Canada lynx and gray wolf, the proposed threatened monarch butterfly and proposed endangered Suckley's cuckoo bumble bee as well as all of Minnesota's bats, including the federally endangered northern long-eared bat. Any disturbance or alteration of the ecosystem in the study area would impact these listed species and the abundance of other wildlife that inhabit the area. An industrial project in this area would result in permanent habitat destruction and the loss of these species in this area. Disruption to this ecosystem also introduces risks of invasive species, stormwater runoff pollution, soil erosion, and loss of carbon-capturing trees and wetlands. Residents in this rural SW corner of Hermantown, Solway, and Midway enjoy the multitude of wildlife in the area and the loss of the habitat and therefore wildlife would be detrimental to the character of the area and the residents living there.

The mitigation plan should include requirements to avoid any habitat of the identified species, nesting and young-rearing sites of inhabitant or migrating wildlife, and avoid disruption during migration and nesting seasons. The mitigation plan should use native plants, seed mixes, and trees for any planting and reseeding and require one-for-one replacement of mature trees and wetlands acres impacted in the study through replacement programs such as conversation credits and/or tree-for-tree plantings within the Hermantown boundary. The only mitigation to avoid or minimize impacts to the ecological resources and wildlife is to select an alternative brownfield site elsewhere given this project location is mostly greenfield forests, grasslands, and wetlands of which the proposed project buildout would have negative and permanent impacts.

The AUAR should also disclose how much farmland of statewide importance would be eliminated.

Economics

The AUAR should complete and disclose a financial analysis and economics analysis. In particular, an estimate of consequences to the City budget and taxes should be completed, incorporating any tax relief provided to the project proposer. The risk of concentrating tax revenue for the City from this project and what would occur if the project is abandoned mid-construction should be evaluated. The AUAR should also disclose the estimated lifecycle of the project and buildings and potential future uses of the property. In addition, the costs and funding mechanisms for the water and electricity buildout and use should be disclosed. This analysis should provide clarity on direct *or indirect* costs to residents that pay utilities.

The AUAR should disclose estimated or known financial impacts of the project in regard to one-time and recurring costs to upgrade or improve and maintain emergency response requirements such as training, supplies, and equipment.

The AUAR should disclose estimated effects of the project on property values of adjacent landowners, and property values within the area where noise is audible.

The AUAR should disclose the amount of power this project is estimated to use. Will any on-site energy generation for regular operations be done by the project? If so, the AUAR should disclose that and the energy source. Also, the AUAR should evaluate the effects of this project on electric grid stability, including availability to residents.

In the event this project is built, the mitigation plan should require the use of local union labor.

Compatibility with Comprehensive Plan

The AUAR should explain why this project is claimed to be “light industrial”. While a small or “regular” data center might be light industrial, this is not reasonable for a hyperscale data center. This project is a heavy industrial project because it will consume massive amounts of electricity, convert a significant land area to impervious surface, and produce sound and light emissions, along with air pollution from diesel generators, that will adversely affect many surrounding residents. Overall, it would degrade nearby residents' quality of life and the use and enjoyment of their property, as described more throughout this comment letter.

The AUAR should explain why this project meets its Comprehensive Plan guidance for BLM zoning for jobs per acre. This project, at most, may provide less than one long-term job per acre. This project monopolizes a large percentage of land that is slated to be rezoned to BLM in the 2045 Comprehensive Plan. A hyperscale data center's life span is on average 15-25 years. Where do those jobs go when the buildings reach obsolescence? Or if Google chooses to restructure and make jobs remote or even worse, replacing a human with AI capabilities?

We understand that City staff stated at the end of the April 21, 2026, Planning and Zoning meeting, without any prior public or other notice, that the City intends to amend the Comprehensive Plan to accommodate the planned extension of public utilities outside the urban services boundary. As stated above, the water utilities and road improvement projects are connected actions and need to be analyzed in the AUAR as such, including all actions displayed at Exhibits G and I to the proposed Development Agreement. Accordingly, the City needs to analyze at least one development scenario in the AUAR that is consistent with the current Comprehensive Plan, per Minnesota Rules 4410.3610 Subpart 3.

Reclamation and Recycling

The AUAR should describe a physical site reclamation plan for the event this project reaches end of life or is abandoned. The reclamation plan should be incorporated in the mitigation plan. This should include a required bond for site repurposing or restoration when the project reaches end of life or if the project is abandoned. Can the data center be repurposed? If not, what methods and outcomes would restoration include?

The mitigation plan should provide for how e-waste will be handled (e-waste that contains heavy metals such as lead, mercury and cadmium), given turnover of computing resources at data centers can be relatively frequent. The mitigation plan should provide for how any other hazardous waste will be handled, or otherwise prohibit activity that may produce hazardous waste.

Cumulative Effects

It is clear that, at a minimum, the road improvements and water utility buildout shown at Appendices G and I to the Proposed Development Agreement is a connected action. Power projects built to support the data center may be as well. If the City nonetheless decides the water and power projects supporting this project are not connected actions to be analyzed as part of this proposed project, they should be analyzed for cumulative effects. Any other projects or activities nearby should also be analyzed for cumulative effects. For example, how will trains, traffic, and the nearby already-built power substation plus the pending water and power projects add to noise from the project? How will the water and power projects supporting this project plus other adjacent anticipated development on BLM land cumulatively increase developed land area, in turn affecting watershed health and wildlife habitat? How will this project plus the other adjacent anticipated development on BLM land change the character of the Adolph area from rural residential to industrial?

Community Safety

This is something the AUAR SD does not touch on at all. A data center campus of this magnitude requires the City and other local municipalities be adequately trained and equipped to handle fire, security, and unplanned water or fuel leaks, that given the size and number of buildings and amount of fuel that could be stored on site if diesel backup generators or batteries are used (again, not disclosed), could lead to a catastrophic event. Has the City and surrounding local governments such as Solway Township, Midway Township, and City of Duluth fire marshal codes been updated to reflect the needs in this Power grid infrastructure? What is the electrical circuit breaker capacity of the data center? Has an emergency response plan been reviewed with the local fire and emergency response units that discusses the response plans including but not limited to responding units, fire suppression methods, chemicals, equipment, tactics, training requirements, storage location of equipment and chemicals, and evacuation plans? The emergency response plan should include the construction phase in addition to operation.
According to the National Institute to Health/National Center for Biotechnology Information, long term exposure to certain fire retardants poses a significant risk to endocrine-related cancers (thyroid, breast, prostate) and higher cancer mortality. Does Google or Harmony Group LLC have an insurance company that provides environmental cleanup of fire retardants and debris? Who will be held accountable when there is significant risk to surrounding neighbors and businesses?

Mitigation Plan

In addition to the above comments on the mitigation plan, the City should plan an effective way to require and enforce the mitigation plan. A fine (especially a token fine of $750 that is in the special use permit application on the City website) for violations is easily dispensed with by Google. Instead, the City should require that the data center suspend operations (e.g. turn off their servers or halt construction activities, depending on timing) if the mitigation plan and other requirements are not reasonably met.

Overall, if the project continues, the City should design a mitigation plan that makes a strong and good faith effort to avoid and minimize adverse effects to local residents and the environment, instead of maximizing convenience and cost savings for the project proponent/s.

CONCLUSION

The City should prepare a full Environmental Impact Statement (EIS) for this project instead of an AUAR. However, even better options are the following: a) cancel this project in response to 74% opposition, b) support a city-wide moratorium, and c) support a state-wide (e.g., GEIS) look at hyperscale data centers including their siting and design.

The City's commitment to this specific, harmful and deeply unpopular project does not serve the will of its constituents.

Respectfully submitted for your consideration,

Stop the Hermantown Data Center

From: Jo Anne Bates
To: AUARcomments
Subject: AUAR
Date: Tuesday, April 28, 2026 9:20:16 PM

Eric Johnson,

I am concerned that too much of the power needed for the Hermantown Data Center will come from gas-fired power generation.

I am concerned that there are no limits to the amount of pollution and noise the generators can produce.

The proposed changes to the traffic pattern will not be sufficient due to the twin train tracts on Midway Road.

We need a severance tax on the developer and the entity operating the data center so we can be compensated for the loss of value to our homes and property caused by the data center.

The use of this land for a data center does not align with the plan recommended by the committee of citizens for that area.

How many soil types are there in the area, and how will the data center impact them?

What about all the disturbed land that building the data center will cause? How will that impact our rivers and creeks? What if the dams that protect from soil erosion break? What is the back up plan?

Mitigation strategies must be significant enough to control and contain all impacts.

I would like yearly reviews of fragile areas.

Thanks Eric for recording my concerns.

JoAnne Bates

From: Jo Anne Bates
To: AUARcomments
Subject: Hermantown Hyper-scale data center
Date: Tuesday, April 28, 2026 9:30:59 PM

Eric Johnson,

Dear Eric;

I am concerned about a couple of things I've heard lately.

My first concern regards water usage, and the way the document the Hermantown City Council was

Discussing last night, (04/27/2026) allowed for Google to use as much water as they needed to, perhaps

running into millions of gallons per year.

My second concern has to do with the fact that, even if Google intends to cool the data center

using air cooling as their primary cooling plan, the most of the data centers also use liquid cooling, in one

form or another.

If Google uses a closed loop system to augment their air cooling system, the lines will eventually

develop sludge. That sludge has to be flushed out and gotten rid of somehow. Moreover, if the

company does a complete upgrade at some time, what will happen to the lines and cooling fluid at that

time. I am very concerned that the sludge and or the old cooling fluid could end up ultimately, in

Lake Superior, either through expediency, incompetence or indifference.

If Google decides to simply use brute force cooling, then my question would be where do they

draw water from and how much water are they looking to use.

Sincerely

Tom Bates

5369 Morris Thomas Road

Hermantown, MN. 55810

6514425001

From:	Allison Hafften
To:	AUARcomments
Cc:	CH-Brian LeBlanc; CH-Wayne Boucher; CH-John Geissler; CH-Andy Hjelle; CH-Joe Peterson
Subject:	AUAR Comments Construction Phase Impacts Analysis
Date:	Tuesday, April 28, 2026 10:52:19 PM
Attachments:	AUAR SD Comments - Construction AH.pdf

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

April 28, 2026

City of Hermantown (City):

In response to the AUAR Scoping Document (AUAR SD) opened for public comment on March 31, 2026, I submit the following comments for consideration.

Construction Phase Analysis Required

The AUAR should analyze the effects of the construction phase(s) of the proposed project as the construction duration is unusually long. A typical industrial/commercial build is 3-6 months from groundbreaking to doors open. This proposed project state construction will be 5+ years with some documents and references from the City stating 8-10 years. City and Minnesota laws typically do not address construction phase impacts for most industrial/commercial projects as the duration is typically short, however, given this long construction duration and extensive and invasive construction likely requiring heavy earth moving equipment, large numbers of construction workers, and large quantities of material and equipment deliveries, this project is not typical. The City should make mitigations to apply standard operating regulations of noise, pollution, lighting, work hours, etc., to the construction phase.

The AUAR should analyze the air pollution (including dust, equipment exhaust, building materials emissions, and stored carbon release) during the construction phase(s) of the project. Mitigations should be made to adhere to Minnesota state rules on emissions and pollution during the construction phase(s).

The AUAR should analyze the noise from the construction phase(s) of the data center on humans, domestic animals, and wildlife. This analysis should include diagrams of audible noise and frequencies within a distance of no less than 5 miles from the noise source. Mitigations should be made to limit construction to daylight hours no earlier than 7 am and no later than 6 pm, Monday through Saturday, no Sunday work to provide relief to surrounding residents to maintain their rural, quiet, quality of life.

The AUAR should analyze the effects of lighting during the construction phase(s) of the proposed project. Mitigations should be made to limit construction to daylight hours so as to maintain the rural quality of life and dark skies of the area.

The AUAR should analyze the estimated increase of and effects on traffic and roads

infrastructure during the construction phase(s) of the project. Given the location of the project site between two high use railroad crossings and at the cross section of two county highways, the impact of the construction worker and equipment traffic will be significant. Mitigations may need to be considered to define construction shifts and material and equipment deliveries to specific times in order to minimize the impact of "rush hour" traffic. The AUAR should analyze haul and traffic routes and assess expected impacts on road wear conditions of the proposed routes which anticipated road repairs needed after construction.

The AUAR should analyze the impact to groundwater and resident's wells within a two mile radius of the site during the construction phase(s) as a result of significant soil excavation, adjustments to elevation, excavation of stormwater ponds, conversion of wetland areas to fill or impervious surfaces, and dewatering activities. Given the high water table and amount of wetlands the site will disturb and convert, along with some nearby resident's having shallow wells, the construction activity should be studied for groundwater impacts.

The AUAR should analyze the emergency response plan and preparedness of local response units during the construction phase(s) of the project. During the construction phases, there will be a large number of people on the site, large heavy equipment being hauled in/off site and moved on site, and potential hazardous materials on site. The AUAR should seek to assess whether local agencies are equipped for possible situations and if any special training, equipment, and planning is needed.

Thank you for considering these into the scope of the revised AUAR.

Allison Hafften
5971 Saint Louis River Road
Proctor MN 55810

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

April 28, 2026

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Thank you for considering these into the scope of the revised AUAR.

Allison Hafften
5971 Saint Louis River Road
Proctor MN 55810

From: CH-Eric Johnson
To: CH-Ed Worden
Subject: FW: AUAR Comment
Date: Thursday, April 30, 2026 8:09:17 AM

Ed, can you please add this to the substantial emails and forward it to Kimley Horn and Braun along with the other emails.

Thanks
Eric

Eric Johnson
Community Development Director

City of Hermantown
Working together to serve and build our community.
Hermantownmn.com [hermantownmn.com] - 218.729.3618
Eric.johnson@hermantownmn.com

From: Brea Schminski <bschminski@gmail.com>
Sent: Thursday, April 30, 2026 7:06 AM
To: CH-Eric Johnson <eric.johnson@hermantownmn.com>
Subject: AUAR Comment

Hi my name is Brea Schminski and I am writing in regards to the AUAR. I have many concerns but today my biggest concern is the detrimental health effects this data center will cause for my family and children. I have three amazing kids, ages 7, 5 and 3. We live less than a half mile from the proposed data center. While there are many concerns I'm going to focus on are the sound and pollution.

Sound

The AUAR needs to focus on the noise from the proposed data center. We need to know the decibels it will be both during the day and at night, in the summer and in the winter. The plan to have trees planted around the data center to prevent sound from traveling is quite alarming, knowing these trees will not grow for many years. Not only do we need to consider the effects on humans that will be caused by this, but the effects on the wildlife. The AUAR also needs to consider a full low-frequency mechanical noise study. According to Noiseawareness.org, "noise is one of the most common forms of sleep disturbance and when sleep disruption becomes chronic, adverse health effects are great." The article also stated exposure to noise is associated with elevations in blood pressure.

The noise can also have a big effect on my children and children surrounding the area of the proposed data center. There is already a hum from Minnesota Powers substation, what will it be with an added 4 datacenters to the area? This current hum needs to be included in the study. This is unfair to our family to have to deal with

possible health effects with this proposed hyperscale data center.

Pollution

Another concern I have is the pollution from the back up generators. Backup generators need to be included in the air quality study as they will need to be tested frequently to make sure they are working. According to page 45 of the AUAR, it states that "The AUAR will not be used to support any Air Permits or Backup Generation Site Permits." This shows me the AUAR is not adequate and we need to have an Environmental Assessment Worksheet. I do not want my children breathing these fumes as we are less than a half mile from this proposed site. According to an article written by the National Library of Medicine titled "Diesel exhaust: current knowledge of adverse effects and underlying cellular mechanisms," "The toxicity of any inhaled environmental agent is the result of its interaction with the respiratory tract, which is in constant contact with the air. Also according to this article, "studies of the last two decades have shown positive correlation to pulmonary diseases, cardiovascular disease, genotoxicity, and has been judged as a group 1 carcinogen to humans." Being a group 1 carcinogen, there is sufficient evidence that this level can cause cancer. There will be hundreds of backup generators that will be in correlation to this data center and I am quite appalled that the AUAR does not pay any attention to these backup diesel generators when the health of everyone surrounding this hyperscale data center would be at risk.

In conclusion these are only a couple of many other concerns of the proposed data center. I believe that an AUAR is not sufficient in this colossal project. An Environmental Assessment Worksheet would be a better option. Please keep my family's health in mind with this hyperscale data center. Thank you for reading my concerns.

Brea Schminski

From: Judy Avis Granmo
To: CH-Eric Johnson
Cc: AUARcomments
Subject: Opinion regarding Data Center
Date: Wednesday, April 29, 2026 10:59:32 AM

Dear Eric and Hermantown City Council,
I am writing in regards to the proposed Data Center as I live less than two miles from the site. I have the following concerns in opposition to the construction of the center.

1. The Midway River runs through my property and since it's a designated native Brook trout stream, I will reference the Minnesota Pollution Control Agency and their study that mapped the Midway River Watershed originating in Hermantown. The impact it could have on the quality of the stream including warming of the temperature needed for the life of the trout could be devastating for the species.
2. I have a concern regarding the aquifer that will be impacted by the construction and the impact on ground water and wells in the area. I have a well and depend on the excellent quality of water that it provides. Also, the concern for wetlands in the area.
3. Wildlife in the area will likely be significantly affected due to light and noise pollution with loss of habitat.
4, Multiple concerns due to increase in energy demands and consumption, carbon and greenhouse gas emissions, air pollution, massive water and land usage. The ultimate impact on public health and associated costs of health care.
5. The uncertain lifespan of the center leaves concern for future of the structure and related buildings being abandoned when it is no longer being used with remaining toxic waste.
6. I am outraged at the public officials signing the NDA to keep the information hidden from the community.
7. My property taxes continue to rise significantly in recent years and any more increasing costs that could be impacted by this data center is not acceptable. On the other hand, the value of my property could be negatively affected by the center.
8. Lastly, I can't imagine the payoff (bribe) they are offering to invest in the school system. Our children deserve the healthy environment they currently reside in and not pollution of their home land where the center is being proposed.
9. If this proposal moves forward, please use this opportunity to make Google pay for as many of the involved costs (including taxes) as absolutely possible.
Please keep this letter as part of the public record.

With major concern for our community,
Judy Avis Granmo
5460 Morris Thomas Rd
Hermantown, Mn 55810
jgranmo@gmail.com
Phone: 218-391-3903

From: Courtney Kerns
To: AUARcomments
Subject: Revised AUAR
Date: Wednesday, April 29, 2026 1:08:39 PM

Hello! I am writing to express my opinions regarding the proposed Hermantown data center. My name is Courtney Kerns and I live in Cohasset, MN, directly west of Grand Rapids, MN. I've lived in northern Minnesota almost 20 years. I have really come to love the Hermantown-Duluth area, and have injected many, many dollars into the local economy over the years. It hopefully goes without saying that I also love Lake Superior and care a lot about its future.

I'll keep my comments brief and say that my number one desire is that this extremely important decision-making process be guided by a full Environmental Impact Statement (EIS). We absolutely need accurate numbers and a clearer picture of the resources that will be used indefinitely and the likely impacts to the Hermantown citizens, the infrastructure, and Lake Superior and its watershed. This is not just another big box store. This is a very big deal!

Climate change impacts are a huge concern. One data center will not change the climate, but in the aggregate, they will potentially have an enormous impact. We should be scaling back emissions, not putting the pedal to the metal.

Thank you for allowing me to voice my concerns.

Sincerely,
Courtney Kerns

From: susan clandon
To: AUARcomments
Subject: Proposed Data Center in Hermantown
Date: Wednesday, April 29, 2026 1:11:42 PM

I have environmental concerns for people, land and water but particularly about the energy it would demand of the grid and the tax implications.

Susan
Susanclandon47@gmail.com

From: Hannah Dineley
To: AUARcomments
Subject: Public Comment on the AUAR Scoping Document
Date: Wednesday, April 29, 2026 3:46:55 PM

Hello Eric,

My name is Hannah Dineley and I am a resident and registered voter in the City of Hermantown and I wanted to reach out during this public comment period to voice my concern regarding the City's new AUAR for Google's hyper-scale data center.

I am concerned about the possible affects on things like public health, the environment, and water quality for my city and neighbors.

I believe that the city should propose a new location for Google's hyper-scale data center due to the environmental concerns of the current proposed site, which is in a residential neighborhood that was quickly rezoned to light industrial while ignoring public outcry to table such a decision to rezone.

Sincerely a concerned citizen,
Hannah Dineley
hannahdineley@gmail.com
3927 Ugstad Rd. Hermantown, MN 55811

From: Ryan Marquez
To: AUARcomments
Subject: Public Comment on the AUAR Scoping Document
Date: Wednesday, April 29, 2026 3:59:29 PM

Hello Eric,

My name is Ryan Marquez and I am a resident and registered voter in the City of Hermantown and I wanted to reach out during this public comment period to voice my concern regarding the City's new AUAR for Google's hyper-scale data center.

I am concerned about the possible affects on things like public health, the environment, and water quality for my city and neighbors.

I believe that the city should propose a new location for Google's hyper-scale data center due to the environmental concerns of the current proposed site, which is in a residential neighborhood that was quickly rezoned to light industrial while ignoring public outcry to table such a decision to rezone.

Sincerely a concerned citizen,
Ryan Marquez
ryanmarquez5191@gmail.com
3927 Ugstad Rd. Hermantown, MN 55811

From: Dave Thornton
To: AUARcomments
Subject: Comment on Updated Hermantown Industrial AUAR-Scoping Document
Date: Wednesday, April 29, 2026 5:22:40 PM
Attachments: SHDC Comments to AUAR.pdf

Mr Eric Johnson,

My name is David Stewart Thornton, and I live at 5861 Hermantown Rd, Hermantown, MN., 55810. I do not think that the updated Hermantown Industrial AUAR Scoping Document is a valid method to use in planning for a large-scale Data Center. I fully agree with all the material that was sent to you by the Stop the Hermantown Data Center interest group, as listed in the attached document.



Stop the Hermantown Data Center

www.stopthehermantowndatacenter.com
stopthehermantowndatacenter@gmail.com

Date: April 28, 2026

To: RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

Re: AUAR Public Comment

Dear Mr. Johnson and the City of Hermantown:

The grassroots, citizen-led non-profit organization, Stop the Hermantown Data Center (SHDC) continues to strongly oppose development of a hyper-scale data center in the rural, residential SW corner of Hermantown, located in the Adolph area, surrounded by residential homes, farms, agricultural lands, pristine wilderness and water resources.

SHDC is a group of concerned residents and neighbors from Hermantown, Midway Township, Solway Township, Duluth, Cloquet, Esko, Saginaw, and other area communities. SHDC is concerned about the negative impacts of the proposed hyperscale data center on our community, quality of life, property values, health, and the environment.

As an initial reminder, a public survey conducted by the University of Wisconsin-Superior found that 74% of local people oppose or strongly oppose the data center. The City should act in the interest of this huge majority and cancel this project.

With that said, the following are SHDC's public comments to the updated City of Hermantown Industrial project Alternative Urban Areawide Review (AUAR), released on March 24, 2026, to be evaluated by the City of Hermantown as the Responsible Government Unit (RGU) pursuant to Minn. R. 4410.3610, subp. 5a(B).

Project Purpose and Need Is Inadequate

The scoping document is inadequate because it fails to meet requirements of Minnesota Rules where large specific project(s) are included in the proposal. The AUAR scoping document (SD) claims to include a large specific project (AUAR scoping document or AUAR SD, p. 0).

Minnesota Rules state at 4410.3610 ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS. Subp. 5a. Additional procedures required when certain large specific projects reviewed:

> B. Prior to final approval of the order for review pursuant to subpart 3, the RGU must conduct a public process to receive comments about the scope of the review. The RGU shall prepare a draft order for review and distribute and provide notice of its availability in the same manner as for an EAW pursuant to part 4410.1500. The draft order for review must include the information specified in subpart 3 and a description of the specific large project or projects to be included in the review comparable to that of a scoping EAW pursuant to part 4410.2100, subpart 2.

Thus, the description of the specific large project comparable to that of a scoping EAW for an EIS must address what is required for a project description in a scoping EAW for an EIS. Turning to what is required for a project description in an EAW:

4410.1200 EAW CONTENT.

> C. description of the project, the purpose of the project, methods of construction, quantification of physical characteristics and impacts, project site description, and land use and physical features of the surrounding area

Guidance from the Minnesota Environmental Quality Board (EQB) in 2013 explains more on this requirement, see p. 11-12.

While there is guidance from EQB dated 2008 on AUARs, that guidance appears to have been preceded by, and does not directly address, the 2009 Minnesota Rule amendments) for large specific projects. The City is required to follow the requirements in Minnesota Rules explained above and should implement the guidance from 2013, as it pertains to project description in the AUAR SD.

A key deficiency in the AUAR SD is a failure to disclose the purpose of the large specific project- the Google Hermantown Hyperscale Data Center (see 4410.1200 above). The AUAR SD states at p. 8:

> Consistent with Minn. Rules 4410.3610, the updated AUAR will evaluate reasonable alternatives identified through the scoping process and any alternatives directed by the City of Hermantown's scoping decision, including alternatives related to site layout, infrastructure routing within the AUAR area, stormwater management approaches, and other design level alternatives that would avoid or minimize significant environmental effects while meeting the project purpose and need.

Further, 2010 EQB guidance at p. 39 for large specific projects in an AUAR states: "the RGU must use the same criteria for excluding a suggested development scenario as for excluding an EIS alternative as given at part 4410.2300, item G." Item G references project purpose and need.
A search of the AUAR SD does not reveal any stated project purpose and need.
Is it to provide AI computing capacity to allow for Google to provide AI computing services and generate profits for Google? This is unknown. This omission is critical because it precludes the public and agencies from offering recommended alternatives that would avoid or minimize significant environmental effects while meeting the (unknown) project purpose and need. This omission renders the AUAR SD itself legally deficient.

Project Description Is Inadequate

Further, the project description is inadequate beyond the missing project purpose and need. This is another legal deficiency of the AUAR SD. EQB guidance on project description includes:

> The project description is the most important item in the EAW. It must be completed thoroughly and accurately. It is best to assume your reader is not familiar with your industry or proposed facility.
>
> Clear, complete and detailed project descriptions are essential to understanding the potential for environmental effects. If any portion of the project description is vague or incomplete, reviewers may have difficulty understanding the project and may assume certain environmental considerations have been overlooked.
>
> The detailed description should be focused on aspects of the project that may directly or indirectly manipulate, alter or impact the physical or natural environment. This can include: construction methods, especially in regard to site preparation; operational features (ongoing operations), especially in regard to waste production and management; and in some cases such as mining and landfilling activities, project closure actions. The description should distinguish between construction and operational activities. It should describe scheduling, timing, and locations of the activities as well as the time of year, frequency, and duration of the activities. It should also highlight any special concerns, such as proximity to a significant resource. Typical things to consider as part of detailed project description include:
>
> - Project components and structures
> - Permanent and temporary structures
> - Construction methods, timing (including when construction would begin), and equipment used
> - Size of the main components
> - Locations and relationships of project components
> - Associated infrastructure including new or expanded public utility services or public works necessary to serve the project such as sewers, storm sewers, streets, water mains, water towers, power lines, gas lines
>
> NOTE: Any infrastructure constructed to serve the project and not independent of project must be treated in the EAW as part of the project. For example, a road built to serve a specific project must be treated as part of the project and its impacts should be included in the EAW. According to Minn. Rules 4410, all "connected actions" are to be reviewed as one project. Connected actions are defined as projects related in any of the three following ways: (1) one project would induce the other; (2) one project is a prerequisite for another and the prerequisite project is not justified by itself; or (3) neither project is justified by itself (4410.0200, subpart 9c).

The AUAR SD fails to meet the requirements for project description as described above. Multiple City-published documents show that far more information about project description has been developed, than has been disclosed in the AUAR SD.

The City website hosts documents that contain numerous details about the project description, yet these are not referenced or linked in the AUAR SD as containing details on project description. One example is the special use permit application that discloses building height (30-50 feet depending on building), whereas the AUAR SD does not. Another example is sources of noise and/or air pollution. Specific estimates of diesel generators and air-cooled chillers-are described in the Acoustic Study (pp. 4-5), yet the AUAR SD does not. Comparison of the special use permit application and supporting documents publicly available information on the City's website and what is in, or referenced, by the AUAR SD is needed.

While it is possible that Google/Harmony has updated their proposed project as compared to what is on the City's website, it is the City's duty to update that information as needed and include it in the AUAR SD description (and if necessary, post longer documents as appendices to the AUAR SD). The many documents providing project description details on the City's website contradict any claims by the City that project description details are not, and cannot be, reasonably included in the AUAR SD or AUAR document.

To summarize, a large specific project is included in this AUAR, that means the City needs to provide in the AUAR SD a project description per that required for a scoping EAW for an EIS.

Public Infrastructure Description Inadequate

Another concern with the project description is that the Study Area does not incorporate the area where utilities will be built to accommodate this project. AUAR SD at p. 7:

> Additionally, new public infrastructure would be required for City water service, sanitary sewer, stormwater management, streets, and utilities extending from or upgrading existing publicly owned systems to accommodate the new development. A new private driveway access will be needed on the northwest side of the Study Area from Morris Thomas Road that will include a shared access with the parcels on the western half of the Study Area as well as a construction staging area. No development is anticipated near the southern portions of the Study Area where the existing transmission lines are located.

The water utility aspects of the new public infrastructure extend beyond the current study area to connect the existing WLSSD water system to the project site and include a water tower near Rose Road, water utilities along Morris Thomas and Midway Road. This is displayed at Exhibit I to the proposed Development Agreement between Google and the City posted on the City website. There are also road improvements at Appendix G. This document demonstrates that the water utility buildout and road improvements needs to be analyzed as a connected action to the data center project because the data center project is inducing the water utility and road improvement projects. The City should also analyze energy utility activities and projects that are connected actions in the AUAR (see AUAR SD, p. 54).

For the reasons stated above, and that this is the second attempt at an AUAR with a large specific project by the City, the AUAR should be withdrawn and an EIS prepared instead. This is a major industrial project with significant adverse effects, as discussed below. The City, regulatory agencies and the public deserve to have complete information about the project design and its effects.

Recommendations on Alternatives to Study, Issues, and Mitigation

Alternatives

As noted above, the undisclosed project purpose and need preclude being able to determine alternative scenarios. Further, inadequate project description reduces the ability to offer recommendations on alternatives. That said, here are some alternative scenarios to study:

First, the City should include a "no build" scenario in the AUAR. This would describe existing resources and how the area would be in the future with no data center project being built. It is reasonable to assume the water or road infrastructure would not occur either if the project is not built.

Second, the City should consider sites outside the study area for a hyperscale data center. *This consideration should extend beyond the City of Hermantown city limits. Given the need to consider sites outside of the study area, this suggests a state agency should be the responsible government unit (RGU).* ***The study area consists mostly of forests, wetlands, streams and farmland of statewide importance. In contrast, brownfields, closed mining areas, and old mining infrastructure typically consist of impervious surface, old buildings, or subsoil and rocks with little to no vegetation. This contrast alone renders these types of alternative sites environmentally superior to the proposed site.***

In particular, the City should discuss potential sites at brownfields, closed mining areas and old mining infrastructure on the Iron Range with the Iron Range Resources and Rehabilitation Board (IRRRB). IRRRB may have multiple such sites in mind and moreover, significant infrastructure (e.g. feasible road, electrical and water connection) may already exist at such sites that would allow for a hyperscale data center. In addition, such sites may have greater local community support than that at Hermantown (74% opposed or strongly opposed) and be located further away from residences (i.e., there may not be residences right next to an old iron mining site or facility). The greater isolation of a hyperscale data center at such sites from residences and other human-occupied buildings would be a superior environmental benefit compared to the proposed site. Less noise, air pollution, light pollution, and scenery impacts would reach receptors. While this comment does not identify a precise alternative site, it is reasonable for the City to consult with the IRRRB. The IRRRB is likely to be in a position to provide extensive insight and recommendations on alternative sites on the Iron Range.

Third, the City should also study in detail alternative ways to cool the proposed hyperscale data center. The choice of cooling system, including details and mitigation, are one key to the human impact effects of a hyperscale data center. The AUAR SD says "the data center buildings will use non-evaporative mechanical cooling equipment." (AUAR SD p. 6). However, this is an example of the inadequacy of project description. The cooling system should be explained further, and in more detail, in a way that is understandable to a lay person. Does the one sentence in the AUAR SD on cooling system mean the project is "air cooled"? Does it mean the project is "closed-loop water cooled"? Previous documents say the project will be air cooled, but a web search on the meaning of the sentence in the AUAR suggests this could mean closed-loop water cooled.

In general, it appears that "air cooled" hyperscale data centers emit significant adverse noise, but consume little or no water in their cooling process. On the other hand, "closed-loop water cooled" systems may emit less noise and consume little water after initial startup, but may need biocides or other hazardous materials to keep the water usable, which present their own issues and need an adequate disposal plan.

The City should study "air cooled" and "closed loop water cooled" system alternatives in detail, comparing effects for noise, water use, and consumption, use and disposal of hazardous waste, and energy consumption. Such a study may reveal that one or the other is environmentally superior, and/or display tradeoffs to various resources to inform a decision. The City should also include consideration of proximity to residential dwellings as it considers the cooling method.

Fourth, another alternative to consider is to reduce the height of all buildings to render them less visible. A reduced height could potentially reduce sound emissions. Presumably, the four buildings with the data processors would be 50 feet tall (based on description in the special use permit application; the AUAR SD does not include the specific height). Are the buildings visible from locations outside the project site, such as scenic overlooks including Ely's Peak, or driving on Midway or other roads? This would change the character of the area. Consider driving through a rural to semi-rural area and then seeing massive buildings loom overhead. An alternative scenario is needed that reduces the height and square footage of buildings is needed if they are visible from Midway road or Ely's Peak.

A fifth alternative to consider is how backup power generation is handled. The project description once again is inadequate because it does not specify the number and type of generators proposed for the large specific project (whereas, some information is in the Acoustic Study linked above). That said, the City should consider alternatives of a proposal that includes diesel powered generators and the noise and air pollution from those, an alternative that requires battery backup only, and a combination of the former two. Overall, battery backup is likely environmentally superior to diesel backup (even biodiesel) because of avoiding or minimizing noise and air pollution. However, there are risks from battery backup-such as fires from lithium batteries that require specialized response plans. These tradeoffs should be analyzed in these alternatives. In addition, a mitigation under all alternatives should be to require Google/Harmony to run backup for only so long as to conduct orderly shutdown of equipment and transfer of computing activities to other data centers, instead of running backup for the entire duration of a power outage. Perhaps this could reduce the amount of time backup must run from hours/days to minutes/seconds and render battery backup only more feasible; or dramatically reduce adverse impacts from diesel generators.

ISSUES

As noted previously, project description in the AUAR SD is inadequate to inform commenting on issues, therefore the City should withdraw the AUAR SD and complete an EIS. However, the following are comments on issues to analyze in the AUAR.

Air Quality

First, the AUAR should analyze the air pollution, including greenhouse gas (GHG) emissions, during the construction phase, and during operation of the facility. Consideration of backup generator use should also be included in the air quality study.

The AUAR SD states on page 46, "The AUAR will include discussions of dust control ordinances." There are currently no ordinances relating to dust in the City's zoning chapters, other than what is included in "surfacing". What happens to residences and businesses outside the Study Area who will be impacted by construction dust? There are currently no protections in place as an ordinance does not exist.

It is unacceptable to say that a "discussion" would occur. The City needs to determine tolerance, thresholds, impacts, and mitigation to protect the people and wildlife in this community. For a project that will move thousands of cubic feet of dirt to build a 1.8 million square foot campus, it is imperative that a dust ordinance be included in the mitigation plan and adopted *before* any permits are issued. In addition, only one intersection is identified in the Study Area, per Figure 2: AUAR Study Area Boundary. However, Figure 14: Traffic Study Intersections, depicts 3 additional intersections outside the Study Area which will be impacted by construction traffic. Dust ordinances must include major routes utilized by construction traffic and the impacts to the surrounding environment, residences, and businesses.

Greenhouse Gas Emissions

Second, because of the likely massive power consumption of this facility and number of large diesel generators (undisclosed in the AUAR SD project description), air pollution and GHG emissions may be significant. The AUAR SD states that "The back up generation needs will be identified through a separate environmental review process outside of this AUAR..." Who will conduct this review process and when? The AUAR should analyze effects to human health from the air emissions for the entire project, which should include the backup generators. Chemicals used in the cooling process present significant hazards to health. Nitrogen oxides and other particles released from diesel generator pollution can cause a whole range of health problems, from heart disease, cancer, to asthma and other respiratory diseases, let alone the particles can be deposited in the water and soil. How will these be addressed and mitigated?

The mitigation plan should include a bond that funds future construction of renewable energy equal to the facility power consumption to reduce GHG emissions and air pollutants. In addition, the mitigation plan should require battery generator backup only (see also alternative on this above).

Furthermore, it is misguided to say the proposer will provide "the best estimate of average annual emissions over the proposed life/design service life of future development." This approach is not in line with EQB rules for an AUAR with a large specific project, requiring details about the specific project proposed. Additionally, on page 48 of the AUAR SD, "The proposer will evaluate implementing the sustainability measures described in the AUAR to reduce operational emissions to the extent practicable." The mitigation plan must detail the specific sustainability measures that will be required. This way, the City, as informed by public comment, would identify these measures and require Google to follow them. How can we reach net zero and Minnesota's Climate goals by 2040, when the proposer is contributing to GHGs? According to an article in The Guardian from June of 2025, "Google's carbon emissions have soared by 51% since 2019 as artificial intelligence hampers the tech company's efforts to go green." This is reinforced by the Kairos Fellowship report of Google's Eco Failures.

Additionally, in an article posted by National Public Radio in November of 2025, using data analytics, Cornell University cited that "by 2030, the rate of AI growth in the U.S. would put an additional 24 to 44 million metric tons of carbon dioxide into the atmosphere." While Google has stated in its Electronic Service Agreement with Minnesota Power that they are committed to using clean energy sources in Minnesota, what can be said about the 17 data centers Google locations already built elsewhere in the United States, with an additional 13 under construction? These figures do not represent any additional projects that have been proposed, but not yet permitted, as is the case in Hermantown.

The research from Cornell goes on to state, "the emissions [is] equivalent of adding 5 to 10 million cars to U.S. roadways. It would also drain 731 to 1,125 million cubic meters of water per year – equal to the annual household water usage of 6 to 10 million Americans. The cumulative effect would put the AI industry's net-zero emissions targets out of reach."

Temperature

The AUAR should analyze how the project would heat the surrounding ecosystem. Even though the Minnesota's Heat Vulnerability Map Tool indicates the Study Area is of low heat vulnerability, the removal of mature trees to be replaced with 1.8 million square feet of concrete and asphalt will alter the local microclimate. A study cited in a March 2026 CNN article that analyzed waste heat of large data centers reported that large data centers increase surrounding area temperatures by 3.6 degrees Fahrenheit on average, with impacts reaching up to 6 miles, creating heat islands. Given the location of the site between two cold water trout streams, a long-term temperature increase in the immediate area could alter the stream temperature and trout habitats. Heating may also change soil conditions and chemistry, create conditions for the spread of invasive species, increase algae blooms, and change wildlife habitat.

The City should consider the feasibility of capturing waste heat and finding alternate uses for it.

Water Quality and Water Use

The AUAR should analyze effects on water resources. This includes effects to the watersheds and receiving water bodies (Rocky Run trout stream, Midway River, St. Louis River, Lake Superior) impacted by conversion of forest and wetland to impervious surface. The AUAR should study effects to wetlands, and include in the mitigation plan means to avoid, minimize or compensate (i.e. wetland credits) for wetland impacts. The mitigation plan should include required setbacks from the trout streams in the area and analyze impacts to the aquatic life in these streams. The mitigation plan should include erosion control measures to minimize sediment reaching streams.

As noted above, the project description is inadequate as it relates to the cooling system. How many cooling units per building would there be for the proposed project? How much if any water would be consumed by the cooling system? Will any hazardous chemicals be needed to run the cooling system (e.g. biocides, PFAS, etc.)? The mitigation plan should spell out how biocides, PFAS or other hazardous materials would be managed, if needed under an air cooled or closed-loop water cooling system.

The AUAR SD states, "Wastewater from the proposed development scenario will be limited to wastewater from domestic sources (i.e., no industrial wastewater) and will be discharged to the City of Hermantown collection system." Accordingly, the mitigation plan should prohibit any activity that produces industrial wastewater. If the mitigation plan does not make this commitment, the AUAR should disclose if industrial wastewater will be treated on site, or transported and treated at Resource Renew/formerly WLSSD. If so, is Resource Renew equipped to treat these chemicals in the water? If Resource Renew is not capable of treating these chemicals, where, how, and when will they be addressed?

What is the total amount (gallons/month) of water drawn and domestic wastewater discharged every month?

Whether the project is air cooled or closed-loop water cooled, the mitigation plan should prohibit groundwater withdrawals and injections from on-site wells. Given there may be a very shallow water table at the building sites, the AUAR should disclose dewatering impacts, including on the viability of groundwater resources, how dewatering may affect existing wells of surrounding residences, and the plan for and effects of discharging this water.

The undisclosed fuel source of the backup generators (possibly battery and/or diesel) provides a risk of fuel leaks and discharges into the ground or stormwater storage ponds. The mitigation plan should address leak detection systems or protection mitigations.

Noise

The AUAR should analyze the effects of noise from the construction and operation of the data center on human receptors and wildlife. This analysis should include disclosing the area within which noise ***would be audible*** in mapping, along with sound level contours. Mapping should include predicted effects with mitigation included.

The AUAR should not rely on A-weighted measurements alone or dB(A), to evaluate noise from the proposed data canter. A dB(A) only analysis understates low-frequency sound that residents are likely to hear and feel, especially at night. The AUAR should require dB(C) modeling and measurements including ⅓ octave-band, tonal analysis, and receptor specific modelling at nearby homes, property lines, and outdoor use areas as these low frequency sounds may be heard for miles and are not accurately measured using dB(A) measurement and analysis. These low frequency sounds are measured accurately only using dB(C) measurements and are also the sounds most likely to impact residents' health, sleep, and surrounding wildlife.

This dB(C) noise analysis should also model worst-case real-world conditions. This includes nighttime operation, leaf-off conditions, temperature inversions, calm/stable night time air, frozen ground, snow cover, downwind propagation, and full-buildout cumulative operation of all buildings and equipment. The AUAR should also use dB(C) measurements and analysis to evaluate whether the proposed berms, equipment screens, or other mitigation will, in reality, actually reduce low-frequency sound. Low frequency noise has longer wavelengths and can diffract over, around, and through barriers, meaning berms and walls may appear effective on paper using dB(A) analysis while doing little to address the type of mechanical hum residents are most likely to notice. The mechanical hum can only appropriately and effectively be measured using dB(C) measurements and analysis.

The AUAR should require a full low-frequency mechanical noise study prepared by qualified acoustical engineers using dB(A), dB(C), L10, L50, Leq, octave-band, ⅓ octave-band, and tonal analysis under nighttime, and worst-case operating conditions including the thermocline conditions as our local climate changes. The AUAR should not treat compliance with Minnesota's dB(A)-based noise limits as proof of no significant noise impact unless the applicant also demonstrates acceptable low-frequency and tonal performance during nighttime, winter, leaf-off, temperature-inversion, and full buildout conditions. Without this dB(C) analysis, the AUAR will not accurately disclose the sound and health impacts residents may experience from a 24/7 industrial-scale data center. These dB(C) measurements should also include the maximum distance in which these sounds may be measured and experienced by residents.

The mitigation plan should include required design features to reduce sound emissions. The mitigation plan should cover construction and operations, including both the cooling system and backup generator operation. It is well known that data centers emit significant adverse noise that can harm human health and degrade quality of life. Data center noise would also adversely impact wildlife, including migratory birds, impacting navigation, foraging, communication, and reproductive success. Analysis for and compliance with Minnesota Rules on Noise alone does not adequately protect the quality of life and health of adjacent residents because this noise would occur **constantly, 24 hours a day, indefinitely**. Project operational noise also includes low-frequency sound, which has been shown to adversely affect human health.

Again, the mitigation plan should provide stronger protection than that provided by Minnesota Rules on Noise to protect quality of life and health of adjacent residents. This may involve designing equipment such as chillers to emit less sound, including low-frequency sound, in addition to mitigations such as sound barriers. See also comments above on an alternative for a closed-loop water cooled system to emit less sound.

Construction Noise

The mitigation plan should also require limited hours and days of construction to reduce noise at this phase. To better protect quality of life from noise impacts for this long phase (more than 5 years; the AUAR fails to state specifically how many years), limit construction hours to 8 am to 5 pm, Monday-Friday in the mitigation plan. Because of the very long timeframe of construction, this increased mitigation compared to existing Hermantown rules is justified. In comparison, Costco states it builds new stores an average of 110 days. This project, taking more than 5 years, is an unusual circumstance. When does an light industrial project become heavy industrial due to construction noise and adverse effects on residents?

Scenery and Dark Skies

The AUAR should analyze effects on scenery and dark skies. This includes change to scenery (see alternatives, above) and light pollution. This should include effects of light pollution on adjacent residences. The mitigation plan should include measures to reduce light pollution and align with dark sky guidelines during construction and operation.

Traffic

Only one intersection is identified in the Study Area, per Figure 2: AUAR Study Area Boundary. However, Figure 14: Traffic Study Intersections, depicts 3 additional intersections outside the Study Area which will be impacted by construction traffic. A traffic study is needed of the proposed project area. The traffic study should include how Canadian National mainline affects the needed 24/7 access to the proposed study site, particularly in the event of fire, fuel, or other contaminant leak requiring immediate attention.

Historic Properties

The AUAR should analyze effects to historic properties and the mitigation plan should provide for avoidance or mitigation of impacts to any such sites. The AUAR SD also states results from Minnesota OSA database review as well as a Phase I Archaeological Study completed for the Study Area will be discussed in the AUAR. What parcels/locations encompass Phase 1? Can it be assumed that Phase 1 of the archaeological review/study coincides with Phase 1 of construction?

When would subsequent phases of any form of archaeological studies be executed? How many phases in total will there be? Will tribal representatives be notified if any cultural indigenous artifacts are discovered? Also, will tribal governments be consulted that retain treaty rights in the 1854 Treaty Territory?

Ecological Resources and Wildlife Habitat

The AUAR should analyze effects on forests and wildlife habitat. The project study area is a mix of forest, grasslands, and wetlands, including two MnDNR designated trout streams, which provides valuable habitat for wildlife including seven state or federal listed threatened, endangered or sensitive plant or animal species as identified in the previous AUAR. Identified species with sightings or habitat within the study area or near proximity include the American goshawk, a state listed species of concern, the clustered bur-reed, a state watchlist plant, two federally listed threatened species, the Canada lynx and gray wolf, the proposed threatened monarch butterfly and proposed endangered Suckley's cuckoo bumble bee as well as all of Minnesota's bats, including the federally endangered northern long-eared bat. Any disturbance or alteration of the ecosystem in the study area would impact these listed species and the abundance of other wildlife that inhabit the area. An industrial project in this area would result in permanent habitat destruction and the loss of these species in this area. Disruption to this ecosystem also introduces risks of invasive species, stormwater runoff pollution, soil erosion, and loss of carbon-capturing trees and wetlands. Residents in this rural SW corner of Hermantown, Solway, and Midway enjoy the multitude of wildlife in the area and the loss of the habitat and therefore wildlife would be detrimental to the character of the area and the residents living there.

The mitigation plan should include requirements to avoid any habitat of the identified species, nesting and young-rearing sites of inhabitant or migrating wildlife, and avoid disruption during migration and nesting seasons. The mitigation plan should use native plants, seed mixes, and trees for any planting and reseeding and require one-for-one replacement of mature trees and wetlands acres impacted in the study through replacement programs such as conversation credits and/or tree-for-tree plantings within the Hermantown boundary. The only mitigation to avoid or minimize impacts to the ecological resources and wildlife is to select an alternative brownfield site elsewhere given this project location is mostly greenfield forests, grasslands, and wetlands of which the proposed project buildout would have negative and permanent impacts.

The AUAR should also disclose how much farmland of statewide importance would be eliminated.

Economics

The AUAR should complete and disclose a financial analysis and economics analysis. In particular, an estimate of consequences to the City budget and taxes should be completed, incorporating any tax relief provided to the project proposer. The risk of concentrating tax revenue for the City from this project and what would occur if the project is abandoned mid-construction should be evaluated. The AUAR should also disclose the estimated lifecycle of the project and buildings and potential future uses of the property. In addition, the costs and funding mechanisms for the water and electricity buildout and use should be disclosed. This analysis should provide clarity on direct *or indirect* costs to residents that pay utilities.

The AUAR should disclose estimated or known financial impacts of the project in regard to one-time and recurring costs to upgrade or improve and maintain emergency response requirements such as training, supplies, and equipment.

The AUAR should disclose estimated effects of the project on property values of adjacent landowners, and property values within the area where noise is audible.

The AUAR should disclose the amount of power this project is estimated to use. Will any on-site energy generation for regular operations be done by the project? If so, the AUAR should disclose that and the energy source. Also, the AUAR should evaluate the effects of this project on electric grid stability, including availability to residents.

In the event this project is built, the mitigation plan should require the use of local union labor.

Compatibility with Comprehensive Plan

The AUAR should explain why this project is claimed to be "light industrial". While a small or "regular" data center might be light industrial, this is not reasonable for a hyperscale data center. This project is a heavy industrial project because it will consume massive amounts of electricity, convert a significant land area to impervious surface, and produce sound and light emissions, along with air pollution from diesel generators, that will adversely affect many surrounding residents. Overall, it would degrade nearby residents' quality of life and the use and enjoyment of their property, as described more throughout this comment letter.

The AUAR should explain why this project meets its Comprehensive Plan guidance for BLM zoning for jobs per acre. This project, at most, may provide less than one long-term job per acre. This project monopolizes a large percentage of land that is slated to be rezoned to BLM in the 2045 Comprehensive Plan. A hyperscale data center's life span is on average 15-25 years. Where do those jobs go when the buildings reach obsolescence? Or if Google chooses to restructure and make jobs remote or even worse, replacing a human with AI capabilities?

We understand that City staff stated at the end of the April 21, 2026, Planning and Zoning meeting, without any prior public or other notice, that the City intends to amend the Comprehensive Plan to accommodate the planned extension of public utilities outside the urban services boundary. As stated above, the water utilities and road improvement projects are connected actions and need to be analyzed in the AUAR as such, including all actions displayed at Exhibits G and I to the proposed Development Agreement. Accordingly, the City needs to analyze at least one development scenario in the AUAR that is consistent with the current Comprehensive Plan, per Minnesota Rules 4410.3610 Subpart 3.

Reclamation and Recycling

The AUAR should describe a physical site reclamation plan for the event this project reaches end of life or is abandoned. The reclamation plan should be incorporated in the mitigation plan. This should include a required bond for site repurposing or restoration when the project reaches end of life or if the project is abandoned. Can the data center be repurposed? If not, what methods and outcomes would restoration include?

The mitigation plan should provide for how e-waste will be handled (e-waste that contains heavy metals such as lead, mercury and cadmium), given turnover of computing resources at data centers can be relatively frequent. The mitigation plan should provide for how any other hazardous waste will be handled, or otherwise prohibit activity that may produce hazardous waste.

Cumulative Effects

It is clear that, at a minimum, the road improvements and water utility buildout shown at Appendices G and I to the Proposed Development Agreement is a connected action. Power projects built to support the data center may be as well. If the City nonetheless decides the water and power projects supporting this project are not connected actions to be analyzed as part of this proposed project, they should be analyzed for cumulative effects. Any other projects or activities nearby should also be analyzed for cumulative effects. For example, how will trains, traffic, and the nearby already-built power substation plus the pending water and power projects add to noise from the project? How will the water and power projects supporting this project plus other adjacent anticipated development on BLM land cumulatively increase developed land area, in turn affecting watershed health and wildlife habitat? How will this project plus the other adjacent anticipated development on BLM land change the character of the Adolph area from rural residential to industrial?

Community Safety

This is something the AUAR SD does not touch on at all. A data center campus of this magnitude requires the City and other local municipalities be adequately trained and equipped to handle fire, security, and unplanned water or fuel leaks, that given the size and number of buildings and amount of fuel that could be stored on site if diesel backup generators or batteries are used (again, not disclosed), could lead to a catastrophic event. Has the City and surrounding local governments such as Solway Township, Midway Township, and City of Duluth fire marshal codes been updated to reflect the needs in this Power grid infrastructure? What is the electrical circuit breaker capacity of the data center? Has an emergency response plan been reviewed with the local fire and emergency response units that discusses the response plans including but not limited to responding units, fire suppression methods, chemicals, equipment, tactics, training requirements, storage location of equipment and chemicals, and evacuation plans? The emergency response plan should include the construction phase in addition to operation.
According to the National Institute to Health/National Center for Biotechnology Information, long term exposure to certain fire retardants poses a significant risk to endocrine-related cancers (thyroid, breast, prostate) and higher cancer mortality. Does Google or Harmony Group LLC have an insurance company that provides environmental cleanup of fire retardants and debris? Who will be held accountable when there is significant risk to surrounding neighbors and businesses?

Mitigation Plan

In addition to the above comments on the mitigation plan, the City should plan an effective way to require and enforce the mitigation plan. A fine (especially a token fine of $750 that is in the special use permit application on the City website) for violations is easily dispensed with by Google. Instead, the City should require that the data center suspend operations (e.g. turn off their servers or halt construction activities, depending on timing) if the mitigation plan and other requirements are not reasonably met.

Overall, if the project continues, the City should design a mitigation plan that makes a strong and good faith effort to avoid and minimize adverse effects to local residents and the environment, instead of maximizing convenience and cost savings for the project proponent/s.

CONCLUSION

The City should prepare a full Environmental Impact Statement (EIS) for this project instead of an AUAR. However, even better options are the following: a) cancel this project in response to 74% opposition, b) support a city-wide moratorium, and c) support a state-wide (e.g., GEIS) look at hyperscale data centers including their siting and design.

The City's commitment to this specific, harmful and deeply unpopular project does not serve the will of its constituents.

Respectfully submitted for your consideration,

Stop the Hermantown Data Center

From: Barbara Opal
To: AUARcomments
Subject: AUAR - More comments
Date: Wednesday, April 29, 2026 7:32:39 PM

Hello. My name is Barbara Opal and I live at 328 N 53rd Ave W in Duluth. Thank you for taking my input on the AUAR.

I have several concerns that I want addressed in the AUAR, but first I will say that this area of Hermantown is not the right place to build a data center. Covering acres of forest, wetlands, and farm land in impervious surfaces will inevitably degrade the environment. Other locations should be looked at. Perhaps the Iron Range, where the environment is already degraded?

An Environmental Impact Statement would be a more appropriate tool to determine and mitigate the effects of this project. Since you are planning on using an AUAR, please include comprehensive information on the following concerns.

1. WATER. How much water will be used? How much waste water will there be and what pollutants will it contain? How will the pollutants be removed from the waste water? It is important to be specific about what type of cooling will be used in this facility, because that will determine water usage.

2. NOISE. How much noise will be generated? How far distant will the noise be heard? What will be the effects on wildlife? On humans? Generators and air chillers create significant noise. Construction of this project will also create noise.

3. AIR POLLUTION. Generators create air pollution. How will this be mitigated to lessen harm to wildlife and humans?

4. LIGHT POLLUTION. Addressed in more detail in a previous email. How will you mitigate light pollution to prevent harm to birds, other wildlife, and humans?

5. WETLANDS. How will you make up for the loss of these wetlands? The wetlands filter water as it sinks to the aquifer and provides habitat for many species.

6. TROUT STREAMS. What will be done to ensure the trout streams are not affected by this project?

7. What plans will be in place to restore the land at the project's end of life? What contaminants do you foresee needing to clean up after the data center stops being used? Who will clean and restore the site - Google? The City of Hermantown?

Please address these issues thoroughly and honestly in the AUAR.

- Barbara Opal

From: Matt Salminen
To: AUARcomments
Subject: No data center
Date: Wednesday, April 29, 2026 8:19:43 PM

BAD for the environment. BAD for consumers.

From: Andrea Thorstensen
To: AUARcomments
Subject: Data Center AUAR Public Comment
Date: Wednesday, April 29, 2026 8:23:41 PM
Attachments: Hermantown AUAR Scoping Comment.pdf

Dear Eric Johnson,

Please see the attached document for my response to the Public Comment Period on the Updated AUAR Scoping Document for the proposed Google data center campus.

Thank you,
Andrea Thorstensen

TO: Eric Johnson
Community Development Director
City of Hermantown

FROM: Andrea Thorstensen

DATE: April 29, 2026

RE: Response to Call for Public Comment on Alternative Urban Areawide Review for Proposed Google Data Center Campus

Dear Mr. Johnson,

Thank you for the opportunity to comment on the Updated Hermantown Industrial AUAR Scoping Document. In my comments, I am focusing on the adequacy (or lack thereof) of the proposed scope relative to the stated commitment to Environmental Impact Statement (EIS)-level review.

The *Introduction* of the Scoping Document states: *"Given that the 1.8 million square feet of light industrial buildings would otherwise meet the threshold for a mandatory Environmental Impact Statement (EIS) under Minn. R. 4410.4400, the scope of the environmental review in the updated AUAR will be consistent with an EIS, where applicable."*

This statement brings up the key issue that the project meets an EIS threshold under Minn. R 4410.4400 and the contents of the scoping document that follow do not provide any legal, analytical, or practical basis for substituting the AUAR process for a (legally mandatory) EIS. Only a soft promise to be consistent with an EIS for environmental review is provided, and the terms of consistency are ambiguously defined as *"where applicable"*.

That aside and entertaining the idea that environmental review with the rigor of an EIS will be provided in good faith, the Scoping Document must be improved in several ways. First, the Scoping Document does not use language that indicates an EIS-level analysis will be appropriately conducted. For example, the liberal use of the phrase "*To be discussed in AUAR*" in *Table 2.*, the statement "*The AUAR will address...*", and "*... will be discussed in the AUAR*" show that key and currently available/obtainable analysis criteria such as methods to be used (there are industry standards!), assumptions, data sources, and impact thresholds are being omitted. This is a direct contradiction to the promise stated in the *Introduction* to conform to EIS standards. For a more complete scoping document, all of these phrases must be continued (e.g. on pg 38 *"Surface water alterations, including wetland impacts and mitigation strategies, will be ~~discussed in the AUAR~~ investigated by examining/studying xyz using xyz data and xyz methodology."* and supporting details and data should be provided).

The *Alternatives* section of the *Project Description* leaves much to be desired. While acknowledging that the Scoping Document mentions alternatives will be identified through the process of scoping, the alternatives must also relate to variations in scale of operation and/or intensity in addition those goals already mentioned. Furthermore, it is critical (and the absolute bare-minimum) to provide a "no-action" alternative analysis to remain in the spirit of the promised EIS rigor. Note that a proper alternative analysis also includes justification of the preferred alternative and documentation of process, so a commitment to completing these actions should also appear in the Scoping Document to demonstrate a good faith effort to work towards EIS-like standards.

The Scoping Document improperly chooses to parse out major project components such as backup generators, fuel storage, and associated air emissions, by deferring to hypothetical external review processes that may or may not happen. Section 17 explicitly states that *"The AUAR will not be used to support any Air Permits..."* and further asserts that air analysis is not required by stating *"This item is not applicable to an AUAR."* This approach is problematic because backup generation is both an essential component of data center operations and a likely candidate for environmental disturbance. By excluding these elements from the AUAR, the document avoids analyzing a primary source of potential impact. Under a proper EIS-level review, these connected components would be analyzed holistically.

Overall, the Scoping Document acknowledges that the project should require a mandatory EIS but does not provide a sufficient basis for relying on an AUAR instead. At the same time, the proposed scope does not demonstrate the analytical rigor necessary to meet the stated commitment to EIS consistency. To fix this, the scoping documented should be revised to justify, both practically and legally, the use of an AUAR in place of an EIS, fully describe how an equivalent review will be ensured including defining the exact meaning of *"where applicable"*, define specific analytical methods and assumptions to be used to carry out environmental reviews, widen the breadth of alternative analysis to be performed and commit to providing a written and public justification of the preferred alternative, and providing for a more robust and connected analysis of key drivers. Without these revisions, the AUAR will not meet the standard described in the *Introduction* to serve as a stand-in for an EIS.

Thank you for your time and consideration.

Sincerely,

Andrea Thorstensen

From: Anna Estep
To: AUARcomments
Subject: AUAR comment
Date: Wednesday, April 29, 2026 8:30:09 PM

Hello,

My name is Anna Estep, and I live at 5861 Saint Louis River Rd. My property stands to be directly affected by the Google data center due to noise and air pollution, groundwater contamination, impacts on property value, and future land use. I am also concerned about the 2045 Comprehensive Plan, as the AUAR states my property will become light industrial in 2040 (why not buy us out now, so we don't have to suffer for 14 years, if this is the plan?).

I was raised in Hermantown, graduated from Hermantown in 2008, and intentionally moved 0.4 miles away from my previous home located in the Proctor school district in 2020 to make sure my own children could attend Hermantown schools. My husband and I chose to call Hermantown our home to raise our two children, and we felt that the rural part of Hermantown would be the best place for us. We enjoy the woods, the trout fishing in the river that flows through our property, and the rural charm this area has to offer. It is unfathomable to us that some people we know in this community, on the city council and planning and zoning committee, would approve of the data center plans behind our backs.

I have major concerns regarding the City's new AUAR for Google's hyper-scale data center. This is clearly not an adequate form of assessment, and it's questionable as to how you can conduct another AUAR with a lawsuit over this.

Air Quality

The AUAR needs to appropriately analyze air pollution, not only during the construction phase, but also during the operation phase. This is especially important for those of us who will have to live by this monstrosity. My children will not be able to continue to be children and enjoy the outdoors if the air quality is not acceptable.

Noise

Noise effects on humans and animals need to be analyzed during construction and operation. The AUAR cannot ignore the worst-case conditions. The MN Power Substation can already be heard very loudly from our home in different weather conditions. In addition, the mitigation plan should also require construction noise to be limited to specific hours and days to reduce noise, especially at night. The quality of my family's life, and our neighbors', will greatly decrease if construction noise is not limited.

Trout Streams and Wildlife

The AUAR needs to analyze the effects the data center will have on the trout streams and other wildlife. Creating this data center will result in permanent wildlife habitat destruction and loss of certain species. The stormwater runoff pollution will greatly affect the trout streams. The character of this area, and my family's personal enjoyment along with our

neighbors', will be completely ruined.

Groundwater Contamination/Loss
-All of us surrounding this project rely on well water for our homes. We are at risk of groundwater contamination from runoff pollution, and possibly our well running dry. The entire time, the city council has claimed that it will not affect well water, but when I spoke to Joe Wicklund about the water source back when the news came out about the data center water source, he claimed it would be city water, "Unless the developer decides otherwise."

Property Value/Future Land Use
Those of us living near the data center stand to lose a considerable amount of property value due to the development. We don't plan to stay here forever, especially now. It has already been difficult for our neighbors to sell their home due to this possible development, and once construction starts, we are basically stuck here unless we want to take a major loss.

Our entire 10 acres stands to be changed to Light Industrial in 2040, according to the 2045 Comprehensive plan that Chad Ronchetti decided to change. Why would you put us citizens through the next 14 years of misery with the data center just to have our homes be rezoned?

Overall, this AUAR is still not an adequate assessment of the possible negative effects of the data center. Ideally, you find a better location that does not harm the residents near the data center, including those in other cities that you have deceived, along with your own citizens. Please do the right thing and reassess your plans.

Sincerely,
Anna Estep

From: Allison Klement
To: AUARcomments
Subject: Comments on Revised AUAR Scoping Document — Google Hermantown Hyperscale Data Center
Date: Wednesday, April 29, 2026 8:32:32 PM

Eric Johnson, City of Hermantown RGU

I am submitting these comments in response to the revised AUAR scoping document for the proposed Google Hermantown Hyperscale Data Center. I am writing as a Minnesota resident with deep concern for the ecological integrity of the Lake Superior watershed and the inadequacy of the environmental review process to date.

The scope of this review must be substantially expanded.

The original AUAR was so deficient it didn't even name this as a data center. A revised process that simply corrects those omissions — rather than conducting a genuinely rigorous environmental review — will not be adequate for a project of this scale. I am asking the City to require a full Environmental Impact Statement (EIS) rather than proceeding with a revised AUAR.
Water and watershed impacts must be fully analyzed.

The proposed site includes 55 acres of wetlands, 224 acres of wooded property, a watershed, a trout stream, and a 100-year flood plain. The project's own AUAR acknowledges a projected 2.3 million cubic yards of excavation, representing a massive disruption of topography and landscape, with runoff possible into West Rocky Run Creek and the Midway River. The revised AUAR must include full hydrological modeling of runoff impacts on these cold-water trout streams, analysis of any water withdrawal or discharge associated with cooling operations, and cumulative downstream effects on the Lake Superior basin. This is not a site where impacts can be adequately mitigated — they must be fully disclosed before any permits are issued.
Energy demand and grid impacts must be disclosed.

Hyperscale data centers use 400 to 500 megawatts of power — up to 100 times larger than an average data center — yet the public still does not know how much energy this specific Google facility would consume. That omission is unacceptable in an environmental review. The AUAR scope must require disclosure of total energy consumption, source of that energy during the construction and early operational phases, and an honest accounting of whether promised wind and battery investments will actually offset fossil fuel dependency — and on what timeline.

Noise, light, and quality-of-life impacts require rigorous analysis.

The facility would include 400 air-cooled chillers — 100 per building — generating chronic low-frequency noise with documented public health consequences, including stress and potential cardiovascular effects. The AUAR must include independent noise modeling at residential property lines, health impact assessment for long-term low-frequency noise exposure, and analysis of light pollution on surrounding properties and wildlife habitat. These impacts cannot be adequately mitigated at this site and must be honestly evaluated rather than minimized.
Siting must be treated as a substantive issue, not a settled one.

This site violates four of the six location guidelines of the data center industry itself. The AUAR scope must include genuine analysis of alternative sites. Comparing this location — adjacent to a Canadian National rail line, cold-water trout streams, and a flood plain in a rural residential area — to industrially zoned, non-sensitive alternatives is a basic requirement of responsible environmental review. The AUAR cannot treat the Hermantown site as a given.

The process itself has been compromised and must be rebuilt with transparency.

County commissioners signed NDAs before residents knew what project they were evaluating. The entire original AUAR process took place before the public even learned what it was for. A revised process that fails to address this fundamental breach of public trust will produce another document that cannot withstand legal or scientific scrutiny. At minimum, the scope must include a commitment that no NDAs will restrict public access to information material to environmental review.
My recommendation: Do not proceed with a revised AUAR. Commission a full Environmental Impact Statement. Support the proposed legislative moratorium on hyperscale data center permitting until Minnesota has a regulatory framework adequate to evaluate projects of this scale and sensitivity.

The Lake Superior watershed deserves better than an expedited review designed to reach a predetermined outcome.

Thank you.

May God guide your hand and deliver you from evil,
Allison Klement

From: Ramona Radosevich
To: AUARcomments
Subject: Costs too high for Google Data Center
Date: Wednesday, April 29, 2026 8:33:48 PM

Hello. I would rather that the data center would not happen at all. They are playing to our emotions now with offering funding for schools. I think a brighter future includes clean air and enough clean water for everyone, not just the elite. Sooner than later, we will probably need that land for housing or hunting, not big tech that we can live without.
Thank you,
Ramona R.

From: Jennifer Hewitt
To: AUARcomments
Subject: Data Center
Date: Wednesday, April 29, 2026 8:41:36 PM

I am a Duluth resident and strongly oppose the data center. This type of facility belongs in an existing industrial park, not a rural, wooded residential area. The non-transparency around this project was unethical and broke public trust. A full scale environmental study is warranted when the intention is to destroy hundreds of acres and negatively affect our water supply and electrical grid. An honorable project does not require secrecy from elected officials. This project should be cancelled.

This land could be used in many other ways to benefit local citizens, such as selling small acreage lots for building single family housing. This would employ construction workers and help alleviate our housing shortage.

Sincerely,
Jennifer

From: Angela Scott
To: AUARcomments
Subject: Public Comment on New AUAR
Date: Wednesday, April 29, 2026 9:11:50 PM

To Whom it May Concern:

According to city ordinance, the proposed Google Data Center does not belong near our Hermantown residential district. Here is why:

Section 540.01 of Hermantown's ordinance Section 540 - M-2 Manufacturing Heavy Industrial states the Purpose of M-2 is "To provide suitable areas within the community for those uses of a heavy industrial nature which may have objectionable influences or noise, odor, fumes, air, vibration, light and the like. This district and its uses should be located away from residential districts or natural areas subject to environmental concerns either by linear distance or by manmade or natural mitigating and protective features."

The updated AUAR Scoping document refers to the Data Center as a **Light Industrial development**, but then goes on to state, "The data center development will be supported by new roadways, parking areas, utilities, landscaping, stormwater, perimeter fencing, and other associated infrastructure; including substations, transmission lines and mechanical/electrical equipment."

If this project were truly **Light Industrial**, the justification for Special Use Permitting (SUP) would certainty not require noise mitigating earthen berms 15' high plus fencing walls 10' high near existing residential properties. With 278 acres scheduled for "mass grading activities" on the data center campus, it is hard to believe that this is a light industrial project and not heavy.

The AUAR just isn't the proper study tool to move this M-2 hyper scale project forward. The EIS is that tool which studies a snapshot of the project today, not what it may or may not be tomorrow. The EIS will serve not only the City, the Developer, and the reviewing agencies, but more importantly, it will serve the entire community, especially those who live nearby. It will provide an unvarnished understanding of project specific impacts, openly and honestly, to every single one of us who actually live here, now and in the unknown future.

Thank you for your time,
Angela Scott

From: RiseNShine
To: AUARcomments
Subject: AUAR Scoping Document Comments
Date: Wednesday, April 29, 2026 10:40:44 PM
Attachments: AUAR Scoping Document Comments - DawnLaPointe.pdf

Please see my attached comments.

Sincerely,
Dawn LaPointe

Dawn LaPointe
4731 Portland Road
Hermantown, MN 55811
RiseNShine946@gmail.com

April 29, 2026

RGU: City of Hermantown
Attn: Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

Re: AUAR Scoping Document Public Comment

Dear Mr. Johnson and the City of Hermantown:

As a Hermantown resident, I am submitting these formal comments regarding the updated City of Hermantown Industrial project Alternative Urban Areawide Review (AUAR), released on March 24, 2026, to be evaluated by the City of Hermantown as the Responsible Government Unit (RGU) pursuant to Minn. R. 4410.3610, subp. 5a(B).

I am strongly opposed to this project at this location. In addition to the risks it poses to residents of Hermantown and surrounding communities, wildlife, and the environment, it poses significant risks to the sensitive aquatic resources of the Midway River and Miller Creek watersheds.

I request that the following technical assessments and data requirements be included in the Final Scoping Decision:

1. Protection of West Rocky Run and Adolph Creek (Designated Trout Streams). According to the 2021 DNR Fisheries Division assessment and the August 2025 Midway River Watershed Protection Study, West Rocky Run contains a self-sustaining wild Brook Trout population that hasn't required stocking since 1985. The AUAR must include:

    - *Thermal Impact Modeling*: A specific model to determine how "thermal pollution" (hot rainwater runoff from 1.2 million sq. ft. of impervious surfaces) will impact cold-water thresholds necessary for trout survival.

    - *Genetic Integrity Assessment*: A review of how industrial development affects the DNR's stated priority of "preserving the genetic integrity" of this specific wild population.

    - *ORVW Status*: An evaluation of whether West Rocky Run qualifies for Outstanding Resource Value Water (ORVW) status under MN Rule 7050 before the AUAR is approved.

2. Hydrological Impacts on Type 2 and 6 Wetlands. The site consists of seasonally flooded basins (Type 1), wet meadows (Type 2), and shrub swamps (Type 6). These wetlands, situated on permeable glacial till, are essential for filtering groundwater that feeds the cold-water baseflow of West Rocky Run and Adolph Creek.

    - *Baseflow Study*: The AUAR must include a groundwater-surface water interaction study to assess how the loss of these headwater wetlands will impact summer baseflow and the thermal stability of downstream "Waters of the United States".

    - *Sedimentation Risk*: A study of the cumulative sedimentation risk to spawning habitats over the proposed 5-10 year construction timeline.

3. Tier 2 Antidegradation Analysis (MN Rule 7050). Minnesota law mandates a strict non-degradation policy for high-quality waters. The AUAR must provide a robust "Antidegradation Assessment" to prove that the permanent degradation of these Tier 2 waters is justified. I contend that the proposed 85% tax abatement and miniscule job-to-footprint ratio do not meet the legal threshold of "important economic development" required to bypass these protections.

4. Miller Creek Headwaters. The property contains headwater wetlands for Miller Creek, which is already listed as impaired for temperature. The AUAR must analyze how further degradation of these headwaters would affect ongoing and future restoration efforts for this stream.

5. Regulatory Coordination. I request that the City of Hermantown coordinate with the St. Paul District Army Corps of Engineers to ensure a comprehensive Jurisdictional Determination (JD) and a rigorous Section 404 review are conducted, as the discharge of fill into these headwater wetlands falls under federal authority. Furthermore, the AUAR should clarify if the developer has applied for a DNR Water Appropriation Permit and include a cumulative impact study on the local aquifer.

In conclusion, a project of this type, magnitude, and predictably negative impact does not belong anywhere near Hermantown's beautiful rural residential area with valuable, sensitive wetlands and creeks. I am in support of a city-wide moratorium on hyperscale data centers, until appropriate protections and ordinances can be put into place, and until such projects can be appropriately sited. The City's deceptive actions paving the way for this project, and its continued commitment to this project thus far, are *deeply* concerning and disappointing.

Respectfully submitted,

Dawn LaPointe

Dawn LaPointe

From: John Lenczewski
To: AUARcomments
Cc: john.lenczewski@mntu.org; John Lenczewski
Subject: Minnesota Trout Unlimited's comments regarding the updated Hermantown Industrial AUAR Scoping Document
Date: Wednesday, April 29, 2026 10:46:30 PM
Attachments: image002.png
Comments of MNTU re Hermantown Industrial AUAR Scoping Document - 4-29-2026.pdf

Eric:

Attached and below are Minnesota Trout Unlimited's comments regarding the updated Hermantown Industrial AUAR Scoping Document. Thank you for the opportunity to provide comments on the proposed development scenario summarized in the scoping document.

Best regards,

John

John P. Lenczewski
Executive Director
Minnesota Trout Unlimited
P.O. Box 845
Chanhassen, MN 55317
612-670-1629
john.lenczewski@mntu.org

MINNESOTA TROUT UNLIMITED

April 29, 2026

City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

Submitted via email

Re: Updated Hermantown Industrial AUAR Scoping Document

Dear Mr. Johnson:

I write today on behalf of Minnesota Trout Unlimited and our many members in the City of Hermantown, Duluth area and around the state to express our concerns over the impacts the proposed development outlined in the updated Hermantown Industrial Alternative Urban Areawide Review (March 2026) is likely to have on the unique trout fisheries located on the

western side of the city.

Minnesota Trout Unlimited is a grassroots conservation organization working to protect, restore and sustain coldwater fisheries and their watersheds across Minnesota. Our several thousand members living and working in communities around the state understand that activities on the land determine the quality of the water in streams and lakes as well as the health of trout and aquatic organisms that live in these waters. Members living, working and recreating in the Duluth area know that West Rocky Run is the coldest and most productive trout fishery in the area. Brook trout anglers are notoriously tight lipped regarding the location of the best trout fishing, but the threat to this special fishery requires we break our silence. I have fished this great trout stream for many years, including the section downstream of Morris Thomas Road, which is most likely to be impacted by the proposed development.

The cold spring water that supports the streams in this part of Hermantown is what makes them ideal habitats for our native brook trout. It's also the main driver in ensuring the resilience of these fisheries to climate change. Replacing 270 acres of pervious wetlands, forests and grasses with parking lots and buildings would impact the groundwater recharge that feeds these streams through spring flow. The loss of these natural processes reduces water flow and increases stream temperatures. Brook trout require water temperatures between 46-68°F to thrive.

That is why in addition to the potential impacts that the scoping document promises will be examined in the upcoming AUAR process, we urge you to thoroughly examine these impacts on the health and productivity of the adjacent trout populations:

- The elimination or reduction in infiltration of surface water to shallow groundwater aquifers
- The reduction in groundwater recharge
- The reduction in the amount of cold groundwater flowing from springs and seeps into the trout streams
- Changes in the timing of groundwater discharges into the trout streams
- Increases in stream temperatures outside the optimal growth range for brook trout
- Reductions in stream flow and amount of available habitat, including seasonally
- Increases in sediment and pollutants from stormwater runoff

Reasonable alternatives to the proposed development scenario that should be examined in the AUAR process include:

- Reduce the density of development within the 278-acre site
- Substantially reduce the amount of impervious surface created within the 278-acre site
- Avoid filling, covering or impacting the existing wetlands within the 278-acre site
- Examine all possible approaches to stormwater management, especially approaches that retain or enhance existing infiltration to groundwater and ensure that water leaving the site will be no warmer than it is under current conditions.
    - The stormwater management report prepared by Kimley-Horn dated August 11, 2025 claims that the soils "are not suitable for infiltration as a stormwater management option," which assumes an excessive density of impervious surfaces and total destruction of wetlands. The existing soils do a good job of surface-water infiltration and recharging the shallow groundwater aquifers that provide the cold flow to West Rocky Run and Adolf Creek. The soils certainly are

"suitable" where wetlands are left alone. Reducing the amount of impervious surfaces and/or eliminating or reducing the filling of wetlands can make stormwater infiltration methods and new "technologies" more effective.

Greater study of groundwater needed. The extent of groundwater recharge under the existing site conditions must be closely examined, as well as the role this recharge plays in the timing, volume and temperature of groundwater discharges via springs and seeps to West Rocky Run, Adolf Creek and the Midway River. Development of the Minnesota Spring Inventory is in its infancy and is incomplete and outdated. It also fails to inventory the areas ("springsheds") that recharge the shallow aquifers that flow into nearby springs and seeps. A detailed study of groundwater patterns and recharge rates is required. The study should also assess the proposed development's impact on flow volumes and temperature in nearby trout streams and tributaries.

Better location for this type or size of development. The city's notice invites the public to also suggest alternative development scenarios, including development at sites outside the geographic boundary of the study.

The Minnesota Pollution Control Agency conducted a four-year study of the entire Midway River Watershed. The goal of the study was to look at the entire watershed and identify subwatersheds within it that contained the best wild brook trout fisheries. The "Midway River Watershed Protection Study," published in August 2025, also prioritized these subwatersheds for protection and restoration. West Rocky Run, which flows parallel to the western edge of the proposed project, was singled out as the highest quality trout stream in the larger Midway River Watershed. Adolph Creek, which runs along the eastern side of the proposed development, is also recommended for protection. These two streams are the coldest parts of the Midway River Watershed and contain the most robust, productive trout fisheries. The proposed development scenario would convert 270 acres of pervious wetlands, forests and grasses into impervious surfaces in the most sensitive part of the Midway River Watershed. In short, this location is arguably the worst site in Hermantown and the Midway River Watershed for conversion to a large block of impervious surface.

The same MPCA Midway River Watershed study also reveals that there are much "better" places in the city for a project of this scale and scope to avoid significantly impacting our best native brook trout fisheries. Within the City of Hermantown, the East Rocky Run subwatershed stands out as having the lowest concentrations of coldwater streams to protect. If the city is determined to keep the proposed data center within city limits, we urge the city to steer this development to the western side of the East Rocky Run subwatershed. This part of the city is currently zoned as rural suburban and has pockets of vacant land, very similar to current land use in the AUAR.

Thank you for the opportunity to provide comments on the proposed development scenario summarized in the scoping document.

Sincerely,

John P. Lenczewski

John P. Lenczewski, Executive Director
Minnesota Trout Unlimited
PO Box 845
Chanhassen, MN 55317
612.670.1629
John.lenczewski@mntu.org

April 29, 2026

City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

Submitted via email

Re: Updated Hermantown Industrial AUAR Scoping Document

Dear Mr. Johnson:

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Greater study of groundwater needed. The extent of groundwater recharge under the existing site conditions must be closely examined, as well as the role this recharge plays in the timing, volume and temperature of groundwater discharges via springs and seeps to West Rocky Run, Adolf Creek and the Midway River. Development of the Minnesota Spring Inventory is in its infancy and is incomplete and outdated. It also fails to inventory the areas ("springsheds") that recharge the shallow aquifers that flow into nearby springs and seeps. A detailed study of groundwater patterns and recharge rates is required. The study should also assess the proposed development's impact on flow volumes and temperature in nearby trout streams and tributaries.

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Thank you for the opportunity to provide comments on the proposed development scenario summarized in the scoping document.

Sincerely,

John P. Lenczewski

From:	Allison Hafften
To:	AUARcomments
Cc:	CH-Joe Peterson; CH-John Geissler; CH-Andy Hjelle; CH-Wayne Boucher; CH-Brian LeBlanc
Subject:	AUAR Comments - Inadequacy of AUAR AH
Date:	Wednesday, April 29, 2026 11:03:30 PM

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

April 29, 2026

City of Hermantown (City):

In response to the AUAR Scoping Document (AUAR SD) opened for public comment on March 31, 2026, I submit the following comments for consideration:

Non-Compliance with Minnesota Rules, AUAR Inadequate, EIS Required

The use of an AUAR for environmental review of this proposed project does not comply with Minnesota Rules for environmental review.

According to Minnesota Rules 4410.4400 Subpart 11. A., a mandatory EIS is required as the proposed project exceeds thresholds triggering a mandatory EIS.

> Subp. 11. **Industrial, commercial, and institutional facilities.** Items A and B designate the RGU for the type of project listed, except as provided in items C and D:
>
> > A. For construction of a new or expansion of an existing warehousing or light industrial facility equal to or in excess of the following thresholds, expressed as gross floor space, the local governmental unit is the RGU:
> >
> > (1) unincorporated area, 375,000 square feet;
> > (2) third or fourth class city, 750,000 square feet;
> > (3) second class city, 1,000,000 square feet; and
> > (4) first class city, 1,500,000 square feet.

The City of Hermantown is a third class city, and documents previously shared by the City of Hermantown or received through data practices requests, including applications submitted by the project developer for Special Use Permit and Commercial Industrial Permit, have described the project to be 1.8M square feet which far exceeds the 750,000 square feet threshold set above. Therefore, an EIS is required and the use of an AUAR is not in compliance with state laws.

In addition, according to Minnesota Rule 4410.4300 subpart 14. A., the City of Hermantown should have prepared and submitted an Environmental Assessment Worksheet (EAW) to determine which environmental review (AUAR, EA, EIS) would be appropriate for the project scope based on publicly disclosed project description.

Minnesota Rule 4410.4300 subpart 14 states:

Subp. 14. Industrial, commercial, and institutional facilities. Items A and B designate the RGU for the type of project listed, except as provided in items C and D:

§A. For construction of a new or expansion of an existing warehousing or light industrial facility equal to or in excess of the following thresholds, expressed as gross floor space, the local governmental unit is the RGU:

(1) unincorporated area, 150,000 square feet;
(2) third or fourth class city, 300,000 square feet;
(3) second class city, 450,000 square feet; and
(4) first class city, 600,000 square feet.

Hermantown is a third class city, and the project has been described in various documents, including the permits mentioned above as well as proposed project plans and diagrams, to have approximately 1.8M square feet of buildings, thus exceeding the thresholds set in the rule and requiring an EAW. The Minnesota EQB Environmental Review Projects Database contains no listing of an EAW filed by City of Hermantown dating back to May 2023.

Additionally, Minnesota Rule 4410.1000 subpart 4 addresses connected actions and phases should be included in the EAW:

> Subp. 4. Connected actions and phased actions. Multiple projects and multiple stages of a single project that are connected actions or phased actions must be considered in total when determining the need for an EAW, preparing the EAW, and determining the need for an EIS.

Again, it is publicly and commonly known that the proposed project that is the subject of this AUAR SD is a hyperscale data center and has related actions of city water and sewer utility connections and transmission line utility connections for the power source. These related utility connections are not mentioned in the AUAR SD. These utility connections are driven by the development of the proposed data center project as evident by statements and documents shared by the City of Hermantown or received through data practices requests, including presentations made by the city engineer to City Councilors at public meetings. The related connections are well defined as evident by drawings, studies, and diagrams produced by the City or its contractors, therefore there is not a reason they should be excluded from the EAW or AUAR SD.

Lastly, the AUAR SD fails to adequately describe the specific project as what is it publicly and commonly known to be: a hyperscale data center. Since it is inherently clear, beyond any doubt, that the AUAR scope is for the hyperscale data center, e.g. a large specific project, with potentially significant environmental impacts, an EIS is required rather than an AUAR. According to the Minnesota EQB, a AUAR is "designed to look at the cumulative impacts of anticipated **development scenarios** within a given geographic area that also has a comprehensive plan. The AUAR is a planning tool that local governments can use to understand how **different development scenarios** will affect the environment of their community". The key word here is scenarios, plural. There is not multiple development scenarios for this study area, there is one: a hyperscale data center that is already planned and designed as evident by drawings, diagrams, and permits submitted by the developer. Because there is just one proposed project scenario, an AUAR is not the right environmental review tool, but rather an EIS should be completed. Regardless of AUAR or EIS or lacking EAW, the AUAR SD does not adequately describe the project to properly assess the environmental impacts or determine which review should be performed. However, given public information on the actual project scope and description, it is clear that an EAW followed by an EIS is required for this project as defined by Minnesota rules.

Given the reasons stated above for the failure to comply with Minnesota Rules of environmental review, the AUAR SD and process should be withdrawn and an should be EAW completed.

Allison Hafften
5971 Saint Louis River Road
Proctor MN 55810

From:	Emma Richtman
To:	AUARcomments
Subject:	AUAR comments
Date:	Wednesday, April 29, 2026 11:28:22 PM
Attachments:	AUAR SD comments due April 30.pdf

Dear Mr. Johnson and the City of Hermantown:

Please find my attached comments to the proposed development scenario and relevant issues to be evaluated in the AUAR prior to issuance of a final order for review pursuant to Minn. R. 4410.3610, subp. 5a(B).

Respectfully,

Emma Richtman

April 17, 2025
AUAR Scoping Document comments:

Eric Johnson
City of Hermantown
5105 Maple Grove Road
Hermantown, Minnesota 55811
Eric.johnson@hermantownmn.com

Dear Mr. Johnson,

I am writing to submit my comments on the newly updated AUAR Scoping Document. We moved to Hermantown just over 10 years ago, with the intent to get out of the hustle and bustle of Twin Cities life, to plant our roots, start our family, and create our forever home. I am grateful to say we have accomplished all of that. But now this project impacts our future in Hermantown. Thank you for the opportunity to comment. I have the following concerns regarding the proposed development and ask for your consideration of these issues in the environmental review.

1). Choice of an AUAR over EAW/EIS.

In the opening text provided in the AUAR PDF document, it states, "As the Responsible Governmental Unit (RGU), the City of Hermantown has determined that an Alternative Urban Areawide Review (AUAR) is required for the proposed Hermantown Industrial project." It is incorrect to state that an AUAR is required. In a document retrieved as part of a data practices request, titled "Project Loon Meeting – 09/06/2024", as referenced in an email from Chad Ronchetti as "project notes" to John Mulder, Brian Wurdeman, and Joe Wicklund; under the heading of Environmental Review on the second page of the document, the following states, "KM would lead and COH would review - EAW or AUAR - COH mentioned desire for AUAR." Desire, not required. Since an EAW was not conducted and the COH denied the petition from the EQB in November of 2025 to conduct an EAW, citing as the RGU the COH felt the AUAR document provided was appropriate based on legal review, the system is flawed. It was not appropriately determined if an EIS should be triggered. The way the system is set up, as the RGU, Hermantown is regulating itself. Where is the objectivity? The size of the project alone does indeed trigger a mandatory EIS, (4410.4400 MANDATORY EIS CATEGORIES Subpart 11.A.2). Under the Proposed Development section on page 6 of the AUAR Scoping Document, it states, "The data center development will be supported by new….. And other associated infrastructure; including substations, transmission lines and mechanical/electrical equipment." Do these newly constructed "transition lines" meet the threshold to trigger an EIS under 4410.4400 MANDATORY EIS CATEGORIES Subp. 6.Transmission lines. "For construction of a high voltage transmission line, environmental review shall be conducted according to parts 7849.1000 to 7849.2100 and 7850.1000 to 7850.5600"?

The opening text should state that the COH decided to use an AUAR over other options. Thus, it is necessary to update the language in the opening text to state that "an environmental review is required and the COH chose an AUAR instead of an EAW for an environmental review."

One might argue, as the COH did indeed do, that "A local unit of government may use the procedures of this part instead of the procedures of parts 4410.1100 to 4410.1700 and 4410.2100 to 4410.3000 to review anticipated residential, commercial, warehousing, and light industrial development and associated infrastructure in a particular geographic area within its jurisdiction." It is a gross misrepresentation to call a project of 1.8 million square feet, and permanently altering 278 acres, light industrial development. This is industrial development. This project is the projected to take 8-10 years to build, requires new transmission lines to support its unreported trade secret extensive power loads, air and noise pollution from air coolers, diesel generators, and construction activity, visual and physical disruption to the landscape and local ecosystems, and currently being built in a rural residential (S1). Even if the SW corner of Hermantown does eventually get rezoned to the projected BLM as stated in the 2045 Comprehensive Plan, it does not negate the fact that people, livestock, and wildlife STILL live in and will live in direct relation to the study area. This is dangerous and irresponsible to build it next to zoning districts that are not compatible, as it is indeed industrial development. It is very likely that a hyperscale data center of this size and scale will have impacts beyond the boundaries of its campus/Study Area both to the environment and human mental and physical health. This level of potential impact warrants and EIS to provide protection to the environment and the community.

2). Project location

As stated for reasons provided in comment 1 (see above), the proposed location for this hyperscale data center is inappropriate. The 2045 Comprehensive Plan was intentionally changed to compensate for the project needs for the original AUAR to be completed. As there are currently no sewer and water utilities connected to the Study Area, I proposed there is a more environmentally superior location on the Iron Range to accommodate the desired scope and scale of this data center. The Proposer and Developer should coordinate with the IRRRB, Iron Range Resources and Rehabilitation Board, to discuss old mining infrastructure and closed mining sites. Google is a trillion dollar company and has the funds to extend whatever municipalities are needed to support their hyperscale data center projects. While repurposing these locations, the environment has already been altered, there are no residential properties in close proximity, thus minimizing the impact on overall environmental and human health. This would prove to be an environmentally superior option.

Additionally this scoping document fails to incorporate the potential impacts on neighboring Solway, Midway, and Thompson Township, and Carlton County. A boundary on a map does not prevent this project from infecting the daily rhythms of life in these communities.

3). Project Description/Proposed Development

According to the proposed development on page 6, "The areas labeled as equipment yards would house electrical and cooling equipment as well as backup generators; however, the specific number of equipment yard areas needed, as well as the number of backup generators and locations, will be determined as site planning advances." The number of generators needs to be disclosed in order to fully understand how to mitigate any issues they may cause. Additionally, there is no information regarding any storage tanks necessary to contain the fuel needed for the diesel generators and the chemicals needed to operate the cooling equipment. Where will these liquids and potential gasses be housed? Above ground in a storage facility? Underground storage facility? This information needs to be disclosed prior to permitting to accurately assess if Subp. 7. "Underground storage" triggers a mandatory EIS.

Although I do see this briefly touched on under Construction Activities and Timing, "depending on final design and acceptable thresholds." It goes on to state that "The updated AUAR will (i) identify such elements to the extent reasonably known at the time of AUAR preparation, (ii) explain the basis for the AUAR's treatment of those elements (included, bounded, or addressed as cumulative effects), and (iii) describe how subsequent environmental review—if required—will incorporate the AUAR analysis and will evaluate the remaining elements with sufficient detail for the applicable." It is unacceptable to say "to the extent reasonably known at the time of the AUAR preparation. This information is critical and necessary to be able to accurately know if an EIS subpart category meets or exceeds the threshold test!

4). Construction Activities - Timing and Traffic

It is stated that construction activity can begin as early as fall 2026 and into spring of 2027, depending on permitting approvals. Even with phased development, as of current, of the 26 parcels identified in the Study Area, several are still privately owned. How can this project move forward if there are parcels still under private ownership? The current parcels owned by Harmony Group LLC, according to information accessed on the St. Louis County Explorer Map on April 18, 2025, would not line up with Figure 3: Conceptual Development Scenario Site Layout for a full build out. Only one of the four buildings could be built in full based on the parcels Harmony Group LLC is listed as the taxpayer.

The AUAR SD does not address the heavy industrial-like conditions created by 8-10 years of construction and fails to disclose the actual number of years it will take to complete the full build out scenario. Right now it is only a loose figure of 5 plus years. Only one intersection is identified in the Study Area, per Figure 2: AUAR Study Area Boundary. However, Figure 14: Traffic Study Intersections, depicts three additional intersections outside the Study Area which will be impacted by construction traffic. The AUAR needs to conduct a traffic study. 5-10 years is a massive amount of time for our local roads to absorb the impact of thousands of vehicles. This is outside the typical load these roads are used to handling. What is the projected route construction vehicles need to stick to? How will this additional traffic load impact current congestion on Midway and Highway 2? With railway traffic running frequently across Midway in

two different locations in the vicinity of the Study Area? The AUAR needs to study how construction traffic will affect response times in the event of an emergency, for example, in the event of a fire.

It is stated in the draft AUAR SD on page 49, that there are no unusual circumstances identified that would necessitate a detailed construction noise analysis. Where is "unusual circumstance" defined? What activity meets the threshold for "unusual circumstances"? 5-10 years of construction will undoubtedly have an impact on surrounding residents quality of life. How is this timeline not unusual? Particularly as construction, per city ordinance, will be allowed to operate from 7am to 10pm. The noise pollution generated from years of daily and chronic construction activity needs to be studied when it comes to residents' health and wellbeing. "The change in traffic noise levels is not anticipated to be readily predictable." While it does state the AUAR will provide traffic volume to determine noise impacts, how will the AUAR address them? What mitigation will be provided to address such impacts? For reference, US Bank Stadium took 2.5 years to build, Mall of America took roughly 3 years, and Costco prides itself on taking 110 days to build. When does a light industrial project become heavy industrial due to multiple years of construction noise and adverse effects on residents? The AUAR should limit construction hours to 8am - to 5pm, Monday - Friday in the mitigation plan.

5). Urban Heat Island

Despite the Study Area being in a low heat vulnerability, the AUAR should study how this project will impact the temperature of the surrounding area. With the destruction of 1.8 million square feet of grasslands, woodlands, and wetlands to majority impervious surfaces of concrete and asphalt, not to mention computation and powering cooling systems - this will undoubtedly have an impact on the local microclimate. According to a study, The Data Center Heat Island Effect, researchers found, "Surface temperatures increased by an average of 3.6 degrees Fahrenheit after a data center started operations. In extreme cases, nearby temperatures increase by up to 16.4 degrees Fahrenheit." Furthermore, impacts to temperatures could be detected up to 6 miles away.

6). Public Finance Assistance

There is tremendous risk in the City relying on one large tax payer if the proposers project ever needed to be abandoned. Due to the rise in demand for AI, the components necessary for hyper scale data centers to operate are in short supply. It is being reported that 30-50% of all AI data centers in the United States will either be delayed or canceled. This project will be built in 4 phases as proposed. With the enormous demand for AI/hyper data centers technology creating supply chain issues, would this put the project in limbo, or worse, inoperational due to lack of the materials needed to operate it?

Additionally, with tax abatements being utilized to allow this project to move forward, the AUAR news to disclose the estimated lifecycle of the project, buildings, and potential future uses of the

property. If the lifecycle of the project is less than the abatement term, how will this be addressed?

Finally the AUAR needs to look at other scenarios for this site, similar to what was conducted in the Adolph Area Utilities Expansion Impact Study. Since this project monopolizes a massive amount of land in coveted future BLM land, how does this project compare to that of others, given more land would be available for multiple scaled down projects from other proposers? What are the direct and indirect costs associated with this project compared to that of others?

7). Land Use Compatibility

The AUAR SD states on page 21, "The proposed development scenario is anticipated to be compatible with the planned land use in the vicinity. The AUAR will identify measures to mitigate and potential incompatibilities." As noted in Figure 7, Existing Land Use, it is difficult to ignore the fact that the current land use surrounding the study area is overwhelmingly Signal Family Residential and Agricultural. Planned land use would be BLM come 2045 as cited in the City's Comprehensive Plan, however, that is 19 years from now. What will be done in the interim to mitigate and protect residents who have not been zoned out yet? There are at least 30 single family residential parcels in the immediate vicinity of the project. How is this Study Area/project compatible with the current land uses?

*It is worth noting that Figure 8: Existing Land Use is incorrect. Parcels 395-0010-09540 and 395-0010-09520 are pictured as BLM, when they are currently S1. This is in direct conflict as what is depicted in Figure 4.2 of the Existing Zoning under the Land Use section of the 2045 Comprehensive Plan. Please update Figure 8 for future publications. Additionally, Solway Township, which is outside the municipality boundary is zoned as S1, when St. Louis County is the governing body for zoning of that township. Although zoned as Residential through the County, the map is misleading to color code parcels outside of the city's boundary.

Moreover, since this project/Study Area lies on a boundary with two neighboring townships, Solway and Midway Township, or one could even argue Thompson Township in neighboring Carlton County, what efforts will be made to study the impacts on non-Hermantown residents? This lack of information suggests that the AUAR is not nearly as rigorous as it needs to be.

8).Water

a. Wetland credits
   The Figure 11: Surface Water Resources depicts multiple acres of wetlands present in the Study Area. Will wetland credits be used or purchased to offset the destruction of these within the study area?

b. Ground water
   i. Wells - Why are only wells within 250ft of the study area being given additional analysis? Who decided 250 feet? Every adjoining parcel with a well should have

the decency of having their well tested before, during and after construction, and monitored at regular intervals if the project is realized. Pages 26 and 29 state that water from the site drains to the south and east or south and west. The property owners directly south of the Study Area need to have their wells included, to get a baseline bare minimum. They should not lose out on a technicality due to distance. Where are mitigations if private wells are damaged during blasting or from pollution?

ii. Furthermore, page 32 of the AUAR SD cites groundwater in the Study Area "is typically present between 7-60 feet beneath the current ground-surface" and goes on to state, "groundwater is likely present between 0-10 feet below the ground surface within and surrounding the wetlands within the Study Area." What studies are in place to monitor the impact to ground water and surrounding wells when 2.3 million cubic yards is estimated needing removal? How will this impact groundwater? Including wells outside of 250 ft? Page 37 states "Additional analysis on the long-term groundwater impacts and surrounding wells near the Study Area will be provided in the AUAR." Bare minimum all domestic wells for parcels in direct contact with the Study Area should qualify at "surrounding wells", if not a radius of 3 miles from the Study Area.

iii. I also note 3 unverified wells on the MN Well Index within the Study Area, with the Unique Well ID's of: 845877, 480624, 522334. Thus Table 7 is inaccurate and misleading. I also feel there are wells omitted from Table 8: MWI wells within 250 feet of the Study Area, specifically Unique Well ID: 617919. There are also 4 additional wells (2 unverified and 2 domestic) on the eastern and southern boundaries of the Study Area that are not depicted in Figure 13 as wells outside of 250 of the Study Area in Blue.

c. Pre-treatment/Waste Water
The AUAR SD states, "Wastewater from the proposed development scenario will be limited to wastewater from domestic sources (i.e., no industrial wastewater) and will be discharged to the City of Hermantown collection system." What is the total amount (kg/month) of wastewater discharged every month?

What pre-treatments will be used on site? What chemicals would be added to treat waste water onsite? Where would these chemicals be stored? What mitigation is in place in the event of a leak? Is Resource Renew equipped to treat these chemicals in the water? If WLSSD/Resource Renew is not capable of treating these chemicals, where, how, and when will they be addressed? This is a critical detail that needs further description.

d. Stormwater run off
Locations of stormwater drains - Page 37 states, "There are no known areas of shallow bedrock or shallow groundwater within the Study Area that would limit the location of

proposed stormwater basins. However, it was previously stated the groundwater exists between 7-60ft and 0-10 feet (as cited in 8b.) What defines shallow? Who defines shallow? When accounting for the millions of cubic feet of dirt needed to be removed. How will this affect the proximity to groundwater? Figure 3: Conceptual Development Scenario Site Layout depicts 8 stormwater ponds. However, at least 2 stormwater ponds appear to overlap with existing wetlands. Will there be adequate separation between bedrock and seasonal water tables? Will these ponds be compatible with the seasonal water table with the "new" ground surface, if the project is realized?

What is the long term plan for how these stormwater ponds will be maintained and pollutants removed?

Impervious surfaces/Trout stream temp increases - as noted in comment 5 above, there is a real risk of having a heat island effect. This project is positioned between 2 cold water trout streams. The AUAR should study how these impervious surfaces may impact stream temperatures and trout habitat, with a baseline of upstream of the project, in the Study Area, and at multiple locations downstream to get a full scope of its impacts.

e. Water use
What is the total amount of water needed per day? Will any on-site wells be constructed to meet water demands? If so, how will this impact the aquifer and other private wells in the area? Given the real possibility that water use has been under-calculated (or intentionally misrepresented by the company with a vested interest, AKA - trade secret), it seems prudent to consider the pre-application evaluation process of Minn. Stat. 103G.265.

Furthermore, will the AUAR look at what should happen if the projected needs for water change from the construction to fully realized? This is a worst case scenario that needs studying? Hermantown buys its water from Duluth. It is my understanding that based on the figure of 50,000 gallons of water a day, Duluth's infrastructure will not need to be updated to meet this demand. What if this changes? What is the back up plan if Google's water consumption exceeds what Hermantown/Duluth can provide? Who would pay for such infrastructure upgrades?

9). E-Waste/Hazardous Materials/Storage Tanks

Will the AUAR look at how e-waste is being handled and disposed of? There is a tremendous level of maintenance and changing out components with servers approximately every 3-5 years for hardware refresh cycles. What is Google's plan for recycling and disposing of this e-waste? Is WLSSD's Materials Recovery Center equipped to handle the volume of e-waste being produced from this project? These components contain heavy metals that should not be going into landfills.

The Scoping Document, or project description, fails to properly identify the cooling system. How many cooling units will each phase need? How much water will each cooling system require? Will biocides and PFAS be needed as part of the cooling process? The AUAR needs to identify how these chemicals would be managed, stored, and the disposal plan. Be it an air cooled or closed loop water system, the AUAR should look at a cost/benefit analysis between the two to determine which is environmentally superior.

10). Invasive Species

The AUAR SD on page 43, alludes to the fact construction equipment, landscaping equipment, and other debris can promote the spread of invasive species. However, changes in the local microclimate can also be detrimental to various ecological communities that exist on the site, creating conditions that are beneficial for the establishment and spread of non-native heat-toarant invasive species. Heating of the area can result in changes to the soil conditions and chemistry, even further altering the already disturbed habitat left available for local flora and fauna.

11). Historic Properties

The AUAR should analyze effects to historic properties and the mitigation plan should provide for avoidance or mitigation of impacts to any such sites. The AUAR SD also states results from Minnesota OSA database review as well as a Phase I Archaeological Study completed for the Study Area will be discussed in the AUAR. What parcels/locations encompass Phase 1? Can it be assumed that Phase 1 of the archaeological review/study coincides with Phase 1 of construction? When would subsequent phases of any form of archaeological studies be executed? How many phases in total will there be? Will tribal representatives be notified if any cultural indigenous artifacts are discovered? Also, will tribal governments be consulted that retain treaty rights in the 1854 Treaty Territory?

12). Air Quality

The AUAR SD states on page 46, “The AUAR will include discussions of dust control ordinances." There are currently no ordinances relating to dust in the City's zoning chapters, other than what is included in "surfacing". What happens to residences and businesses outside the Study Area who will be impacted by construction dust? There are currently no protections in place as an ordinance does not exist. It is unacceptable to say that a “discussion” would occur. The City needs to determine tolerance, thresholds, impacts, and mitigation to protect the people and wildlife in this community. For a project that will move millions of cubic feet of dirt to build a 1.8 million square foot campus, it is imperative that a dust ordinance be included in the mitigation plan and adopted before any permits are issued. Especially as the AUAR guidance states that only a general discussion of the likely earthmoving needs for the development of the area should be given (pg 25). The specifics of earthmoving need to be studied to understand its impacts and appropriately mitigate them.

In addition, only one intersection is identified in the Study Area, per Figure 2: AUAR Study Area Boundary. However, Figure 14: Traffic Study Intersections, depicts 3 additional intersections outside the Study Area which will be impacted by construction traffic. Dust ordinances must include major routes utilized by construction traffic and the impacts to the surrounding environment, residences, and businesses.

In an article posted by Fortune, research has shown "data centers' environmental damage last year cost the economy at large $25 billion." The researcher goes on to state consumers bear the cost in their own health through being exposed to fine particulate matter emissions from data center power generation, i.e. diesel back up generators and large energy consumption. This exposure can give rise to respiratory illness, heart conditions, and even premature death. The AUAR should study how the impact to the environment will adversely affect human health.

13). Green House Gas Emissions

The AUAR needs to analyze greenhouse gas (GHG) emissions, during the construction phase and during operation of the facility.

Due to the likely massive power consumption of this facility and number of large diesel generators (undisclosed in the AUAR SD project description), air pollution and GHG emissions may be significant. The AUAR SD states that "The back up generation needs will be identified through a separate environmental review process outside of this AUAR…" Who will conduct this review process and when? The AUAR should analyze effects to human health from the air emissions for the entire project, which should include the backup generators. Chemicals used in the cooling process present significant hazards to health. Nitrogen oxides and other particles released from diesel generator pollution can cause a whole range of health problems, from heart disease, cancer, to asthma and other respiratory diseases, let alone the particles can be deposited in the water and soil. How will these be addressed and mitigated?

The mitigation plan should include a bond that funds future construction of renewable energy equal to the facility power consumption to reduce GHG emissions and air pollutants. In addition, the mitigation plan should require battery generator backup only (see also alternative on this above).

Furthermore, it is misguided to say the proposer will provide "the best estimate of average annual emissions over the proposed life/design service life of future development." This approach is not in line with EQB rules for an AUAR with a large specific project, requiring details about the specific project proposed. Additionally, on page 48 of the AUAR SD, "The proposer will evaluate implementing the sustainability measures described in the AUAR to reduce operational emissions to the extent practicable." The mitigation plan must detail the specific sustainability measures that will be required. This way, the City, as informed by public comment, would identify these measures and require Google to follow them. How can we reach net zero and Minnesota's Climate goals by 2040, when the proposer is contributing to GHGs? According to an article in The Guardian from June of 2025, "Google's carbon emissions have soared by

51% since 2019 as artificial intelligence hampers the tech company's efforts to go green." This is reinforced by the Kairos Fellowship report of Google's Eco Failures.

Additionally, in an article posted by National Public Radio in November of 2025, using data analytics, Cornell University cited that "by 2030, the rate of AI growth in the U.S. would put an additional 24 to 44 million metric tons of carbon dioxide into the atmosphere." While Google has stated in its Electronic Service Agreement with Minnesota Power that they are committed to using clean energy sources in Minnesota, what can be said about the 17 data centers Google locations already built elsewhere in the United States, with an additional 13 under construction? These figures do not represent any additional projects that have been proposed, but not yet permitted, as is the case in Hermantown. The research from Cornell goes on to state, "the emissions [is] equivalent to adding 5 to 10 million cars to U.S. roadways. It would also drain 731 to 1,125 million cubic meters of water per year – equal to the annual household water usage of 6 to 10 million Americans. The cumulative effect would put the AI industry's net-zero emissions targets out of reach."

14). Noise

Data centers are known producers of noise pollution. Heavy equipment from construction, back up diesel generators, heating and cooling systems (operating 24/7), create constant noise audible to both residents and wildlife. The AUAR should analyze the effects of noise from the construction and operation of the data center on human receptors and wildlife. This analysis should include disclosing the area within which noise would be audible in mapping, along with sound level contours. Mapping should include predicted effects with mitigation included.

There are countless cautionary tales of the mental and physiological stress induced by data center noise pollution. It is extremely negligent for the AURA to only rely on A-weighted measurements. A dB(A) only analysis understates low-frequency sound that residents are likely to hear and feel, especially at night. The AUAR should require dB(C) modeling and measurements including ⅓ octave-band, tonal analysis, and receptor specific modelling at nearby homes, property lines, and outdoor use areas as these low frequency sounds may be heard for miles and are not accurately measured using dB(A) measurement and analysis. The AUAR needs to account for these and operate under thresholds that do not negatively impact humans and wildlife. The mitigation plan should include required design features to reduce sound emissions during construction and operation.

15). Light Pollution

Light pollution produced by Data Centers, which will require 24/7 lighting due to their operating hours, has been associated with adverse human health impacts. Additionally, light pollution (in addition to noise pollution) negatively impacts animal behavior, including migration, foraging habits, reproductive success, and communication. The AUAR should include effects of light pollution on adjacent residences and wildlife. The mitigation plan should include measures to reduce light pollution and align with dark sky guidelines during construction and operation.

16). Comprehensive Plan

The following is stated on page 20 of AUAR SD: "The AUAR must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at Minnesota Rules, part 4410.3610, subpart 1. The AUAR document should discuss the proposed AUAR area development in the context of the comprehensive plan." It is my understanding that the 2045 comprehensive plan was altered to fit the needs of this project. However I also understand that City staff stated at the end of the April 21, 2026, Planning and Zoning meeting, without any prior public or other notice, stated that the City intends to amend the Comprehensive Plan to accommodate the planned extension of public utilities outside the urban services boundary. How can the AUAR be valid or completed when the Comprehensive Plan is not accurate at this time?

Table 5: Hermantown 2045 Comprehensive Plan designations within the AUAR Study Area cites the purpose of BLM as a Future Land Use Designation is that it "supports the creation of significant employment centers, generally characterized by a broader diversity of jobs, higher development densities and jobs per acre…" Where is there a study to support a project of this size would allow for higher development densities and jobs per acre? If this was a 1.8 million square foot business park or warehouse, it would employ multiple times that of 160 employees (at 40 per phase). This project monopolizes a large area of land that is slated for future BLM. The AUAR should explain why this project meets the 2045 Comprehensive Plan guidance for BLM zoning for jobs per acre. The average lifespan of a hyper scale data center is 15-25 years. What happens to the ratio of jobs per acre when the facility reaches obsolescence? Or if AI replaces human jobs onsite?

17). Community Safety

This is something the AUAR SD does not touch on at all. A data center campus of this magnitude requires the City and other local municipalities be adequately trained and equipped to handle fire, security, and unplanned water or fuel leaks, that given the size and number of buildings and amount of fuel that could be stored on site if diesel backup generators or batteries are used (again, not disclosed), could lead to a catastrophic event. Has the City and surrounding local governments such as Solway Township, Midway Township, and City of Duluth fire marshal codes been updated to reflect the needs in this Power grid infrastructure? What is the electrical circuit breaker capacity of the data center? Has an emergency response plan been reviewed with the local fire and emergency response units that discusses the response plans including but not limited to responding units, fire suppression methods, chemicals, equipment, tactics, training requirements, storage location of equipment and chemicals, and evacuation plans? The emergency response plan should include the construction phase in addition to operation. According to the National Institute to Health/National Center for Biotechnology Information, long term exposure to certain fire retardants poses a significant risk to endocrine-related cancers (thyroid, breast, prostate) and higher cancer mortality. Does Google or Harmony Group LLC have an insurance company that provides environmental cleanup of fire

retardants and debris? Who will be held accountable when there is significant risk to surrounding neighbors and businesses?

18). Decommission Plan/Reclamation and Recycling?

The AUAR needs to address in the event this project is abandoned or reaches the end of its life, what the decommission plan is? How will the site be repurposed or restored for future developers and development? By whom, and at what cost? While a hyper scale data center *can* be repurposed, due to the nature of the highly site specific infrastructure, it is often extremely difficult and costly to repurpose. As addressed above, the frequent replacement and maintenance of server parts will produce large amounts of e-waste. The mitigation plan needs to address how these hazardous materials will be handled.

In conclusion, the City should prepare an EIS instead of an AUAR. Other alternatives include, canceling the project due to an overwhelming community opposition, support a city wide moratorium, or support a state-wide program to oversee hyperscale dat center site selection and design.

Thank you for considering these comments.

-Emma Richtman

From: Catherine Kohlmeier
To: AUARcomments
Subject: AUAR scoping comments
Date: Thursday, April 30, 2026 6:02:41 AM

The scoping document is lacking details which will be addressed in the AUAR draft. Some examples include the height of the buildings, the specific number of generators and batteries, how the batteries will be stored, the closed loop system to be used, along with other specifications regarding water and discharge to WLSSD.

A realistic study of traffic patterns is necessary to prevent backups and accidents. As you are aware, this is already an issue without the added construction vehicles trying to pull out onto Midway Road.

With 2 designated trout streams, an EIS is necessary to study the mitigation steps necessary to protect them. There is no mention of mitigating steps being taken during the construction phase to prevent erosion and runoff into the streams.

Table 5 on page 19, describes the uses and characteristics of business, light manufacturing within the zoned area proposed for the data center. The only one that applies is an increase in tax revenue. The amount of work necessary to get the site ready for the actual construction of the data center is what is required in an industrial zone. The rezoning to BLM of the 278 acres is not within the scope of that zoning description.

Cathy Kohlmeier

From: Jennifer Kinler
To: AUARcomments
Subject: Hermantown's Data Center Comment
Date: Thursday, April 30, 2026 6:46:03 AM

Dear Eric Johnson,

I am writing to express my concerns regarding the City of Hermantown's recent schedule to revise the Alternative Urban Areawide Review (AUAR) for the proposed Google Hyperscale Data Center.

I believe the City should not initiate a revised AUAR at this time. Instead, a comprehensive Environmental Impact Statement (EIS) should be prepared to better examine the scope of this project. Furthermore, I support state legislation for a two-year moratorium on data center permitting and a statewide environmental review to determine optimal siting for such facilities.

My specific concerns regarding the proposed data center include:

- Environmental Impact: Potential light, sound, water, and air pollution.
- Infrastructure and Resources: Increased wear on local resources and existing regional infrastructure.
- Economic Burden: The impact of increased taxes, utility rates, and other household expenses on citizens.
- Transparency: The use of NDAs that obscure public awareness of official discussions and decisions.
- Community and Siting: The preservation of the historic rural and agricultural character of this area and the risks of placing such a facility in a residential zone.
- Public Engagement: The need for broader citizen input throughout the decision-making process.

In my view, the current site proposed by Hermantown is not suitable for a project of this scale. I request that the City prioritize a full EIS and ensure greater transparency and community involvement moving forward.

Best regards,

Jennifer Kinler
Cook, MN Resident

From:	Peter Leete
To:	AUARcomments
Cc:	Bob Foucault SSN; Todd Burlet
Subject:	Comments on Updated Hermantown Industrial AUAR
Date:	Thursday, April 30, 2026 8:29:32 AM
Attachments:	Hermantown AUAR - Starry Skies North.pdf

Dear Mr. Eric Johnson,

Attached are comments from Starry Skies North regarding outdoor lighting, glare, skyglow, light trespass, interior light spill, construction lighting, and ecological mitigation for inclusion to the Updated Hermantown Industrial AUAR.

Starry Skies North is the Minnesota chapter of DarkSky International. We work with communities, public agencies, businesses, and residents to reduce light pollution and promote responsible outdoor lighting that improves nighttime visibility, protects neighboring properties, conserves energy, supports wildlife and habitat, and preserves access to dark and starry skies. We care about this AUAR because continuously operating facilities can create long-term lighting impacts if lighting is not addressed early, clearly, and measurably.

The AUAR currently references lighting only generally, primarily as visual impacts and glare. We recommend that the AUAR include a full Outdoor Lighting Mitigation Plan before site approvals are granted. The plan should adapt DesignLights Consortium (DLC) LUNA V2.0 or equivalent exterior luminaires, fully shielded/zero-uplight (U0) fixtures, a 3000K maximum Correlated Color Temperature (CCT) with 2700K or lower near habitat and residential edges, include property-line light trespass limits, have adaptive controls and dimming, construction-lighting controls, interior light-spill reduction, Audobon's Lights Out practices during migration, and post-installation field verification.

These recommendations are consistent with Minnesota Statutes section 16B.328, DarkSky International municipal-code guidance, DesignLights Consortium (DLC) Solid-State Lighting (SSL) V6.0 and LUNA V2.0 Technical Requirements, Minnesota Buildings, Benchmarks and Beyond (B3) Guidelines v3.2r02, Minnesota Pollution Control Agency (MPCA) GreenStep Cities Best Practices, and Audubon Lights Out guidance.

Our full letter with concerns and recommendations is attached.

Thank you for considering these comments.

Respectfully,

Peter Leete
Vice President, Starry Skies North

Minnesota Chapter of DarkSky International

Phone/text: 651-442-9890
Peter.Leete@starryskiesnorth.org

To learn more visit:
DarkSky International: www.darksky.org

Starry Skies North: www.starryskiesnorth.org

Starry Skies North

Minnesota Chapter of Dark Sky International
Registered as a 501 (c) (3) organization
2560 Brunswick Ave N
Golden Valley, MN 5422

info@starryskiesnorth.org

April 29, 2026

To : Eric Johnson
Community Development Director
City of Hermantown
5105 Maple Grove Road Hermantown,
MN 55811

From: Peter Leete
Vice-President, Starry Skies North

Subject: Comments for Updated City of Hermantown Industrial project Alternative Urban Areawide Review

Mr. Eric Johnson,
Starry Skies North is the Minnesota chapter of DarkSky International. We work to reduce light pollution, promote responsible outdoor lighting, protect night skies, support wildlife and habitat, and help Minnesota communities adopt lighting practices that improve safety, efficiency, and quality of life. We respectfully submit the following comments regarding outdoor lighting, glare, skyglow, light trespass, interior light spill, construction lighting, and related ecological impacts for the Updated Hermantown Industrial AUAR.

The AUAR identifies many environmental concerns associated with the proposed data center campus, but outdoor lighting and light pollution are mentioned only briefly and without measurable mitigation criteria. The document appears to rely primarily on later permitting or approval processes to address lighting impacts. Given the scale of the project, the AUAR should take a more proactive approach by identifying, analyzing, and mitigating outdoor lighting impacts before site approvals are granted. The following table identifies AUAR sections where outdoor lighting should be analyzed and mitigated:

AUAR section / page	Current text or issue	Why it matters for outdoor lighting	Requested treatment in AUAR
Section 6, Project Description, pp. 6-8	The project is described as a 278-acre data center campus with up to four one-story data center buildings and related utility pads/substations, constructed in sequential phases for a total of 1.8 million square feet.	A development of this scale will likely require extensive permanent lighting for roads, parking, entrances, service areas, perimeter/security functions, substations, equipment yards, signage, and construction activity.	Require the AUAR to identify all proposed exterior and visible interior lighting systems and include them in the environmental review and mitigation plan.

Section 8, Cover Types, p. 14 and Figure 6, p. 15	The AUAR requires mapping of wetlands, watercourses, woodlands, grasslands, and current development.	Artificial light at night can affect edge habitat, wetlands, woodlands, insects, birds, bats, and other nocturnal wildlife.	Overlay proposed lighting and development areas onto cover types and identify sensitive lighting buffers and lower-intensity lighting zones.
Section 10, Land Use, p. 21	The Scoping Document states the AUAR will consider compatibility with nearby land uses and visual impacts, including lighting impacts and noise.	Lighting is explicitly recognized as a compatibility issue, but no measurable performance standards are provided.	Use property-line light limits, shielding, CCT/spectrum limits, controls, and screening to address land-use compatibility.
Section 14, Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources, pp. 41-43	The AUAR identifies forest, grassland, and wetland habitat and notes birds, mammals, insects, American Goshawk, Canada lynx, gray wolf, monarch butterfly, and Suckley's cuckoo bumble bee as potentially relevant species/resources.	Lighting impacts are not limited to visual aesthetics; they can affect nocturnal behavior, migration, insects/pollinators, and habitat quality.	Evaluate artificial light at night as an ecological stressor and include mitigation for spectrum, duration, direction, intensity, and interior light spill.
Section 16, Visual, p. 45	The Scoping Document asks the AUAR to describe visual effects such as "glare from intense lights" and identify measures to avoid, minimize, or mitigate visual effects.	This is the only explicit visual-lighting prompt, but it is too general for a large, potentially 24-hour campus.	Expand this section to require glare, light trespass, skyglow, fixture visibility, and nighttime viewshed analysis with enforceable metrics.
Section 21, Cumulative Potential Effects, p. 54	The Scoping Document states the AUAR will discuss cumulative effects associated with nearby ongoing or planned projects and treat backup generation/energy storage as cumulative potential effects or environmental context as appropriate.	Large data-center lighting, transmission/distribution infrastructure, backup generation, and nearby development may cumulatively increase nighttime brightness.	Include cumulative nighttime-lighting conditions and require cumulative mitigation, not only site-by-site fixture review.
Mitigation Plan, p. 54	The Scoping Document states the AUAR mitigation plan must be explicit and is a commitment by the RGU to prevent potentially significant impacts; it must include how mitigation will be applied and assurance that it will be applied.	Lighting standards are only meaningful if carried into site-plan approval, permits, development agreements, and post-installation verification.	Include a binding Outdoor Lighting Mitigation Plan with submittal, approval, field-verification, correction, and enforcement requirements.

1. Outdoor lighting should be treated as a scoped environmental issue, not only a visual issue.

The Scoping Document's only outdoor lighting reference appears to treat lighting primarily as a visual issue, such as in Section 16, Visual, page 45, where it refers to visual effects including "glare from intense lights." Section 10, Land Use, page 21 also notes lighting as part of land-use compatibility. These references are important, but they do not establish measurable standards for glare, light trespass, skyglow, interior light spill, construction lighting, or ecological effects.

Outdoor lighting can adversely affect adjacent properties, scenic nighttime conditions, human health, wildlife habitat, bird migrations, insect behavior, and the night sky. The AUAR should therefore evaluate lighting as a specific environmental issue and establish mitigation criteria before later site-plan or permit review.

2. Minnesota standards should be utilized as a baseline for outdoor lighting criteria and best-practice benchmarks.

We do not know the level of state funding that the various portions of the project may be receiving. Where state funding occurs, the AUAR should document compatibility with three areas listed below: a. Minnesota Statutes section 16B.328; b. The Minnesota Buildings, Benchmarks and Beyond (B3) Guidelines (v3.2r02); and c. the Minnesota Pollution Control Agency (MPCA) GreenStep Cities program. Regardless, if these are not legally triggered, the AUAR should still utilize these Minnesota-specific

practices as criteria in developing the entire area's lighting plan for energy efficiency, DarkSky-compliant fixtures, adaptive controls, light trespass, and glare reduction as part of the AUAR mitigation plan.

a. Minnesota Statutes section 16B.328 contains standards outdoor lighting criteria for state-funded projects. It defines energy conservation to include lower wattage lighting and time controls, motion detectors, or switches that limit unnecessary use. For outdoor lighting fixtures over 1,800 lumens, the statute requires cutoff luminaires; use of the minimum illuminance adequate for the intended purpose with consideration of nationally recognized standards; and full consideration of energy conservation and savings, glare reduction, light-pollution minimization, and preservation of the natural night environment.

b. The Minnesota Buildings, Benchmarks and Beyond (B3) Guidelines are required for applicable state-funded projects and may also be voluntarily applied to other projects. The B3 Guidelines are particularly relevant because they include animal habitat support, bird-safe building design, Natural Heritage Review coordination, Lights Out bird migration management procedures, lighting-zone documentation, aggregate illumination considerations, and monitoring.

c. Minnesota Pollution Control Agency (MPCA) GreenStep Cities Best Practices provide "Efficient Outdoor Lighting and Signals" best practices and calls for improving the efficiency and quality of street lighting, traffic signals, and outdoor public lighting. GreenStep also identifies as a best-practice action the requirement that outdoor lighting fixtures be energy efficient and DarkSky compliant.

3. DarkSky International and DesignLights Consortium (DLC) LUNA V2.0 should be utilized as the technical reference framework.

The AUAR should incorporate the Five Principles for Responsible Outdoor Lighting, developed by DarkSky International and the Illuminating Engineering Society (IES): lighting should be useful, targeted, low level, controlled, and warm-colored. DarkSky International's current municipal code guidance and policy templates are based on these principles and are intended to help local governments adopt enforceable outdoor lighting requirements that reduce light pollution while maintaining safety and functionality.

For fixture procurement and product performance, the AUAR should rely on the DesignLights Consortium LUNA program. The DesignLights Consortium has combined LUNA V2.0 with Solid-State Lighting (SSL) V6.0, with final requirements released November 3, 2025 and effective January 5, 2026. The AUAR should therefore refer to DesignLights Consortium (DLC) Solid-State Lighting (SSL) V6.0 and LUNA V2.0 Technical Requirements.

All exterior light-emitting diode (LED) luminaires should be listed under the DesignLights Consortium (DLC) LUNA V2.0 Qualified Products List, or the applicant should provide documentation showing equivalent or superior performance for uplight control, glare control, spectral quality, dimming, controllability, and energy efficiency.

4. Recommended Outdoor Lighting Mitigation Plan requirements

The AUAR Mitigation Plan should include a project-specific Outdoor Lighting Mitigation Plan, adopted as a condition of site-plan approval, development agreement, building/electrical permits, and certificate of occupancy. The plan should contain at least the following requirements:

a. Lighting plan and photometric submittal before approval

Before any site-plan approval, development agreement, grading permit, electrical permit, or building permit that includes exterior lighting, the applicant should submit a complete lighting plan. The plan should include fixture locations, mounting heights, initial and maintained lumen output, Correlated Color Temperature (CCT), spectral information where available, Backlight, Uplight, and Glare (BUG) ratings, shielding, aiming, dimming schedules, controls, vertical and horizontal illuminance at property lines, and manufacturer cut sheets.

b. DesignLights Consortium (DLC) Solid-State Lighting (SSL) V6.0 and LUNA V2.0 Technical Requirements or documented equivalent.

All eligible permanent exterior LED luminaires should be DLC LUNA V2.0 listed, or the applicant should provide documentation showing equivalent or superior performance for uplight control, glare control, spectral quality, dimming, controllability, and energy efficiency.

c. Fully shielded / zero uplight

All permanent exterior luminaires should be fully shielded and installed to prevent uplight. Uplight should be U0 for permanent exterior luminaires unless a specific, legally required exception applies. Wall packs, floodlights, canopy lights, parking-lot fixtures, roadway lights, security lights, and equipment-yard lights should be installed and aimed so that light does not spill above the horizontal plane.

d. Warm spectrum and low-blue lighting

Exterior lighting should not exceed 3000K CCT, consistent with current DarkSky and DLC LUNA-aligned practice. Lighting adjacent to wetlands, forest edges, residential areas, wildlife corridors, and other sensitive receptors should use 2700K or lower, and lower-CCT, amber, or non-white products should be evaluated where color rendering is not essential. Spectrum should be addressed directly, not only through CCT, where fixture data are available.

e. Property-line light trespass limits

The AUAR should establish enforceable site-level light-trespass limits informed by DarkSky International / Illuminating Engineering Society model-ordinance principles, Minnesota B3 Guidelines benchmarks, Minnesota Statutes section 16B.328's glare- and light-pollution-minimization principles where public funding applies, and recent Minnesota municipal practice. Recommended maximum vertical illuminance at property lines should be no more than 0.05 footcandles adjacent to residential, wetland, woodland, wildlife-habitat, or other sensitive areas. This past week, the City of Monticello adopted a 0.0 footcandles limit at the property line. See Appendix A for more information on Monticello's Data Center Planned Unit Development (DCPUD) ordinance.

f. Adaptive controls, curfew, and dimming

Lighting not classified as essential for life safety, emergency egress, legally required operations, or active occupied use should be dimmed to 20 percent of maximum output, or turned off, during nighttime hours when areas are inactive. Controls should be automatic through timers, occupancy sensors, dimmers, photocells, networked lighting controls, or equivalent systems.

g. Documented security-lighting plan

Security lighting should be based on a written security and operations plan rather than continuous overlighting. The plan should document which lighting is essential, why it is needed, how it is shielded, how it is controlled, and how output is minimized while maintaining safety and security. Cameras and security systems should be designed around low-level, targeted, shielded lighting rather than high-output area lighting.

h. Construction lighting controls

Temporary construction lighting should be shielded, aimed downward, limited to active work areas, and turned off when work is not occurring. It should not produce disabling glare on public roads, adjacent properties, residences, wetlands, woodlands, or habitat areas. Temporary lighting should be separately permitted when nighttime construction is proposed.

i. Interior light spill and Lights Out operations

The AUAR should address interior light visible through windows, entries, and office/support spaces. Window treatments, automatic interior lighting controls, occupancy sensors, scheduling, and facade design should be used to limit interior light spill. During spring and fall bird migration seasons, outdoor lighting not needed for life safety or active operations should follow Audobons Lights Out practices, especially from midnight to dawn.

j. Prohibited or restricted lighting

Unshielded wall packs, upward-directed floodlights, searchlights, sky beams, roofline lighting, facade lighting that spills beyond the target surface, high-output decorative lighting, and lighting visible above the roofline should be prohibited unless specifically reviewed and mitigated. Sign lighting should be downward-directed, externally shielded, dimmed during nighttime hours, and limited to active business or wayfinding needs.

k. Buffers and screening

Where industrial lighting nears residences, roads, wetlands, woodland edges, or habitat areas, the AUAR should require fixture setbacks and shielding. Shielding should be designed to reduce both direct glare and indirect light spill.

l. Post-installation verification and correction

Before final occupancy and after each major lighting phase, the City should require nighttime field verification, including visual inspection, fixture-aiming checks, and light-meter readings at property lines and sensitive receptors. Noncompliant fixtures should be re-aimed, shielded, dimmed, replaced, or removed before final approval. Verification should be repeated after any material lighting modification.

5. Requested AUAR scope revision

I request that the City revise the AUAR scope to explicitly include a full outdoor-lighting analysis and mitigation plan. The current references to “lighting impacts” and “glare from intense lights” should be expanded into a measurable performance framework addressing glare, light trespass, skyglow, ecological effects, energy conservation, spectrum, controls, construction lighting, interior light spill, cumulative nighttime brightness, and post-installation compliance.

The proposed campus is large and will likely operate continuously. Outdoor lighting planning should not be deferred to later design review without clear standards being set within the AUAR. A performance-based mitigation plan using Minnesota Statutes section 16B.328, DarkSky International municipal-code guidance, Illuminating Engineering Society (IES) principles, DesignLights Consortium (DLC) Solid-State Lighting (SSL) V6.0 and LUNA V2.0 Technical Requirements, Minnesota Buildings, Benchmarks and Beyond (B3) Guidelines v3.2r02, Minnesota Pollution Control Agency (MPCA) GreenStep Cities Best Practices, and Audubon Lights Out practices would reduce avoidable environmental impacts while still allowing safe and functional site operations.

A recent Minnesota example is included in Appendix A: the City of Monticello has adopted data-center-specific zoning standards that expressly regulate lighting, property line illumination, external light-source setbacks, construction lighting, and construction-impact mitigation.

Thank you for considering these comments.

Sincerely,



Peter Leete
Vice-President, Starry Skies North
Phone/text: 651-442-9890
Peter.Leete@starryskiesnorth.org

- DarkSky International: www.darksky.org
- Starry Skies North: www.starryskiesnorth.org

Appendix A – Minnesota Municipal Example: Monticello Data Center Lighting Standards

The City of Monticello, Minnesota recently adopted a Data Center Planned Unit Development (DCPUD) ordinance after several months of Planning Commission, City Council, staff, and public review. Monticello's data-center materials state that the ordinance will be added to the City's zoning code and used to evaluate future large scale development plans, including data-center land-use applications.

Monticello's ordinance is relevant to the Hermantown AUAR because it shows that Minnesota cities are already recognizing light pollution as an impact of large data center development. The ordinance requires data center applications to demonstrate compliance with standards for exterior impacts perceptible from facility boundaries, including noise and lighting. It also requires all site lighting to meet the City's lighting code, with additional data-center-specific protections: illumination must be 0.0 footcandles at property lines abutting properties used, zoned, or guided for residential, civic/institutional, recreational, or parkland uses; external light sources may not be located within 50 feet of property lines of parcels used, zoned, or guided for residential, parkland, or recreational uses; and security-plan exemption provisions are not available in the data center district.

Monticello's ordinance also addresses temporary construction activities and construction impacts. Temporary construction activities within the data center district are limited to 8:00 a.m. to 7:00 p.m., Monday through Saturday, and are subject to the lighting standards of the chapter. For sites over 20 acres and phased data center sites, applicants must submit a construction impact plan that includes mitigation plans for lighting, noise, vibration, and dust.

Monticello's ordinance demonstrates that data-center-specific lighting criteria and controls are feasible, timely, and already being adopted in Minnesota. At minimum, the Hermantown AUAR should evaluate whether comparable or stronger lighting standards are needed to prevent glare, light trespass, skyglow, construction-lighting impacts, interior light spill, and ecological impacts from the proposed Hermantown data center campus.

Appendix B - Source Basis for Recommended Standards

DarkSky International Model Lighting Ordinance / Outdoor Lighting Codes
https://darksky.org/our-work/advocacy/model-lighting-ordinance/
https://darksky.org/what-we-do/advancing-responsible-outdoor-lighting/darksky-outdoor-lighting-codes/

DesignLights Consortium LUNA / SSL V6.0 and LUNA V2.0
https://www.designlights.org/luna/
https://designlights.org/our-work/solid-state-lighting/ssl-v6-luna-v2/

Minnesota Statutes section 16B.328
https://www.revisor.mn.gov/statutes/cite/16B.328

Minnesota Buildings, Benchmarks and Beyond (B3) Guidelines v3.2r02
https://www.b3mn.org/

Minnesota Pollution Control Agency (MPCA) GreenStep Cities Best Practices

https://greenstep.pca.state.mn.us/best-practices
Relevant action: Require energy efficient, DarkSky compliant new or replacement outdoor lighting fixtures on city-owned/private buildings and facilities.
https://greenstep.pca.state.mn.us/bp-detail/81717

Audubon Minnesota Lights Out
https://mn.audubon.org/conservation/lights-out

Monticello Data Center Ordinance and public information
https://monticellomn.gov/728/Data-Centers
https://www.monticellomn.gov/DocumentCenter/View/9278/City-Council-Proposed-Data-Center-PUD-Ordinance

From: leanna goose
To: AUARcomments
Subject: Google Data Center Public Comment-Hermantown
Date: Thursday, April 30, 2026 8:52:44 AM
Attachments: Clean Water Action Factsheet.pdf
Honor the Earth Data Center Factsheet.pdf

As a concerned citizen for my children's future I ask that the city of Hermantown enact an immediate moratorium on the approval, permitting, and construction of hyper-scale data centers at the local levels which would remain in effect unless and until comprehensive, enforceable regulatory frameworks are established to safeguard water, energy systems, environmental integrity, and the health and welfare of affected communities.

A moratorium is necessary to prevent irreparable harm while policymakers and regulators develop clear, transparent, and science-based standards governing resource consumption, environmental impacts, land use, and community protections. In the absence of such regulations, continued development poses significant and potentially irreversible risks to human health and water supplies

A pause on hyper-scale data center construction will allow time to develop regulations and help communities understand the potential negative impacts of these projects, and allow time for communities to decide whether they consent to these projects moving in next-door. Many projects were and still are concealed behind non-disclosure agreements, preventing citizens from even beginning to grasp how their communities might be affected.

A large-scale data center proposed in Farmington, Minnesota, could use over 800 million gallons of water in one year! These facilities have the potential to drain aquifers while also putting our drinking water at risk of becoming contaminated. Because these facilities require clean drinking water the amount of water will come from our pure aquifers. There is a reason these data centers are coming to Minnesota it's because they need water to operate. We cannot waste our children's and the next generation's water to power artificial intelligence! Clean water is needed for their survival artificial intelligence is not! The energy required to power these facilities is also something our planet cannot afford to waste!

A Department of Energy report predicted that blackouts would increase 100-fold by 2030 due to the energy needed by hyper-scale data centers. It was predicted that Minnesota's electricity usage would double if all 10 proposed data centers were built. Bloomberg notes wholesale electricity costs as much as %267 more than it did five years ago in areas near data centers. To be clear, nuclear energy is not the answer to this! Nuclear energy leaves behind legacy contamination, and the radioactive waste

that is created remains a threat for many generations into the future. There is no solution for long-term storage of this waste at the moment, but as the demand for electricity grows, so will the demand for critical metals.

High-impact metals are being diverted to build massive data centers to power artificial intelligence rather than urgently needed climate solutions. The consequences of this are irreversible. Metal mining is the most polluting industry in the United States, according to the Environmental Protection Agency, leaving behind toxic contamination that can persist for generations and is often impossible to fully reverse.

The burden of this extraction falls disproportionately on Indigenous communities: Morgan Stanley Research estimates that 97% of nickel, 89% of copper, 79% of lithium, and 68% of cobalt reserves and resources in the United States lie beneath or within 35 miles of Tribal lands. We cannot sacrifice Indigenous homelands so the ultra-wealthy can continue amassing profits on a scale that far exceeds any reasonable human need.

Other harmful impacts that accompany these proposed projects include noise and light pollution and heating of local communities. CNN reported that areas near hyper-scale data centers are creating heat islands, warming up the land around them by as much as 16 degrees!

Communities must be allowed time to understand the true impacts of these facilities and decide whether they consent to their construction next to their homes! A moratorium will allow time to create regulations and environmental frameworks that enable full transparency into the true cost of these projects. At this moment, what these facilities take from communities far outweighs the benefits they provide. The jobs they provide are temporary, but the impacts will last far belong the life of these facilties. Please think about the local residents who will have to live with these. We must hit pause and enact a moratorium now to allow time to look at who truly benefits and who pays the costs!

Questions and facts that go along with the need to answer these questions:

1. Has there been meaningful consultation done with the tribe next door? This facility could impact their aquifers?

–The water that is used for these facilties could potentially be contaminated with PFAs as these are being used to help cool the hardware of these facilties Fond Du Lac already has a PFAS problem. Nearly all data centers require huge amounts of drinking water to function and cool their machines. In some cases, this water can never be reused or returned to the water cycle because of contamination. Data centers are already consuming over 25% of local community water supplies in certain areas. In 2023, Google's data centers alone used

over 6 billion gallons of water for cooling, enough water for the entire city of Los Angeles for 2 weeks.(Honor the Earth Factsheet attached

2. How will you protect the local peoples water supply to enusre that they have enough water for survival?

—Many people report loss of water pressure in areas where data centers are built. It can be particularly damaging for rural households that rely on well water, causing those sources to go dry or build up sediment. These facilities are an extreme danger to precious water resources and will impact your family directly if built near your home (Honor the Earth Factsheet attached)

3. Will the water that is pumped back into the citys water supply contain PFAs? Has there been studies on this?

—Minnesota has a strict PFAS law that would need to be followed. Data centers are not needed infrastructure allowing any PFAs contamination to come from these faciltiies should require a strong environmental impact statement. PFAs are known as forever chemicals because they do not break down. (Clean Water Action Factsheet attached)

4. How will you protect communities from paying for the large amount of electricity that is needed from this facility?

—Hyperscale data centers have caused energy price increases for consumers of up to 267%. In 2024, customers across seven states paid over $4 billion in additional utility costs to connect data centers to the power grid. The carbon intensity of electricity used by AI is higher was 48% higher than the US average (Honor the Earth Factsheet)

5. We need to be carbon free by 2040. How will your town esnure this faciltiy follows the law here in MN?

—We are in the middle of a climate crisis the amount of energy required for these facilties is astronomical allowing these faiclities to take the amount of energy required will take us far from our clean energy goals in MN. By 2030, 2.5 billion tons of CO^2 may be released into the atmosphere by hyperscale data centers globally, more than 40% of the United States' total emissions. One center alone can release anywhere between 200,000-400,000 metric tonnes of CO^2 annually, as much as a small city. (Honor the Earth Factsheet)

6. How will you protect communities from that heat, noise, and light pollution?

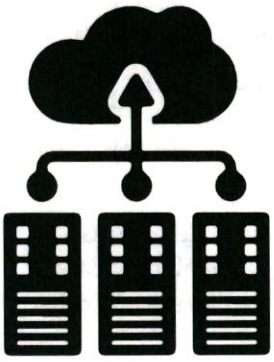
CNN news reports that data centers can heat up local communities by up to 16 degrees. The noise pollution can be dangerous to human health, the light pollution can cause family homes to be lit up constantly these facilties can harm the health and well-being of local communities.

For all of these reasons listed above I ask that you enact a moratorium on the local level

and allow time for regulations to address all of the above issues and more.

Data Centers — A threat to Minnesota's water

CLEAN WATER ACTION



Data centers are popping up across the country as the dependency on cloud computing and Artificial Intelligence increases. These centers require millions of gallons of water and huge amounts of electricity each year to cool the facility and run efficiently. This can cause stress in areas experiencing water scarcity and water quality concerns. ***Minnesota is currently home to 61 data centers.***

Minnesota must demand that:

- Multi-billion-dollar businesses pay their fair share in taxes. This means paying local and state taxes as well as a tax on every gallon of potable water used.
- Centers use the safest, most environmentally friendly options when cooling and descaling the facility. Centers must provide a report to the legislature annually that they are using the safest, most up-to-date technology.
- Any data center operating in Minnesota must report their water usage to the legislature and publicly on their website annually.
- Centers construct their own carbon-free power generation facilities onsite to power their electricity and cooling demands.
- Require data centers to reuse and recycle all water in their cooling systems. The state should be compensated per gallon of potable water used to run and maintain data centers.



Data Center in Ashburn, Virginia.

Data Center Facts:

- Data centers rely on water-intensive cooling systems that consume millions of gallons of drinking water each year. A single data center can consume up to 5 million gallons of water per day.[1]
- Data centers are increasing their need for fresh water over time — Microsoft's water consumption increased by 34% between 2021 and 2022[2]. Google's water consumption went up nearly 22% over the same period to 5.56 billion gallons per year.[5]
- The water used in data centers is often treated with chemicals to prevent corrosion and bacterial growth, rendering it unsuitable for human consumption or agricultural use. This means that not only are data centers consuming large quantities of drinking water, but they are also effectively removing it from the water cycle.[3]
- Data centers operate 24/7/365 — and there are an estimated 5,300 facilities in the United States. This adds up to hundreds of billions of gallons of water used each year.[4]
- One AI query is estimated to use 16 ounces of fresh water.[5] ChatGPT estimates upwards of 10 million queries per day.



Data Centers and PFAS — a dangerous combination

Data centers use a variety of chemicals in their cooling system, chemicals that contaminate water as it works through the data center cooling system:

- **Refrigerants:** Fluorinated gases (F-gases), specifically hydrofluoroolefins (HFOs) and hydrochlorofluoroolefins (HCFOs) — which are types of PFAS
- **Cooling loop chemicals:** Ethylene Glycol — a clear, odorless, flammable, and toxic liquid that is used in antifreeze and other products
- **Water treatment chemicals:** Corrosion inhibitors such as nitrites, molybdates, borates, azoles (for protecting yellow metals), phosphates, and polymers are commonly used, descalers, and hydrogen peroxide (the most environmentally friendly option).

Minnesotans shouldn't be left on the hook for multi-billion-dollar companies seeking tax breaks to run facilities that not only monopolize but also poison our water.

Company	Annual Profits	Annual Revenue	Water used in Data Centers *(most recent reporting)*
Google	$30.7 billion	$350 billion[6]	5.6 billion gallons
Microsoft	$88.14 billion	$261 billion[7]	33 million gallons
Meta	$62.36 billion	$164 billion[8]	5.8 million gallons
Equinix	$4.281 billion	$8.7 billion[9]	1.5 million gallons

1 https://utulsa.edu/news/data-centers-draining-resources-in-water-stressed-communities/#:~:text=Unfortunately%2C%20many%20data%20centers%20rely,thousands%20of%20households%20or%20farms.
2 ibid
3 ibid
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FOR MORE INFORMATION:
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DATA CENTERS: MYTH VS. FACT

Data centers are popping up across Turtle Island, devouring land, water, and energy. Every major tech company, including Amazon, Google, Meta, Apple, and OpenAI (ChatGPT) is racing to build massive, multi-billion-dollar data centers without community consent or evidence of benefits.

A **hyperscale data center** is a massive facility built to house the machines that power artificial intelligence (AI), store digital data, and support cryptocurrency. These centers can consume as much water and power as entire towns and cities.

Honor the Earth has compiled a list of the data center myths being spread by corporations, government officials, and developers. We dispel myths about data centers when it comes to:

Economic Impacts
Environmental Impacts
Health Impacts
Indigenous Sovereignty
Secrecy

Here are the facts about what this new era of colonialism means for Indian Country.

HONOR THE EARTH

AI AND GENERATIVE AI: UNDERSTANDING THE DIFFERENCE

AI (Artificial Intelligence) is a broad field of computer science that gives computers the ability to simulate human intelligence. This includes tasks like problem-solving, learning, and understanding language.

Generative AI is a specific type of AI that can create new content, such as text, images, or audio, that resembles human-generated work. When we use AI learning algorithms, we're often giving away vast amounts of our private data and information to these companies for nothing in return. An example being when your auntie posts an AI generated picture of herself with Jason Momoa on Facebook.

ECONOMIC IMPACTS

Myth: Building data centers is great for tribal communities

1) **Fact**: Hyperscale data center developers are targeting rural and tribal communities as locations for new facilities for a variety of reasons: access to more water, cheaper electricity, and tax incentives from local governments and water/electric companies. The energy needs of the data centers are often so large that they require entire new power plants to be built in rural areas to supply their demand.[1]

Myth: Hyperscale data centers won't impact your power bill

2) **Fact**: Quite the opposite. Hyperscale data centers have caused energy price increases for consumers of up to 267%.[2] In 2024, customers across seven states paid over $4 billion in additional utility costs to connect data centers to the power grid.[20] The carbon intensity of electricity used by AI is higher was 48% higher than the US average[28]

Myth: AI and Hyperscale data centers are good for the economy

3) **Fact:** The generative AI and hyperscale data center industry carries deep financial risks of stranded assets.[3] Every year AI fails to return ever-higher numbers, the need grows for increased labor productivity.[5]

Myth: Hyperscale data centers will provide jobs

4) **Fact**: There is NO evidence that data-center job promises are being fulfilled.[6] In Abilene, Texas, some 1,500 people are building the first data center for the Stargate artificial-intelligence venture led by OpenAI. Once completed, the facility will only have about 100 full-time employees, according to the city's economic development agency.[4] In some fields, AI technologies are replacing human labor.

Myth: Building data centers on or near tribal communities, will boost our economy and be safe for the environment

5) **Fact**: Hyperscale data center companies are targeting rural and tribal communities[24] as locations for new facilities for a variety of reasons like access to more water, cheaper electricity and that they often receive tax incentives from local governments, and water/electric companies [23]. The energy needs of the data centers are often so large that they require entire new power plants to be built in rural areas to supply their demand. [24]

Myth: Hyperscale data centers will be good for the local economy and provide tax revenue needed to support towns.

6) **Fact**: Data center developments are receiving hefty tax breaks that are resulting in a loss in revenue[26]. Georgia is projecting $2.5 billion[25] in losses per year due to data center tax breaks and incentives. Tax incentives in Virginia are costing the state $1.6 billion a year[27].

ENVIRONMENTAL IMPACTS

Myth: Data centers are energy efficient and AI could solve climate change

7) **Fact:** By 2030, 2.5 billion tons of CO^2 may be released into the atmosphere by hyperscale data centers globally, more than 40% of the United States' total emissions. One center alone can release anywhere between 200,000-400,000 metric tonnes of CO^2 annually, as much as a small city.[7]

Myth: Data centers can use recycled water and be water efficient

8) **Fact:** Nearly all data centers require huge amounts of drinking water to function and cool their machines. In some cases, this water can never be reused or returned to the water cycle because of contamination. Data centers are already consuming over 25% of local community water supplies in certain areas. In 2023, Google's data centers alone used over 6 billion gallons of water for cooling, enough water for the entire city of Los Angeles for 2 weeks.[8]

Myth: Data centers won't impact the water in your home

9) **Fact:** Many people report loss of water pressure in areas where data centers are built. It can be particularly damaging for rural households that rely on well water, causing those sources to go dry or build up sediment. These facilities are an extreme danger to precious water resources and will impact your family directly if built near your home.[9]

Myth: Closed-looped cooling systems do not use nor consume water

10)**Fact**: Closed-looped cooling systems use and consume water through evaporation, blowdown, and leaks[29]. They add chemical additives (like glycol), which can only be recycled in the system a few times, creating blowdown wastewater with nitrites, glycol, and heavy metals. Because chemicals are required in closed loop systems, water contained in a closed loop system poses a risk to ground water and local aquatic wildlife[30].

Myth: Data centers won't impact your night sky

11) **Fact**: While few studies have been conducted on data center light pollution, one report from a former worker at data centers in Virginia, described the facilities light pollution as "easily seen for miles." Data centers "glow at night like a giant city of lights. The night sky is glowing like a meteorite just crashed into the woods ... humming, pulsating, glowing." Data centers are also incompatible with residential areas because they often "deploy bright security lighting."[10]

Myth: Data centers won't impact the water in your home.

12) **Fact:** Many people report loss of water pressure in areas where data centers are built. It can be particularly damaging for rural households that rely on well water and has caused many to go dry or build up sediment[38]. When hyperscale data centers use local water supplies they receive priority treatment and threaten communities access to water. [39] These facilities are an extreme danger to precious water resources and will impact your family directly if built near your home.

Myth: Closed-looped cooling systems do not use nor consume water

13) **Fact**: Closed-looped cooling systems use and consume water through evaporation and chemical additives[22] (like glycol), which can only be recycled in the system a few times, creating blowdown wastewater with nitrites, glycol, and heavy metals.[21]

HEALTH

Myth: Data centers are safe for our health

14) **Fact**: Data centers emit up to 97 decibels of sound pollution, enough to cause permanent hearing loss for people who work or live nearby. This is comparable to the sound of a motorcycle or a jackhammer next to your bedroom window.[11]

Myth: AI helps us solve tasks more efficiently and helps us think better

15) **Fact**: Users of AI programs like ChatGPT have been shown to have lower brain engagement and "consistently underperformed at neural, linguistic, and behavioral levels." By relying on generative AI to do our critical thinking, we're shutting down the most important parts of our brain – the stuff that makes us human. A preliminary study from MIT has revealed that engaging with AI to write an essay causes "cognitive debt" and those who used ChatGPT to write struggled to quote their essays.[12]

Myth: Data centers are safe for our health.

16) **Fact**: Data centers emit up to 97 decibels of sound pollution, enough to cause permanent hearing loss for people who work or live nearby[31]. This is comparable to the sound of a motorcycle or a jackhammer next to your bedroom window. Infrasound (not audible to the human ear) emitted from data centers can impact your physical and mental health[32] [33] [34].

Myth: AI data centers do not negatively impact public health

17) **Fact**: The energy and generators that power AI data centers release dangerous fumes that include fine particulate matter and nitrogen oxides. These pollutants can trigger and worsen health issues including (but not limited to) asthma and heart attacks.[13] In recent reports, data centers have been linked to miscarriages and rare cancers.[19]

Myth: AI helps us solve tasks more efficiently and helps us think better

18) **Fact**: Users of AI programs like ChatGPT have been shown to have lower brain engagement and "consistently underperformed at neural, linguistic, and behavioral levels."[35] AI is shutting down parts of the brain that we use for everyday tasks and critical thinking. A preliminary study from MIT has revealed that engaging with AI to write an essay causes "cognitive debt" and those who used ChatGPT to write struggled to quote their essays.[36] Generative AI use is permanently killing creativity and homogenizing thoughts among users[37]

INDIGENOUS SOVEREIGNTY

Myth: AI can protect our culture and Indigenous languages

19) **Fact**: AI will never be able to accurately learn our languages. By giving tech corporations access to our ancestral knowledge, we risk the misrepresentation and appropriation of our culture. Native histories, cultural knowledge, and languages should stay in Native hands.[14]

Myth: Allowing data centers on Indigenous lands and engaging with generative AI is Data Sovereignty

20) **Fact:** Indigenous communities are being told that AI data centers will help us protect and assert our data sovereignty. However, many tribal nations do not have the capacity or legal infrastructure to regulate multinational corporations. By giving these companies unfettered access to our data, we're actually giving away our power. This is not data sovereignty.[15]

SECRECY

Myth: Non-disclosure agreements (NDAs) protect competitive advantage

21) **Fact:** NDAs with data center developers limit accountability because they are broad in writing and discourage information sharing on project energy and water use. NDAs leave both leaders and their constituents in the dark regarding the potential impacts of these projects.[16]

Myth: Data centers can protect your privacy

22) **Fact**: Data centers are part and parcel of the surveillance state. Every private conversation you share with ChatGPT is recorded forever and can be shared with authorities if asked. A significant percentage of AI power usage goes to surveillance apparatus like facial recognition and location tracking.[17]

Myth: Our communities need more energy

23) **Fact**: A December report to Virginia's legislature revealed that if data centers expanded to meet "unconstrained demand," the state's electricity use would double by 2033 and nearly triple by 2040.[18] This is likely even greater for rural areas that currently use very little power compared to cities. The massive increase in energy demand is not for people, it's for data centers.

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From: Gail Garrick
To: AUARcomments
Subject: Need for a full environmental review vs. an AUAR
Date: Thursday, April 30, 2026 9:23:47 AM

My name is Gail Garrick and I live at 3838 Solway Road in Hermantown, approximately a half mile from the proposed hyper scale data center site. Rocky Run runs through my property. I am very concerned about the future of that creek and what will happen to the fish and water temperature, should this trillion dollar company be allowed to proceed without a full environmental review. Will this be the same as what happened at Tischer Creek?

I have lived my entire life (70 years) in the Adolph area. In 5 different residences less than a mile from the proposed site. This is a residential area. It appears there are other areas in Hermantown that would be more appropriate for a data center of this size, where wet lands and designated trout stream would not be affected. Were any other areas looked at before choosing the Adolph area?

Since Google, a trillion dollar company, will be receiving tax incentives, will all Hermantown tax payers also be receiving a reduction in their property taxes?

I look forward to your response.

Sent from my iPad

From: Jennie Lindberg
To: AUARcomments
Subject: Regarding proposed Google data center
Date: Thursday, April 30, 2026 9:25:18 AM

City of Hermantown,

I am writing to convey my concerns regarding the proposed hyperscale data center to be located in Hermantown, Minnesota.

I have several important concerns, both with the potential for grave environmental harm caused by the project, and also with the suspect way the local Hermantown government has approached the project.

This proposed data center will use a vast, unreasonable amount of our local water. This is an improper and damaging use of our natural resources, for the benefit of a wealthy corporation headquartered outside our state.

Google wants access to our vital resources, and wants tax breaks to go with them, so that they may enrich themselves through extracting our important resources.

Adequate environmental studies regarding the project have not been performed.

The proposed data center would damage local trout habitat, it would create a heat island, it would contaminate our water.

It is not by accident that Google is approaching small, relatively inexperienced local governments to form these types of predatory agreements.

It is wrong for a small group to conceal their actions in order to go forward with a project of this size which will affect residents outside of just Hermantown. Officials whom I am not able to vote for are working to harm me and my family, through the use of subterfuge and NDAs.

This project is a danger to our area. It should not move forward. The officials involved should be removed from their posts. It has been a betrayal of our communities by individuals entrusted to care.

A massive, extremely wealthy corporation is seeking to conceal their actions in order to take advantage of our region and extract our vital natural resources. We will be the ones left with contaminated water and dead fish. The Google executives will be in California. Do not allow this travesty to continue.

No data center in Hermantown.

Jennie Lindberg

1207 Minneapolis Ave.
Duluth, MN 55803

From: Julie O"Leary
To: AUARcomments
Subject: Comment submisssion on updated AUAR scoping document
Date: Thursday, April 30, 2026 9:57:35 AM
Attachments: Hermantown Updated AUAR Comments_4.30.2026.pdf

Dear Eric-

Attached please find comments from the W.J. McCabe Chapter of the Izaak Walton League in Duluthon the updated Hermantown Industrial AUAR scoping document.

Sincerely,

Julie O'Leary
On behalf of the W.J. McCabe Chapter IWLA
jloinduluth@gmail.com

Virus-free.www.avast.com

W.J. McCabe (Duluth) Chapter
Izaak Walton League of America

P. O. Box 3063 • Duluth, MN 55803

April 30, 2026

To: Responsible Government Unit (RGU): City of Hermantown

Eric Johnson,
Community Development Director
5105 Maple Grove Road
Hermantown, MN 55811
AUARcomments@hermantownmn.com

From: Julie O'Leary – President
On behalf of W. J. McCabe Chapter – Izaak Walton League of America

Subject: Comments on the Updated Hermantown Industrial Alternative Urban Areawide Review (AUAR) - Scoping Document

The W. J. McCabe Chapter of the Izaak Walton League of America in Duluth (hereafter "the Ikes") is deeply concerned about the potential environmental impacts of the proposed hyper-scale data center in the City of Hermantown (hereafter "the City"). While we applaud the City's decision to supplement its environmental review of the project and recognize the obvious effort to identify a broad array of impacts, the Ikes have several concerns about the use of the AUAR process in general and the scoping document itself.

The AUAR Process. AUARs are an exception to the Environmental Assessment Worksheet/Environmental Impact Statement (EAW/EIS) process and are not permitted for every type of proposed project. They may not be used for large industrial projects such as mines, paper mills and power plants. In fact, they may be used only for "residential, commercial, warehousing, and light industrial development" (Minn. Rules, 4410.3610). The City argues that hyper-scale data centers are "light industry", despite the truly gigantic footprint and huge energy demands of this project, and hyper-scale data centers in general. It is our view that this project is exactly the kind for which the EAW/EIS process was designed, and that if hyper-scale data centers had existed when the environmental review rules were adopted, they would have been included in the mandatory EIS category. The Ikes are concerned that the AUAR does not provide the rigorous, comprehensive and in-depth review this project requires.

The Scoping Document. Although the document at least identifies the main topics that require review, the limitations of the AUAR means that many of the most critical considerations specific to this project's scope, scale and purpose will not be scrutinized.

- **Impacts of Extraordinary Electrical Power Demands** The power requirements of hyper-scale data centers routinely exceed 100 megawatts, an amount that would support

the needs of 80,000 U.S. households. Since this project proposes to use mechanical rather than groundwater cooling, we expect power demands to be on the high end.

The potential impacts of such huge power demands are several. These include:

1. increased greenhouse gas emissions
2. upgrades to regional power generation and distribution, and
3. potential increased costs to ratepayers.

AUAR Guidance does not require consideration of energy resources as a separate issue (one of several examples of why the AUAR process isn't appropriate for this level of development. However, after much public concern, the City has decided to address "energy use, including an estimate of peak electricity demand", to explain "the factors that go in to determining backup generation needs"; and identify potential additions to the existing utility infrastructure to serve the development scenario (i.e. new transmission or distribution infrastructure)." Because of the "cause and effect" relationship between power consumption and carbon emissions, this information should be added to Part 18., starting on page 46 - GREENHOUSE GAS (GHG) EMISSIONS/CARBON FOOTPRINT. The revised AUAR should include an expanded look at energy resources as part of this section, specifying the precise issues that will be studied and the information to be gathered and analyzed.

So far, the AUAR doesn't specify the energy demand needed for either the initial buildout or the planned operations. There has been an announcement in the media that Google is going to build renewable power facilities to offset power consumption, but it's unclear at this point if that proposal covers all or only a part of their energy demand at this proposed facility. The Scoping needs to provide transparency about the project's energy needs, as well as an estimate of the greenhouse gas emissions for upstream (construction) and downstream operations (annual energy consumption for all facets of the facilities operations (from transportation to heating/cooling/lighting, etc.) This would better inform the public, the RGU, and other permitting authorities, so all parties can properly evaluate their energy impact and GHG emission reduction obligations.

- **Impacts on Surface and Groundwater.** This project, which covers 278 acres, lies between two trout streams, West Rocky Run and Adolph Creek - streams which, as Trout Unlimited has pointed out, and based on the Minnesota Pollution Control Agency's (MPCA) four-year watershed evaluation "Midway River Protection Study – August 2025"[1], these streams, contain "some of the coldest water, best habitat and largest trout populations in the entire watershed and larger Duluth area." https://mntu.org/2026/04/proposed-data-center-in-hermantown/. It would "convert of currently undeveloped forest and wetlands into impervious surfaces…[and] is likely to degrade these high-quality brook trout fisheries by: eliminating or reducing infiltration of surface water to groundwater aquifers; reducing groundwater recharge; reducing the amount of cold groundwater flowing from springs into the streams; increasing stream temperatures (brook trout require water temperatures between 46-68°F to thrive); reducing stream size, or flow, and amount of available habitat; [and] increasing sedimentation and pollutants from surface runoff." *Id.*

  The Scoping document refers to trout streams just once (West Rocky Run and the Midway River in connection with stormwater runoff). It does not discuss them in the Fish, Wildlife, and Plant Community section. The Scoping Document should be revised

to include a separate section on impacts to these coldwater stream ecosystems and include the potential impacts identified by Trout Unlimited and MPCA.
The proposal will increase the footprint of impervious surfaces over a significant area (278 acres) as compared to the present vegetated landcover. This will increase the likelihood of greater pollution associated with increased vehicle traffic (petroleum products, glycol materials, compounds potentially hazardous to trout from tires, etc.) In addition, there will be seasonal increases in chlorides used during winter to treat snow and ice, for both vehicle and pedestrian traffic. These resulting pollutants will have negative impacts, directly and indirectly, on fish and other aquatic organisms in the nearby steams.

While retention ponds can be used to safely capture sediment in runoff, ponds do not remediate pollutants like chloride found in solution, other than concentrate them over time. How will the project proposer address chloride and other non-point pollutants that drain from the project area to the trout streams nearby? For example, will reverse osmosis or other options be used to treat chloride or other pollutants found in captured stormwater runoff?

Since brook trout and other coldwater organisms are temperature sensitive, there is also concern that impervious surfaces that heat up during the summer will have negative impacts on ground and surface waters. Add to this the discharge of heat associated with cooling functions to protect and regulate heat from hardware within these building, and there's the potential to build a "heat island" at this proposed site. What efforts are being made to look at this impact, and what mitigation strategies will need to be employed to protect these temperature sensitive aquatic ecosystems?

Additionally, the revised AUAR must consider the cumulative impact of this proposed facility, along with the adjoining, recently expanded, utility substation, which itself presents a sizeable footprint at this location. What is the collective area of impervious surfaces, the increase in traffic, sedimentation, etc.? How will these impact the trout streams and surrounding ecosystems, and what alternatives can be examined, or what can be done to alleviate or mitigate these impacts?

A final takeaway from the MPCA's ***Midway River Watershed Protection Study*** is to "Incorporate MRWPS findings into local planning, permitting, and ordinance decisions." The AUAR process should strive to accomplish that by addressing the issues and concerns raised by the study.

- **Hazardous Materials.** Data centers contain a number of hazardous materials, including batteries (lead-acid and lithium-ion, or eventually other battery materials as the technology evolves), refrigerants in cooling systems, IT e-waste containing heavy metals, cleaning chemicals, and fire suppression agents. The Scoping Document does not cover this topic, noting that it is not required by AUAR guidance (Scoping Document pp 40-41). Again, this is an example of why the AUAR process does not fit this project. Notwithstanding the AUAR guidance, the type, amount, handling, on-site storage, disposal, and potential impacts of such material should be described and evaluated.

- **<u>Noise and Artificial Lighting Issues</u>** Part 19 states, "Construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so." This again is a reason the AUAR process is inadequate in analyzing this massive project.

  Noise has been a major complaint of residents living near data centers. The AUAR must look into the issue of noise, and it's impacts to both wildlife and the adjacent residents who will live closest to this data center site. It's important to calculate and analyze the anticipated noise levels when all construction is completed and during times when equipment reaches the maximum decibel level on a hot day) - when the mechanical systems (fans) are fully operational to cool the operating equipment located in the buildings. The study should include how noise impacts wildlife, look at mitigation options that reduce noise levels, and examine what kind of buffer(s) (distance separation as well as physical barriers) can be deployed to reduce impacts to wildlife and nearby residents.

  Light pollution (Artificial Lights at Night – ALAN) will also impact both humans and wildlife in the vicinity of the data center and should be evaluated. Many wildlife are sensitive to artificial lighting because it disrupts their circadian rhythms. This means bright night lights can impact sleep cycles, foraging, and reproduction. This leads to behavioral changes, from mistimed migrations to reduced nocturnal foraging, and an increase in susceptibility to predation.

  Humans, too, suffer from too much light during the night, causing insomnia which can lead to chronic fatigue, eating disorders, immune system disruption, and mental health problems. The AUAR must examine measures that project proposers can take to mitigate this disruption. This could include settling for less lighting, warmer lighting tones, using motion sensing lighting, and other strategies.

  We also believe it important that the AUAR look at the cumulative impacts from these two factors, because ALAN accompanied by excessive noise (either alternating or in combination) could compound the negative effects of these environmental and human disruptors.

- **<u>Alternatives and Mitigation Steps to Proposed Action</u>.** The Scoping Document does not contain any discussion of alternatives to the proposed actions, nor does it explore mitigations to impacts potentially caused by the proposal. If this review were following the process required for an EAW/EIS, alternatives and mitigations would be including, including an examination of the no-build alternative, and other reasonable alternatives as would be required (*See:* Minn. Rules 4410.2300 and Minn. Stat. 166D.04). Given the magnitude of this project and its potential environmental impacts, a consideration of alternatives and mitigations steps should be included. In addition to the no-build alternative, an evaluation of other less damaging locations should be included.

[1] ***Midway River Watershed Protection Study*** – August, 2025 – Minnesota Pollution Control Agency by Jeff Jasperson

From: Hudson Kingston
To: AUARcomments
Cc: Sarah Mooradian
Subject: CURE scoping comment - Google data center Hermantown AUAR
Date: Thursday, April 30, 2026 4:17:13 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
CURE Scoping - Hermantown second AUAR 2026.04.30.pdf
Pine EAW (Public-Final) - CURE Attachment A.pdf

Hello Director Johnson,

Please see attached for CURE's comment on the scoping of the environmental review for the proposed data center development in Hermantown. Feel free to let us know if you have any questions on this submission.

Take care,
Hudson

Hudson Kingston
Legal Director
He/Him
P.O. Box 712
Ely, MN 55731

CURE

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STAY CONNECTED

CURE
117 South First Street • Montevideo, MN 56265

April 30, 2026

Eric Johnson
Community Development Director
City of Hermantown
5105 Maple Grove Road
Hermantown, MN 55811
Submitted by email: AUARcomments@hermantownmn.com

Director Johnson:

CURE is a rurally based, non-profit organization dedicated to protecting and restoring resilient towns and landscapes by harnessing the power of the people who care about them. We appreciate the opportunity to provide the City of Hermantown ("The City" or "Hermantown") with scoping comments for the environmental review of your data center development project. We do not think that the Alternative Urban Areawide Review (AUAR) is an adequate or useful method to review a hyperscale data center, and the environmental review should be rescoped (and potentially reassigned) so that a full review of the project can be completed, consistent with state law.

I. This project must be reviewed with an Environmental Impact Statement

It is deeply concerning that Hermantown is again engaging in an AUAR process for a project that requires an Environmental Impact Statement (EIS) under state law. The Minnesota Environmental Policy Act (MEPA) requires:

> Where there is potential for significant environmental effects resulting from any major governmental action, the action must be preceded by a detailed environmental impact statement prepared by the responsible governmental unit. The environmental impact statement must be an analytical rather than an encyclopedic document that describes the proposed action in detail, analyzes its significant environmental impacts, discusses appropriate alternatives to the proposed action and their impacts, and explores methods by which adverse environmental impacts of an action could be mitigated. The environmental impact statement must also analyze those economic, employment, and sociological effects that cannot be avoided should the action be implemented. To ensure its use in the decision-making process, the environmental impact statement must be prepared as early as practical in the formulation of an action.

Minnesota Statute 116D.04, Subd. 2a. While there are implementing regulations that the city may look to and rely upon, a responsible governmental unit (RGU) cannot rewrite or ignore state statute by misinterpreting implementing regulations. It is beyond any question that the proposed project poses the "potential for significant environmental effects" and therefore Hermantown, or another more expert RGU, must prepare an adequate EIS. The statute is very clear on this point.

1. *AUAR is the wrong tool for this job*

Choosing to re-do an inadequate AUAR is not a good use of time, resources, or public trust. Either the City has unlimited public resources to spend on unnecessary processes, or it intends to limit the public's ability to engage in this process to review this project. The City should use this scoping opportunity to change its analysis to an EIS and abandon the AUAR process, which has never been sufficient for the people of Hermantown or the scope of the project proposed here.

According to the Scoping Document, this project would be 1.8 million square feet, approximately two and a half times the size of the Mandatory EIS threshold for a third-class city like Hermantown.[1] In public statements City staff have opined that the facility might not ultimately be so big[2]—that is irrelevant and unhelpful misdirection that demonstrates how the AUAR will be inadequate as proposed. If the project is planned to be of a certain size, the fact that it will more likely be smaller should be reviewed as an alternative within an EIS, not vaguely described to the media but not fully analyzed in the environmental review.

While an AUAR for a specific project can be used in lieu of an EAW or EIS in certain circumstances, an RGU can also opt for a more robust form of environmental review.[3] That is what the City must do in this instance. If Hermantown is unable to perform an EIS, it should ask for the RGU to be reassigned to a state agency with the requisite expertise.

2. *Benefits of an EIS—legitimacy and public involvement*

One of the major differences between an AUAR and an EIS is the opportunity for public comment during the process. Under Minnesota Rules 4410.3610, subpart 5(B), an RGU is only required to provide a single, 30-day comment period on the AUAR. And the chance for objections to the revised AUAR is only available to state agencies and the Metropolitan Council, not members of the public.[4] Even under the additional procedures required for specific projects, opportunities for

[1] Minn. R. 4410.4400, subp. 11.
[2] "The agreement allows for four phases, but only three will likely be built, said Chad Ronchetti, Hermantown's economic development director." Jana Hollingsworth, *Google wants millions in tax rebates for Hermantown data center*, STAR TRIBUNE, Apr. 29. 2026, https://www.startribune.com/google-wants-millions-in-tax-rebates-for-hermantown-data-center/601795922.
[3] Minn. R. 4410. 3610, supb. 2(C).
[4] Minn. R. 4410.3610, subp. 5(D).

public engagement remain slim. Only an additional scoping period—like the one currently being conducted—is required, during which members of the public have 30 days to comment.[5]

In contrast, the EIS process explicitly requires a 30-day scoping period, during which the RGU must provide the opportunity for at least one scoping meeting.[6] This is followed by the publication of a draft EIS, which must be open for public comment for not less than 25 days.[7] Again, an informational hearing on the draft EIS must be held during the comment period.[8] The RGU must also respond to all timely, substantive comments on the draft EIS in preparing the final EIS.[9] After a final EIS is published, members of the public must be given at least ten days to comment on the adequacy of the document.[10]

The comparison is stark: an AUAR requires one 30-day comment period, with no explicit consideration for meetings or hearings about the project, and no opportunity for public feedback or objection to the revised AUAR. An EIS offers at least three comment opportunities—including feedback on a draft EIS that must be addressed in the final EIS—and two public meetings about the project. This is the type of transparency and participation that your community expects and deserves.

The City can conduct an EIS for Google's proposed hyperscale data center project and give residents, stakeholders, Tribes, and state agencies the opportunity to engage in the process and learn about the project.[11] Instead, it is choosing the form of review with the fewest guaranteed opportunities for public engagement.

3. *Benefits of an EIS—a clear and fair process*

In addition to providing ample opportunities for public engagement during the process, an EIS is also preferrable to an AUAR for this type of specific, known project because of the level of detail it requires. MEPA rules establish clear content requirements for an EIS review of a defined project, including the consideration of alternatives and the environmental, economic, employment, and sociological impacts for the proposed project and each alternative.[12] Importantly, an EIS explicitly calls for the analysis of a no action alternative (and other alternatives such as the one identified by City staff to the media).[13]

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[5] Minn. R. 4410.3610, subp. 5a.
[6] Minn. R. 4410.2100, subps. 3, 5.
[7] Minn. R. 4410.2600, subps. 2, 8, 9.
[8] Minn. R. 4410.2600, subp. 8.
[9] Minn. R. 4410.2600, subp. 10; Minn. R. 4410.2700, subp. 1.
[10] Minn. R. 4410.2700, subp. 6; Minn. R. 2800, subp. 2.
[11] Minn. R. 4410.3610, subp. 2(C).
[12] Minn. R. 4410.2300 (G), (H).
[13] Jana Hollingsworth, *supra* note 2.

An AUAR, however, must only be "similar" in "content and form" to an EAW and "must provide for a level of analysis comparable to that of an EIS for direct, indirect, and cumulative potential effects typical of urban residential, commercial, warehousing, and light industrial development." There is no explicit requirement that the AUAR consider a no action alternative or robust alternatives to a particular applicant's project. Fundamentally, an AUAR is for site preparation associated with a zoning action, while an EIS is for a defined project such as a data center.

The broad instruction that an AUAR must be "comparable" to an EIS in its level of analysis invites inconsistent implementation of the law, and risks omitting key information about the project. This in turn means that the public, and even the City, may not have all the necessary facts. Being blind to key facts risks opening the City up to future legal challenges and errors in permitting. And, as described above, even if the AUAR contained the exact same analysis as an EIS, the process would still lack the opportunities for public engagement with and comment on those facts. Hermantown and its residents deserve to have all the information and opportunity to review that is guaranteed in the law.

There is a second problem with these vague instructions—even if Hermantown wanted to use the AUAR tool it cannot be used for a uniquely impactful project that is not already common in Minnesota. Minnesota has one hyperscale datacenter currently under construction, and none in operation. There is nothing "typical" about hyperscale data center development. Nor is this kind of development similar to other kinds of commercial, warehousing, or "light industrial development."[14] Hyperscale data centers house computing equipment that might be used for anything from surveillance, to cryptocurrency mining, to AI training, to cloud storage and must be kept operational, if not operating, 24/7 to serve these purposes.

These are not commercial businesses or warehouses. A hyperscale data center is not a doggie daycare or an apartment building. Members of the public do not go to a data center to receive goods or services. And any kind of public facing "service" a data center might conduct may not even be used by the host community.[15] The computing and data storage that occurs requires significant amounts of energy and often protection by security personnel, who may or may not be armed. And while the lack of on-site employees or manufacturing activity might appear to qualify a hyperscale data center under the definition "light industrial," the law does not allow RGUs to fit elephants in mouseholes. Far from being a light industrial small business, data centers will often look much more like fortified prisons or military bases than they do warehouses or low-impact commercial development.

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[14] Nor is it "urban residential" development, and such development would not be "typical" in rural Hermantown.

[15] For example, data centers that control drones and other weapons of war on the other side of the globe may be located in Minnesota communities and implicate host communities as military targets but provide them with no useful consumer services. Additionally, many surveillance technologies do not benefit any American but will be housed in data centers by the companies hoping to surveil Minnesotans on behalf of parasitic businesses and bad actors.

In short, the EIS is designed for the kind of careful, site-specific review that is required and necessary for this proposed project, the first of its kind for the City of Hermantown.

4. *A Google data center has previously undergone an EAW, the precursor document to an EIS*

In 2019, Kutak Rock, LLC prepared and submitted an Environmental Assessment Worksheet (EAW) to the City of Becker for a proposed data center. That project, later revealed to be proposed for end-use by Google,[16] was for a 375,000 square foot data center, using up to 30 million gallons of water a month, and at least 300 MW of energy.[17] At that time, the City of Becker and the project proposer correctly determined that this project was subject to a mandatory EAW under Minnesota Rules 4410.4300, subpart 14(A)(2).[18]

This prior Google EAW (attached to this comment as Attachment A) affirms that AUAR review is inappropriate here. As Google apparently knew when it had plans in Becker, a project of the size proposed for Hermantown presents the potential for significant environmental impacts and is large enough to trigger a mandatory EAW and EIS.[19] Hiding within a poorly applied definition that is contrary to the MEPA statute is not a recipe for adequate environmental review.

Yet now, the applicant or the City of Hermantown would appear to want to avoid the same level of analysis afforded by the EAW/EIS procedure. Surely the residents of Hermantown, facing a project nearly five times the size of Google's proposal in Becker, deserve at least as robust a form of environmental review as was sought in that instance.

5. *Reassignment of RGU in order to complete EIS*

Hermantown has never seen a project as large as what is proposed here, at least not in living memory and since MEPA has been in force. This project implicates Tribes' interest and will harm

[16] Heidi Wigdahl, *Mayor: Google data center would put 'Becker on the map'*, KARE11, Jan. 14, 2019, https://www.kare11.com/article/news/mayor-google-data-center-would-put-becker-on-the-map/89-ac9595c8-f057-4c90-abf8-23bfe859bff9.

[17] Environmental Assessment Worksheet, *Becker Data Center Project*, at 2, 20 [hereinafter Becker EAW]; Xcel Energy, *Petition Contracts for Provision of Electric Service to Google's Minnesota Data Center Project*, Docket No. 19-39, at 5 ("This includes, for example, the 300 MW of wind PPAs the Company intends to procure on behalf of the data center."). *See also* Minnesota Public Utilities Commission, *Order Approving Petition with Conditions*, at 6 ("Likewise, the plan contemplates that Google's needs may occasionally exceed the amount of new clean energy that Xcel has acquired under the plan.").

[18] Becker EAW, at 1.

[19] It is a common practice to prepare an EAW to scope the size of an EIS. Since the City should re-start this environmental review with the correct process it may want to engage in a scoping EAW to assure it does not fail to identify potential significant impacts.

treaty-protected resources within the 1854 Treaty of LaPointe's covered territory.[20] As such, whoever conducts this environmental review on behalf of the United States must comply with the U.S. Constitution and the treaties entered into thereunder. Hermantown will have to engage in formal government-to-government consultation with three impacted tribal nations who are parties to the treaty.

Studies show that climate change (both warming and changes in precipitation) is already harming tribal off-reservation treaty-protected resources like wild rice.[21] This project purports to make such impacts worse if it is not correctly assessed and mitigated.[22] The only way to address this risk is by working together with tribal governments, which duty falls to whoever prepares the environmental review for this project.

To the extent that Hermantown lacks the staff and capacity to engage in government-to-government consultation (which cannot be conducted by a contractor hired by the applicant or the City), it should not embark on this environmental review implicating treaty-protected resources. Instead, it should request that the RGU assignment be passed from the City to the Minnesota Pollution Control Agency (MPCA). MPCA has expertise in environmental review and has been consulting with Minnesota Tribal Nations regarding pollution issues for some time. No city has the level of expertise that MPCA has accumulated in this area, and Hermantown should rely on its state agency for assistance if it is not able to fulfill the requirements of law that go with environmental review of this project.

II. Scope of review

Choosing to address a broad range of environmental impacts is not only appropriate for such a large and consequential project, it will also help the community to better understand and accept whatever governmental action is approved. Research shows that people are particularly harmed

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[20] *See* Minnesota Department of Natural Resources, 1854 Treaty, https://www.dnr.state.mn.us/aboutdnr/laws_treaties/1854/index.html (last visited April 30, 2026) (giving the treaty language, legal history, and treaty map, in addition to referring to the 1854 Treaty Authority website). There is no question that the planned development will pave over wetland habitat that is within the treaty territory, and it seems that this will have a foreseeable impact on Brook Trout and other biological resources, as well as groundwater resources.

[21] Nyblade, M., Larkin, D.J., Vogt, D. *et al.*, *Climate change contributes to the decline in off-reservation tribal harvest availability in the Great Lakes region*, Commun Earth Environ 6, 288 (2025). https://doi.org/10.1038/s43247-025-02233-0.

[22] According to an industry map of all existing and proposed data centers Hermantown has a 91.6 rating for FEMA climate risk, which is higher than other Minnesota communities such as Becker, where Google had previously proposed its earlier project. *See* US Data Center Market Map, ~4,600 facilities tracked, Data updated Feb 2026, https://dcmap.us/ (click on gray dot placed on Hermantown, compare with other Minnesota communities).

by disorienting "technological disasters" where they are kept out of the loop on decisions that impact them.[23] Failing to include your citizens in this process, provide them with meaningful information regarding their key concerns, and allow them meaningful input will result in greater harm to social order, and is better avoided by a full and adequate EIS process.

But regardless of the form of environmental review the City chooses to conduct for the proposed project, the following issues must be included in, and adequately analyzed, in that review.

1. *Energy use*

The Becker EAW demonstrates how meaningless an environmental review can be if it omits or obscures the largest impacts of a project. That EAW did not explicitly state that the facility would consume 300 MW—that information was provided later, by Xcel Energy, to the Public Utilities Commission in a docket concerning the utility's proposed Electric Service Agreement with Google.[24] As such, that EAW fails to give information about the potential energy use of the facility, as well as the capacity factor of the facility (i.e. whether it is expected to consume 100 percent of its energy load all of the time, most of the time, or just some of the time).

A full and accurate EIS would determine not only the highest demand that this facility will require but would discuss the different energy needs based on what the facility is being used for. Storing map data for Google Maps or emails for Gmail will undoubtedly use electricity differently than training AI models or mining cryptocurrencies. To the extent that Google can or cannot shift computing to or from the facility in order to manage energy demands, this should also be discussed in the environmental review.

The City should not repeat this mistake in the prior EAW for this proposed project and must include the estimated energy use and capacity factor of the facility. Omitting that information means that some of the important data available for analyzing the impacts of energy use in Hermantown and the regional/climate impacts of connecting this project to the Minnesota Power electric system will remain unknown to those most impacted—Hermantown residents and all Minnesota Power ratepayers.

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[23] William R. Freudenburg et al., *Contamination, Corrosion and the Social Order: An Overview*, JOURNAL OF THE INTERNATIONAL SOCIOLOGICAL ASSOCIATION, July 1997, https://doi.org/10.1177/001139297045003002.

[24] It is worth noting that Minnesota Power does not appear to have made the same kinds of public disclosures in its petition for an ESA on this project, which it recently filed with the PUC. Minnesota Power, *Petition for Approval of an Electric Service Agreement Between Google and Minnesota Power*, Docket No. 26-159, Mar. 26, 2026, https://efiling.web.commerce.state.mn.us/documents/%7B806E309D-0000-C91E-8D8A-A932702A2D19%7D/download?contentSequence=0&rowIndex=5.

Of particular importance are the type, size, and quantity of backup generators the proposed project is seeking to build. The Scoping Document confirms that the proposers anticipate locating backup generators on site, but that "the type, number, capacity, location, operating profile, and fuel storage volumes for any backup generation are not final and may vary." This level of vagueness is unacceptable for the residents of Hermantown and must be rectified in subsequent environmental review. It is not enough for the environmental review to simply "describe backup power concepts to the extent reasonable available." This is a specific project, with a specific end-user in mind, with specific "Trade Secret" estimates of its electricity demand.[25]

Assuming that the backup generators will operate on diesel fuel—which again, is not specified in the Scoping Document and must be clarified—it is essential that the public be made aware of the real, local impacts to air quality and quietude they present.

Data centers typically rely on diesel backup generators because of their prevalence, ease to procure and install, and reliability.[26] A single hyperscale data center can have hundreds of diesel generators, often with a combined capacity greater than the facility's maximum power demand.[27] Despite commonly being referred to as "emergency" backup generators, data centers can and have used these generators for more than just instances of extended grid blackouts.[28]

Diesel generators can have significant impacts on local communities because of the air pollutants they emit, including particulate matter ($PM_{2.5}$ and PM_{10}), nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), and volatile organic compounds (VOCs). Exhaust from diesel engines harms human health and can increase the risk of lung cancer, cardiovascular disease, and even premature mortality.[29] Diesel generators can also contribute to noise pollution, producing sound levels between 80 and 100 decibels (dBA). Prolonged exposure to sounds above 85 dBA can lead to hearing loss.[30]

In addition to analyzing the potential impacts of diesel backup generators on human health and the environment, environmental review for this project should also analyze mitigation measures that could be implemented, if diesel generators are used. For example, diesel generators at data centers are typically either a Tier 2 or Tier 4 type, with the latter providing greater emissions

[25] *Id.* at 23-24.
[26] Catherine Casomar & John Bangsund, *Diesel Generators at Data Centers: Status, Impacts, and Protective Practices*, Better Data Center Project, Mar. 2026, at 5-6, https://betterdatacenterproject.com/wp-content/uploads/2026/03/Diesel-Generators-at-Data-Centers-Status-Impacts-and-Protective-Practices.pdf.
[27] *Id.* at 6-7.
[28] *Id.* at 9-13.
[29] *Id.* at 17.
[30] Centers for Disease Control and Prevention, *Noise-Induced Hearing Loss*, Jan. 30, 2024, https://www.cdc.gov/niosh/noise/about/noise.html.

reductions of NO_x, PM, and CO.[31] A reasonable mitigation measure might be to require the proposed project to use only Tier 4 generators. Another mitigation measure might be to require the proposed project to be located further from homes or other sensitive populations, and to implement certain site design or sound barriers to limit potential noise impacts.

Any environmental review of the proposed project must also analyze the alternative option that any backup power is provided by battery storage (with or without renewable clean energy generation), and not fuel-burning generators. Clearly, the end-user believes that significant battery generation is a viable technology for this kind of backup power. The company's press release about its other proposed data center project in Pine Island states that its agreement with Xcel Energy for service will include "300 MW of iron-air battery storage from Form Energy to Xcel's grid."[32] Why the same battery storage is not part of the discussion for Hermantown is something only Google knows at this point, but something that it could address publicly. But regardless of press releases, the environmental review for this proposed project must include an analysis of using battery storage as an alternative to diesel backup generators.

Some of the additional questions the environmental review for this project should address are: will the energy use associated with this facility lead to increased use of Minnesota Power generation facilities, such as the high-polluting Hibbard plant in west Duluth or the Boswell coal plant in Cohasset? Will its energy use lead to the building and use of gas plants proposed in Minnesota Power's Integrated Resource Plan? Will the project become a direct customer of the Nemadji Trail Energy Center gas plant, which Minnesota Power has said it will not receive energy from but has not formally cancelled?

Hermantown must analyze the potential energy usage and scope two environmental impacts that this project may cause due to large amounts of electrical needs using the Minnesota Power grid. As stated above, the kind of data stored and processed will lead to different uses of energy resources on the grid, and in order to accurately gauge scope two emissions and impacts there must be a discussion of the use of the facility and how it enhances or mitigates impacts.

2. *Water use*

Water continues to be a point of great concern for Minnesota residents across the state facing similar hyperscale data center development. Although much of the state is fortunate to have adequate water resources for existing industries and people, with the changing climate, this will not continue to be true. In some instances, we are already seeing significant changes in water

[31] Catherine Casomar & John Bangsund, *supra* note 26, at 7.
[32] Google, *Google is Coming to Minnesota and Advancing Clean Energy Goals*, Feb. 24, 2025, https://blog.google/innovation-and-ai/infrastructure-and-cloud/global-network/data-center-pine-island/. Interestingly, the press release does not state whether the 300 MW of battery storage would be located at the Pine Island facility for the purpose of backup generation, or if it would exist elsewhere on Xcel's grid, not for the purposes of use at the data center.

availability. Additionally, water is a resource that flows across and between human-made boundaries like counties and cities. To understand the full potential impacts of a project on our collective water resources, we need accurate estimates of the project's water use.

Concerningly, in other jurisdictions, Google has not been forthcoming about the actual water use of data center projects it is proposing. Virginia public officials attempted to keep Google's water usage data secret until they were faced with being held in contempt of the state's open records laws.[33] In that case the secret water use was 2 to 8 million gallons of water a day.[34] The public has a right to know this information, and an adequate environmental review is not possible if the projected water usage of this project is concealed or inaccurately stated.

Importantly, and differently from what Hermantown has assumed, the Becker EAW reveals that water usage for a Google facility of this approximate size could be much larger than 50,000 gallons per day. In that assessment, attached, the smaller facility was estimated to use 30 million gallons per month, or approximately a million gallons per day. This is much more than the current estimate in Hermantown, and this difference should be explained in a way that allays valid concerns about overuse of a limited resource.

3. *Fish, wildlife, and sensitive ecological resources*

An environmental review of the proposed project must include a careful analysis of the potential impacts on fish populations, including Brook Trout, Minnesota's only native stream trout. As identified in a recent MPCA study, the proposed project "sits adjacent to two of the highest quality trout streams in the Midway River Watershed."[35] These streams are particularly trout-friendly because they are fed by groundwater streams that keep the water temperature within an ideal range for the fish.[36]

Any development in the area could affect the health of these important streams. Because the proposed project will be using mechanical cooling it will likely have a huge amount of ambient heat, creating a heat island effect in outdoor air rather than directly in discharged water. Like any air conditioning unit, the cooling system will discharge hot air outside to provide cooler air inside

[33] *Water Authority Releases Google Data Center Records Ahead of Scheduled Contempt Hearing*, The Roanoke Rambler, Feb. 24, 2026, https://www.roanokerambler.com/water-authority-releases-google-data-center-records-ahead-scheduled-contempt-hearing/.
[34] *Id.*
[35] Minnesota Pollution Control Agency, *Midway River Watershed Protection Study*, Aug. 2025, at 13, https://www.pca.state.mn.us/sites/default/files/wq-ws4-104p.pdf.
[36] Jana Hollingswirth, *State Study Warns that Placement of Duluth-Area Data Center Could Harm Native Brook Trout*, STAR TRIBUNE, Apr. 3, 2026, https://www.startribune.com/state-study-warns-that-placement-of-duluth-area-data-center-could-harm-native-brook-trout/601595649.

of the building with the hot servers. The exact design and use of such systems[37] will determine the potential for significant environmental impacts, including potential harm or extirpation of Brook Trout due to heat pollution.

A preprint research article[38] using satellite data of ground temperatures estimates that AI data centers can raise these surface temperatures by 3.6 degrees Fahrenheit on average, with some areas heating by as much as 16 degrees Fahrenheit.[39] Reports summarized:

> According to the study:
> 1. Temperature increases can extend up to about 6 miles from a facility.
> 2. The effect appears quickly, often coinciding with the start of operations.
> 3. The trend is not limited to one region or climate. Researchers identified similar patterns across multiple parts of the world.[40]

Warming of this level could have a particularly large impact in an area like the southwestern corner of Hermantown, which is currently a rural land use type without the paved surfaces and buildings that normally would create an "urban heat island" effect. So, it's possible, based on this new research, that this is a particularly sensitive area for the local microclimate impacts of data center heating.

Will an increase of 3.6, or even 16, degrees surface temperatures have impacts on public health, Brook Trout habitat, avian habitat, or other uses of nearby private lands, such as farming? Will such temperature impacts occur in the heat of summer, the coldest of winter months, or throughout the year? Hermantown must assess how this kind of ambient heat pollution could impact the environment and species in the area of the project as a part of its EIS. As one of MPCA's

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[37] For analysis of this issue *see, e.g.*, Zhang, J., R. Mao, C. Li, J. Lan, X. Yi, and Z. Zhang, *Optimization Air-Conditioning System and Thermal Management of Data Center via Fan-Wall Free Cooling Technology*, Applied Thermal Engineering 234 (November):121245. doi.org/10.1016/j.applthermaleng.2023.121245 (2023).

[38] Marinoni, Andrea, et al., *The data heat island effect: quantifying the impact of AI data centers in a warming world*, 10.48550/arXiv.2603.20897, https://www.researchgate.net/publication/403073048 (2026). This article has yet to be peer reviewed because of its very recent publication as a preprint article. Its twelve named authors are affiliated with Cambridge University and a variety of reputable international academic institutions.

[39] Jenn Jordan, *Are AI Data Centers Quietly Raising Local Temperatures?*, THE WEATHER CHANNEL, April 14, 2026, https://weather.com/news/climate/news/2026-04-14-artificial-intelligence-heat-island-warming ("Using two decades of satellite-based land surface temperature data collected by NASA, researchers analyzed more than 8,000 data center locations worldwide. By comparing temperatures before and after these facilities began operating, they identified a clear and consistent rise in local temperatures.").

[40] *Id.*

watershed ecologists, and the author of the above-cited report, put it succinctly: "I think you can certainly think of a better place to put [a data center] within the watershed in terms of reducing impact."[41]

The proposed project is also situated between four Important Bird Areas: Sax-Zim Bog to the northwest; the South-Central Northshore and Hawk Ridge Nature Reserve to the northeast; and the St. Louis River Estuary to the southeast.[42] Sax-Zim Bog provides critical nesting habitat for several bird species, including Great Gray Owls, Sharp-tailed Grouse, and Yellow Rail (a species of state special concern). Hawk Ridge Nature Reserve is "the most significant raptor migration site in Minnesota, and one of the premier sites in North America." The St. Louis River Estuary, just five miles from the proposed project, is particularly important because it "represents a contiguous migratory pathway at the extreme western end of Lake Superior. Because migratory birds tend not to cross large bodies of water, like Lake Superior, both spring and fall migratory birds are funneled into the estuary." The Estuary is also notable for its "Exceptional diversity of bird species - The total number of species that regularly use the IBA is 238. This is 76% of the 314 species that are found somewhere in Minnesota every year."

Light pollution is known to negatively impact migratory birds.[43] Hyperscale data centers typically require external lights during nighttime hours. The proposed project is also likely to result in a reduction in the amount of landcover—grasslands, woodlands, and wetlands—that birds and other organisms rely on. Given the proximity of the proposed project to a major, important flyway for migratory birds, environmental review must adequately analyze the potentially significant impacts on birds found in this region, not merely one mile from the project.[44]

4. *No Action Alternative*

As explained above, an EIS is the correct tool for analyzing the potential impacts of this proposed project, given the novelty of this kind of development, the size of the proposed project, and its location. An EIS explicitly requires the consideration of a no action alternative. Therefore, to comply with MEPA, the environmental review of the proposed project must include the consideration of a no action alternative.

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[41] Jana Hollingswirth, *supra* note 36.
[42] *Important Bird Areas*, National Audubon Society, Map, https://gis.audubon.org/portal/apps/sites/?_gl=1*14k47au*_gcl_au*MTYxNzQ2NzY5My4xNzc3NDg2Mzk4*_ga*NDE1Nzc2ODEzLjE3NzcoODYzOTg.*_ga_X2XNL2MWTT*czE3NzcoODYzOTckbzEkZzAkdDE3NzcoODYzOTckajYwJGwwJGgw#/nas-hub-site (last visited April 30, 2026).
[43] *See, e.g.*, U.S. Fish and Wildlife Service, *Threats to Birds: Collisions (Nighttime Lighting)*, https://www.fws.gov/story/threats-birds-collisions-nighttime-lighting.
[44] *Updated Hermantown Industrial AUAR: Scoping Document*, Mar. 2026, at 41 ("Kimley-Horn reviewed the Natural Heritage Information System (NHIS) data per license agreement LA-2024-006 for state listed species within one mile of the project Study Area.").

III. Conclusion

For the foregoing reasons, CURE requests that Hermantown either conduct an EIS for this project or request reassignment of the RGU so that a state agency like MPCA can conduct an adequate EIS. The do-over of an inadequate AUAR strongly suggests that the City has taken on more than it can deliver in this process, at the scoping phase it is entirely reasonable to reassess a mistake and correct the planned environmental review so that it doesn't violate state law. Continuing down the wrong path will slow the overall process, waste public resources, and may lead to needless legal costs imposed on the City, which can easily be avoided by following the MEPA statute and doing a sufficient environmental review for the City's largest and most impactful development, ever.

When environmental impacts are honestly identified and analyzed they can be mitigated and projects can proceed. But engaging in a process that never identifies impacts in the first place is a misuse of the public's trust and a violation of the state's law.

Sincerely,

/s/ Hudson Kingston
Hudson B. Kingston
Legal Director
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Environmental Assessment Worksheet

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:

http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.
Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.
Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project title: Becker Data Center Project

2. Proposer: Kutak Rock LLP
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3. RGU: City of Becker
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4. Reason for EAW Preparation: (check one)

Required:	Discretionary:
☐ EIS Scoping	☐ Citizen petition
X Mandatory EAW	☐ RGU discretion
	☐ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

Minnesota Rules Chapter 4410.4300 subp.14.A(2).

5. Project Location:
County: Sherburne County
City/Township: Becker, MN
PLS Location (¼, ¼, Section, Township, Range):

Table 1. Project Legal Description

Quadrant	Section	Township	Range
NENW	2	33N	29W
NWNW, NENW, SWNW, SENW, NWSW, NESW, SWSW, SESW	35	34N	29W

Watershed (81 major watershed scale): Mississippi River - St. Cloud
GPS Coordinates: -93.916972, 45.393251
Tax Parcel Number: 05-335-2100, 05-335-2301, 05-335-3200, 05-335-3105, 05-335-3100, 05-335-3205, 05-335-3400, 05-202-1201

At a minimum attach each of the following to the EAW (see Figures at end of report):
- County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

6. Project Description:
a. Project Summary:

The Becker Data Center Project (Project) is a proposed approximately 375,000-square-foot light industrial data center facility that is planned in the City of Becker, Sherburne County, Minnesota. The site is located on surplus buffer land for the existing Xcel Energy (Xcel) Sherco power plant. The property is currently used for agricultural purposes and comprises approximately 315 acres which is available to be developed as one contiguous plot. The site is proposed to include a main facility, substation to support operations, and parking/site access features.

b. Complete Project Description:

Project Location and Existing Conditions

The proposed Project is located in the City of Becker, Sherburne County, Minnesota. The Project Area consists of approximately 315 acres presently used as agricultural land. It is located approximately one mile west of US Trunk Highway (TH) 10. The Project Area is bound by River

Road SE to the north, Xcel property (ash landfill) to the east, and 115th Avenue (also known as County Road 53) to the south and west. The Project Area is generally flat with a downward gradient to the south toward the Mississippi River. There is a steep elevation drop (approximately 40 to 45 feet) to the river which is located approximately 120 feet (on the southeastern corner) to 700 feet (on the southwest corner) from the Project Area's southern boundary.

The Project Area is currently leased for agriculture production, the main crops consisting of corn and soybeans. There are a few windrows within the Project Area and an east/west field access road bisects the site. There is one large center pivot irrigation arm located on the northern side of the Project Area and several smaller irrigation arms on the southern side of the Project Area. An Xcel 115-kilovolt (kV) transmission line, oriented northwest-southeast, runs diagonally through the Project Area. An Xcel stormwater retention pond is located approximately 2,000 feet from the southeastern Project Area boundary and the Xcel Sherco substation is located approximately one mile from the southeastern corner of the property boundary. There are no existing buildings within the Project Area.

Project figures are located at the end of this document:

- Figure 1: Project Location – County Level
- Figure 2: Project Location – U.S. Geological Survey (USGS) 7.5 minute Topographic
- Figure 3: Site Plan
- Figure 4: Project Overview
- Figure 5: Land Cover
- Figure 6: Surficial Geology
- Figure 7: Bedrock Geology
- Figure 8: Depth to Bedrock
- Figure 9: Soils
- Figure 10: Natural Resources

Proposed Improvements

The Project will include a two-story building of approximately 375,000 square feet and a total height of approximately 85 feet (the roof line of the building will be approximately 65 feet high and the maximum height will be approximately 85 feet to accommodate the elevator penthouses). The existing Xcel 115 kV transmission line will be relocated to the perimeter of the Project Area. Generators will be installed at the site to ensure facility operations are uninterrupted during outages or routine maintenance events. Approximately 4 to 5 miles of underground piping is anticipated to provide utilities to and through the Project Area.

Drainage

The existing topography of the site is generally flat which will require building pads to be elevated to allow proper drainage away from structures towards the stormwater facilities. The 0.33 percent grading of the site will allow stormwater to drain to the south through underground piping and to be routed to a stormwater basin with an outfall point that drains into the Mississippi River. Further details on stormwater can be found in Question 11.b.ii.

Air Emission Units

To ensure that the facility can operate in the event of a disruption in the supply of grid electricity, a number of diesel emergency generators will be installed. Each of the engines will be operated periodically throughout the year for maintenance and readiness testing on a staggered basis. All of the engines will be operated only in the event of a disruption of electrical grid supply. Based on this operation, the engines meet both the MPCA's and EPA's definition of emergency use engines.

Final design has not yet been completed and so the final number and size of the engines in not known at this time. Subject to final design, the number and size of the engines will be included in the air quality permit application to be submitted to the MPCA and as necessary to construct and operate the engines.

Construction

Construction and operation methods that will cause or involve physical manipulation of the environment for the Project are expected to include:

- Grading and paving for main site access and emergency/construction entry
- Grading and paving of parking lot
- Grading for building pads
- Grading for stormwater drainage
- Stormwater piping and treatment pond excavation
- Excavation for a natural gas line extension
- Construction of data center and associated supporting mechanical equipment
- City water and sanitary sewer construction
- Construction of substation and 115 kV feeder lines from substation
- Underground duct banks from substation to the data center
- Construction associated with the relocation of Xcel Energy's existing 115 kV transmission line
- Temporary and permanent erosion control and turf establishment

c. Project magnitude:

Table 2. Project Magnitude

Total Project Acreage	315 acres
Linear project length	~1 mile (transmission line relocation)
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	~375,000 square feet
Institutional building area (in square feet)	N/A
Stormwater Basin (in acres)	~4 acres
Structure height(s)	~65 feet (maximum of 85 feet)

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The Project will involve the construction of a single 375,000-square-foot data center facility. A data center is a centralized location where computing and networking equipment is concentrated for the purpose of collecting, storing, processing, distributing, or allowing access to large amounts of data. Data centers can store and index web sites, run e-mail and instant messaging services, provide cloud storage and applications, and enable a host of other capabilities. To provide these services, data centers are equipped with a large number of computer servers that operate 24 hours per day, seven days per week. Each server is a high-performance computer, with memory, storage space, a processor or processors and input/output capability, and often stacked in racks placed in rows within a large warehouse-sized building. To allow the servers to connect with the outside world and to communicate with each other, data centers are also equipped with networking and communication equipment. The data center will require that employees oversee and monitor servers and networking devices, and manage the facility's power, cooling, and other needs.

e. Are future stages of this development including development on any other property planned or likely to happen? □ Yes X No
If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

Although the size of the parcel is large enough for future data centers and related facilities, none are currently planned or expected.

f. Is this project a subsequent stage of an earlier project? □ Yes X No
If yes, briefly describe the past development, timeline and any past environmental review.

7. Cover types: Estimate the acreage of the site with each of the following cover types before and after development:

Table 3. Cover Types

	Before	After		Before	After
Cultivated Crops	256	142	Emergent Herbaceous Wetlands*	0	0
Deciduous Forest	7	7	Shrub/Scrub	2	2
Developed, Low Intensity	1	1	Impervious Surface	0	32
Developed, Open Space	10	88	Stormwater Pond	0	4
Wild and Scenic Area	39	39	**Total**	**315**	**315**

*Cover Types were obtained through the 2011 National Land Cover Dataset. The NLCD identifies wetland plants on site, but field verification completed by Jacobs Engineering determined no wetlands are present.

8. Permits and approvals required: List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. ***All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.***

Table 4. Summary of Local, State, and Federal Permits Required for the Project

Agency	Permit	Permit/ Approval Description
FEDERAL		
United States Fish and Wildlife Service (USFWS)	Threatened and Endangered Species Consultation	Need to conduct species analysis. Will be completed during subsequent project phases.
Environmental Protection Agency (EPA)	Fuel Oil Storage >1,120 gals	Prepare Spill Prevention, Control, and Countermeasure (SPCC) Plan
STATE		
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System (NPDES) General Stormwater Permit for Construction Activity	State permit to provide stormwater requirements.
Minnesota Pollution Control Agency (MPCA)	State Air Permit	Upon the completion of final design, an application for a State level air permit (i.e., either a Registration D or Individual Total Facility) will be prepared and submitted to the MPCA.
Minnesota Pollution Control Agency (MPCA)	Sanitary Sewer Extension Permit	Permit needed to extend sanitary sewer to the facility
Minnesota Department of Transportation (MnDOT)	Right of Way Construction Permit	As needed for construction
Minnesota Department of Transportation (MnDOT)	Overweight or Oversize Permits	As needed for construction
Minnesota Department of Health (MDH)	Well and Boring Sealing Record	Needed for well abandonment
Minnesota Department of Labor and Industry	Plumbing Plan Review Permit	Needed for installation of new plumbing systems that serve a considerable number of people

LOCAL		
City of Becker	Tax Abatement Assistance	The City approved applicant's request for property tax abatement on April 2, 2019.
City of Becker	Right of Way Excavation/Obstruction Permit	A Right of Way Excavation Permit is needed for work completed on the City right of way
City of Becker	Building Permit	Building permit is needed for construction work done within the City limits
City of Becker	Pretreatment Agreement	A Pretreatment Agreement may be needed with the City of Becker to discharge domestic wastewater to the City's wastewater treatment facility
City of Becker	Preliminary Layout Approval	Approval of site layout and verification in meeting applicable City codes
City of Becker	Soil Erosion and Sediment Control Permit	Permit to define stormwater requirements
Sherburne County	Tax Abatement Assistance	Sherburne County approved applicant's request for property tax abatement on March 26, 2019.
Sherburne County	Mississippi and Rum Scenic and Recreational River Ordinance	Proposed plan shows no activity within the Recreational River Management Zone. Review with County through EAW process. Permit most likely not needed.
Sherburne County	Stormwater and Erosion Control Permit	County permit to define stormwater requirements
Xcel	Pretreatment Agreement	A Pretreatment Agreement may be needed with Xcel to discharge industrial wastewater to Xcel's wastewater treatment facility.

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land use:

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmland

The current land use in the Project Area is primarily row crops. The land is being leased for soybean and corn production. Spray irrigation equipment is on site to support crop growth. There is an existing Xcel Energy 115kV transmission line which transects the Project Area. A summary of land uses and their approximate location are as follows:

Proposed Project Site

The Project Area is within the City of Becker. The land cover in the Project Area consists of cultivated crops, hay/pasture, roads, and pockets of evergreen and deciduous forest. City of Becker recently annexed the Project Area as part of an orderly annexation agreement with the adjacent township. Xcel Energy's ash landfill is adjacent to the eastern site boundary and an Xcel Energy 115 kV transmission line runs diagonally through the Project Area in a northwest to southeast direction. It would be necessary to relocate this 115 kV transmission line. Xcel Energy has confirmed that it will be the responsible party to undertake any necessary permitting and all relocation activities.

Prime or Unique Farm Lands

There are no prime or unique farm lands in the Project Area.

Parks and Recreational Areas

Snuffy's Landing, a public facility with access to the Mississippi River off of 115th Avenue SE, shares a southern border with the Project Area. A small public access road separates the river access from the Project Area. Activities at this site include boat launching, water access, fishing, restrooms, hiking/cross country skiing trails, a gravel parking area, and picnic tables. Snuffy's Landing access is mapped at river mile 905. This recreational area is 30 acres in size and approximately 300 feet from the southern boundary of the Project Area. There will be no direct construction impacts to Snuffy's Landing. Road work on 115th Avenue (CR 53) associated with project construction, however, may cause temporary indirect impacts to access to the landing.

In addition, this river segment is within Sherburne County's Recreational River Management zone and this stretch of the Mississippi River is designated by the Minnesota Department of Natural Resources (MnDNR) as a Wild and Scenic River (WSR). MnDNR requires that local governments (i.e., the County) adopt ordinances of allowed uses along state designated WSRs. The County has implemented the Mississippi River Scenic and Recreational River ordinance which includes provisions on allowed uses. The Project will not affect the river or the allowed uses.

Trails

- The Mississippi River is considered a water trail and this stretch is mapped and managed especially for canoeing, kayaking, boating and camping.
- The small gravel trail from 115th Avenue SE runs south to the Mississippi River and includes a small parking area and picnic tables. This trail is also used as a hiking/cross country skiing trail and extends to the east from this parking area through a forested corridor along the river.
- An expansion of the Sherburne County Trail system is proposed within the corridor between 115th Avenue SE and the Mississippi River.

ii. Planned Land Use as Identified in Comprehensive Plan

Continued residential growth outside of the City of Becker's current city limits is based on the ability for the City to annex land from Becker Township for development as guided by the Land Use Plan. Based on residential categories identified in the Land Use Plan, assumptions about land dedications, undeveloped areas and housing densities, the City of Becker can accommodate approximately 7,580 housing units total.

The Comprehensive Plan for the City of Becker lists the existing land use of the northern two-thirds of the Project Area as industrial reserve, which are areas currently in agricultural use that provide expansion opportunities for industrial development, employment and power generation uses as utility and road infrastructure become available. Future land use surrounding the Project Area is designated as heavy industrial and Wild and Scenic Recreational River (WSRR) Open Space. The heavy industrial areas are considered appropriate for power generation associated with Xcel's Sherco coal plant which is located within one mile of the site and other industrial or heavy use activities.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Presently, the majority of the Project Area is zoned Agricultural with a small section (39 acres) of the southern portion zoned as Recreational. A portion of the southern Project Area falls within the State WSR District, however only approved development will be carried out in the WSR overlay areas. The City of Becker recently annexed the Project Area into the City, so the existing Becker Township zoning is being transitioned to the City.

Floodplain

Impacts to floodplains are protected through Executive Orders 11988 and 13690, State law, local ordinances and watershed district rules. Regulatory maps were reviewed to identify floodplain areas. Since the Project Area is in proximity to the Mississippi River, a review of the FEMA National Flood Insurance map was completed. The map indicates that the Project

Area is not within a designated Special Flood Hazard Area, which is subject to flooding from a 100-year rain event.

Shoreland Zones

Shoreland zones are defined in Minnesota Rules 6120.2500 – 3900 as areas within 1,000 feet of the Ordinary High Water Mark of a lake or within 300 feet of a stream. A portion of the southern boundary of the Project Area is within 300 foot of the Mississippi River and may be considered shoreline and subject to applicable ordinances. The Project will conform to applicable standards of the shoreland zoning requirements.

MnDNR Wild and Scenic Rivers

The Mississippi River is in proximity to the southern boundary of the Project Area and the adjacent stretch is designated by MnDNR as a WSR. Local governments are required to adopt ordinances under state rule which describe allowed uses along MnDNR WSRs. Sherburne County, as the local government, incorporated Section 15 - Mississippi and Rum Scenic and Recreational River Ordinance under the Sherburne County Zoning Ordinance.[1]

Wild and Scenic Overlay Districts

Two parcels in the southern portion of the Project Area are designated as Recreational under the State of Minnesota's Wild and Scenic Overlay District. This designation is part of the zoning required by Minnesota Rules Chapter 6105, Wild, Scenic, and Recreational Rivers. These rules were promulgated pursuant to the Laws of Minnesota 1973, chapter 271, and Minnesota Statutes Chapter 103F.

Agricultural Preserves

There are no agricultural preserves within the Project Area.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The Project is consistent with local and regional comprehensive plans and will comply with all related zoning, subdivision and related land use controls.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

Appropriate permits and approvals will be obtained before construction begins.

10. Geology, soils and topography/landforms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project

[1] Sherburne County. 2018. Section 15 - Mississippi and Rum Scenic and Recreational River Ordinance https://www.co.sherburne.mn.us/DocumentCenter/View/398/Wild-and-Scenic-PDF. Accessed 1/21/2019.

could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

The surficial geology of the Project Area is characterized by glacial sediments deposited by the Superior Lobe and Des Moines Lobe (Grantsburg Sublobe) that once covered Sherburne County. The majority of the sediments in the area consist of fine-sand to sand and gravel, which were deposited in glacial fluvial and lake environments at the end of the last glacial episode. In the Project Area, Upper Terrace deposits of sand and gravelly sand are present. These deposits represent higher stages of flow along the Mississippi River (when the river served as an outlet for meltwater) and have been preserved above the modern floodplain.[2] The thickness of glacial sediments in the Project Area varies between 50 to 100 feet.[3]

The bedrock in the Project Area is described as an Archean Eon Quartzofeldspathic orthogneiss (metamorphic rock). Two dibasic and gabbroic dikes, oriented east-west, are also present. The bedrock underlying the Project Area is soft and decomposed (referred to as saprolite), derived primarily from the in situ weathering of igneous and metamorphic rocks.[4]

No known karst features (e.g., sinkholes, caves, springs) or shallow carbonate bedrock are present in the Project Area. However, due to the presence of highly permeable sediments, pollution sensitivity for the underlying unconfined/shallow aquifers is considered very high. Vertical travel time for pollutants at the surface to reach the aquifer are estimated from hours to months.[5]

b. Soils and topography - Describe the soils on the site, giving National Resource Conservation Service (NRCS) (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

The soils in the Project Area are predominantly Hubbard-Mosford complex, 0 to 3 percent slopes, and Hubbard loamy sand, 1 to 6 percent slopes. The soils form on outwash plains and stream terraces. The Hubbard-Mosford complex is made up of 60 percent Hubbard soil and is described as loamy sand. Mosford soils make up 35 percent of the unit and is described as a sandy loam. These soils are somewhat-excessively to excessively drained. Ponding and flooding do not occur. The soils are considered at the lowest end of susceptibility to sheet and rill erosion. However, these soils are rated in Wind Erodibility Group (WEG) 2, which are considered highly wind erodible.[6]

[2] Lusardi, B. and Adams, R. 2013. Surficial Geology. County Atlas Series, Atlas C-32, Part A. Sherburne County. Plate 3-Surficial Geology. Minnesota Geological Survey.

[3] Mossler, J. 2013. Depth to Bedrock. County Atlas Series, Atlas C-32, Part A. Sherburne County. Plate 5-Bedrock Topography, Depth to Bedrock, and Sand Distribution Model. Minnesota Geological Survey.

[4] Chandler, V.W. and Mossler, J. 2013. Bedrock Geology. County Atlas Series, Atlas C-32, Part A. Sherburne County. Plate 2-Bedrock Geology. Minnesota Geological Survey.

[5] Minnesota Department of Natural Resources. 2017. Geologic Atlas of Sherburne County, Minnesota. County Atlas Series C-23. Part B, Hydrogeology.

[6] USDA. 2018. Web Soil Survey. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed 12/13-14/2018.

Table 5. Soil Classification

Symbol	Name	Percent Slope	Erodibility Status*	Location Information	Percent of Project Area	Acreage
D62A	Hubbard-Mosford Complex	0-3	KFactor-0.02 WEG- Group 2	Majority of the Project Area	97.7	308.5
D67B	Hubbard Loamy Sand	1-6	KFactor-0.02 WEG- Group 2	Small pockets in the southern portion of the Project Area	2.3	7.2

*K factors (rock free and whole soil) measure the soil susceptibility to sheet and rill erosion. 0.02 (lowest) to 0.69 (highest). WEG designates soil susceptibility to wind erosion in cultivated areas. Groups 1 (most susceptible) to 8 (least susceptible).

According to the 7.5-minute USGS topographic map of Clear Lake, Minnesota, elevations in the Project Area range from 975 to 980 feet above mean sea level (amsl) with a slight downward gradient to the south. The Mississippi River lies approximately 40 to 45 feet below the Project Area (935 feet amsl).

Overall, the Project Area is flat and no concerns over excavation or grading to construct the Project are anticipated. No issues relating to soil erosion, stability, drainage, and flooding are present in the Project Area.

During construction, a Stormwater Pollution Prevention Plan (SWPPP) shall be implemented to designate Best Management Practices (BMPs) to eliminate or reduce erosion of sediments onsite due to stormwater runoff. Following construction, use of vegetative cover and impervious surfaces (e.g., concrete and asphalt) would help to limit the erosion of soils onsite.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/landforms and potential effects described in EAW Item 10.

11. Water resources:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.
   i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters

List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

According to the National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), and preliminary survey work performed in November 2017, there are no wetlands or surface waters present within the Project Area. The Project Area is located in the Mississippi River – St. Cloud Watershed of the Upper Mississippi River Basin. Stormwater runoff from the Project Area drains to the Mississippi River and adjacent forested/shrub wetlands. The Mississippi River is located approximately 120 feet (on the southeast corner) to 700 feet (on the southwest corner) of the southern Project Area boundary.

The stretch of the Mississippi River from St. Cloud to Anoka was added to the State Wild and Scenic Rivers Program in 1976. The stretch of the river near the Project Area is designated as "Recreational" under this program. According to Minnesota Administrative Rules Part 6105.0060, recreational rivers are defined as "rivers that have undergone some impoundment or diversion in the past and that may have adjacent lands which are considerably developed, but that are still capable of being managed so as to further the purposes of this act."[7]

The Mississippi River is an unnumbered Public Watercourse per the MnDNR Public Water Inventory. A MnDNR Public Waters Work Permit would be required for work below the Ordinary High Water (OHW) elevation, if known, or the bankfull elevation of the Mississippi River. In addition, MnDNR designates the Mississippi River as a State Water Trail. This is defined by MnDNR as "a stretch of river or lake that is mapped and managed especially for canoeing, kayaking, boating and camping."[8] Water trails are public-owned river channels with public access points.

The Mississippi River is listed as impaired for Fecal Coliform, Fish Bioassessments, and Mercury in Fish Tissue on the most recently approved 303(d) Impaired Waters List.[9] No water quality impacts are anticipated because the Project will not directly discharge water to the Mississippi River, and because the Project will incorporate water quality BMPs. The Project would discharge wastewater to Xcel Energy's facility which is described further in item b. below. There are no other impaired water bodies listed within one mile downstream of the Project Area.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if the project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

[7] Minnesota Administrative Rules Part 6105.0060 available online: https://www.revisor.mn.gov/rules/6105.0060/

[8] Minnesota Department of Natural Resources inventory available online: https://www.dnr.state.mn.us/watertrails/index.html

[9] Minnesota Pollution Control Agency Last Approved Waters List available online: https://www.pca.state.mn.us/water/last-approved-impaired-waters-list

Groundwater is encountered at approximately 40 to 45 feet below ground surface within the Project Area. The water table elevation is approximately 930 to 940 feet amsl according to the Sherburne County Geologic Atlas. The uppermost aquifer in the Project Area occurs within buried layers of sand and gravel. The groundwater flow direction is south to southwest toward the Mississippi River. According to the Minnesota Department of Health's Minnesota Spring Inventory, no springs have been mapped in the Project Area or vicinity.[10] However, there is a potential for seeps (following bedding planes) to be present along the steep slopes down to the river valley.

The Project Area is not within a Wellhead Protection Area (WHPA) or Drinking Water Supply Management Area (DWSMA). The nearest WHPA and DWSMA are located over one mile to the east within Becker Township, as well as a DWSMA which is located approximately 1.5 miles to the west, within the City of Becker. The vulnerability ratings for this general surrounding area ranges from Low (north) to Very High (west). No Special Well and Boring Construction Area (SWBCA) was found in Sherburne County.[11] Groundwater data collected near the Project Area in 2017, found elevated nitrate levels (18 mg/L) in excess of the drinking water standard of 10 mg/L.[12] The elevated nitrate level in the area is attributed to the widespread use of fertilizers for agriculture.

A search of the Minnesota Department of Health's Minnesota Well Index found two wells located within the Project Area and two other wells were identified through due diligence reporting. Table 6 provides specific details relating to these wells. Copies of the individual well logs are provided in Appendix A: Well Logs. These wells are planned to be abandoned in place.

Table 6. Wells in the Project Area[13]

Unique Number	Well Name	Depth (feet)	Elevation (feet)	Casing Depth (feet)	Casing Diameter	Static Water Level	Date Completed	Well Type
558023	Anderson Farms	69	970	54	12	37	2/9/95	Irrigation
747066	MW-P-135 (Xcel)	50	971	38	2	40.9	12/7/07	Monitoring
419271	NSP Power	30	Not available	Not available	Not available	Not available	1/22/86	Unverified
451781	Halvorson	92	Not available	92	4	23	6/21/88	Unverified

[10] Minnesota DNR. 2018. Minnesota Spring Inventory Map. https://www.dnr.state.mn.us/waters/groundwater_section/springs/msi.html . Accessed 12/14/18.
[11] MDA. 2018. Source Water Protection Areas [online mapping tool]. https://app.gisdata.mn.gov/mda-source/. Accessed 12/14/18.
[12] Jacobs. 2018. Phase I Environmental Site Assessment Report. River RD SE/115th Ave. Becker, MN 55308.
[13] MDH. 2018. Minnesota Well Index [online mapping tool]. https://mnwellindex.web.health.state.mn.us/ . Accessed 12/12/18.

A total of 49 other verified well records were found within the same section as the Project Area (Township 34N, Range 29W, Section 35). These records were for five domestic, two irrigation, 15 monitoring, 25 other, and two sealed wells. The majority of these wells were located on the adjacent Xcel's Sherco property. The Minnesota Well Index Map in Appendix B shows the location of the mapped wells and Table 7 provides additional information on these wells.

Table 7. Nearby Wells

Unique Number	Well Name	Depth (feet)	Elevation (feet)	Casing Depth (feet)	Casing Diameter	Well Type
159940	LANNERS, QUINTEN	52	Not available	Not available	Not available	Domestic
426840	N.S.P. CO.	41	Not available	Not available	Not available	Domestic
451781	HALVORSON, BERNARD	92	Not available	88	4	Domestic
456972	NSP SHERCO GRHSE	72	Not available	68	4	Domestic
503010	SEELEY, LONNY	84	974	74	4	Domestic
183932	EDLING BROS.	54	974	41.5	12	Irrigation
457859	EDLING BROS.	54	974	43	12	Irrigation
426838	N.S.P. CO.	41	Not available	Not available	Not available	Monitoring
426839	N.S.P. CO.	41	Not available	Not available	Not available	Monitoring
429454	NSP CO.	39	Not available	Not available	Not available	Monitoring
474021	P-122	45	970.5	33.7	2	Monitoring
474022	P-121	52	978.6	40.6	2	Monitoring
474023	P-120	48	970.9	35.6	2	Monitoring
474025	P-118	41	973.6	29.5	2	Monitoring
474026	P-117	40	971.2	28.8	2	Monitoring
517548	P-125	34	974	24	2	Monitoring
747065	MW-P134	37	971	25	2	Monitoring
768517	MW	54.5	Not available	54.3	2	Monitoring
768518	MW	39	Not available	28.6	2	Monitoring

Unique Number	Well Name	Depth (feet)	Elevation (feet)	Casing Depth (feet)	Casing Diameter	Well Type
768519	MW	65	Not available	53.1	2	Monitoring
768520	MW	35	Not available	24	2	Monitoring
768522	MW	41	Not available	30.6	2	Monitoring
159940	LANNERS, QUINTEN	52	Not available	Not available	Not available	Other
271865	B-628 SHERCO UNIT 3	68	971	Not available	Not available	Other
271866	B-629 SHERCO UNIT 3	52	972.2	Not available	Not available	Other
271867	B-630 SHERCO UNIT 3	63.1	970.6	Not available	Not available	Other
271868	B-631 SHERCO UNIT 3	75	972.3	Not available	Not available	Other
271869	B-632 SHERCO UNIT 3	52	970.7	Not available	Not available	Other
271870	B-633 SHERCO UNIT 3	50.1	970.2	Not available	Not available	Other
271871	B-634 SHERCO UNIT 3	50.4	970.3	Not available	Not available	Other
271872	B-635 SHERCO UNIT 3	46.7	970.1	Not available	Not available	Other
271873	B-636 SHERCO UNIT 3	51.5	971	Not available	Not available	Other
271874	B-637 SHERCO UNIT 3	49	970.5	Not available	Not available	Other
271875	B-638 SHERCO UNIT 3	67.5	970.7	Not available	Not available	Other

Unique Number	Well Name	Depth (feet)	Elevation (feet)	Casing Depth (feet)	Casing Diameter	Well Type
271876	B-639 SHERCO UNIT 3	49.5	970.4	Not available	Not available	Other
271877	B-640 SHERCO UNIT 3	52	970	Not available	Not available	Other
271878	B-641 SHERCO UNIT 3	59.1	970.3	Not available	Not available	Other
271879	B-642 SHERCO UNIT 3	51	970.4	Not available	Not available	Other
271880	B-643 SHERCO UNIT 3	49.9	969.3	Not available	Not available	Other
271881	B-644 SHERCO UNIT 3	52	970	Not available	Not available	Other
271882	B-645 SHERCO UNIT 3	51.5	970	Not available	Not available	Other
271883	B-646 SHERCO UNIT 3	54.2	971.8	Not available	Not available	Other
271884	B-647 SHERCO UNIT 3	50.6	970.3	Not available	Not available	Other
426840	N.S.P. CO.	41	Not available	Not available	Not available	Other
451781	HALVORSON, BERNARD	92	Not available	88	4	Other
456972	NSP SHERCO GRHSE	72	Not available	68	4	Other
503010	SEELEY, LONNY	84	974	74	4	Other
474022	P-121	52	978.6	40.6	2	Sealed
474025	P-118	41	973.6	29.5	2	Sealed

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below:

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

The Project will have a small amount of domestic strength wastewater generated at the site which will be discharged to the City of Becker wastewater treatment system.

The Project's industrial wastewater (projected to be less than 30 MG per month) consists of multiple cycle non-contact cooling tower blowdown. Xcel Energy currently operates the Sherco power plant facility under an existing NPDES permit which allows treated discharge to the Mississippi River. The Proposer is in discussions with Xcel Energy about an arrangement whereby the Project could discharge its non-contact industrial wastewater through the Xcel Energy wastewater system using the utility's existing permit. Any such arrangement remains subject to the parties' mutual agreement and subject to approval by the MPCA.

At its Sherco power plant facility, Xcel Energy currently operates a holding basin that is located adjacent to the Project Area. The Project's cooling tower blowdown would mix with Xcel Energy's cooling tower blowdown before discharging to the Mississippi River. Xcel's current average holding basin discharge to the Mississippi River is approximately 3.5 million gallons per day (MGD), but typically fluctuates between 1.44 MGD and 5.04 MGD depending on operating status and load conditions. The blowdown water quality from the proposed Project is anticipated to be well within Xcel Energy's existing NPDES permitted effluent limits. Because of the Project Area's flat topography, a pump station and forcemain would be necessary to transport the discharge to Xcel Energy's holding basin.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

Domestic wastewater will be discharged to the existing City of Becker wastewater treatment system. The anticipated wastewater characteristics fit into the existing City system. No additional treatment or design upgrades will be needed to the City's treatment plant, but additional piping to the Project site will be necessary.

3) If the wastewater discharge is to surface water, identify wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

The Project's wastewater will not have a direct discharge to surface water. The domestic wastewater will be discharged to the City of Becker wastewater treatment system. The

Project's industrial wastewater generated at the site will be transported to the Xcel holding basin as described above.

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

Stormwater in the Project Area generally drains south towards the Mississippi River. The Project will require stormwater management. Regulatory and permitting authority for stormwater management is under the jurisdiction of the City of Becker and the MPCA.

Stormwater ponding will be designed as a BMP such that the peak rate of stormwater runoff and surface drainage is no greater than pre-development rates for the 2-, 10-, and 100-year storm events, per the City of Becker's stormwater ordinance. In addition, the City of Becker Land Use Regulation (Zoning Ordinance) will be complied with as required:[14]

- Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.

- When development density, topographic features and soil and vegetation conditions are not sufficient to adequately handle storm water runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.

In addition to the local stormwater requirements, MPCA requirements will be adhered to for stormwater runoff pre-treatment, volume retention, and rate control. This includes design of stormwater BMPs to provide water quality volume on site equal to one inch over each new acre of impervious surface created by the Project, unless prohibited. Basins must be designed such that the water quality volume discharges at a rate of no more than 5.66 cubic feet per second per acre of surface area of the basin.

Infiltration BMPs provide stormwater runoff volume control, rate control, and water quality. These BMPs can be constructed at the ground surface or underground. According to the NRCS Web Soil Survey, the soils on site are classified as Hydrologic Soil Group (HSG) "A" soils. Group "A" soils typically have a high infiltration rate (low runoff potential) and a high rate of water transmission. Soil borings performed in November 2017 indicate that soils are primarily composed of sand, which is consistent with the HSG "A" designation. This type of soil is typically the most suitable for stormwater infiltration BMPs.

[14] City of Becker. *Land Use Regulation (Zoning)*. https://www.ci.becker.mn.us/DocumentCenter/View/99/Zoning-Ordinance-PDF

It is anticipated that the developed areas of the site will need to be graded to provide positive site drainage. Proposed stormwater management will likely consist of a combination of swales and ditches around the site to convey runoff and infiltration basins to collect stormwater runoff.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a MnDNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Domestic and cooling water will be obtained from connection to the City of Becker's municipal water supply (anticipated to be less than 30 MG per month). The City of Becker's wells draw from a relatively shallow sand and gravel aquifer and are permitted through the MnDNR.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

See response to question b below.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

According to the NHD and USGS, there are no surface waters present in the Project Area. No direct effects to surface waters are anticipated. Indirect effects will be avoided by using erosion and sediment control BMPs, such as silt fence, sediment control logs, permanent stormwater management basins, and vegetative stabilization of disturbed areas following construction. The Mississippi River is listed as impaired for Fecal Coliform, Fish Bioassessments, and Mercury in Fish Tissue. Water quality in the Mississippi River is not anticipated to be impacted. Temporary sedimentation controls will be in place during

construction. Permanent stormwater management BMPs will be constructed to mitigate changes to land cover.

12. Contamination/Hazardous Materials/Wastes:

Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or groundwater contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

Phase I Environmental Site Assessments (ESAs) were previously conducted for the Project Area by both Carlson McCain (June 2016)[15] and Jacobs Engineering Group (January 2018).[16] The site reviews and historical reviews of the Project Area provided in these reports reveal that the property has been in agricultural production (row crops) since at least 1938.

A search of governmental environmental databases for hazardous waste generation and cleanup listings for the Project Area and one-mile search buffer was conducted by EDR on August 10, 2017.[17] Subsequent searches for the Project Area and one-mile search buffer was also conducted on the MPCA[18] and MDA[19] What's In My Neighborhood online databases. No listings were found for the Project Area in any of the searches conducted. However, a number of listings were identified within the search buffer for the Project Area. Table 8 summarizes these listings.

Table 8. Governmental Database Listings within One Mile.

Name	Address	Listing ID	Listing Type	Status	Search	Distance (mile)/ Direction	Position
Amcon Concrete Products Truck Garage	11300 125th Ave SE	MNS0003 11360	Hazardous Waste, Small quantity generator	Active	MPCA	0.50/NE	Upgradient
Northern States Power	Sherco Coal Yard	LS000182 9	Petroleum Remediation, Leak Site	Closed	MPCA	0.85/SE	Downgradient

[15] Carlson McCain. 2016. Phase I Environmental Site Assessment- Sherco Parcel land Sherco Parcel 2. Becker, Minnesota. Project # 6242-00.
[16] Jacobs Engineering Group. 2018. Phase I Environmental Site Assessment for River Rd SE/115th Ave. Becker, MN 55308.
[17] EDR. August 10, 2017. Sherco. River Rd SE/115th Ave. Becker, MN 55308. EDR Radius Map Report with GeoCheck. Inquiry # 5019548.2s.
[18] MPCA. 2018. What's In My Neighborhood? Online database. https://pca-gis02.pca.state.mn.us/wimn2/index.html Accessed 12/17/18.
[19] MDA. 2018. What's In My Neighborhood? Online database. https://app.gisdata.mn.gov/mda-agchem/Accessed 12/17/18.

Name	Address	Listing ID	Listing Type	Status	Search	Distance (mile)/ Direction	Position
Becker Veterinary Clinic	12904 1st St	MNS0001 32290	Hazardous Waste, Minimal quantity generator	Active	MPCA	0.95/NE	Upgradient/ Crossgradient
Hermes Floral Inc.	No Address	CF-10103	Incident Investigation/Contingency Areas	Closed	MDA	1.0/SE	Downgradient

An active ash landfill associated with the Xcel Energy Sherco Generating Station is located adjacent to the east of the Project Area. The ash landfill has an extensive network of monitoring wells, which are routinely sampled and monitored in conformity with existing regulations and permit requirements. Two active construction stormwater permits are associated with the ash landfill. No violations for this portion of the facility were found.

No known existing contamination or suspected contamination from off-site sources have been identified for the Project Area. Proposed construction for the Project Area will involve minimal site grading. Soil disturbance is estimated to occur above the existing water table (approximately 40 to 45 feet below ground surface). Therefore, the likelihood of encountering existing soil and/or groundwater in the Project Area is considered low.

a. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

   It is common practice in rural areas to dispose of old structures by burning and/or burying demolition debris onsite. Two farmsteads were once located on the property (adjacent to River Road SE in the southeast corner). They were both removed prior to 1991. It is unknown if any demolition materials were ever buried onsite. Previous shovel testing in the Project Area completed by Jacobs Engineering in November 2017 did not reveal any remaining demolition materials.

   The disposal of solid wastes generated by clearing the construction area is a common occurrence associated with construction projects. Additional items that may require removal and offsite recycling/disposal include existing vegetation (e.g., trees and crops), components associated with the irrigation system, fencing, and other agricultural items that may be present on the property.

   The Project design will undertake acceptable methods to minimize excess waste materials. Where and when feasible, items will be evaluated for recycling or reuse prior to disposal at an offsite landfill. All solid waste minimization, avoidance, and disposal measures will be handled by the contractor under provisions outlined in their contract.

Solid wastes generated during operations would be subject to the Proposer's corporate policy on waste reduction and recycling.

b. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

   There will be onsite storage of diesel fuel for emergency generators during construction and operation of the Project. Temporary storage tanks for petroleum products may be located in the Project Area for the purposes of refueling construction equipment during construction activities. Any permanent storage tanks for petroleum products required for operation would be permitted and stored in compliance with existing state regulations. The total volume, number of tanks, and location of potential storage tank is not known at this time.

   The Project Area is in an area with very high sensitivity to pollution to the water table aquifer. Faster travel times of releases at the surface to the underlying aquifers are predicted due to the presence of sandy and well drained soils. If necessary, a SPCC would be prepared for the Project that will detail the proper storage of petroleum products, list measures to reduce the likelihood of accidental spills or releases, and how to respond to spills should they occur.

c. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

   When backup batteries are past their lifespan, they will be recycled per the Sherburne County Battery Recycling Program.[20]

13. Fish, wildlife, plant communities, and sensitive species

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

   Native plant communities expected in the Project Area would be those typical of the Anoka Sand Plain subsection of the Minnesota and northeast Iowa Moraines section in the Eastern Broadleaf Forest Province. The primary landscape cover type within the Project Area is cropland. Upland deciduous trees are scattered through the forested portion of the site (less than 6 acres in size) at the southeastern boundary. Croplands are bordered by volunteer elm and red cedar. The tree-dominated area is likely utilized by commonly occurring forest species and habitat generalists such as migratory songbirds, small mammals (primarily rodents), and, to a lesser extent, medium to large mammals such as raccoons, skunks, and white-tailed deer.

[20] Sherburne County Battery Recycling Program. 2019. https://www.co.sherburne.mn.us/402/Battery-Recycling-Program

Fish and wildlife resources are variably abundant in the landscape surrounding the Project. Land cover types include plowed lands with a forested fringe. The Mississippi River is located 120 feet (on the southeast corner) to 700 feet (on the southwest corner) of the southern Project Area boundary. High-quality resources in the area are present north, south and east of the Project Area and are associated with rural grasslands and deciduous forest adjacent to the Mississippi River, but are all located outside the Project boundaries.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-933) and/or correspondence number (ERDB N/A) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

A concurrence request was submitted to MnDNR that described State-listed species within a one-mile buffer of the Project Area (See Appendix C: MnDNR Concurrence Request). This information was obtained through a MnDNR Natural Heritage Information System (NHIS) license agreement (LA-933). The NHIS query identified five state-listed threatened or endangered species within one mile of the Project Area. In addition, one special concern species and a colonial waterbird nesting site were documented within one mile of the Project Area. None of the NHIS documented records overlap the Project Area. Species identified within one mile of the Project are presented in the Table 9.

Table 9. State-Listed Species within One Mile of the Project Area

Common Name	Scientific Name	Status
Loggerhead Shrike	*Lanius ludovicianus*	Endangered
Rock Sandwort	*Minuartia dawsonensis*	Threatened
Peregrine Falcon	*Falco pregrinus*	Species of Concern
Bald Eagle	*Haliaeetus leucocephalus*	Watchlist
Creek Heelsplitter	*Lasmigona compressa*	Species of Concern
Black Sandshell	*Ligumia recta*	Species of Concern

According to GIS data obtained from MnDNR, no Minnesota County Biological Survey Sites of Biodiversity Significance occur within one mile of the Project site.

The USFWS State and County Distribution List website shows one federally endangered species (Rusty-patched bumblebee, *Bombus affinis*) and two federally threatened species, the northern long-eared bat (*Myotis septentrionalis*) and gray wolf (*Canas lupis*) as occurring in Sherburne County.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The Project will remove approximately 114 acres of upland cropland. The landscape surrounding the Project Area, including the Mississippi River, will not be impacted since these habitats are outside of the Project Area boundaries.

All of the wildlife species that currently utilize the Project Area are habitat generalists and would not be adversely impacted by the temporary loss of resources at the Project Area because suitable habitat is available close by. MnDNR NHIS information indicates a colonial waterbird nesting site and the bald eagle nests along the Mississippi River in the vicinity of the Project Area. However, the NHIS information shows the colonial waterbird nesting area is approximately 280 feet south of the Project Area's southern boundary. The bald eagle nest is approximately 1,600 feet south from the Project Area's southern boundary. The USFWS guidance on avoidance of bald eagle nests stipulates a minimum of 600 feet distance for most activities. Project construction and operation activities are well outside of that range; therefore impacts are not anticipated to bald eagles. Loggerhead Shrike suitable habitat was not found within the project boundaries per field studies completed by Jacobs Engineering Group in 2018. The Proposer will also limit the introduction of invasive species through the use of construction BMPs, such as checking and cleaning off construction vehicles to ensure invasive vegetation is not brought into the Project Area.

Project construction and operation are unlikely to have adverse effects to known threatened and endangered species. The creek heelsplitter and black sandshell are freshwater mussels. These are aquatic species found, at their nearest, in the Mississippi River. Stormwater will be collected in a stormwater pond and settle out before it reaches the Mississippi River. Because construction of the Project will occur entirely within upland areas, this Project will not impact the Mississippi River or any other aquatic habitat. The loggerhead shrike inhabits upland grasslands and sometimes agricultural areas where short grass vegetation and perching sites such as hedgerows, shrubs, and small trees are found. They may occur in both native and non-native grasslands, including native prairie, pastures, old fields, shelterbelts, farmyards, and cemeteries. The rock sandwort is a plant associated with rock outcrops of sedimentary bedrock exposures.

Potential summer roosting and foraging habitat for the federally threatened northern long-eared bat may be present within the Project Area. According to guidance provided by the USFWS, northern long-eared bat habitat can be classified as trees measuring at least 3 inches in diameter with peeling bark or crevices. According to USFWS and MnDNR data, there are no known roost trees or hibernacula within Township 34N, Range 29W of Sherburne County. Therefore, according to the final 4 (d) rule published by USFWS, no prohibited take will occur as a result of Project construction and operation activities.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

The Proposer will conduct a review of the Project Area for the presence of sensitive species prior to initiating construction (a field review has already been completed for some species). The Proposer will retain the existing suitable native vegetative cover such as deciduous trees to the extent practicable. All trees that are removed to create a safe work zone will be cleared either following a nesting bird survey or will be cleared outside of the migratory bird nesting season. Erosion and sediment control BMPs will be used to prevent impacts to the Mississippi River south of the Project Area. Because direct adverse impacts to fish and wildlife species as a result of the Project are not anticipated, no additional measures to minimize impacts are expected.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

Background research in the Project Area was conducted initially by Jacobs Engineering in late 2017. The research included a review of historic aerial photography and historic USGS 7.5-minute series topographic maps. Investigation of potential historical and archaeological resources for the proposed action was completed to comply with Minnesota Environmental Policy Act, and if necessary, the requirements of Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-655), as amended, and implementing regulations in 36 CFR, part 800, Protection of Historic Properties. There was no review of architectural resources beyond checking the historic registers.

An updated request for review of the Minnesota State Historic Preservation Office (SHPO) archaeological, cultural, and historical data bases was submitted to the SHPO on December 12, 2018. The updated request confirmed the original findings of no previously recorded archaeological sites within the proposed Project Area (See Appendix D: Agency Letters and Responses). There was one precontact archaeological site within the one-mile buffer search area on the opposite side of the Mississippi River. The archaeological site is outside of the proposed Project Area and it will not be disturbed. A Phase I Cultural Resources Survey was completed for the entire proposed project site by Jacobs Engineering in 2017. The report finding is No Properties Affected and the report is included in Appendix D.

The SHPO database search included two historic properties listed on the National Register of Historic Places (NRHP) within one mile of the Project Area. The Herbert Maximilian Fox House (SH-BKC-012) and one property that SHPO considers eligible for listing (SH-SCC-367, no known name).

Archaeologists from Jacobs Engineering investigated two areas during field investigations where historical plat maps and aerial photographs indicated structures may have been located. Field investigation methods were pedestrian survey and shovel testing. One of the areas is represented by a historic material scatter and appears to coincide with structures that were noted on aerial photographs from 1938 through 1960, and on plat maps from 1901 and later. Minnesota's Office of the State Archaeologist does not normally list historic artifact scatters as formal archaeological sites unless there is clear evidence of foundations, wells, fence lines, or other subsurface features that could provide

important information about the past occupants. The site appears unlikely to be eligible for listing on the NRHP under Criterion D; however, it was not formally evaluated for NRHP eligibility.

There are two architectural properties within one mile of the Project Area boundary that may need to be considered under Section 106 of the National Historic Preservation Act if federal permits or funding are required. Property SH-BKC-012 is a residential structure listed on the NRHP. The property is approximately one mile away and may need to be considered depending on possible consideration of indirect effects. Property SH-SCC-367 is the current, in-place TH 10 which SHPO considers eligible for the NRHP. As the Project does not include any modifications to the highway, there would be no effects to be considered.

Based on the information above, there are no significant impacts to historical/architectural or archaeological resources associated with the Project. If federal funding or permits become part of the Project, additional consideration of resources described in this section may be required. If cultural resources or human remains are discovered during construction, appropriate procedures should be followed for notifying the Office of the State Archaeologist, SHPO, the Minnesota Indian Affairs Council, and Tribal Historic Preservation Offices.

15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The Project will construct a building, substation, and parking areas, and include various equipment on outdoor pads covering approximately 25 percent of the 315-acre property. The building will total approximately 375,000 square feet of floor space. The tallest part of the structure is anticipated not to exceed 85 feet above the ground (at top of parapet). The building, substation, and equipment will be illuminated. A stormwater management pond will be constructed in the vicinity of the recreational land and river to the south of the property.

All construction will be on an agricultural field east and north of 115th Avenue SE. All features will be constructed or installed outside of the WSR Overlay District. The existing forest buffer between the Mississippi River and 115th Avenue SE will be unaffected. Snuffy's Landing, a recreational facility tucked into this forest buffer, will also be unaffected by the proposed Project. Potential viewers include recreational viewers on the river and residential viewers living on the river's south bank, though the steep elevation drop (approximately 40 to 45 feet) to the river will likely limit this. People traveling on US 10, I-94, or on local roads are also potential viewers.

The views of the existing power plant were analyzed for comparison with the proposed project. Currently, the vegetation lining the riverbank, limits views from the river to only seeing the very tops of the 650-foot chimneys that are part of the Sherco Generating Station. The 15-story generation plant (approximately 150 feet high) is not visible from the Mississippi River. Both the chimneys and generating plant can be fleetingly seen from select viewpoints along US 10, I-94, and local roadways. Berms and vegetation near the US 10 and I-94, however, typically block these views. The plumes from Sherco's two stacks are typically visible from almost all locations along the river, roadways and residential areas. However, it is only from a few local roadways, notably 115th Avenue SE, that there are uninhibited views of the buildings and chimneys of the Sherco Generating Station. The Project cooling towers will have a plume in cold weather conditions but are expected only to be for short

periods with minimal impact. These plumes will have a visual impact similar to those generated by the cooling towers already on the Xcel property and are not expected to be different than the neighboring Xcel site conditions. Consequently, the substantially lower and less massive buildings, substations, and equipment of the proposed Project are unlikely to be seen by recreationists on the river, residents on the south bank of the river, or travelers on most nearby roads. If such views do occur, they will be less impactful than those of the existing Sherco Generating Station.

Views along 115th Avenue SE on the approach to Snuffy's Landing have the potential to be most directly affected by the proposed Project. However, the overall visual impact of the new facility is anticipated to be minimal due to the surrounding landscapes and land uses. Few people will view it and most of those who do will only view it fleetingly.

16. Air:

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Emission Sources

The Project facility will generate air emissions to the extent it operates its diesel backup generators, from its cooling towers, and gas fired rooftop units and heaters. The Proposer will operate the backup generators infrequently for maintenance and testing and to provide emergency backup power in the case of an area-wide electric grid outage. For regulatory purposes, the backup generators are classified as emergency engines operating as intermittent sources. Final design has not yet been completed and so the final number and size of the engines in not known at this time. Based on similar facilities permitted and/or constructed in other jurisdictions, it is anticipated that between **[TRADE SECRET BEGINS TRADE SECRET ENDS]** engines, ranging in size from **[TRADE SECRET BEGINS TRADE SECRET ENDS]**, will be installed. Subject to final design, the number and size of the engines will be included in the air quality permit application to be submitted to the MPCA and as necessary to construct and operate the engines.

Emissions of Concern

Criteria Pollutants: Six pollutants have been named "criteria pollutants" under the Federal Clean Air Act (42 United States Code §7401 et seq. [1970]): carbon monoxide (CO), ozone, lead, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and particulate matter. Ozone is not emitted directly from the majority of stationary sources, but rather is a result of a chemical reaction between sunlight, volatile organic compounds (VOC) and nitrogen oxides (NO_x) in the atmosphere. Two forms of particulate matter are regulated: particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}) and particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$). To protect human health and the environment, the EPA has implemented National Ambient Air Quality Standards (NAAQS) for each of the criteria pollutants.

Hazardous Air Pollutants (HAP): EPA currently designates 187 compounds as HAP, including a number that are associated with fuel combustion.

Greenhouse gases (GHG): Another pollutant of concern associated with fuel combustion, GHG include carbon dioxide (CO_2), methane, and nitrous oxide (N_2O).

Emissions from the Project Facility emission units will include each of the criteria pollutants, minor levels of some HAP, and GHG.

Air Emission Permitting

The Project facility may be eligible for a Registration Permit Option D air quality permit. Based on the final design of the facility and projected operation, and upon consultation with the MPCA, an application for either a Registration D or state level Individual total facility air permit will be prepared and submitted to the MPCA. The issued permit will allow both construction and operation of the facility within the requirements of the issued permit. Whichever air permit the MPCA ultimately issues, the Project will be a synthetic minor source for purposes of the federal Prevention of Significant Deterioration (PSD) and Clean Air Act Title V operating permit programs. Conversations regarding this took place on May 1, 2019, with Proposer representatives participating in a telephone conference with MPCA air permitting staff to discuss the relevant issues related to air permits for the proposed Project.

The diesel generators will be subject to the federal New Source Performance Standards requirements of 40 Code of Federal Regulations (CFR) Part 60, Subpart IIII, and National Emission Standards for Hazardous Air Pollutants requirements of 40 CFR Part 63, Subpart ZZZZ, applicable to emergency generators. In compliance with Subpart IIII, the Proposer will install EPA Tier 2 certified engines.

Fugitive dust, created by wind or human activity, associated with the facility will be minimal. The Proposer will pave all roads and parking areas to limit fugitive dust generation from vehicle traffic.

Potential to Emit (PTE)

Final design has not yet been completed and so the exact number, make, model, and emissions have not been finalized at this time. Based on issuance of a State level air permit (either a Registration D or Individual Total Facility permit), the facility's PTE will be less than the Title V major source threshold for each pollutant. While not available at this time, the hourly emissions of the individual engines at the facility will be included in the air quality permit application that is submitted to the MPCA.

Air Quality Impacts

The NAAQS represent the allowable mass of pollutants per volume of air and are set to protect public health and the environment. No facility may cause or contribute to violations of these standards. Often air dispersion modeling is performed to predict a facility's impact on air quality.

The Project facility is located in an area that is currently attaining all NAAQS. Under both EPA (https://www3.epa.gov/scram001/guidance/clarification/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf) and MPCA (https://www.pca.state.mn.us/sites/default/files/aq2-58.pdf) modeling guidance, the facility's emergency generators are considered intermittent sources that can be excluded from air dispersion modeling. The gas-fired rooftop units and heaters are expected to be de minimis sources and therefore would also be excluded from any air dispersion modeling exercise. Finally, permitting the facility with either a Registration D or Individual Total Facility state level air quality permit

further indicates that the facility is not expected to cause a significant impact on air quality. As such, no air dispersion modeling was performed and the Project is not expected to result in any cumulatively significant impact on the air quality in the area.

While the MPCA may require air dispersion modeling of the facility (as allowed under their guidance and permitting authority), modeling of the facility is not warranted as part of this environmental review. If air dispersion modeling is required, it will be conducted part of the MPCA's air permitting process to show compliance with the standards.

b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

As discussed in the response to Question 18, the traffic generated by the proposed Project is below the threshold for a traffic impact study. Therefore, the Proposer does not expect a measurable impact to air quality due to vehicle emissions. Additionally, the Proposer is including 120 parking spaces as part of the Project. Because parking capacity will not exceed 2,000 parking spaces, an air quality analysis is not necessary, per the EAW guidelines.

During construction at the Project site, the Proposer expects a number of construction vehicles each day at the Project site. This will vary during the different phases of Project construction. As this is for a limited period of time, the Proposer does not expect the vehicle emissions to cause long term or significant air quality impacts.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

Project construction will generate dust from site excavation, grading, and building construction. The Proposer will use dust suppression techniques such as wetting disturbed areas and reestablishing vegetation after completing construction. The Proposer does not expect operation of the Facility to generate dust as the Proposer will pave the entrance road to the Facility and the Facility's parking areas.

Further, the Proposer does not expect construction or operation of the Project to generate strong odors. The emergency generators will meet EPA's Tier 2 certification, which will minimize the odors associated with diesel engines.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The City of Becker municipal code, Chapter 11 land Use Regulation (Zoning), section 11.21 Performance Standards, Subdivision 3 Noise, states that "noise emanating from any use shall adhere to, be in compliance with and be regulated by the State of Minnesota Pollution Control Standards, Minnesota Administrative Rules 7030 (including any subsequent amendments) as well as all other applicable local, state or federal requirements."

The MPCA has a receiver-based standard intended to limit noise levels and protect the health and welfare of the general public. In Minnesota Rules 7030, the MPCA limits maximum allowable levels of environmental noise using the L_{10} and L_{50} statistical descriptors. Those descriptors represent the noise level exceeded 10 and 50 percent of the hour, respectively, and MPCA has noise limits for both daytime and nighttime periods (nighttime limits are more restrictive). MPCA has separate noise limits for different land use categories, with more restrictive limits for the most noise-sensitive land uses (e.g., where overnight sleep occurs).

Table 10. MPCA Noise Standards

Noise Area Classification (NAC)	Description	Daytime (7am-10pm)		Nighttime (10pm-7am)	
		L_{10}	L_{50}	L_{10}	L_{50}
1	Residential	65	60	55	50
2	Commercial	70	65	70	70
3	Industrial	80	75	80	80

The relevant MPCA thresholds are determined by the zoning of the adjacent parcel, these are REC and Public to the south, REC and AG to the east and AG to the north and west. REC and PUB fall within the NAC 2 classification, AG falls within the NAC 3 classification.

Potential sources of noise include use of construction equipment and the operation of data center generators, air handling units and cooling tower fans. Generator noise during periods of operation (either during maintenance and testing), during extended periods of emergency use, for peak shaving or as a source of primary power would be subject to the State noise standards shown in the table above.

The Project intends to locate its cooling towers and generators at the ground level. The cooling towers on the site interior will be located within the central utility building (CUB) footprint, and air handling units will be located on the roof. The generators have the greatest potential for noise impacts to active (farm houses) and future (ARC 2) agricultural uses at the southern and western Project Area perimeter, respectively. There are three farm houses on a parcel zoned for agriculture (NAC 3) located near the southwest corner of the proposed site. These houses are approximately 1,000 feet from the nearest operating facility on the Project site. Scattered residential uses are located approximately 0.7 miles south of the property boundary on the opposite side of the Mississippi River, there are industrial uses (Sherco Generating Station) approximately 0.7 miles east of the Project site.

During the master plan and design phases of this Project, the site will be designed such that it is in compliance with applicable state and local regulations. An assessment of interior noise levels within the CUB and electric buildings to Occupational Safety and Health Administration standards may be appropriate.

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

There are currently no parking spaces on the undeveloped site. The planned development proposes 120 parking spaces. Estimated total daily traffic generated is 302 trips per day. This includes both entering and exiting employee vehicles and deliveries.

Estimated maximum peak hour traffic generated is 120 trips occurring at 8 AM. The Proposer provided the estimated trip generation based on the operations of similar sites throughout the United States and on the number of anticipated employees and deliveries. No regular transit routes operate near the site. It is noted that Sherburne County has the Tri-CAP Transit Connect program where users can request a ride with advanced reservations. This program could be utilized to get to/from the site, if needed.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 *(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)* or a similar local guidance.

The proposed Project is expected to generate 120 peak hour trips and 302 daily trips, which is below the threshold for a traffic impact study as defined by this EAW. The following discussion provides a high level review of the project's impact on the regional transportation system.

The predominant traffic pattern to/from the site will be TH 10, River Road SE, and 115th Avenue SE. Site access is proposed on 115th Avenue SE. The specifics of the access points will be further designed with the site plan development.

The existing Average Daily Traffic (ADT) on TH 10, River Road SE, and 115th Avenue SE is 16,400 vehicles/day, 2,750 vehicles/day, and 160 vehicles/day, respectively (from MnDOT: https://dotapp9.dot.state.mn.us/tfa/Map). It is anticipated these roadways will have adequate capacity to accommodate the estimated increase in daily traffic due to anticipated site-generated traffic.

The intersection of TH 10 and River Road SE is currently a ¾-intersection where left turn movements from River Road SE are not allowed. As a result, exiting site-generated traffic destined to the west on TH 10 will use the TH 10 and County Road 52 intersection. The intersection of River Road SE and 115th Avenue SE is side-street, stop-controlled with 115th Avenue SE being stopped. It is anticipated that these intersections will be able to accommodate proposed site-generated traffic.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

The Project-related transportation impacts will be minimal and are not expected to adversely affect the transportation system, therefore no minimization or mitigation measures are proposed.

19. Cumulative potential effects

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

The Minnesota Environmental Quality Board rules require that the Proposer evaluate the potential cumulative effects of the project. Cumulative potential impacts are defined as the impacts on the environment that results from incremental effects of the project in addition to other past, present and reasonable foreseeable future projects. The Proposer is required to evaluate cumulative effects and include the results of this evaluation in the EAW record.

The analysis of cumulative potential effects accounts for the possibility that when added together, the minor impacts of many separate projects could result in significant effects. The Proposer evaluated the cumulative potential effects considering expected resources impacted by the Project and assessed past, present, and reasonably foreseeable projects to identify any geographic and temporal overlap in impacts. Table 11 includes the resources evaluated and resulted in no anticipated cumulative impacts.

Table 11. Resources with no anticipated cumulative effects

Resource/Impact	Timescale	Geographic area of impact	Nature/Extent of Impacts
Land Use	Short term, temporary	Immediate Project vicinity	None anticipated
Geology/Soils and Topography/Landforms	Short term, temporary	Immediate Project vicinity	None anticipated
Contamination/Hazardous Materials/Wastes	Short term, temporary	Immediate Project vicinity	None anticipated
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Short term, temporary	Immediate Project vicinity	None anticipated
Historic properties	Short term, temporary	Immediate Project vicinity	None anticipated
Visual	Short term, temporary	Immediate Project vicinity	None anticipated
Noise	Short term, temporary	Immediate Project vicinity	None anticipated
Transportation	Short term, temporary	Immediate Project vicinity	None anticipated

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

   The Proposer consulted the County and City websites, as well as the City Comprehensive Plan to determine whether future projects were potentially being considered within the immediate vicinity (one-mile radius) of the project. Nothing was identified as under permitting consideration or preliminary planning.[21] The Comprehensive Plan identifies long-range planning projects within the City limits, but funding nor any specific projects have been identified at this time.

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Water

Potential cumulative effects to surface waters may occur due to changes in land use and land cover near the Project Area. Pollutants could be introduced during construction activities by exposing sediment, using construction vehicles, and storing building materials. Potential for long-term indirect impacts exists because the pervious land cover is redeveloped as impervious surface. When impervious surface is created, or when soil compaction occurs, the volume and rate of stormwater runoff increases, and there is less vegetative cover to provide filtration. Additional pollutants could also arise from vehicle traffic and facility operation. Impervious surfaces have the potential to increase water temperatures due to the replacement of ground cover that provided shading with a hard surface that reflects heat. Water quality regulations require the development of and adherence to BMPs to address these potential effects.

Future off-site projects that may occur as a result of the proposed Project include changes to water appropriations and water treatment practices to accommodate the Project. Those cumulative impacts are discussed in detail above and will be addressed by Xcel and the City of Becker. Water appropriations and water treatment will be subject to current water quality regulations.

Air

Facility emissions will be minimal during normal operation of the facility. Operation of the backup generators will occur on a staggered basis during occasional routine maintenance events such that multiple engines are not operated simultaneously. All of the engines will only be operated, as necessary, during emergency periods when grid electricity is not available. In these emergency situations it is anticipated that the nearby Xcel Sherco facility is either offline or operating at lower generation levels

[21] The City of Becker, Minnesota, Community Development. 2019. https://www.ci.becker.mn.us/174/Community-Development, Accessed 1/30/2019.
Sherburne County, Construction, Future Projects. 2019. https://www.co.sherburne.mn.us/805/Construction. Accessed 1/30/2019.

because of the grid outage, accordingly the overall mass loading of pollutants to the atmosphere in the area is expected to be lower than during normal operation. Therefore, no additional cumulative impacts on air quality in the area are expected as a result of the project.

20. **Other potential environmental effects:** If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

    No additional environmental effects identified.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature Angie Pisa Date 5/13/2019

Title City Administrator

Figures

Figure 1: County Map Showing Location
Figure 2: USGS 7.5 Minute Topographic Map
Figure 3: Site Plan
Figure 4: Project Overview
Figure 5: Land Cover
Figure 6: Surficial Geology
Figure 7: Bedrock Geology
Figure 8: Depth to Bedrock
Figure 9: Soils
Figure 10: Natural Resources

Appendices

Appendix A: Well Logs
Appendix B: Minnesota Well Index Map
Appendix C: MnDNR Concurrence Request
Appendix D: Agency Letters and Responses

ATTACHMENTS

Figure 1: Project Location – County Level

Figure 2: Project Location – U.S. Geological Survey (USGS) 7.5 minute Topographic

Figure 3: Site Plan

Figure 4: Project Overview

Figure 5: Land Cover

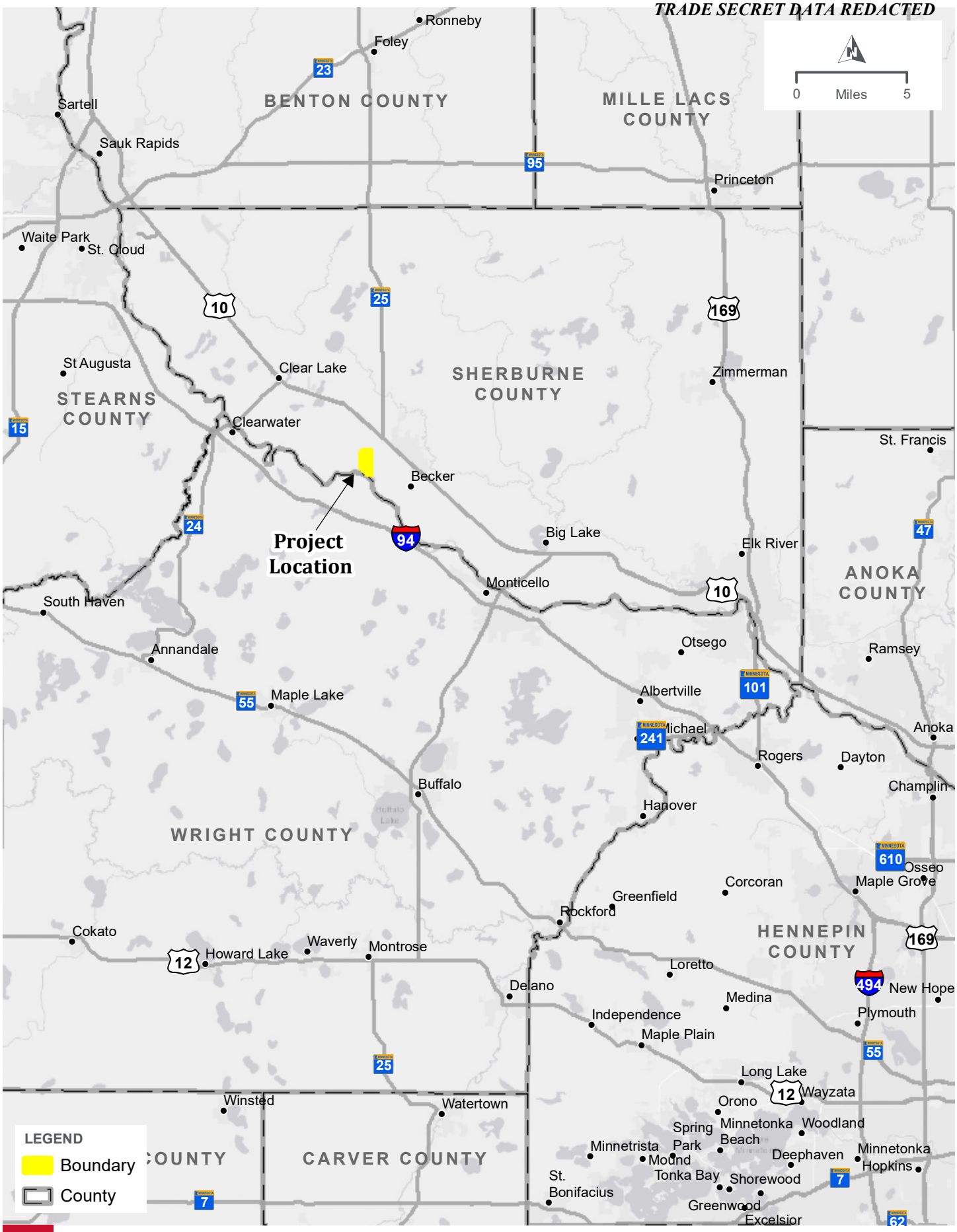
Figure 6: Surficial Geology

Figure 7: Bedrock Geology

Figure 8: Depth to Bedrock

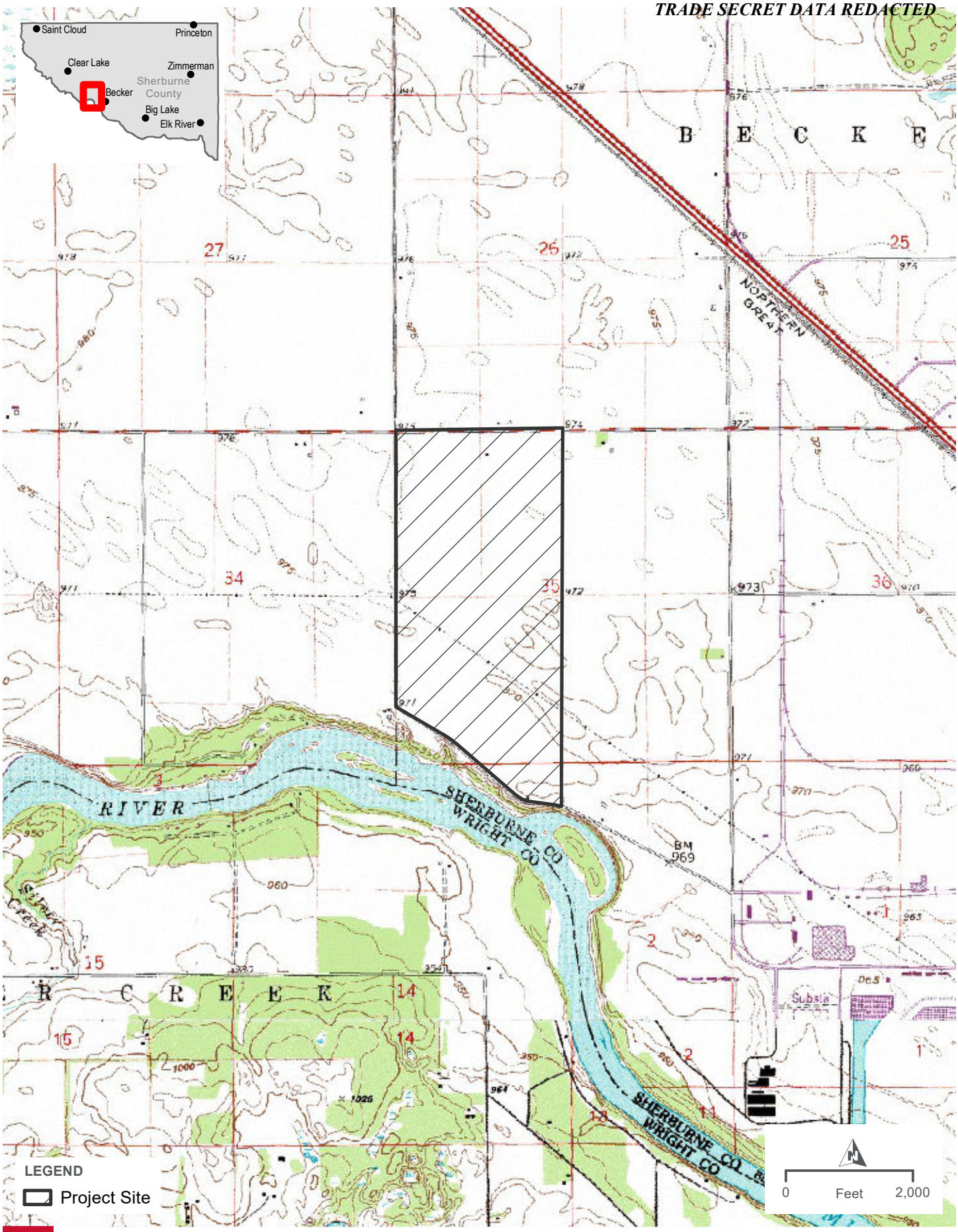
Figure 9: Soils

Figure 10: Natural Resources



COUNTY LEVEL PROJECT OVERVIEW
THE BECKER DATA CENTER PROJECT
(FIGURE 1)

Service Layer Credits: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

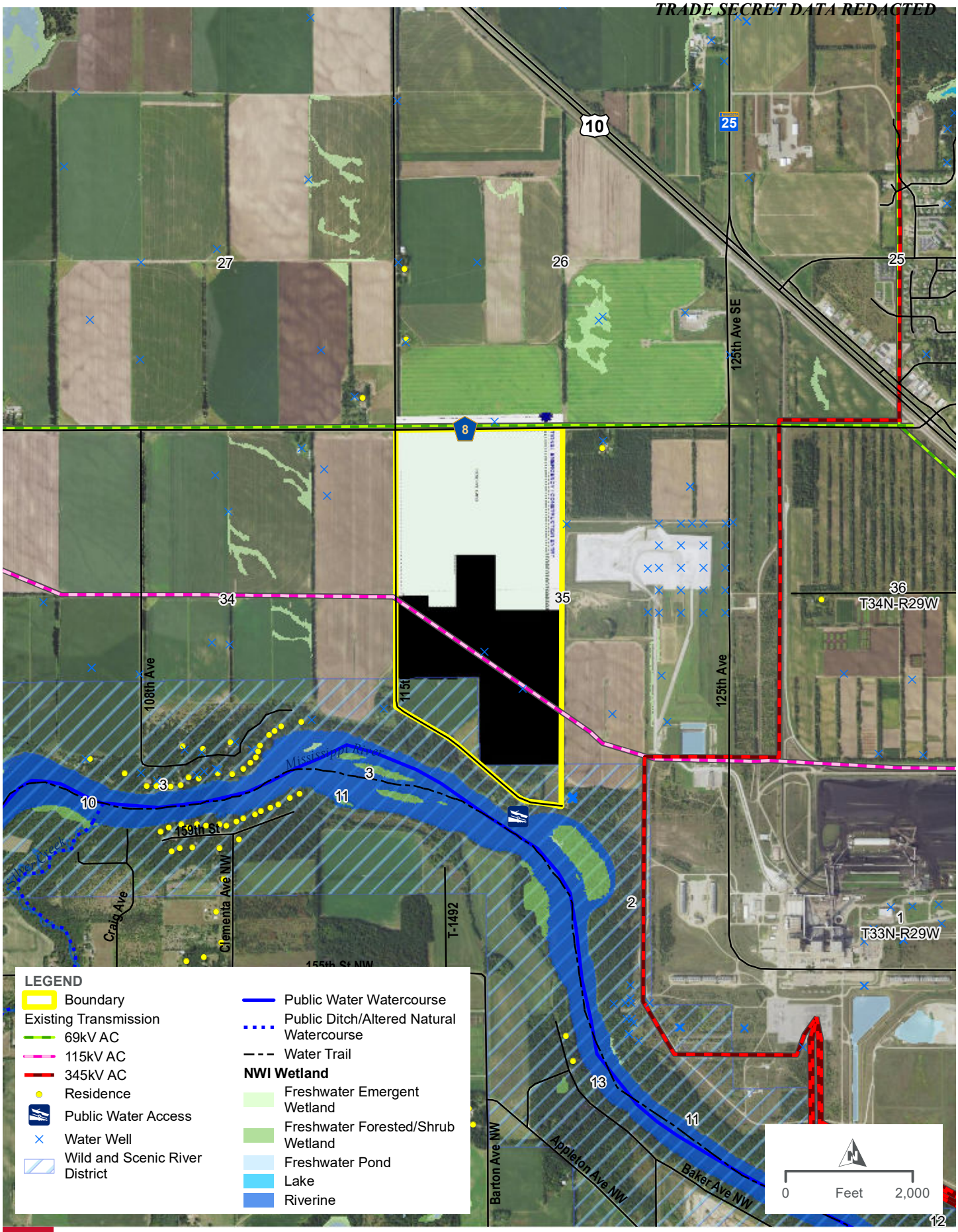


TOPOGRAPHIC

THE BECKER DATA CENTER PROJECT

(FIGURE 2)

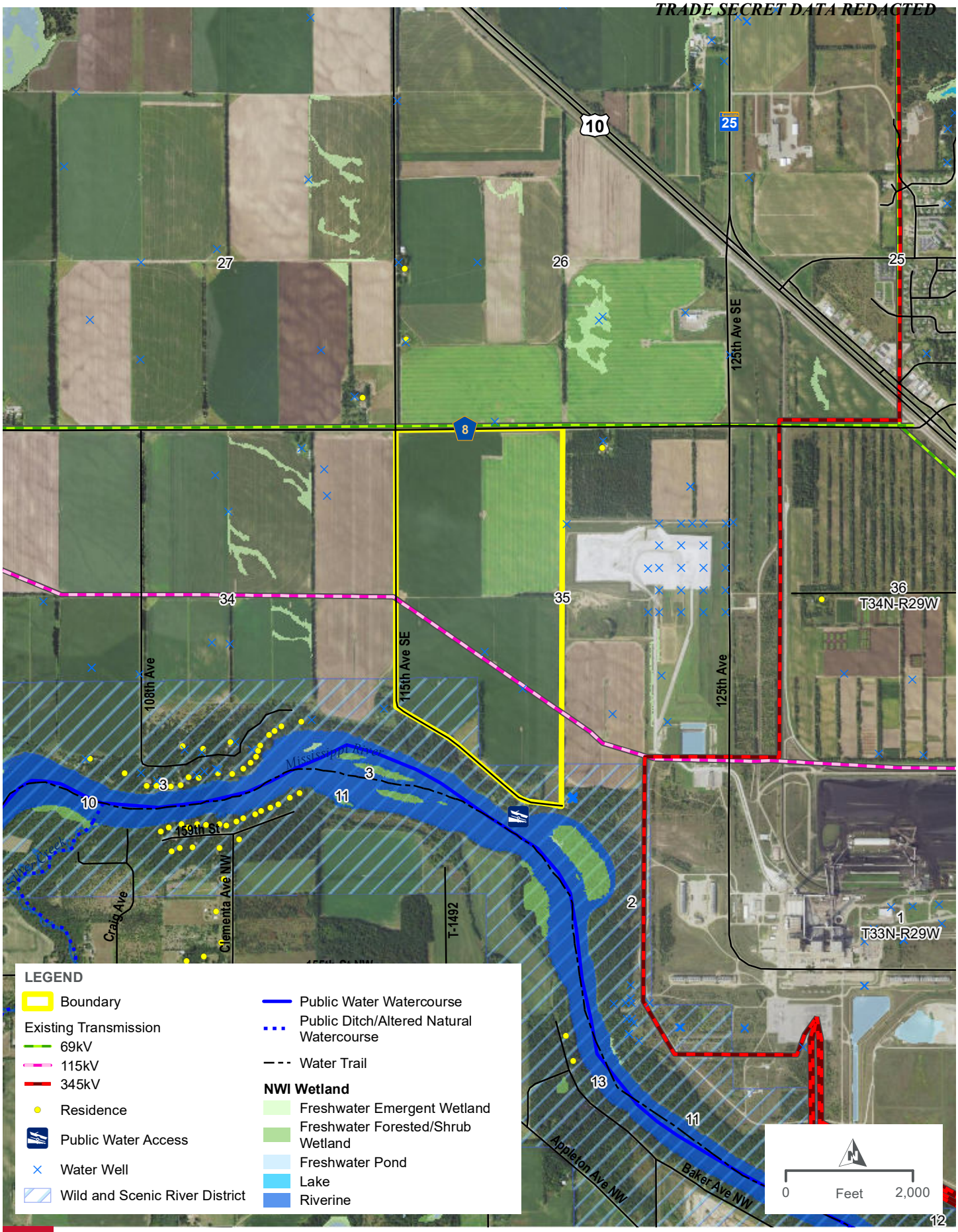
Service Layer Credits: USDA-NRCS-NCGC Digital Raster Graphic County



Draft
Confidential/Trade Secret Information
under Minn. Stat. section 13.37, subd. 1(b)
Public Version

SITE PLAN – REDACTED
THE BECKER DATA CENTER PROJECT
(FIGURE 3)

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

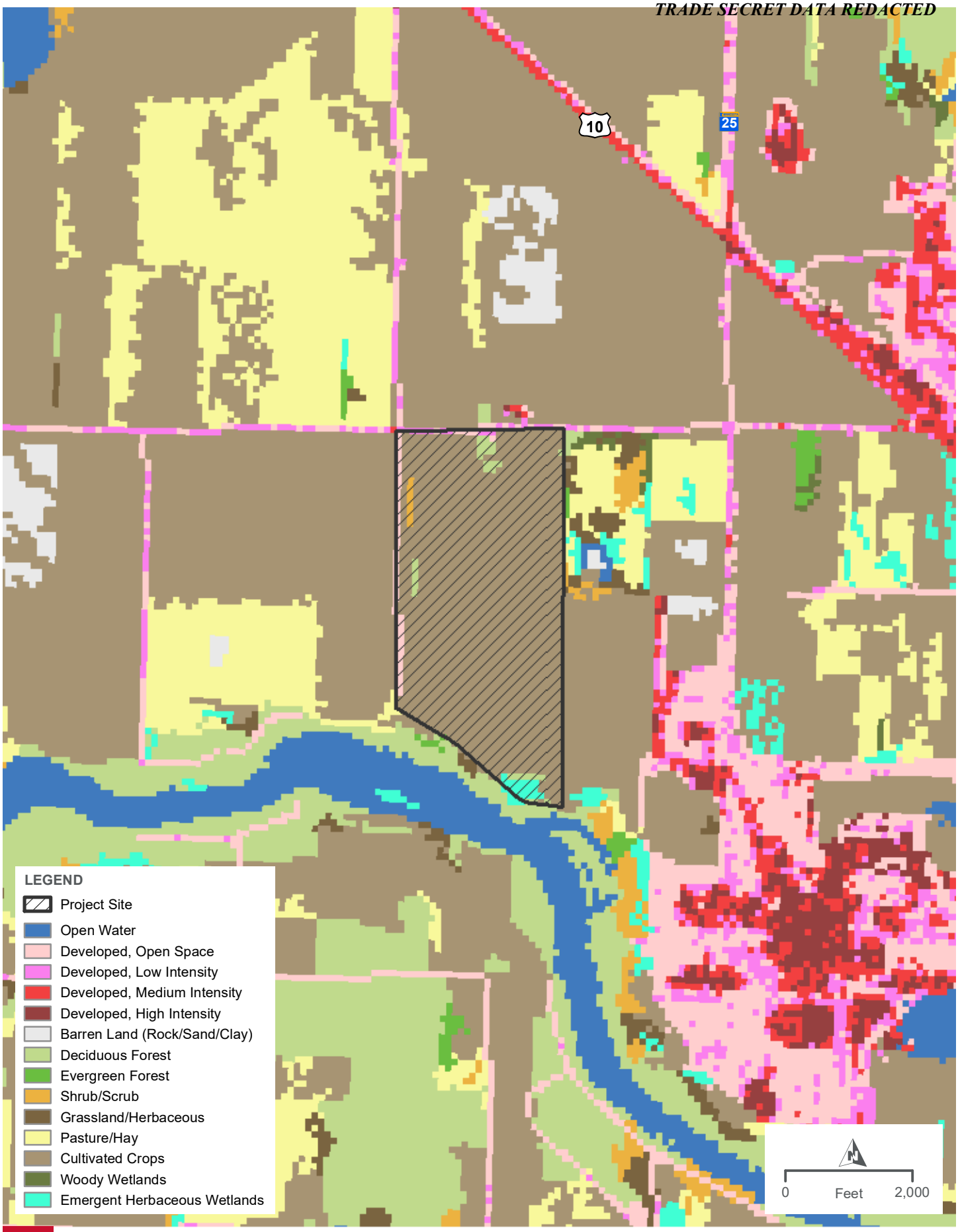


PROJECT OVERVIEW

THE BECKER DATA CENTER PROJECT

(FIGURE 4)

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

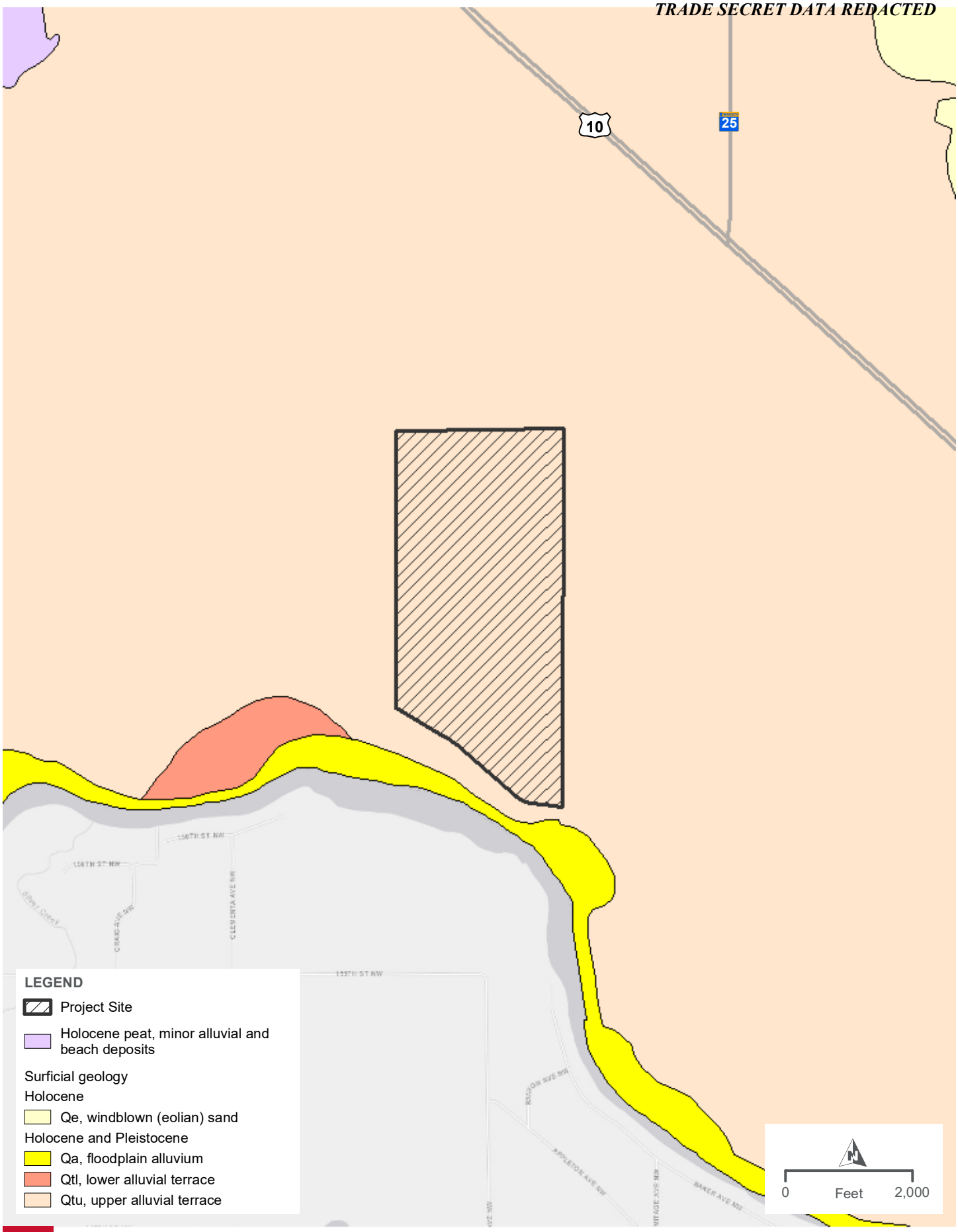


LAND COVER

THE BECKER DATA CENTER PROJECT

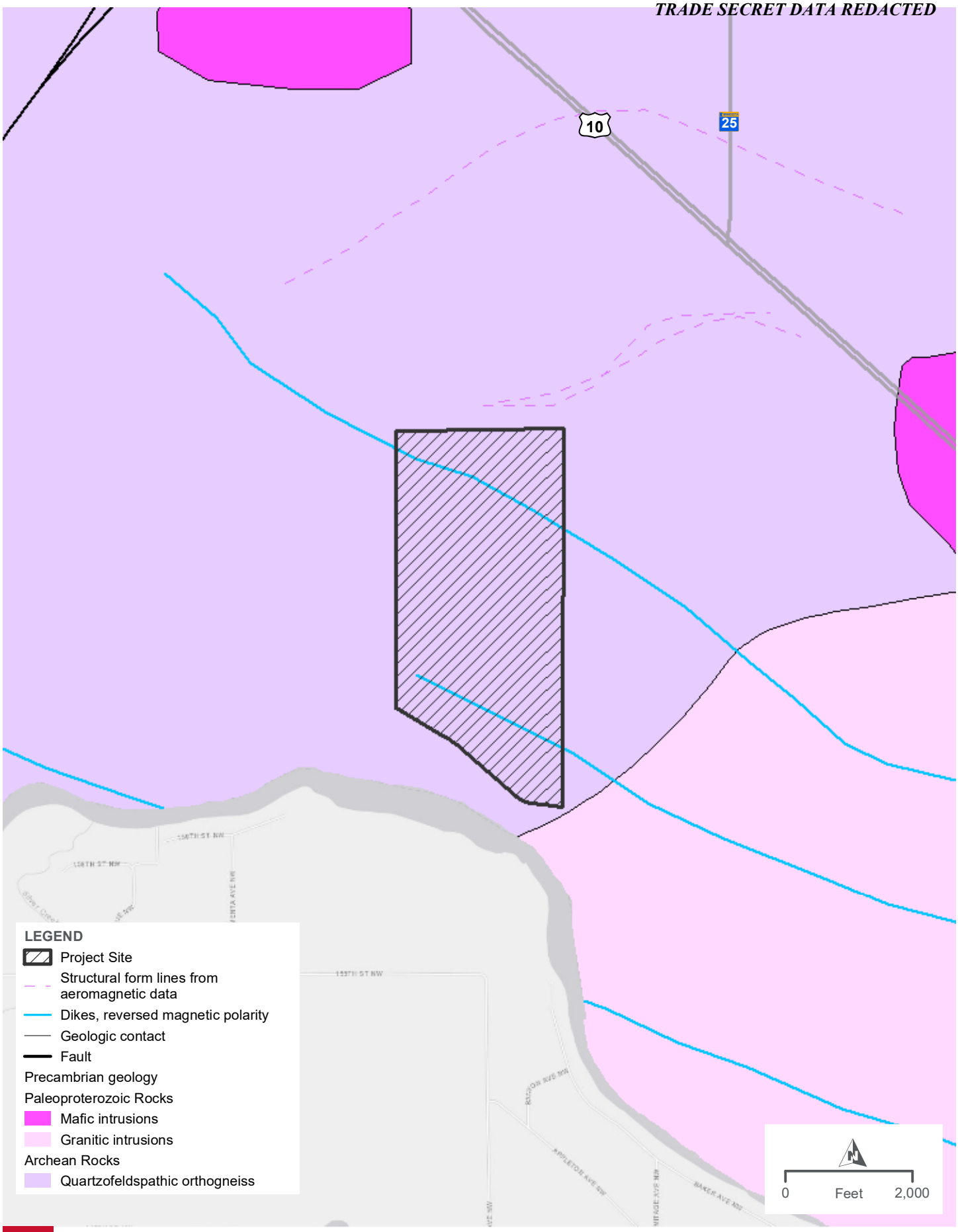
(FIGURE 5)

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community, Multi-Resolution Land Characteristics (MRLC) Consortium - 2011 National Land Cover Data Set (NLCD)



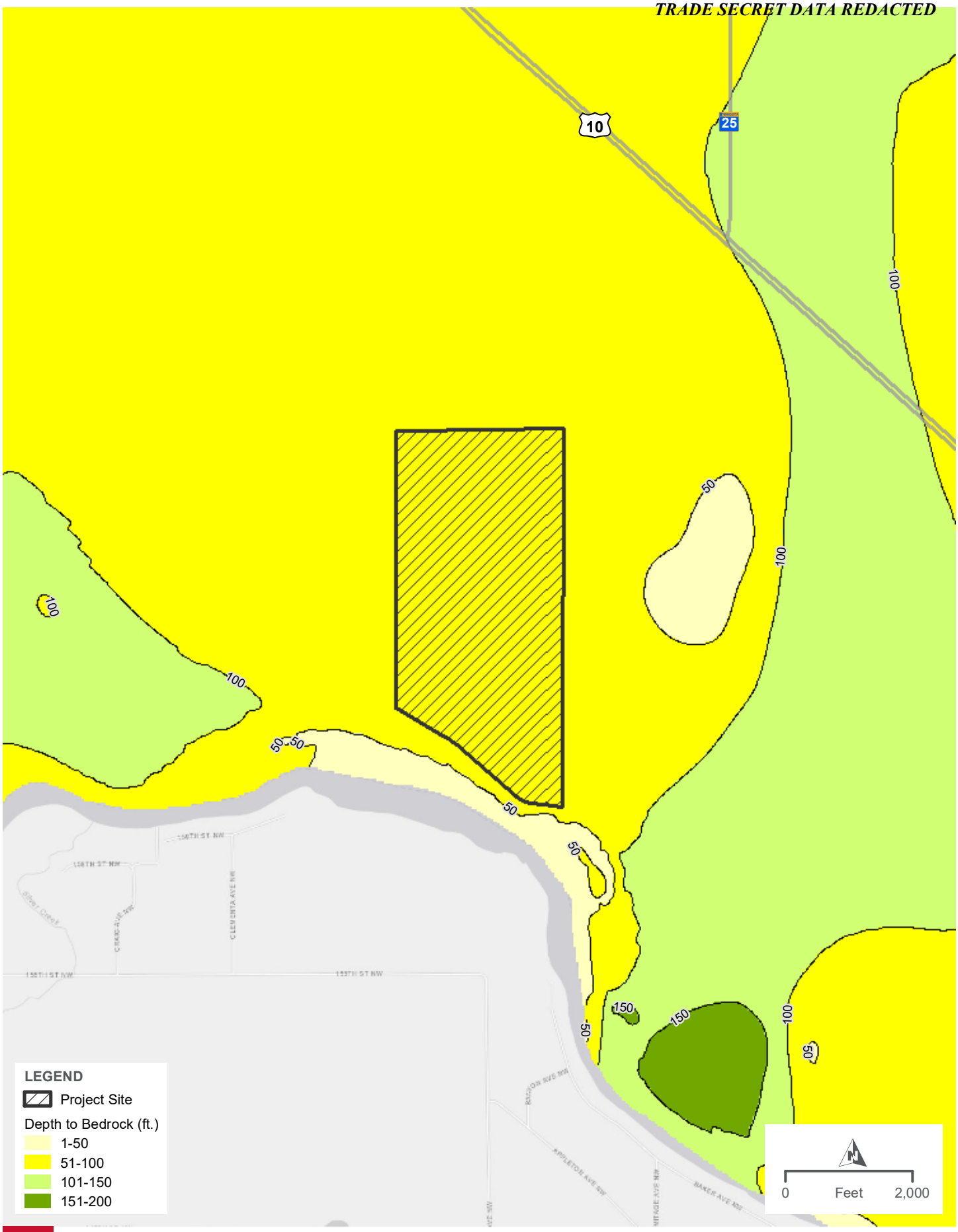
SURFICIAL GEOLOGY
THE BECKER DATA CENTER PROJECT
(FIGURE 6)

Service Layer Credits: Minnesota Geological Survey, 2011



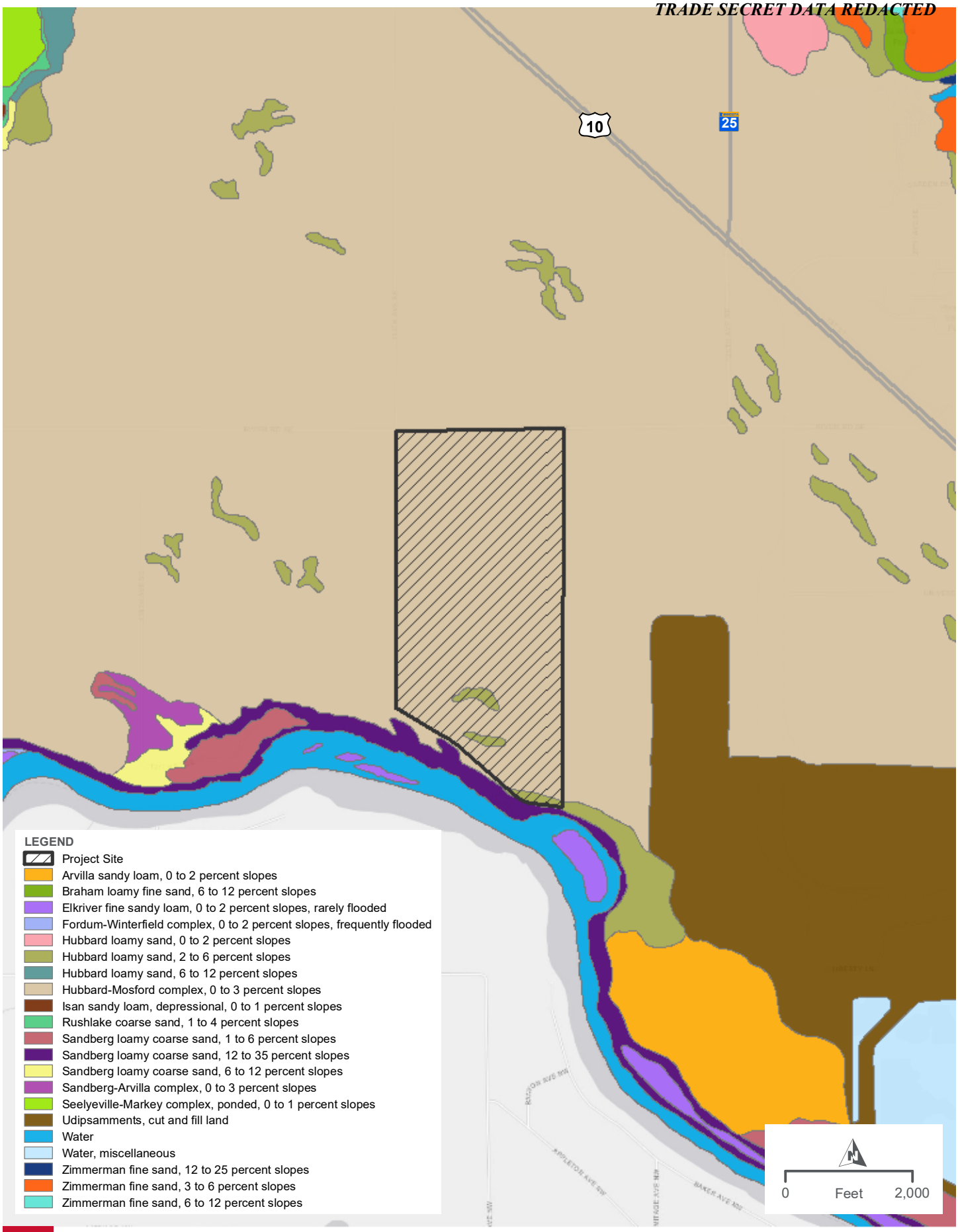
BEDROCK GEOLOGY
THE BECKER DATA CENTER PROJECT
(FIGURE 7)

Service Layer Credits: Minnesota Geological Survey, 2011



DEPTH TO BEDROCK
THE BECKER DATA CENTER PROJECT
(FIGURE 8)

Service Layer Credits: Minnesota Geological Survey, 2011

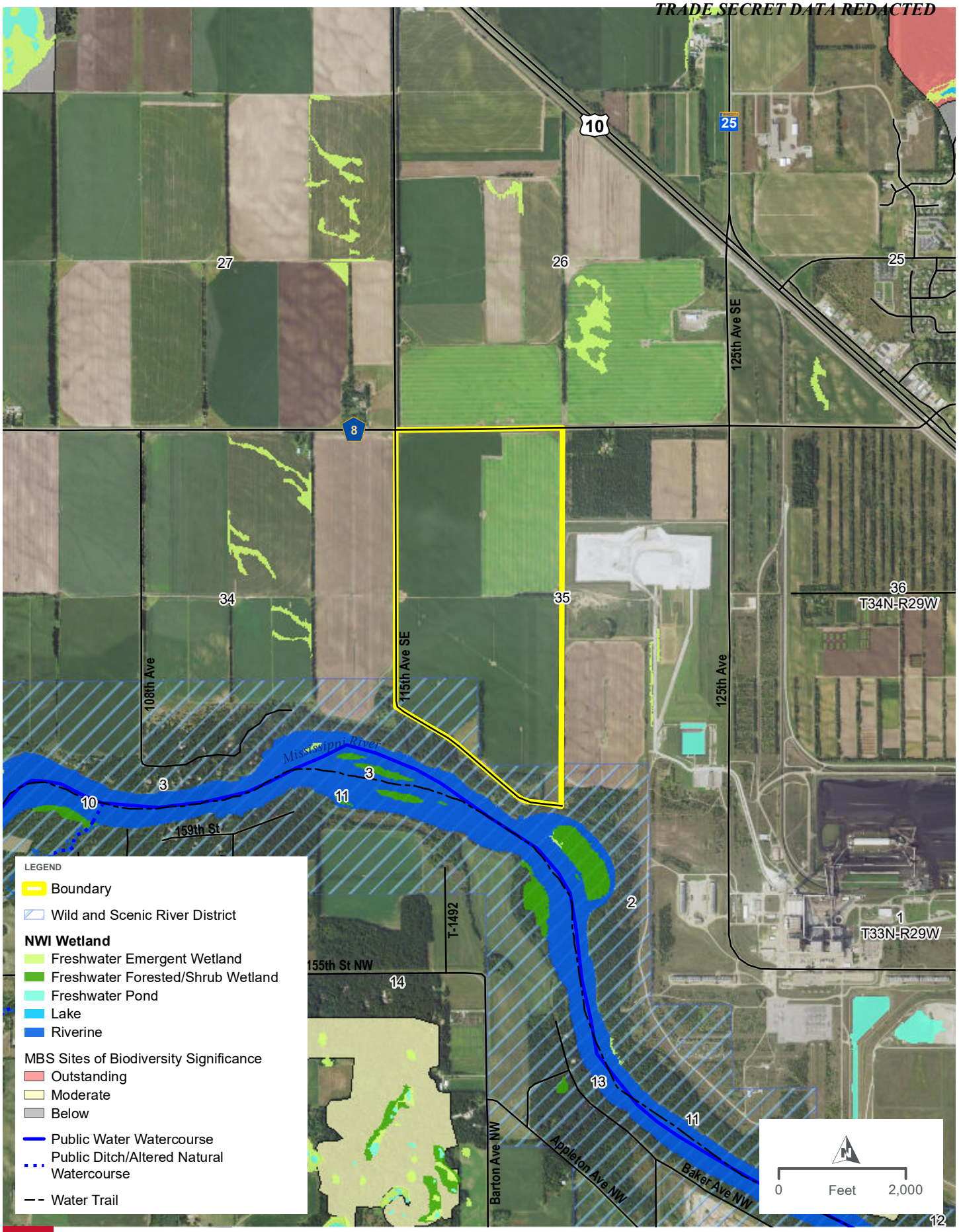


SOILS

THE BECKER DATA CENTER PROJECT

(FIGURE 9)

Service Layer Credits:Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community, U.S. General Soil



NATURAL RESOURCES

THE BECKER DATA CENTER PROJECT

(FIGURE 10)

Service Layer Credits: The Minnesota Biological Survey, Minnesota Department of Natural Resources (DNR), Division of Ecological Resources, 2018, USFW and DNR National Wetlands Inventory, 2018. DNR, Minnesota Wild and Scenic River Districts, 2006.

Appendices

Appendix A: Well Logs
Appendix B: Minnesota Well Index Map
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Appendix D: Agency Letters and Responses

Appendix A

Well Logs

PUBLIC DATA
TRADE SECRET DATA REDACTED

Minnesota Unique Well Number

558023

County Sherburne
Quad Clear Lake
Quad ID 138B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/29/1996
Update Date 03/10/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
ANDERSON	34	29	W	35	CDABBC

Elevation 970 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 11930 117TH A ST BECKER MN 55308
Well BECKER MN 55308

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOP SOIL	0	3	BLACK	
SAND & GRAVEL	3	8	BROWN	
FINE SAND	8	54	BROWN	
ROCK	54	55	BLK/WHT	
SAND & GRAVEL	55	69	BROWN	
GRANITE	69	69	RED/WHT	

Remarks

Well Depth 69 ft. **Depth Completed** 69 ft. **Date Well Completed** 02/09/1995

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use irrigation **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
12 in. To 54 ft.	lbs./ft.	18 in. To 69 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
12 in.	120	15 ft.	54 ft. 69 ft.

Static Water Level
37 ft. land surface Measure 02/09/1995

Pumping Level (below land surface)
69 ft. 3 hrs. Pumping at 500 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		0 ft.	48 ft.
pearock		48 ft.	69 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/01/1995
Manufacturer's name LAYNE
Model Number 10RHK HP Volt
Length of drop pipe 50 ft Capacity 550 g.p. Typ Turbine

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Becker terrane-gran. Aquifer Quat. Water
Last Strat Becker terrane-gran. Depth to Bedrock 69 ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 428408 Y 5026601
Unique Number Verification Other, note in Input Date 02/28/2011

Angled Drill Hole

Well Contractor
Traut M.J. Well Co. 71536 ROBBIE/TROY
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report | **558023** | Printed on 12/12/2018 HE-01205-15

PUBLIC DATA
TRADE SECRET DATA REDACTED

Minnesota Unique Well Number

747066

County Sherburne
Quad Clear Lake
Quad ID 138B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 07/24/2008
Update Date 12/16/2011
Received Date 02/11/2008

Well Name	Township	Range	Dir	Section	Subsection
MW-P-135	34	29	W	35	CACBCB

Elevation 971 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 414 NICOLLET MALL MINNEAPOLIS MN 55401

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
NO SAMPLES TAKEN	0	5		
SAND W/ SILT LOOSE	5	8	BROWN	
SAND MED DENSE	8	37	BROWN	
SAND W/ SILT DENSE	37	40	BROWN	
SAND DENSE	40	50	BROWN	

Remarks

WELL LOCATION: S OF CR 8 & E OF CR 53 BECKER TWP

Well Depth 50 ft. **Depth Completed** 50 ft. **Date Well Completed** 12/07/2007

Drill Method Auger (non-specified) **Drill Fluid**

Use monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
2 in. To 38 ft.	lbs./ft.	8.2 in. To 49.5 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	10 ft.	38 ft.	48 ft.

Static Water Level

40.9 ft. land surface Measure 12/07/2007

Pumping Level (below land surface)

ft. hrs. Pumping at g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☒ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount		From	To
bentonite	2	Sacks	2 ft.	36 ft.
neat cement	1	Sacks	ft.	2 ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☒ No

Pump ☒ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. Water
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 428227 Y 5026782
Unique Number Verification Site Plan Input Date 02/28/2011

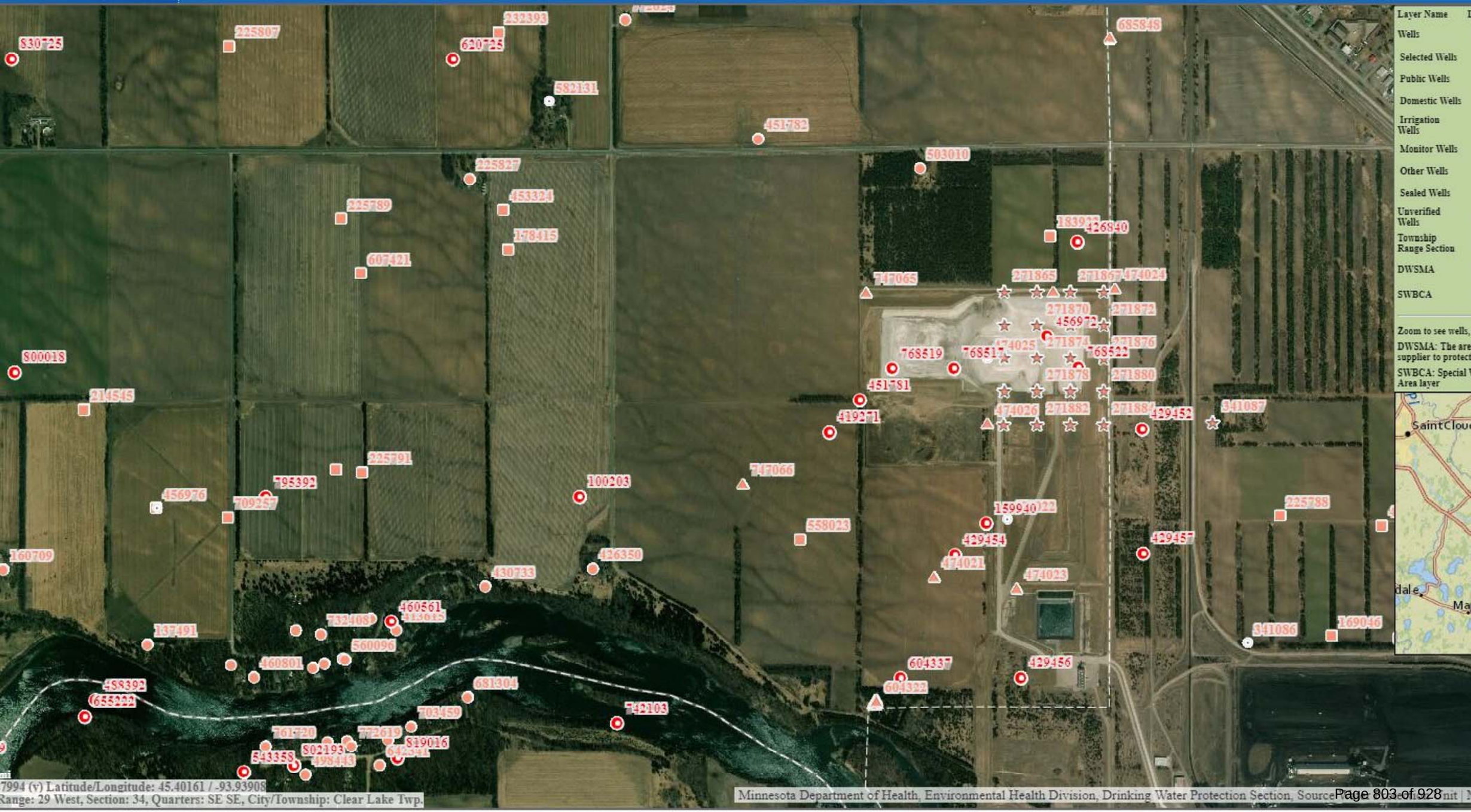
Angled Drill Hole

Well Contractor

American Engineering 1795 GRASKI, S.
Licensee Business Lic. or Reg. No. Name of Driller

Appendix B

Minnesota Well Index Map



7994 (v) Latitude/Longitude: 45.40161 / -93.93908
Range: 29 West, Section: 34, Quarters: SE SE, City/Township: Clear Lake Twp.

Minnesota Department of Health, Environmental Health Division, Drinking Water Protection Section, Source

Appendix C

MnDNR Concurrence Request

HDR

January 17, 2019

Lisa Joyal
Minnesota Department of Natural Resources
Natural Heritage Information System
500 Lafayette Road
St Paul, MN 55101

RE: Request for Concurrence of Review of Natural Heritage Database (NHIS) for T34N, R29W Section 35 and T33N, R29W Section 2

Ms. Lisa Joyal,

HDR Engineering, Inc. (HDR) is in the process of reviewing data for a possible commercial development that would be located in Sherburne County, Minnesota. The proposed project area is largely located in T34N, R29W, Section 35, with a small portion of the project area also located in T33N, R29W Section 2 (see attached figure). HDR has reviewed publically available data and prepared a preliminary Minnesota Department of Natural Resources (MnDNR) NHIS review using data obtained under HDR License Agreement 933. HDR requests your concurrence with the results of our preliminary database review as described below.

The preliminary data review showed that a small portion of the project area is located in a MnDNR State Wild and Scenic River District (see attached figure). It's our understanding that local governments are required to adopt ordinances under State rule which describe allowed uses along MnDNR Wild and Scenic Rivers. Sherburne County, as the local government, has developed Wild and Scenic Zoning Rules and a small portion of the project area extends into a parcel zoned as a Recreational River. If construction would be proposed in this parcel, the project would need to be screened against the allowed uses outlined in the ordinance.

The MnDNR NHIS database search identified species listed in the table below within 1 mile of the proposed project boundary.

MnDNR State Listed Species

Common Name	Scientific Name	Status
Loggerhead Shrike	Lanius ludovicianus	Endangered
Rock Sandwort	Minuartia dawsonensis	Threatened
Peregrine Falcon	Falco pregrinus	Species of Concern
Bald Eagle	Haliaeetus leucocephalus	Watchlist
Creek Heelsplitter	Lasmigona compressa	Species of Concern
Black Sandshell	Ligumia recta	Species of Concern

In addition to the state listed species, the NHIS data search identified a Colonial Waterbird Nesting Area outside the southern project boundary and adjacent to the Mississippi River.

hdrinc.com

701 Xenia Avenue SouthSuite 600Minneapolis, MN 55416-3636
(763) 591-5400

Given the land cover and land use in the majority of the project area, impacts are not anticipated to state listed species. If you have questions regarding the information provided please feel free to contact me at shelley.richards@hdrinc.com or (503) 201-1922 or our biologist, Scott Krych at scott.krych@hdrinc.com or (763) 591-5420.

Sincerely,

Shelley D. Richards, PE
Project Manager

hdrinc.com

701 Xenia Avenue SouthSuite 600Minneapolis, MN 55416-3636
(763) 591-5400

Appendix D

Agency Letters and Responses

KUTAKROCK

Kutak Rock LLP
60 South Sixth Street, Suite 3400, Minneapolis, MN 55402-4018
office 612.334.5000

Todd J. Guerrero
612.334.5007
todd.guerrero@kutakrock.com

January 18, 2019

Ms. Kelly Gragg-Johnson
State Historic Preservation Office
Administration Building #203
50 Sherburne Avenue
St Paul, MN 55101

Re: State Historic Preservation Office (SHPO) review for T34N, R29W Section 35 and T33N, R29W Section 2

Dear Ms. Gragg-Johnson:

Our firm represents Jet Stream LLC in its evaluation of a proposed 300,000+ square feet light industrial project to be located in the City of Becker, Minnesota adjacent to Xcel Energy's Sherco power plant and are authorized to file this letter on its behalf. The proposed project area is largely located in T34N, R29W, Section 35 with a small portion of the project area located in T33N, R29W Section 2 (see enclosed project area overview). We are providing this letter to inform SHPO of our preliminary results with respect to historic and cultural resources within and near the project area and respectfully ask for your comments and confirmation.

The project is preparing an Environmental Assessment Worksheet (EAW) with the City of Becker as the responsible governmental unit. Preparation of the EAW is being led by HDR Engineering, Inc. As part of the environmental review, HDR made a request to SHPO on December 12, 2018 to update previously obtained data for the project area. The data showed no previously recorded archeological sites within the proposed project area. There was one pre-contact archeological site within the one mile buffer search area on the opposite side of the Mississippi River. This is outside the project area and will not be disturbed. In addition, a Phase I Cultural Resource Survey was completed for the project area in December 2017 which showed that the project would not affect any cultural resources.

The SHPO database search included two historic properties within one-mile of the project area: the NRHP listed Herbert Maximilian Fox House (SH-BKC-012), and Minnesota Highway

KUTAKROCK

10 (SH-SCC-367), which SHPO considers eligible for listing. The proposed project is not anticipated to cause any direct or indirect impacts to these properties.

HDR also reviewed a previous study conducted of the project area by Jacobs Engineering that identified two areas with previously existing structures, the existence of which were confirmed from plat maps and aerial photographs. Jacobs also conducted a pedestrian survey and shovel testing in the project area. One area is represented by a historic material scatter and appears to coincide with structures that were noted on aerial photographs from 1938 through 1960, and on plat maps from 1901 and later. Because the site appears unlikely to be eligible for listing on the NRHP under Criterion D, however, neither Jacobs nor HDR made any formal evaluation for NRHP eligibility.

Based on the information above, our conclusion is that there are no significant impacts anticipated to recorded historical, architectural or archaeological resources in the project area. If you have questions regarding our conclusions or the project generally, please contact HDR's Project Manager Shelley Richards at shelley.richards@hdrinc.com, (503) 201-1922, or HDR's Cultural Resource Specialist Michael Justin at michael.justin@hdrinc.com, (763) 591-5423.

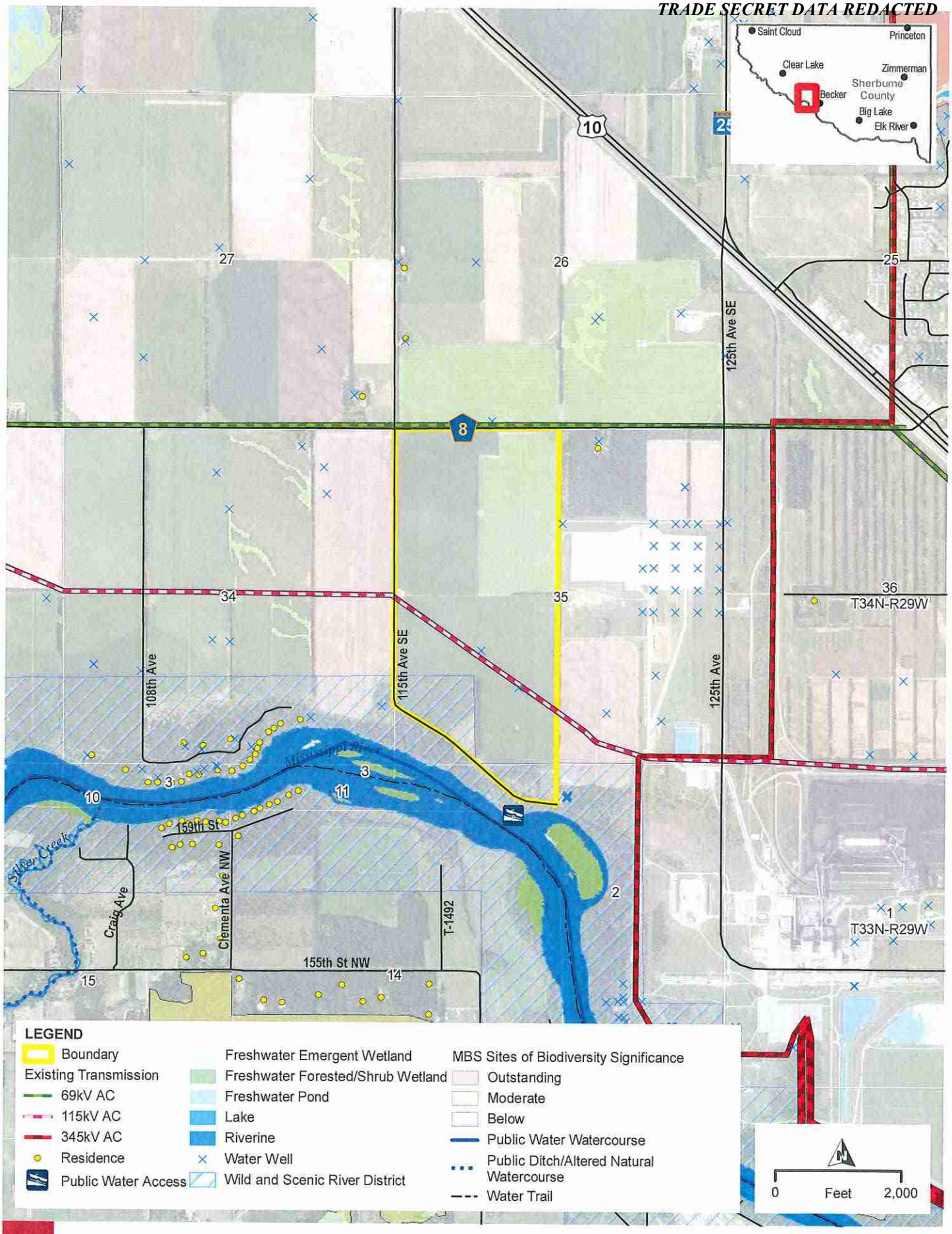
Thank you for your attention to this matter.

Sincerely,

Todd J. G

Todd J. Guerrero

cc: Shelley Richards
Michael Justin
Jet Stream LLC



PROJECT OVERVIEW

PROJECT PINE

(FIGURE 1)

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

January 24, 2019

Mr. Todd Guerrero
Kutak Rock
60 6th St S, Suite 3400
Minneapolis, MN 55402-4018

RE: Construct a light industrial facility
T34 R29 S35; T33 R29 S2
Becker Twp., Sherburne County
SHPO Number: 2019-0739

Dear Mr. Guerrero:

We have received your correspondence regarding the above-referenced project. Unfortunately, we are unable to continue our review without the following additional information. Please send:

- A statement about whether there will be demolition of any structures to clear the site. If so, include photos and original construction dates (if known) of the structures.
- Copy of the project site plan if available (or design drawings/map showing **exact** location(s) of project, the map included with this submittal is general and doesn't provide enough detail.
- A copy of the December 2017 Phase I Cultural Resource Survey mentioned in your letter.

At this time, we only accept hard copies of project documents sent by post or express mail. Please reference the SHPO File Number on your return correspondence, as this will help us process your review request more quickly. You may address the correspondence to:

Environmental Review
State Historic Preservation Office
50 Sherburne Avenue, Suite 203
St. Paul, MN 55155

If you have any questions concerning this letter, please contact me at (651) 201-3286 or leslie.coburn@state.mn.us.

Sincerely,

Leslie Coburn
Environmental Review Coordinator

KUTAKROCK

Kutak Rock LLP
60 South Sixth Street, Suite 3400, Minneapolis, MN 55402-4018
office 612.334.5000

Todd J. Guerrero
612.334.5000
todd.guerrero@kutakrock.com

February 1, 2019

Environmental Review
State Historic Preservation Office
50 Sherburne Avenue, Suite 203
St. Paul, MN 55155

RE: SHPO Number: 2019-0739

Dear Environmental Review:

This letter responds to Leslie Coburn's January 24, 2019 letter requesting additional information regarding the proposed construction of a light industrial facility in Becker, Minnesota, a copy of which is attached.

Because there are no existing structures on the site, there will be no demolition associated with the project.

Attached please find an updated project site plan. As discussed, please note the site plan has been marked as "trade secret" pursuant to Minn. Stat. § 13.37, subd. 1(b), and is not intended to be available for disclosure to the public.

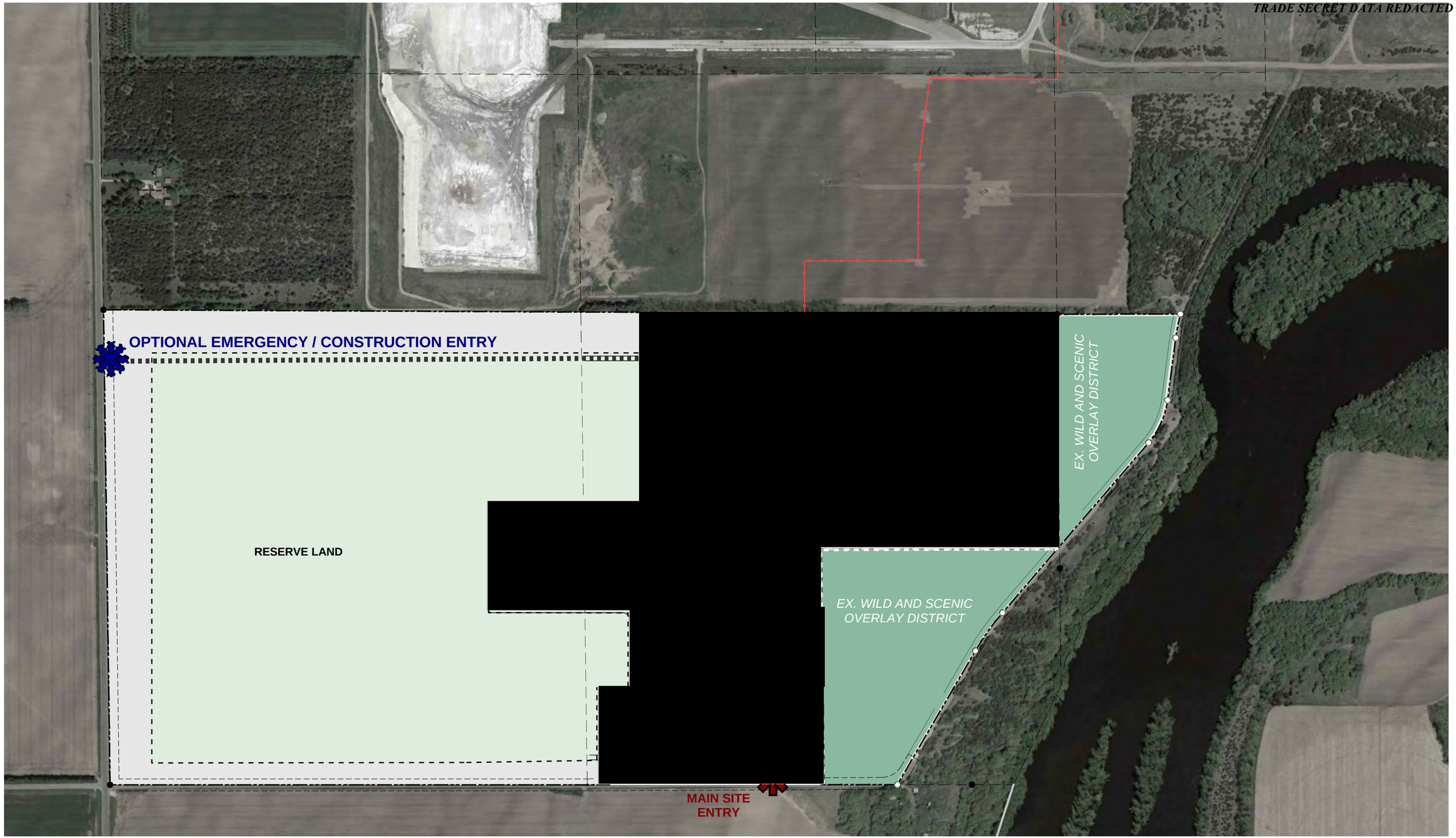
Last, please find a copy of the December 1, 2017 cultural resources report prepared for the site by Jacobs Engineering, Inc.

Thank you for your questions. Please let us know if you have others.

Very truly yours,

Todd J. Guerrero

cc: Shelley Richards, HDR Inc. (via email w/attachments)
Michael Justin, HDR Inc. (via email w/attachments)
Project Pine (via GDrive)



Draft
Confidential / Trade Secret Information under Minn. Stat. Section 13.37, subd. 1(b)
Public Version

0' 250' 500' 1,000' N

JACOBS

Memorandum

Level 6, 30 Flinders Street
Adelaide SA 5000 Australia
T +61 8 8113 5400
F +61 8 8113 5440
www.jacobs.com

Date 1 December 2017

To Oisin Murchu, Project Manager

From Michael Chidley, MA (Senior Archaeologist) and Stacy Bumback, MA (Senior Archaeologist)

Subject Cultural Resources Stage 2 Due Diligence Study: Project Pine/Sherco Project Site

Jacobs completed background research and conducted a field visit to the Project Pine/Sherco Project Site (Project Site) to assess the potential for significant cultural resources to be present and to provide recommendations regarding the additional tasks that may be necessary to support future federal permitting efforts, if needed, and compliance with Section 106 of the National Historic Preservation Act (NHPA). The current effort was performed to support due diligence studies of the parcel being considered for development and is intended to inform the decision making process. The studies and field visits are not intended to serve as documentation of compliance with state or federal cultural resources regulations.

This technical memorandum documents the findings from the current due diligence study. The term cultural resource in this document refers to archaeological sites, Traditional Cultural Properties (TCPs) and built environment structures, regardless of eligibility for listing as a National Register of Historic Places (NRHP) property. The term historic property refers to archaeological sites, TCPs, and structures that are eligible for listing in the NRHP.

Summary of Findings

Four archaeologists from Jacobs conducted a field survey of the Project Site. The field results suggest a low probability for undiscovered prehistoric archaeological sites or significant historical archaeological sites. A sparse surface scatter of materials located in the north-central portion of the Project Site (Northern Farmstead) was observed and consisted of glass, ceramic, and metal artifacts. Historic maps and aerial imagery indicate that a farm was previously located in the northern portion of the Project Site; however, it was mechanically dismantled and removed. The visible artifact scatter appears to be disturbed and shallow; no evidence of intact features was seen on the surface. It is unlikely that the site would be determined eligible for listing in the National Register of Historic Places (NRHP). Based on the current field survey, it has been determined that the area has limited potential to contain buried and/or intact significant archaeological deposits. There are no state or local laws that protect archaeological sites on private property. If federal permitting is required to develop the Project Site, compliance with the regulations set forth in Section 106 of the NHPA.

Regulatory Context

If federal permitting is required to develop the Project Site, the project will be considered a federal undertaking and would be subject to Section 106 of the NHPA. Section 106 of the NHPA (Section 106) requires that, before beginning any undertaking, a federal agency must take into account the effects of the undertaking on historic properties and afford the Advisory Council on Historic Preservation an opportunity to comment on these actions (16 USC 470f).

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Memorandum

Methods

Background research and a field survey were conducted to determine the potential for significant cultural resources to be present at the Project Site. Research and fieldwork were conducted and/or supervised by archaeologists that meet the Secretary of Interior's Professional Qualifications for Archaeology and historians that meet the Secretary of Interior's Professional Qualifications for Architectural History. Michael Chidley, RPA served as Principal Investigator for the project.

Background Research Methods

A records search was conducted by the Minnesota State Historic Preservation Office prior to the field effort. According to the review, no previously-conducted cultural resource surveys or previously documented cultural resource properties are located within or in proximity to the Project Site.

Background research also included a review of historic aerial photography and a historic U.S. Geological Survey (USGS) 7.5 minute series topographic map, Clear Lake Quadrangle, to characterize the physical setting, determine whether any buildings/structures were present, and assess the level of ground disturbance that occurred during previous development activities at the Project Site

Field Methods

The archaeological field survey of the Project Site was conducted November 07-09, 2017. Four archaeologists from Jacobs, led by supervisory field archaeologist Michael Chidley, conducted a visual inspection of the modern ground surface using survey transects spaced approximately 5 meters apart, covering 100% of the Project Site. Documentation in the field consisted of hand-written notes and digital photographs of the topography, vegetation, and various forms of ground disturbance observed along each survey transect.

As part of the field survey, 41 shovel tests were judgmentally excavated in portions of the Project Site to assess soil composition, degree of disturbance, and the potential for intact cultural resources. Actual shovel probe placement was directed at areas judged to have the highest prehistoric archaeological potential, and to investigate portions of the Northern Farmstead.

At the location of the Northern Farmstead, an intensive surface survey was conducted to identify historic and modern materials. Pin flags were used to mark artifact locations and to delineate the maximum extent of all observed surface artifacts. Following this intensive surface examination, a field sketch plan map of the scatter was completed, materials were recorded by type and count, potentially temporarily diagnostic artifacts were photographed, and six shovel probes were excavated in the scatter to record subsurface conditions and evaluate subsurface material density.

Background Research Results

The records search indicated that there were no previously-conducted cultural resource surveys or previously documented cultural resource properties are located within or in proximity to the Project Site. A review of historic aerial photography and a historic USGS 7.5 minute series topographic map, revealed the presence of two structures on Project Site that pre-date 1961.

According to the 1961 USGS Clear Lake Quadrangle topographic map from the topo-View - USGS National Geologic Map Database (USGS 2017), two structures are mapped on the Project Site. A structure is mapped near the center of the northern parcel limit, and a second structure is located near the southeast corner of the southern parcel limit. The northern structure is also present on the 1991 USGS map, although the southern structure is now absent on the same map.

Review of historic aerial photography indicates that the northern structure was removed prior to 1977, and the southern structure was removed post-1977 (University of Minnesota 2017) (Attachment A, Figures 1

and 2)). Both of these structures are related to farmsteads, with associated outbuildings, yards, and trees. The northern farmstead appears on photographs taken in 1938, 1939, 1940, and 1953, but the structures are absent in a 1977 photograph. The farmstead outline, some trees, and building footprints are still present and the yard is not yet under cultivation. It may be that the structure removals were somewhat recent at the time of the 1977 photograph. An index of aerial photographs taken in 1963 does not have sufficient resolution to determine if structures are present or not at that time (and the higher resolution photo [wp_2dd_215] is not available online). The southern farmstead appears on photographs spanning from 1938 through 1977 (University of Minnesota 2017), but the buildings have been removed by 1991 (Google Earth 1991).

Other than these two farmsteads, each with minor modifications, the remainder of the Project Site has been under cultivation since at least the late 1930s with no other evident structures or construction.

A review of the National Resource Conservation Service Web Soil Survey (NRCS 2017) indicates that the soils mapped on the Project Site are composed of sandy alluvium (loamy sand) formed on stream/river terraces from glacial. Underlying dendritic drainage channels from terminal Pleistocene glacial outwash remain evident in several aerial photographs. Together, with the widespread agricultural use of the Project Site, archaeological artifacts and features are expected to be present in near-surface context (i.e. less than 50 centimeters (cm)) except where they may present in relatively deeper in-filled dendritic swales. The disturbed plow-zone generally comprises the upper 40 cm of the soil column. Artifacts found in the context of the plow-zone would likely lack integrity and have resulted from the upward movement from deeply buried archaeological sites or the horizontal distribution from years of plowing.

Following completion of the background research, Jacobs recommended a reconnaissance-level archaeological investigation (field survey) of the entire 312-acre Project Site. The field survey was performed to identify any previously undocumented cultural resources, assess the level of ground disturbance, and determine the potential for significant cultural resources to be present.

Field Results and Conclusions

As a result of the field survey, one possible historical archaeological site (Northern Farmstead) was identified on the surface; no prehistoric sites were identified (Attachment A, Figure 3). Although soils and parcel appear to be in overall good condition, field results suggest a low probability for undiscovered prehistoric archaeological sites, or significant historical archaeological deposits. This conclusion is based on the following:

- Aerial photographs show a farmstead previously located on the north-central edge of the Project Site, apparently removed by 1977. A southern farmstead was previously located on the southeast edge of the Project Site, and apparently removed between 1977 and 1991. The Northern Farmstead has been converted to agricultural field; the southern farmstead is currently wooded and scrub/grass-covered.
- Close interval pedestrian survey and judgmentally-located shovel probes did not identify any prehistoric archaeological materials.
- Surface visibility was good to excellent on approximately 125 acres where fields had been harrowed, but was poor to fair on approximately 177 acres where covered by corn stover or grass (Attachment B, Photographs 1, 3, and 3).
- Thirty-four shovel probes were excavated in the southeast corner of the Project Site because this area was judged to have the highest prehistoric archaeological potential due to proximity to the river and relative lack of disturbance; all were negative.
- Shovel probe results indicate the subsurface soils are largely intact below the plow-zone, consisting of sandy loam A, B, and C horizons. The relative depth of horizons (other than the plow-zone) within each of the shovel probes was dictated by location with respect to the subsurface dendritic outwash swales.
- The Northern Farmstead is a possible historical archaeological site, and is represented by a surface scatter of historic and possible modern glass, ceramic, and metal artifacts. The farm was

mechanically dismantled and removed, and the site appears to be in poor condition. Surface visibility was poor to fair on approximately 75% of the site due to corn stover (Attachment B, Photograph 4). The visible artifact and material scatter appears to be sparse, disturbed, and shallow. No evidence of intact features was seen on the surface, and six shovel probes excavated within the farmstead were either negative or recovered sparse historic or possible modern material.

- Frozen ground conditions limited investigation of the surface scatter of the Northern Farmstead, and hampered identification of temporarily diagnostic marks and characteristics.
- The southern farmstead has been dismantled, excavated, filled, and disturbed. The farm and any remaining materials are probably not sufficiently old to be considered archaeological, assuming abandonment after 1977.

Based on the background research and field survey, the Project Site has limited potential to contain buried and/or intact archaeological deposits.

Recommendations

If federal permitting is required to develop the Project Site, compliance with the regulations set forth in Section 106 of the National Historic Preservation Act may be required. This could require additional field investigations, including an intensive archaeological survey that meets the requirements of the Minnesota SHPO or those areas within the Project Site that fall under jurisdiction of the U.S. Army Corps of Engineers, or other anticipated federal agency.

With regard to the Northern Farmstead, a more in-depth property records search would need to be conducted to determine the actual abandonment and removal date to ascertain if the materials observed are of sufficient age to be considered archaeological or were part of an active farm until just prior to 1977. Given the apparent age and poor condition of the Northern Farmstead scatter, it is unlikely that the scatter, if archaeological, retains enough integrity and research or other significance to be eligible for the National Register of Historic Places (NRHP). However, the Northern Farmstead scatter was not evaluated for the NRHP as part of this study. Future federal permitting efforts may require that the Northern Farmstead be evaluated for listing on the NRHP.

Based upon a review of the Minnesota SHPO information, there are no state or local laws that protect archaeological sites on private property, unless those archaeological sites are burials or involved in NHPA Section 106 compliance. This is further clarified here:

> "Significant archaeological sites on non-federal public land are protected under Minnesota Statutes 138.40; significant sites are those site determined to be eligible for or listed in the state or federal historic registers. **Non-burial archaeological sites are not protected from harm on private lands in Minnesota even if they are listed in the state or federal historic registers, although they may be subject to a Minnesota Environmental Assessment Worksheet (EAW) if local permits are needed**, to review under Section 106 of the National Historic Preservation Act if they are a federal undertaking, or the subject of an injunction under the Minnesota Environmental Rights Act (MS 116b)." (Minnesota Department of Administration 2017)

There is a remote possibility that less common federal permitting regulations may trigger compliance with Section 106. For example, within Minnesota, the National Pollutant Discharge Elimination System (NPDES) permitting process does not typically require compliance with Section 106, unless required by other permit conditions. The NPDES permit is administered by the Minnesota Pollution Control Agency (MPCA) on behalf of the U.S. Environmental Protection Agency (EPA), a federal agency, and the EPA is ultimately responsible for compliance with required federal laws. Communication with the MPCA in November 2017 indicated that applicants are not typically required to comply with Section 106; however, the burden is on the applicant to ensure that their program is compliant with applicable state and federal laws.

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Memorandum

References

Google Earth. 45°23'06.71" N and 93°54'52.33" W, last accessed 30 November 2017.

Minnesota Department of Administration, State Archaeologist, https://mn.gov/admin/archaeologist/the-public/resources/faq, last accessed 30 November 2017.

NRCS, "Web Soil Survey," http://websoilsurvey.sc.egov. usda.gov/ App/HomePage.htm, accessed 06 November 2017.

University of Minnesota, Minnesota Historical Aerial Photographs Online (MHAPO), https://www.lib.umn.edu/apps/mhapo/#, accessed 06 November 2017.

USGS, topoView - National Geologic Map Database, https://ngmdb.usgs.gov/topoview/viewer/#15/45.3924/-93.9189, last accessed 30 November 2017.

JACOBS

Memorandum

Cultural Resource Stage 2 Due Diligence Study
Project Pine/Sherco Project Site

ATTACHMENT A:

FIGURES

JACOBS

Memorandum

Cultural Resource Stage 2 Due Diligence Study
Project Pine/Sherco Project Site

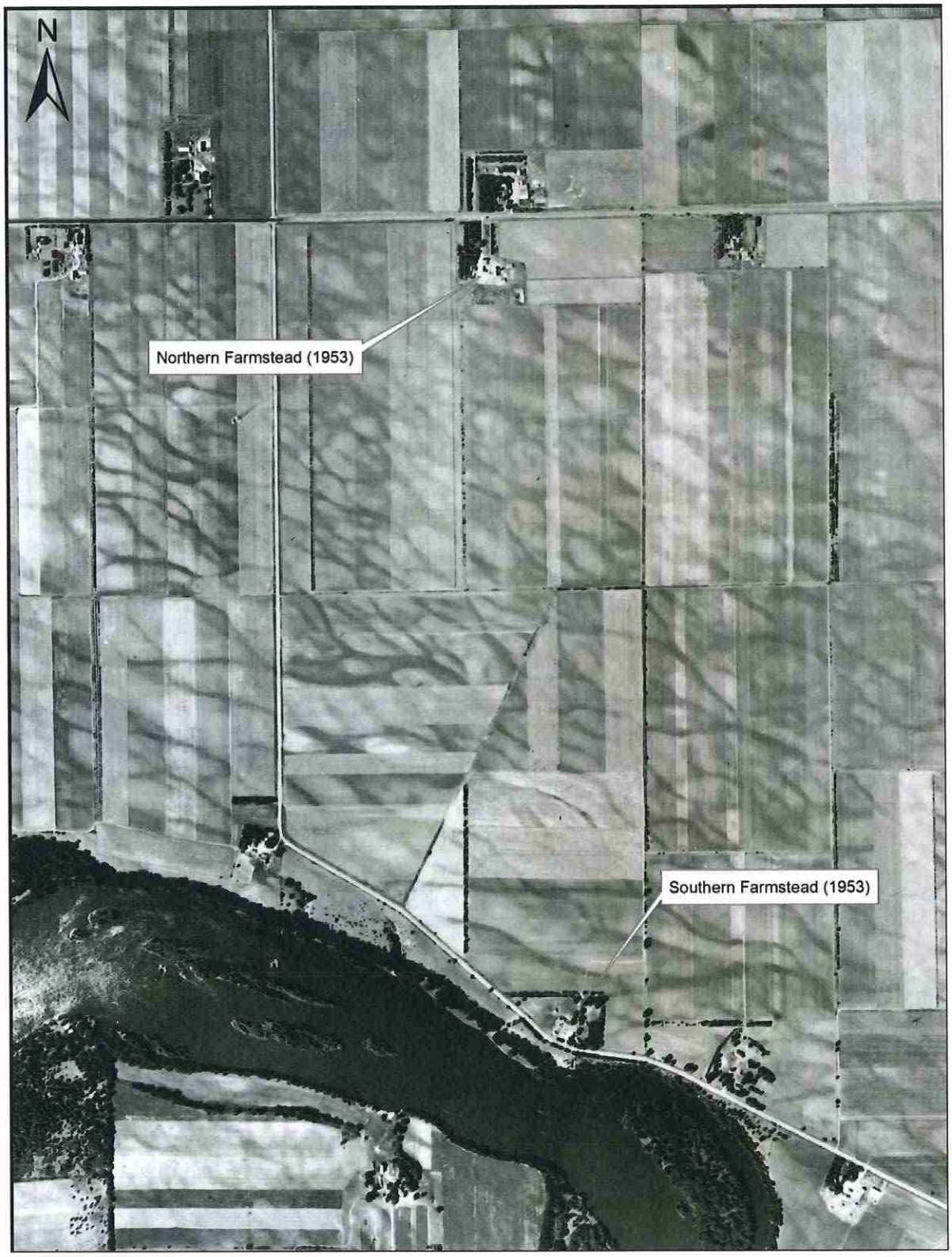


Figure 1. Aerial Photograph Showing Active Farmsteads on the Project Site in 1953.

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Memorandum

Cultural Resource Stage 2 Due Diligence Study
Project Pine/Sherco Project Site



Figure 2. Aerial Photograph Showing Active Southern Farmstead and Removed Northern Farmstead in 1977.

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Memorandum

Cultural Resource Stage 2 Due Diligence Study
Project Pine/Sherco Project Site

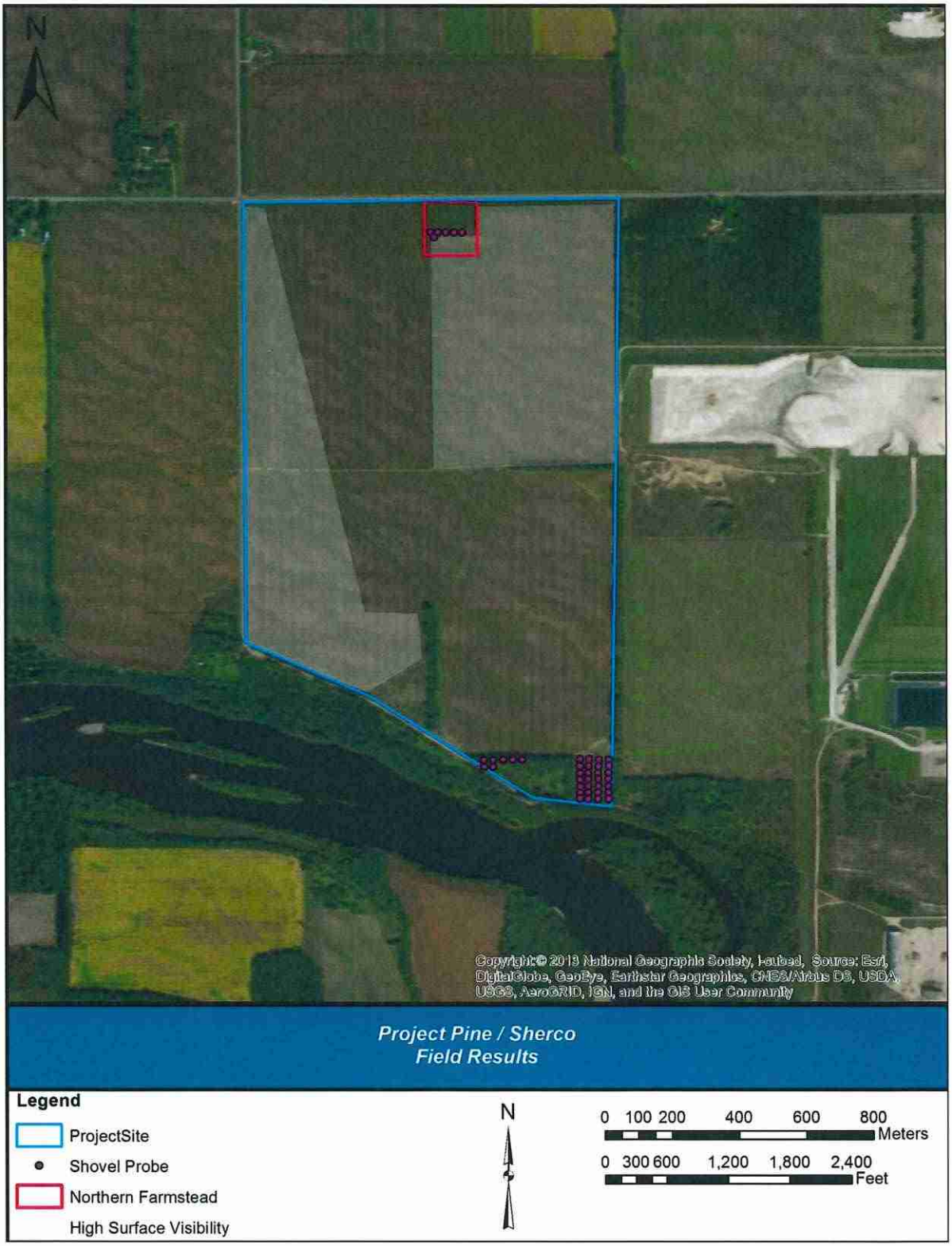


Figure 3. Project Pine / Sherco Field Results.

JACOBS

Memorandum

Cultural Resource Stage 2 Due Diligence Study
Project Pine/Sherco Project Site

ATTACHMENT B:

PHOTOGRAPHS



Photograph 1. Good Visibility Surface Conditions, View from Southwest Corner of Project Site.



Photograph 2. Poor Visibility Conditions, View to the North from South-Central End of Project Site.



Photograph 3. Excellent Visibility Conditions, View the Northeast into Northeast Quarter of Project Site.



Photograph 5. Overview of Northern Farmstead from Highway, View to the South.

From:	Abigail Hencheck
To:	AUARcomments
Cc:	Jay Eidsness; JT Haines
Subject:	MCEA"s Comments on the Updated Scoping EAW for Hermantown Industrial
Date:	Thursday, April 30, 2026 4:37:11 PM
Attachments:	MCEA Updated Scoping EAW Comment.pdf

Good Afternoon,

Please find attached to this email, MCEA's comments on the Updated Scoping EAW for the Google data center being proposed in the City of Hermantown.

Thank you.

--

Abigail Hencheck (She/her)
STAFF ATTORNEY // MINNESOTA CENTER FOR ENVIRONMENTAL ADVOCACY
M: (651) 287-4876
MNCENTER.ORG

Facebook: www.facebook.com/MCEA1974
Twitter: @MCEA1974
Instagram: @MCEA1974

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Minnesota Center for Environmental Advocacy's
Comments on Hermantown Industrial Data Center
Updated Alternative Urban Areawide Review Scoping Document

April 30, 2026

INTRODUCTION

Minnesota Center for Environmental Advocacy (MCEA) respectfully submits the following comments on its own behalf and on behalf of the thousands of supporters across the state, including in the City of Hermantown ("City"). MCEA is a nonprofit with expertise in environmental law, policy, and science. For over 50 years, MCEA has worked in the courts, at the legislature, and with public agencies to enact, strengthen, and enforce smart environmental law. Our mission includes working with communities to protect Minnesota's environment, its natural resources, and the health of its people.

The City issued an Updated Hermantown Industrial AUAR Scoping Document ("Updated Scoping EAW")[1] to further study the environmental impacts from a hyperscale data center proposed by Harmony Group LLC, a Google subsidiary. Hyperscale data centers are a new type of development in Minnesota. Minnesota currently does not have any operating hyperscale data centers; however, at least 18 proposals for hyperscale data centers have undergone or are undergoing environmental

[1] The Updated Scoping EAW is on the City's website at https://hermantownmn.com/wp-content/uploads/2026/03/Hermantown-Industrial_AUAR-Draft-Order-and-Scoping_March-2026-1.pdf. Citations to the Updated Scoping EAW will use the page numbers listed on the bottom right of the document.

review in the state. The largest technology companies in the world, such as Meta, Amazon, and Alphabet/Google are behind many of these proposals.

This is the second time the City proposed an Alternative Urban Areawide Review (AUAR) to study the hyperscale data center's environmental impacts. In May 2025, the City announced it would complete environmental review by preparing an AUAR to study the environmental impacts of 1.8 million square feet of "light industrial development" to be built within a 395-acre geographic area referred to as "Hermantown Industrial." Despite knowing that the proposed project was a hyperscale data center, the City's announcement and subsequent AUAR documents described the proposal in generic terms and never used the phrase "data center." As a result, the AUAR used estimates and assumptions rather than known or expected design details. Despite withholding critical details about the proposed project, including from its own residents during public commenting processes,[2] the City approved the Final AUAR in September 2025.

Environmental review is the opportunity for the public to provide feedback on large proposals affecting the environment. The Minnesota Environmental Policy Act (MEPA) establishes state policy that gives the public a right to help shape responsible

[2] *Compare* Kimley Horn, *Hermantown Industrial Noise Assumptions and Report* (Aug. 15, 2025), https://hermantownmn.com/wp-content/uploads/2025/10/2025-0815-Hermantown-Industrial_Acoustic-Study.pdf (August 15, 2025 statement explaining that modeling and noise evaluations have been completed) *with* Kimley Horn, *Final Alternative Urban Areawide Review* 69 (Sept. 2025), https://hermantownmn.com/wp-content/uploads/2025/09/2025-09-09-Hermantown-Industrial-Final-AUAR.pdf (stating that operational noise evaluation and modeling will occur as site design advances).

development. The statute explains that decision makers must consider public comments when making environmental review decisions, such as deciding whether a project's mitigation plan is sufficient. Yet the City concealed the reality of this project until the public's opportunity to provide input had passed. Within hours of completing environmental review by approving the Final AUAR, the City publicly acknowledged that a hyperscale data center was planned for the AUAR study area. Data Practices Act requests uncovered emails and other documents, which revealed City officials had been planning for a hyperscale data center nicknamed "Project Loon" months before starting environmental review. The documents show the City withholding information about the data center from its citizens, including through signing non-disclosure agreements (NDAs). They also exposed coordination between the City and regional and state officials to encourage data center development. Local opposition and a rash of articles criticizing the City's lack of transparency and use of NDAs followed. Public outcry at the widespread use of NDAs has gained statewide traction, with proposals to ban the use of NDAs for certain governmental actors making their way through city and state legislative bodies.

Mere months after deeming environmental review complete, the City announced tech giant Google was behind the project. Shortly after, the City announced it would update the AUAR to address new project design details. The announcement states that the City will prepare a new AUAR that starts with scoping. As with the first AUAR, the City has indicated that Kimley-Horn will serve as a consultant for the project proposer and will produce the AUAR documents, and that Braun Intertec will serve as a consultant

to the City. Kimley-Horn has also recently been involved with AUAR review for hyperscale data proposals elsewhere in the state.

COMMENTS

The City's decision to perform additional environmental review provides an opportunity for the City to rebuild trust, ensure transparency, and honor the principles underlying MEPA—robust environmental understanding that leads to informed decision making by government entities. The proposals for hyperscale data centers in Minnesota represent a fast-moving, complex, resource intensive, and regionally important development, taking place in numerous small cities under a process actively promoted by the tech industry itself. Here, the City should demonstrate its commitment to the public and Minnesota law by requesting a different responsible governmental unit (RGU) complete environmental review or by ordering the completion of an environmental impact statement (EIS). If the City elects to continue with the AUAR, a wide range of alternative design details and associated potential environmental impacts must be scoped into the updated AUAR.

I. The City should reexamine its role as decision maker and its use of the AUAR process

The City's decision to pursue additional environmental review gives it a chance to hit re-set. The City should take this opportunity to step back and allow a different governmental entity to serve as the RGU, or the City should require that the proposed hyperscale data center be studied through an EIS. Relinquishing its role as RGU will help the City respond to valid concerns from a large swath of its constituents about

transparency and public accountability. In the alternative, requiring an EIS will signal the City's commitment to informed decision making by pursuing the most thorough environmental study under MEPA.

A. The City should request an alternate RGU

The City should ask the Environmental Quality Board (EQB) to designate a state agency as the RGU. Minnesota law allows the EQB to designate a different RGU to oversee environmental review of a project when "the designee has greater expertise in analyzing the potential impacts of the project."[3] Designating a new RGU would allow state agencies with technical expertise to conduct environmental review, but the City would retain its rights to make final project approvals and issue permits.[4]

Assessing the potential environmental impacts of a hyperscale data center is a highly technical exercise that requires expertise in an extensive list of subject matters, including water quality and quantity, electric demand and grid impacts, noise and air pollution, energy generation, and impacts on public health. Many of these impacts are regional, such as concerns about electric grid reliability. Regional impacts are best addressed by a governmental entity with broad jurisdiction. Furthermore, local governments like the City lack the technical expertise needed to evaluate the significant and far-reaching environmental and public health impacts from hyperscale data centers, even those less regional in reach. While the City may be able to obtain the expertise

[3] Minn. R. 4410.0500, subp. 6.

[4] *See generally* Minn. R. 4410.0300 (explaining that the scope of rules under Chapter 4410 only to environmental review).

needed to complete adequate environmental review, it will be a resource intense endeavor—costing money, time, and energy that is better utilized on other City improvements.[5]

Many state agencies, like the Public Utilities Commission and the Minnesota Pollution Control Agency, have far greater resources and expertise in analyzing the types of potential impacts expected from a hyperscale datacenter. State agencies also have more experience conducting environmental review, and these entities have established procedures and structures that make environmental review more efficient and comprehensive. Utilizing these pre-existing structures will result in superior environmental review while allowing the City to focus on what it does best—local governance. The City should ask the EQB to utilize its authority to designate an alternative RGU.[6]

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[5] As an example, the City has paid Braun Intertec tens of thousands of taxpayer dollars for technical consultation and review of environmental review documents. *See, e.g.*, Letter from Braun Intertec to City of Hermantown regarding Proposal for Responsible Government Unit Assistance (Jan. 6, 2025) [Attached as "MCEA Exhibit 1"]; March 16, 2026 City Council Meeting Minutes, https://hermantownmn.portal.civicclerk.com/event/25/files/agenda/4223 (showing council's vote to approve a contract with Braun Intertec for AUAR review services).

[6] If the City elects to retain its role as RGU, it must request assistance from state agencies and other government units with expertise on the types of environmental impacts tied to data centers. MEPA requires an RGU to "analyze [the] significant environmental impacts" of a project, and the statute directs RGUs to use an interdisciplinary approach to ensure its environmental review documents study the potential environmental effects of a project. Minn. Stat. § 116D.04, subd. 2a (a). If the RGU does not have the expertise needed to complete adequate environmental review, it "may request that another governmental unit help." Minn. R. 4410.2200. Since outside expertise is needed to complete adequate environmental review, the City should avail itself of this rule and request help from the Department of Natural Resources, the Public Utilities

B. In the alternative, the City should prepare an EIS

Should the City elect to retain its jurisdiction over environmental review, it should order an EIS. The Administrative Rules governing the AUAR process are permissive—local governments *may*, but do not have to, utilize the AUAR procedures.[7] In the Updated Scoping EAW, the City asserts that "[a]n AUAR is an appropriate avenue for environmental review because at 1.8 million square feet of light industrial use, the project *may* be reviewed using an AUAR."[8] But just because it can does not mean it should. An EIS will produce better environmental review documents within a defined timeframe, and it will respond to valid concerns that stem from studying a hyperscale data center through the AUAR procedures.[9] An EIS also helps ensure the City's environmental review will fulfill the purpose of MEPA, thus reducing the likelihood of delays caused by further inadequate environmental review. For four reasons, an EIS is the most appropriate form of environmental review for the proposed project—it provides a more appropriate scope, better lends itself to study new types of facilities, will help ensure compliance with MEPA, and will restore trust between the City and the community it serves.

Commission, the Pollution Control Agency, or other state agencies with the needed expertise.

[7] *See e.g.* Minn. R. 4410.3610, subp. 2(C) ("[T]he RGU may, at its discretion, review the specific project either through the alternative areawide review procedures or through the EAW or EIS procedures.").

[8] Scoping EAW at 3 (emphasis added).

[9] Minn. Stat. § 116D.04. subd. 2a (j). The City can repurpose the Scoping EAW to serve as the scoping document for an EIS, avoiding any delay caused by switching environmental review tracks at this juncture.

First, the scope of an EIS is more appropriate to study a proposed hyperscale data center. AUARs are a hybrid form of review designed to "review anticipated residential, commercial, warehousing, and light industrial development and associated infrastructure in a particular geographic area."[10] They are intended to inform decision makers "how different development scenarios will affect the environment."[11] The key distinction between an AUAR and other forms of environmental review is that AUARs focus on a "geographical area rather than a specific project."[12] This focus means that an AUAR "is an excellent tool for review of . . . multiple projects in a given area."[13] Until recently, AUARs have been largely used for this purpose to evaluate different build scenarios in a geographic region that contemplate a mix of development types.[14] This AUAR is different. It studies the impacts of one project, the hyperscale data center. While the AUAR rules contemplate additional procedures for review when one project comprises at least half of the geographic area to be studied, the focus of the AUAR

[10] Minn. R. 4410.3610, subp. 1.

[11] Minn. Env't Quality Bd., *Quick Reference: Alternative Urban Areawide Review (AUAR)* 1 (Dec. 2015), https://www.eqb.state.mn.us/sites/eqb/files/documents/Quick%20Reference-Alternative%20Urban%20Areawide%20Review%20-%20Updated%20Dec2015.pdf.

[12] Minn. Env't Quality Bd., *Guide to Minnesota Environmental Review Rules* 36 (May 2010), https://www.eqb.state.mn.us/sites/eqb/files/Guide%20to%20MN%20ER%20Rules-May%202010.pdf.

[13] *Id.* at 37.

[14] *See, e.g.*, WSB, *Final Alternative Urban Area Review* Opus AUAR, https://www.minnetonkamn.gov/home/showpublisheddocument/7954/639119491992370000 (describing AUAR development scenarios for mixed residential and commercial use with transit interconnections; City of Andover, *Fields of Andover AUAR*, https://www.andovermn.gov/546/Alternative-Urban-Areawide-Review-AUAR (evaluating development scenario that includes residential and commercial buildout).

remains a mix of development types in a single geographic area, not a specific project. The focus of an EIS, on the other hand, *is* a singular project. Since that is what is being proposed here, EIS review is more appropriate.

Second, an EIS is more appropriate for studying the unknown effects of a new type of development. Hyperscale data centers come with enormous adverse environmental and human health impacts due to a broad range of factors, including energy use, water use, electricity generation, and noise. The severity of these impacts are facility- and site-specific and depend on local ecology and design details, such as cooling technology and electricity demand. These facilities are new to Minnesota; there are no operational hyperscale data centers in the state, meaning impacts to our unique state resources, such as cold surface waters, extensive wetlands, dense boreal forests, and multiple headwaters of national significance, are unknown. The risk to these resources is great, and hyperscale data centers do not just bring these risks to the state, they are bringing them to state *en masse*. Broad environmental review that assesses impacts of this specific data center on the specific ecology of the project site, such as nearby protected trout streams, is essential to protecting state natural resources.[15] Preparing an EIS ensures that the City will thoroughly study the bevy of environmental, economic, employment, and sociological

[15] *See Winter v. Nat. Res. Def. Council*, 555 U.S. 7, 23 (suggesting that environmental review is particularly important for project of a new type because "[p]art of the harm [the National Environmental Policy Act] attempts to prevent in requiring an EIS is that, without one, there may be little if any information about prospective environmental harms and potential mitigating measures.").

impacts from the proposed hyperscale data center and how those impacts can be mitigated.

Third, an EIS will help ensure the City's compliance with MEPA. As it stands, the City's environmental review documents have fallen short of what MEPA requires. Environmental review is a process that embodies the axiom, "look before you leap." This concept requires environmental review to provide enough detail about a proposed project to allow decision makers and the public to assess the anticipated environmental effects and to offer alternatives that will reduce or minimize potential environmental harm prior to making permitting and other government decisions about the proposal. This is explicit in MEPA, which describes a state policy of using "all practicable means and measures . . . to create and maintain conditions under which human beings and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of the state's people."[16] This policy is animated throughout the statute. An EIS, for example, must "describe[] the proposed action in detail," identify "permits for which information will be developed *concurrently* with the environmental impact statement," and develop "information needed by a governmental unit for making final decisions on permits or other actions required for a proposed project . . . in conjunction with the preparation of an environmental impact statement."[17] In other words, MEPA's policy is fulfilled when the public is given enough

[16] Minn. Stat. § 116D.02, subd. 1.
[17] Minn. Stat. § 116D.04, subd. 2a (a), (h), (i) (emphasis added).

detail about the proposal to meaningfully engage with decision makers to reduce or eliminate potential environmental effects.

However, the Updated Scoping EAW signals that the City believes that environmental review can proceed in piecemeal fashion when key design facts about the proposed project remain undecided. Details about on-site energy storage and backup generation, for example, including basic information as to the number and size of batteries or generators, remain "not final" and "will be identified through a separate environmental review process outside of this AUAR and the specifics will depend on a number of factors association with the operational needs of the data center, which are not yet definitive."[18] According to the Scoping EAW, this information will be disclosed as the data center "design advances."[19] Environmental review does not work this way. MEPA requires the City to analyze all the potential environmental effects of the proposed data center.

Finally, ordering an EIS would help the City regain the trust it has lost with the community. The City's relationship with its residents has been marred by secrecy and concealment throughout last year's environmental review. Transparency and public participation are cornerstones to MEPA; the statute does not function without them. Through civil engagement, public comment, direct correspondence, and litigation, the City's constituents have been clear on how the City can rebuild trust —complete an EIS.

[18] Updated Scoping EAW at 8, 45.
[19] *Id.* at 45.

II. If the City continues with an AUAR, it must study a wide range of design details and potential environmental impacts

Should the City choose to continue with an AUAR as the RGU, it must generate environmental review documents that adequately serve the purpose of MEPA—to provide the information needed for government entities to make informed decisions about development in the state.[20] This purpose requires the City to provide an EAW-level detailed project description[21] and produce an AUAR that addresses all the same issues as would be addressed in an EIS.[22]

A. The AUAR project description should include alternative data center scenarios.

In a welcome shift from the first AUAR, the Updated Scoping EAW is clear that the end user of the proposed project intends to "own and operate a data center."[23] The Updated Scoping EAW is also clear that additional details about the data center will be disclosed later.[24] While the Updated Scoping EAW promises to "evaluate reasonable alternatives identified through the scoping process,"[25] only one development scenario is provided at this time.[26] Thus, this section does not provide sufficient detail about different data center scenarios to allow for informed environmental review. The City

[20] *See* Minn. Stat. § 116D.01.
[21] Minn. R. 4410.3610, subp. 5a(B).
[22] Minn. Stat. § 116D.04, subd. 4a.
[23] Updated Scoping EAW at 6.
[24] *See e.g. id.* at 6 ("[T]he specific number of equipment yard areas needed, as well as the number of backup generators and locations, will be determined as site planning advances.") 7 ("The updated AUAR will [] identify such elements to the extent reasonably known at the time of AUAR preparation[.]").
[25] *Id.* at 8.
[26] *Id.*

should revise the Project Description section to provide meaningful alternative scenarios for data center development. This improvement would better aid decision makers faced with difficult choices about data center development in their communities.

The AUAR should analyze different alternatives for construction of data centers. One of these alternatives would examine the "worst case scenario" with the largest environmental effects—perhaps a 1.8 million square foot faciality consuming 2 GW of power, with sufficient backup diesel generators to provide that 2 GW of power. The AUAR should include alternatives for any design details that have not been finalized. For example, the AUAR commits to using "non-evaporative mechanical cooling."[27] If the exact type of non-evaporative mechanical cooling has not been decided,[28] the AUAR should cover each non-evaporative mechanical cooling option available to data centers in separate development scenarios. The worst-case scenario for water consumption under "non evaporative mechanical cooling" should be assumed to include hybrid or adiabatic systems that consume water on hot summer days; humidification water year-round;[29] an initial system fill on the order of millions of gallons; and ongoing make-up water for treatment and leakage. This pattern should continue for any and all unknown or undisclosed design details. The AUAR should also study a no-build scenario representing the exiting conditions.

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[27] *Id.* at 6.

[28] If the exact type of non-evaporative mechanical cooling has been decided, then it must be disclosed.

[29] Air cooled facilities can still use significant water for humidification because server rooms need to be humidity controlled to prevent static electricity discharge.

Once several data center alternatives have been devised, the Project Description section should be revised accordingly. Each development scenario should be described in sufficient detail to allow for meaningful environmental analysis, including the square footage, electrical capacity, the number and type of backup generators, the type of cooling system, the number of employees, the roads, sewers, water infrastructure, stormwater infrastructure, and anticipated building schedule. It is not sufficient for the Project Description section to merely state that the development will include these types of infrastructure; instead, each project description should actually *describe* the equipment, roads, sewers, water, stormwater, and other infrastructure needed to support to alternative's identified footprint, electrical capacity, backup generators, and cooling system. Revising the Project Description section of the Updated Scoping EAW to meet these requirements will lead to a far more useful and informative AUAR that will provide critical information for the City, other decision makers, and the community.

B. The AUAR must study all foreseeable environmental impacts of a hyperscale data center.

Alternative forms of environmental review, like the AUAR, must address all the same issues as an EIS.[30] To do so, the AUAR must study all the potential significant environmental impacts in addition to those economic, employment, and sociological effects that cannot be avoided.[31] Therefore, the AUAR must study the following impacts:

[30] Minn. Stat. § 116D.04, subd. 4a.
[31] Minn. Stat. § 116D.04, subd. 2a(a).

Air Quality

- The Scoping Document acknowledges that this data center project will require emergency backup diesel generation.[32] Diesel generators emit nitrogen oxides, particulate matter, carbon monoxide, and other pollutants hazardous to human health.[33] Diesel exhaust is known to harm health, with well-documented links to lung cancer, cardiovascular disease, asthma, and premature mortality. Diesel engine exhaust is classified as a carcinogen. To adequately study the generators' potential environmental impacts, the AUAR should identify the worst-case scenario for the number, size, tier rating, frequency of operation, and fuel type of all backup generators; model emissions and the impact of those emissions; and evaluate whether those emissions approach or exceed the 250-ton-per-year threshold for a mandatory Environmental Assessment Worksheet (EAW).[34] The AUAR should also identify whether those generators will operate if the data center implements any load flexibility with its electric utility.

[32] Updated Scoping EAW at 8, 40.

[33] *See, e.g.*, Env't Prot. Agency, *Learn About Impacts of Diesel Exhaust and the Diesel Emissions Reduction Act* (Aug. 12, 2025), https://www.epa.gov/dera/learn-about-impacts-diesel-exhaust-and-diesel-emissions-reduction-act (noting health and environmental impacts from diesel emissions).

[34] *See* Minn. R. 4410.4300, subp. 15(A) (requiring an EAW for facilities that generator 250 tons or more per year of a single air pollutant); Minn. R. 4410.3610, subp. 1 (noting that AUAR review cannot be used if a project triggers subpart 15 in the EAW mandatory category rule, 4410.4300).

Greenhouse Gas Emissions

- **Fluorinated gases.** The Updated Scoping EAW suggests that the AUAR will not estimate and study the emission of fluorinated gases because "these gases are not associated with typical land use development."[35] However, an AUAR does not just study the environmental impacts of land use change; it studies *all* impacts from a proposed project, including those from construction and operations. Hydrofluorocarbon (HRC) refrigerants are commonly used for mechanical cooling in data centers, and these systems are known to leak HRCs into the atmosphere. HRCs are potent greenhouses gases, and leaks from large refrigerator systems will increase the climate pollution emitted from a facility.[36] The AUAR must study the environmental impacts of emitting fluorinated gases.
- **Climate effects of GHG emissions.** The Updated Scoping EAW proposes an AUAR that estimates GHG emissions and summarizes the emissions by project phase and source type.[37] It is not sufficient for the AUAR to merely list the GHGs that will be emitted. It must model how those emissions will impact climate change. The AUAR should evaluate how estimated emissions will impact the climate, through changes like increased drought, more severe and frequent major storm events, and the growing threat of wildfire. The AUAR should also consider

[35] Updated Scoping EAW at 47.
[36] Env't Protection Agency, *Reducing Hydrofluorocarbon (HFC) Use and Emissions in the Federal Sector through SNAP* (Jan. 9, 2026), https://www.epa.gov/snap/reducing-hydrofluorocarbon-hfc-use-and-emissions-federal-sector-through-snap.
[37] *Id.*

social cost of carbon calculations to understand the economic impacts of the estimated emissions.

- **Next Generation Energy Act Goals**. The Updated Scoping EAW commits to calculating the estimated metric tons of CO_2 emissions during the lifespan of the project.[38] It also commits to reducing operational emissions to the extent practicable.[39] However, the AUAR must also include the amount of emissions reductions projected to be achieved, by what date those reductions will be achieved, and the technologies or methods used to achieve those reductions. The AUAR must also discuss emissions mitigation measures that were considered but not implemented and explain why those measures were not incorporated. This is because the AUAR must also examine how the data center's emissions are consistent or inconsistent with the emissions reductions required by the Next Generation Energy Act, and how the project will effect Minnesota's ability to meet its Next Generation Energy Act goal of net zero emissions by 2050.[40] Doing so means assessing whether the goals are attainable given the proposed emissions from the data center.

[38] *Id.* at 48

[39] *Id.*

[40] Minn. Stat. § 216H.02, subd. 1(4). The Updated Scoping EAW incorrectly lists the outdated goal of an 80% reduction by 2050. Updated Scoping EAW at 48. The statute was updated in 2023.

Impacts of Energy Use

- **Effects on the Grid.** MCEA applauds the City for its commitment to discuss energy use, including an estimate of peak electricity demand, explanation of the factors that go in to determining backup generation needs, and potential additions to existing utility infrastructure that might be needed to serve the data center.[41] As part of this discussion, the AUAR must also disclose annual energy usage of the data center. It must disclose peak electricity demand and annual energy usage both during the ramp period and once the data center is fully operational. The AUAR should also disclose the estimated peak energy demand and annual energy usage for each phase of project development, including full buildout of the AUAR proposal. Further, the AUAR must analyze the transmission and substation infrastructure needed for the project and assess how the facility's peak electric demand compares to the available capacity on the electric utility's system.
- **Clean Energy Goals.** Minnesota Utilities are required by law to generate or procure 100 percent of the energy needed to serve Minnesota customers from carbon-free sources by 2040.[42] The AUAR must analyze how the data center's energy demand will affect Minnesota Power's ability to comply with the law. This should include a discussion of whether the clean energy investments being made by Google will cover the full energy needs of the data center, or whether new or delayed retirement of gas or other fossil fuels will be needed to power this facility.

[41] Updated Scoping EAW at 54.
[42] Minn. Stat. § 216B.1691, subd. 2g.

- **Environmental Impacts of Energy Use.** The AUAR must also include the associated impacts of the data center's energy use. This includes the greenhouse gas emissions associated with the facility's electricity use. These calculations need to include the emissions associated with electricity use when the data center is fully operational and provide transparent calculations and input assumptions so the emissions estimate can be replicated. Additionally, the AUAR should report the water usage associated with this energy generation.
- **On-Site Energy Generation.** The AUAR needs to study the effects of diesel storage including the potential for spills that would impact land or water. Diesel leaks at data centers can reach waterways and contaminate storm drains.[43] The AUAR should disclose the fuel-storage volumes being considered and model the impacts of a potential spill of each. Additionally, the City should consider mitigations, such as increased battery storage and solar or wind generators.

Water Impacts

- **Cooling Equipment.** The Updated Scoping EAW commits to using "non-evaporative mechanical cooling" but does not commit to a specific cooling technology.[44] Although non-evaporative mechanical cooling technologies use less water than evaporative cooling technologies, water is still used, sometimes in the order of tens of millions of gallons a year. The impacts of that water use must be

[43] *See, e.g.*, Wash Dep't of Ecology, *Cleanup and Tank Search*, https://apps.ecology.wa.gov/cleanupsearch/site/1089 (noting 15,000-gallon diesel fuel leak that required mediation and monitoring for more than a decade).
[44] Updated Scoping EAW at 6.

disclosed and studied for all cooling technologies under consideration. In additional to the amount of water used, the AUAR will need to consider whether the water will have any additives; how and where the water will be discharged; frequency and quantity of water discharge; the water temperature at time of discharge; whether waste water treatment facilities can handle the water quantity and additives; and the potential environmental effects of a worst-case scenario leak occurring prior to planned discharge.

- **Stormwater.** The AUAR must also study the effect stormwater will have on both surface water and groundwater, including impacts on habitat and other ecological resources, like designated trout streams West Rocky Run Creek and the Midway River, which run near the AUAR boundary. These reaches are unique, containing many miles of quality habitat for brook trout, Minnesota's only native stream trout species. A recent Minnesota Pollution Control Agency study of the Midway River cites rising water temperatures as major risks to trout.[45] The study identified nearly 60 "Coldwater Protection Areas" deserving of extra attention, and citied development and associated runoff as major threats to the sustainability of cold-water habitat near the AUAR site. The AUAR must consider all impacts from stormwater including direct runoff risks to nearby natural resources.

[45] *See generally* Minn. Pollution Control Agency, *Midway River Watershed Protection Study* (Aug. 2025), https://www.pca.state.mn.us/sites/default/files/wq-ws4-104p.pdf.

Impacts of Equipment Use

- **Upstream and Downstream Effects.** Hyperscale data centers use large quantities of computer equipment, which must be replaced periodically. This equipment will contain significant amounts of metals, like copper, the production and disposal of which cause both upstream and downstream environmental impacts. The AUAR must study these impacts, including those related to increased mining and equipment disposal. This includes studying the frequency with which equipment will be replaced; the quantity of metals needed for the equipment; how the equipment will be sourced; and how the equipment will be disposed of.
- **Heat Islands.** Recent studies have shown that the operation of hyperscale data centers can create heat islands. The AUAR must study whether the data center has the potential to create a new heat island and the impacts, especially for nearby communities, if it does.

Impacts of Noise

- **Frequency and Infrasound.** In studying the noise impacts of a hyperscale data center, the AUAR must consider more than just decibels. Hyperscale data centers are known to emit infrasound which is reported to have significant human health impacts, including nausea, anxiety, sleep disturbance, and a range of other psychological and physical effects. Data centers also emit audible low frequency noise which can travel further and more easily pass through obstacles like walls. This makes it more disruptive to sleep and quality of life in nearby homes. According to the American Public Health Association, chronic exposure to noise

pollution can cause or exacerbate heart disease, type II diabetes, anxiety, and depression, while also harming cognition, memory, learning, and productivity. Given the data center's proximity to residential housing, with some residences being immediately adjacent to the proposed project site, the AUAR needs to provide more than a cursory look at these issues. The data center could cause 24/7 exposure to infrasound and/or audible low frequency noise for a significant number of people. Potential noise from cooling systems, diesel generators, and any other mechanical equipment should be modeled. All studies and analyses should take into account low frequency noise, for example, by using dBC or dBZ weighting, in addition to dBA.

Impacts of Construction

- Generally, AUARs do not require consideration of construction impacts unless there is "some unusual reason to do so."[46] The proposed hyperscale data center will be under construction for 5-10 years.[47] In other data center buildouts, neighborhoods and roadways became clogged with construction traffic for multiple years, causing air, noise, and visual pollution while more swiftly deteriorating roads. This is not a typical construction site. Years of intense

[46] *See* Updated Scoping EAW at 48 ("Construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so."); at 46 ("Dust and odors need not be addressed in an AUAR, unless there is some unusual reason to do so.").

[47] Updated Scoping EAW at 7 ("The campus will be constructed in distinct sequential phases, with the full master-planned campus anticipated to take more than 5 years to complete."); Original Scoping EAW at 6 ("The study area will be constructed in phases will the full build anticipated to occur over 5-10 years.").

construction is an unusual circumstance that mandates the AUAR consider the full slate of impacts from construction.

Economic, Employment, and Sociological Impacts

- An EIS must consider the impact the data center will have on the workforce, economy, and everyday life. Google has promised jobs and funding for public infrastructure, while the City is debating whether to abate up to $80 million in taxes for one of the world's richest companies.[48] Researchers and forecasters describe a looming AI-bubble created by the breakneck growth of hyperscale data centers across the state, region, and country that could become stranded assets. Others raise doubts about the claimed economic boom hyped by data center proposers. The AUAR must include consideration of these critical impacts.

Cumulative Impacts

- MCEA commends the commitment to study all "foreseeable projects that may interact with the environmental effects of the development scenario."[49] The rapid buildout of massive data center proposals in Minnesota, many contributing to overlapping environmental impacts, is precisely the sort of interconnected environmental challenge that a cumulative impact analysis is meant to account for. Thus, the AUAR must study the interconnected effects, especially those on the electric grid, of the other foreseeable data centers within the State.

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[48] *Tax Abatement Agreement By and Between City of Hermantown, Minnesota and Harmony Group LLC*, https://hermantownmn.com/wp-content/uploads/2026/04/Updated-Abatement-Agreement-Data-Center.pdf.
[49] Updated Scoping EAW at 53.

CONCLUSION

The Google data center presents unique and large environmental impacts with potentially statewide implications, making a state agency the more appropriate RGU. If the City remains the RGU it should consider all potential environmental impacts. These impacts demand a vigorous assessment, and this new proceeding offers the City a chance to earn back goodwill lost during the earlier environmental review. An EIS accomplishes both, and it is the appropriate mechanism for the City to discharge its MEPA responsibilities. The forthcoming environmental review must be thorough and broad, identifying and considering an array of alternative design details. An assessment of this scope is better suited for an EIS.

Respectfully Submitted,

MINNESOTA CENTER FOR ENVIRONMENTAL ADVOCACY

/s/ Abigail Hencheck
Abigail Hencheck, Staff Attorney
Jay Eidsness, Senior Staff Attorney
JT Haines, Northeastern Minnesota Director

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BRAUN INTERTEC
The Science You Build On.

Exhibt A

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January 6, 2025

Proposal QTB207999

Mr. Chad Ronchetti, Economic Development Director
City of Hermantown
5105 Maple Grove Road
Hermantown, MN 55811

Re: Proposal For Responsible Government Unit Assistance
AUAR For Project Loon
Hermantown, Minnesota

Dear Mr. Ronchetti:

Braun Intertec Corporation is pleased to present this proposal to provide technical support services to the City of Hermantown under their duties as the Responsible Government Unit (RGU) for the proposed Project Loon in Hermantown.

Project Understanding

Based on the available information and recent email correspondence, it is our understanding that a project proposer (Mortenson) intends to build a large data center complex on undeveloped lands in the southwest corner of the City of Hermantown. The project (titled "Project Loon"), which will consist of several buildings completed over three phases (300,000 to 500,000 square feet per phase), with the first phase scheduled for construction in 2026. Future phases are undefined at this time and would occur west of the first three phases.

The proposed project will trigger mandatory categories for an Environmental Assessment Worksheet (EAW), Alternative Urban Areawide Review (AUAR), or potentially an Environmental Impact Statement (EIS) under Minnesota's environmental review regulations. At this time, the city believes the project will require a Certain Large Specific Project Alternative Urban Areawide Review (AUAR), with the first step in this process beginning with an Environmental Assessment Worksheet (EAW) scoping document and draft scoping decision document.

Scope of Services

The City of Hermantown has asked Braun Intertec to assist the City in their review and RGU processing of the proposed Project Loon environmental documents. To begin, we will initiate a third-party technical review of the EAW scoping document in accordance with the rules and intent of the guidelines set forth by the Minnesota Environmental Quality Board (EQB) (MN Rules Part 4410). Braun Intertec's review comments and questions will be embedded into the draft EAW scoping document and compiled into a separate comment resolution log for city staff review. We also anticipate one virtual meeting and general email/phone correspondence with city staff to finalize review comments before sharing review comments with the project proposer.

AA/EOE

After review comments are distributed to the project proposer and the project proposer provides written comment responses and draft revisions, we will review their responses and schedule one virtual meeting with them to resolve any outstanding issues and recommendations for resolving those issues. Assuming the scoping document is deemed complete, Braun Intertec will initiate the public notice process. Braun Intertec will also develop an environmental review schedule that will be used to identify anticipated milestones and track the approval process.

The public comment period is required for all mandatory environmental review documents in Minnesota and consists of several steps that are the duty of the RGU. Braun Intertec will lead this process (on behalf of and as directed by City staff) in their RGU duties; including but not limited to:

- Distribute the environmental review document and decisions to the EQB and stakeholders.
- Compile and review all public comment received, prepare comment responses, coordinate potential EAW scoping document revisions and responses with the project proposer.
- Prepare public comment resolution log, decision documents, Findings of Facts, Record of Decision, and meeting summaries.
- Attend virtual coordination meetings with the project proposer, city staff, and virtual or in-person City meetings (planning commission and/or city council).

The scope of work does not include review or RGU assistance for the Certain Large Specific Project Alternative Urban Areawide Review (AUAR) document, which will occur after the EAW scoping document is complete. Braun Intertec will provide a separate scope of work and cost for RGU assistance associated with the future AUAR document.

Schedule

Based on our understanding of the project, the EAW scoping document is projected to be available for City review in February 2025. We will be able to begin the scope of services within 5-10 business days of receiving notification from the City to proceed and receipt of written authorization. The remainder of the schedule will be established after discussions with City staff.

Cost Estimate

Braun Intertec will furnish the services described herein on an hourly, time and materials basis. Based on our current understanding of the proposed project and the assumptions stated in this proposal, we estimate the total cost to perform the Scope of Services described above will not exceed **$20,000.** All tasks costs include project management, travel costs, and printing expenses.

For the purposes of this proposal, it is our assumption that any relevant field work or supporting technical studies (i.e., biological surveys, air emissions modeling or risk analysis, storm water design, traffic study, and site planning work, etc.) will not be required to be performed or will be performed by others not under contract to Braun Intertec and is therefore outside the present scope of services,

as the need for some of this field work cannot always be known until after the work has begun. Should any of these studies become warranted, we will contact you immediately and discuss how you wish to proceed. We also here assume that the project will not require any federal permits or receive and federal money that would trigger implementation of federal Section 106 requirements or separate federal NEPA processing.

General Remarks

Braun Intertec appreciates the opportunity to present this scope of work and cost proposal for your consideration. It is being sent in an electronic version ***only***. A hard copy of the proposal will be supplied upon request.

The Cost Estimate presented in this proposal assumes that the proposal will be authorized within 30 days. If the project is not authorized within 30 days and that others will not delay us beyond our proposed schedule. Should revisions to the proposed scope be required, we will contact you and obtain additional authorization.

We appreciate the opportunity to provide professional services for you on this project. If you are in agreement with the terms as outlined above, please sign where indicated below and return one scanned signed copy of this this proposal (in its entirety) via e-mail. If you have questions regarding the content of this proposal, please contact Travis Fristed at 952.500.1180 or TFristed@braunintertec.com.

Sincerely,

BRAUN INTERTEC CORPORATION

Travis G. Fristed, PWS, CMWP
Associate Director, Principal Scientist

Kenneth A. Larsen, PE
Vice President

The proposal is accepted, and you are authorized to proceed.

_____
Authorizer's Firm

_____
Authorizer's Signature

_____
Authorizer's Name (please print or type)

_____
Authorizer's Title

_____
Date

BRAUN INTERTEC

From: Ava Corey-Gruenes
To: AUARcomments
Subject: Comments on the AUAR Scoping Document for the Proposed Data Center
Date: Thursday, April 30, 2026 11:09:25 PM
Attachments: Signature 8.png
Public Comments - Hermantown AUAR Scoping Document & Draft Order for an Updated AUAR.pdf

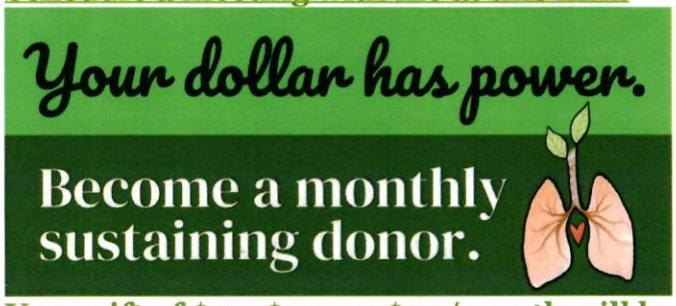
Hello,

I hope you are doing well. Please see the attached comments from Health Professionals for a Healthy Climate addressing the City of Hermantown's AUAR Scoping Document for the proposed data center.

Thank you,

Ava Corey-Gruenes, MA | she/they
Organizer and Outreach Coordinator

Health Professionals for a Healthy Climate (HPHC)
Subscribe for updates | LinkedIn | Instagram | Facebook
Schedule a meeting with me at this link!



Your gift of $10, $20, or $30/month will be matched!

April 30, 2026

City of Hermantown, MN

RE: AUAR Scoping Document & Draft Order for an Updated AUAR

Dear City of Hermantown,

We write to you as members of Health Professionals for a Healthy Climate (HPHC), a grassroots organization made up of hundreds of MN healthcare professionals, including researchers, public health professionals, medical staff members, and physicians who care deeply about our shared climate and hold a dedication to addressing the climate crisis as the major public health threat that it is. We have many members living in Hermantown and surrounding cities who would be impacted by the proposed data center.

We feel the need to submit educational information on the potential health and environmental impacts of projects like these, and to draw attention to these gaps in the AUAR Scoping Document & Draft Order for an Updated AUAR (hereinafter, the SDDO). In this comment, we focus on process concerns, dirty energy consumption, emissions, grid destabilization, water and noise pollution, e-waste generation, construction, and the data center heat island effect.

Our primary suggestion is to halt consideration of the project, primarily because those most impacted—75% of residents within a 7.5-mile radius and 84% of residents within a 1-mile radius [94] —oppose or strongly oppose it. Still, we are providing recommendations for improving the SDDO below. These suggestions are not exhaustive and are made only as a last resort.

We encourage city officials and residents to review the comment below, and register here for our free upcoming community listening, learning, and advocacy session focused on the health and climate impacts of AI-driven data center growth, and what this might mean for Hermantown and Duluth. The session will be held on Friday, May 15, 2026, from 6:30-8:00 PM at the Evergreen Senior Center in Duluth, and online via Zoom.

Process concerns

Lack of informed consent: As health professionals, we value informed consent, which is the most significant omission in this proposed process. In signing NDAs, limiting public disclosures about information that impacts residents, and using vague/misleading language (like opting not to refer to the project as a data center), the city limited the public's ability to be informed about something that dramatically impacts their health and wellbeing. Now that 75% of nearby residents [94] have (despite being under the coercion of the second-largest corporation in the world) clearly expressed that *they do not give consent* to irreversibly sell their home, health, and

environment to this company, it seems that the city is ignoring that revocation of consent and attempting to proceed as quickly as possible.

If the city chooses to move forward in planning the project against residents' consent, it should at least prioritize informed consent in its process implementation going forward. This means providing longer public comment periods (tailoring the length of the public comment period to the complexity of the matter being commented on, and understanding that it takes time for community members to raise awareness of these comment opportunities, read all the materials, research the issues at hand, formulate opinions, and write those opinions down), avoiding overlapping comment periods, providing accessible explanations of the issues up for comment in all languages spoken by residents, using accurate, descriptive language (like calling a data center a data center), ensuring that all opportunities for public comment and engagement are widely advertised (including through providing options for residents to be notified directly, such as through text or email, of any updates and comment opportunities regarding this project), and actually implementing the recommendations that residents make in these public comments.

Insufficient research and regulation: As health professionals, we also value listening to experts, reading the research, and weighing risks responsibly. We have extensively reviewed the literature on the human and environmental health impacts of the rapid, AI-driven growth of data centers currently underway. All current research suggests that this trend of rapid, minimally regulated development will result in devastating, irreversible consequences for human and environmental health if a significant number of research-based precautions are not developed, proven, and implemented to prevent this harm. Currently, there is not enough research to support the efficacy of each necessary precaution over time, and to demonstrate that these solutions will not come with their own harmful side effects. In addition, there is not the necessary regulatory framework at any level of government to ensure that these precautions are taken.

This is not to say that healthy, sustainable data centers *can't ever* be developed, but rather, that this is a very new issue, that the research does not currently support the safety of developing data centers on this scale and at this speed, and that if cities continue to approve these proposals without a *much higher* standard of environmental and public health review, they are putting the health of their residents and environment at significant risk.

The City of Hermantown's *SDDO* demonstrates that the City has not done the research necessary to understand the level of review required to responsibly and sustainably implement such a project, and certainly has not done the level of research needed to justify exerting its power against the wishes of the majority of residents (if such a level of research even exists).

Risk of disinformed consent: In conducting these assessments, the city might also benefit from recognizing the lack of evidence to support the accuracy of any estimates or promises by Google regarding the expected environmental and health impacts of its proposed data center. Google's historical practice of inaccurately underreporting emissions estimates for *existing* data centers [12] casts reasonable doubt on the corporation's estimates for *projected future* data centers. As described in detail below, the industry-wide trend of mismanaging water, [36, 30] emissions, [12, 36] e-waste, [50, 80, 81] heat, and noise pollution (including through inaccurate,

misleading, or nonexistent tracking and reporting), and the severity of harm that this has caused, and is projected to cause, to human and environmental health, warrants serious consideration.

Emissions, air pollution, energy, & grid destabilization

We understand that Google has promised to bring significant clean energy investments along with this project, including 400 MW of battery storage. While that is an important benefit, it must be considered along with the evaluation of other impacts on the community, including how much energy the facility would use.

We urge you to consider the following general concerns with data centers based on current experience and available studies in evaluating the impacts of the proposed Hermantown data center.

Inadequate & misleading emissions reporting: A 2024 survey found that most data centers don't collect carbon emission data, with only 36% collecting this data for Scope 1 (on-site) emissions, 27% for Scope 2 (purchased energy), and 18% for Scope 3 (all other emissions, upstream and downstream).[36] Actual carbon emissions from Google, Microsoft, Meta, and Apple's data centers may have been 662% (7.62 times) greater than disclosed figures between 2020- 2022.[12] Emission estimates often don't include the land-use costs of data centers, which (as in this proposal) are often built on land that would otherwise be a carbon sink (such as forests, wetlands, or prairie land). The SDDO suggests that the AUAR will include the proposer's best estimate of average annual emissions over the proposed life/design service life of future development," but this does not seem to address Google's history of providing inaccurate, misleading emissions reports.

Health impacts of data center emissions: Data center emissions also carry significant health impacts. In 2023, air pollution from US data centers led to public health costs ~$6.7 billion. In 2028, emissions from data center operations—from backup generators (Scope 1) to electricity generation (Scope 2) to server hardware creation (Scope 3)—could lead to ~600,000 asthma symptom cases, ~1,300 premature deaths [11] (> ⅓ of annual US asthma deaths),[29] and more than $20 billion in annual public health costs. These costs disproportionately impact low-income communities, with some counties having per-household health costs 200x that of others. [11]

The SDDO does not indicate that the health impacts of scope 1, 2, or 3 emissions will be adequately taken into account. It suggests that there will be an analysis of GHG emissions, but also indicates that stationary source emissions will not be evaluated in the AUAR. It does not indicate specifically what the environmental review process for those stationary source emissions would be. The SDDO also indicates that each backup generator will use "renewable diesel." The term "renewable" here seems to be an attempt at greenwashing, as "renewable diesel" is functionally very similar to regular diesel, with many of the same health and climate impacts when combusted. PV-plus-storage microgrids are recommended as a healthier alternative to diesel backup generators. [95]

Energy consumption & costs: If all proposed data centers in Minnesota were to begin operations, they could consume as much energy as the entire state.[56] Data centers could also be the primary contributor to a projected doubling of the state's energy consumption over the next decade in Virginia (the US state with the most data centers,[2] despite an otherwise basically stagnant energy demand between 2006 and 2020.[8] Data Centers would rank 4th in the nation for electricity consumption if they were a state, [5] and are projected to use 11% of America's energy in 2030 (not including their use for cryptocurrency). [7] They may be responsible for "over 1/3 of additional energy demand through 2026." Much of this energy use is for the expansion of AI, which is projected to use 10x the power in 2026 than in 2023, and could use additional energy equivalent to that of over 950,000 US households when completely implemented into search engines such as Google. [1] In locations "near significant data center activity," this has led to higher energy costs, with monthly electricity costs up to 267% more than five years ago.[47] In seven states in 2024, utilities "passed more than $4.3 billion in additional costs on to customers" for upgrades to connect data centers to the grid.[48]

Outages: By 2028, Minnesota will be in the "high risk" category for energy shortfalls which can lead to power outages. NERC attributes this mostly to increased energy demand from data centers, which energy supply projects are unable to keep up with. [52] Minnesota's MISO area is also expected to experience the highest growth in energy demand by 2044. MISO also attributes this to data centers.[51]

Health impacts of outages: When access to electricity becomes unreliable, communities experience health impacts and disruptions to their healthcare treatment procedures. This can include interference with electricity-dependent medical equipment, exposure to extreme heat and cold from the inability to heat and cool our homes, life-saving medications going bad in the fridge [43] increased emission exposure from backup generators (causing 5x [45] - 13.5x [44] the incidence of CO poisonings during outages [46]) , closing of hospitals when backup generators fail, and [43] inability to access health information on the internet.

Disproportionate, inequitable health impacts of outages: Power outages and grid destabilization disproportionately impact those with vulnerable health statuses, especially those with mobility limitations; those reliant on electricity or refrigeration-dependent medical equipment and medications; [40, 41, 42] and those with conditions that involve sensitivity to extreme heat or cold (like diabetes and COPD).[38] People with limited resources (like backup power, insulated housing, and ability to evacuate), and people with vulnerable demographic characteristics (like people of color, women, older people, widows and widowers, people in low-income areas, and people who are hospitalized) are also disproportionately impacted.[38]

Addressing emissions, air pollution, energy, & grid destabilization: It would be reasonable to require that the company provide 100% of the energy needed for this project, and that this energy be 100% carbon-free. It would also be reasonable to require that any emissions (including lost carbon-sequestration potential) resulting from this project be offset by the company. This offset should include financial compensation for the public health costs of any localized pollution they might create.

Water Use & Pollution

Residents' expressed concerns with a lack of transparency around *projected future* water use by this data center are supported by a historical lack of reporting even for water use by *existing, established* data centers, as it's been found that data centers only collect metrics for their water usage 43% of the time, [36, 30] only "disclose elements of a water risk-management plan," 16% of the time, and only "have a strong… water management program" 5% of the time. [30]

These concerns are reinforced by the hot legal water Google has been in over the lack of disclosure of expected water use for its proposed data center in Virginia.[96] [96] While it's possible that this proposed data center could be a statistical outlier, there would need to be significant evidence to support this conclusion before the city could reasonably claim that the data center will manage water responsibly, particularly given the devastation caused by excessive water use—worsening drought conditions and unmanaged wildfire risk, along with associated climate and health[79] impacts.

Noise Pollution

Data centers can also create constant noise pollution, reported by some residents to harm their well-being. [8] These experiences are strongly supported by the research consistently linking noise pollution to a wide variety of health impacts and chronic conditions,[55] including "endothelial dysfunction, oxidative stress, vascular inflammation, circadian dysfunction, and activation of the autonomic nervous system… hypertension," [54] "cardiovascular diseases, metabolic dysregulation, cognitive impairment, and neurodegenerative disorders." [53] The SDDO does not thoroughly address the issue of noise pollution, and unfortunately, it indicates that construction noise will not be addressed in the AUAR. We encourage the city to consider the health impacts of potential noise pollution (as described above) during construction phases.

E-Waste

Data centers require an enormous volume of hardware that eventually becomes E-waste. E-waste from generative AI alone could "reach a total accumulation of 1.2-5.0 million tons" between 2020 and 2030. 69% of data centers fail to collect any data on their e-waste or equipment lifecycles, [36] and only 22.3% of global e-waste is responsibly recycled. [50]

Health impacts of e-waste: E-waste exposes people to toxic heavy metals, [13] PBDEs, [14] and other contaminants, such as TBBPA, [15] PFCs, [16] and Dechlorane Plus. [17] E-waste operations contaminate soil, [23] water, [24] and food sources (including fish, plants, [25] and even breastmilk [26]). Risks frequently exceed safe thresholds, [27] and children are often impacted. [28] This is linked to increased rates of cancer, [18] low birth weight, metabolic disruption, [19] liver [20] and renal damage,[21] musculoskeletal discomfort, [22] and other health harms.

Disproportionate, inequitable impacts of e-waste: Wealthy nations often dump this waste in minimally regulated processing sites in countries impacted by colonialism and imperialism, forcing frontline communities to suffer the most severe health consequences. Companies in Minnesota (even those that claim to manage e-waste responsibly) are not immune to this trend.

Best Buy, for instance, claims to offer “the most comprehensive appliance and electronics recycling programs in the United States,” [81] but was recently found (via upstream GPS tracking) to be involved in “potentially illegal e-waste shipments to developing countries.” [80] The SDDO does not guarantee mitigation of health or environmental impacts of e-waste generated throughout the lifespan of the proposed data center.

Extreme Heat

The data center heat island effect: Heat islands occur in areas where a large number of cooling plants are removed and replaced with materials that tend to heat up a space, like concrete and asphalt. The proposed data center would do this over an area of 1.8 million square feet, which is concerning given that data centers have already been shown to create heat islands, warming the surrounding land by up to 16.4°F. These temperature increases have been found to impact areas up to 6.2 miles away. Land nearly 3 miles from AI hyperscalers can experience an increase of almost 2°F in average monthly surface temperature. This increase in temperature could impact more than 340 million people globally. [75]

Health impacts of extreme heat: Extreme heat is the single deadliest type of severe weather,[77] and led to 1,600 deaths in the US in 2021. [78] Extreme heat exacerbates existing medical conditions such as diabetes, chronic obstructive pulmonary disease, cardiovascular and kidney ailments, POTS, and mental and behavioral disorders, [38] and can increase the risk of immediate health effects such as heat stress, heat stroke, preterm birth,[39] and death.[38] Extreme heat causes buckling of MN roads, risking drivers' and passengers' safety, [76] and increasing the need for costly road repairs. Extreme heat also worsens air quality by increasing ground-level ozone formation.[73] Ozone exposure can increase the risk of respiratory, cardiovascular, metabolic, nervous system, and reproductive health harms, and leads to over 1.5 million premature deaths annually. [74]

Disproportionate, inequitable impacts of extreme heat: Low-income residents, children, older adults, people who work outdoors, people with pre-existing medical conditions, unhoused people, urban residents, people living alone, people of color, and those using certain medications are disproportionately impacted by extreme heat. [38][39][40]

Considerations relating to waste heat*:* The city might benefit from requiring that Google create a thermal energy network to provide free heating in the winter to residential and/or public buildings as part of the project, or from requiring Google to utilize its waste heat through other means. Regardless, efforts should be made to address the reduced utility (and potential harm) of waste heat in the summer, and to prevent the potential impacts to water life that would likely occur in the case that waste heat is discharged into bodies of water, as has been observed in other contexts.[84] Increased water temperatures can also have significant impacts on human health, such as through increasing toxigenic cyanobacteria concentrations.[91] We suggest that the city ensures that any approved project must prevent waste heat from harming the health of residents and local ecosystems. In addition, the city would benefit from requiring that the developer commit to funding resilience systems to ensure the community can respond to these impacts, in the case that they do occur.

Construction dust

The SDDO suggests a construction phase of more than 5 years, but doesn't specify an expected number. The data center construction process can be lengthy and has several implications for climate and human health. Construction sites contribute "to more than 4% of particulate matter in the atmosphere."[92] Existing research links exposure to construction dust with chronic respiratory diseases.[82] Construction workers are especially impacted by this proximity to construction sites, with research linking occupational exposures through various construction professions to a wide variety of conditions, including COPD,[86, 90, 92] skin and subcutaneous tissue disorders,[90] musculoskeletal disorders,[90] asthma,[90] interstitial lung diseases,[90] esophageal and cardia adenocarcinoma,[88] laryngeal and pharyngeal cancer,[93] rheumatoid arthritis,[85] systemic sclerosis and lupus erythematosus,[85] dermatomyositis,[85] chronic kidney disease and need for renal replacement therapy,[89] presence of heavy metals such as Al, As, Cd, Cr, Ni, K, Pb, and Zn in hair and nail samples,[87] lower than expected forced vital capacity and forced expiration volume in 1 second (FEV_1).[92] and restrictive spirometry pattern (RSP).[83]

Given the enormous health impacts of exposure to construction dust, it's important not just to "include discussion of dust control ordinances" as planned in the SDDO, but to analyze potential impacts of this dust on nearby ecosystems, residents, and workers. Given research indicating that currently available technology to monitor construction dust is not sufficiently accurate,[82] it's also important to act with an abundance of caution, avoiding unnecessary construction and demolition where possible, rather than simply trusting that best management practices will effectively eliminate this risk.

Our thorough review of research strongly indicates that the City of Hermantown would benefit from acting with respect for impacted residents' autonomy and halting consideration of this project, at least until a robust state regulatory framework can be implemented. The majority of the impacts described above do not seem to be appropriately considered in the current SDDO. If the project is to continue, an environmental impact statement and continuation of the process by a separate governing unit to allow more extensive consideration of potential health and environmental impacts is at least in order.

We appreciate the time you've taken to review our comments on this important issue.

Sincerely,

Ava Corey-Gruenes | ava@hpforhc.org

Organizer and Outreach Coordinator

Health Professionals for a Healthy Climate

References

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[2] Gianluca Guidi et al., “Environmental Burden of United States Data Centers in the Artificial Intelligence Era” (arXiv, November 14, 2024), https://doi.org/10.48550/arXiv.2411.09786.

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TO: Interested Parties (Including Minnesota Environmental Quality Board Distribution List)

FROM: Eric Johnson
Community Development Director
City of Hermantown

DATE: May 19, 2026

SUBJECT: Final Order for the Updated City of Hermantown Industrial project Alternative Urban Areawide Review (AUAR)

As the Responsible Governmental Unit (RGU), the City of Hermantown has determined that an Alternative Urban Areawide Review (AUAR) is required for the proposed Hermantown Industrial project.

The City of Hermantown adopted the Hermantown Industrial Alternative Urban Areawide Review (AUAR) on October 6, 2025[1] that studied one development scenario which included a total of 1.8 million square feet of light industrial.

Since that time, the project proposer, Harmony Group LLC, has developed additional project design details, completed additional analyses, and announced that the proposed light industrial development will include a data center and related infrastructure. To provide the public an opportunity for comment on the specifics of the development scenario, including a chance for the public to propose alternatives and issues to be analyzed in environmental review, the City of Hermantown and Harmony Group LLC announced that they will voluntarily be completing an Updated AUAR.

This document constitutes a final order for review. Enclosed is the Final Scoping Document for the proposed development and the Final Order for Review (Resolution 2026-48 was adopted by the Hermantown City Council on May 18, 2026 (see Appendix A). The notice of availability of the Draft AUAR Order and Scoping Document was published in the Minnesota Environmental Quality Board's EQB Monitor on March 31, 2026. The scoping document was available for review and comment as part of the AUAR process as described in Minnesota Rules, part 4410.3610, subpart 5a. The 30-day comment period began on March 31, 2026 and closed at 4:00 PM on April 30, 2026.

During the public comment period, comments were received from 5 government agencies and 235 public comments. Pursuant to Minnesota Rules, part 4410.3610, subpart 5a(C), the purpose of the comments on a Scoping Document for an AUAR is to suggest additional development scenarios and relevant issues to be analyzed in the review. Comments may suggest alternatives to the specific large project or projects proposed to be included in the review, including development at sites outside of the proposed geographic boundary. The comments must provide reasons why a suggested development scenario or alternative to a specific project is potentially environmentally superior to those identified in the RGU's draft order.

Responses to the comments received are included in Appendix B and copies of the comments are included in Appendix C.

AUAR Study Area

This AUAR study area encompasses an area totaling approximately 278 acres on 26 parcels in the City of Hermantown, St. Louis County, Minnesota. The study area is bounded to the north by Morris Thomas Road, to the east by Midway Road, and to the west by Solway Road. The southern boundary of the study area extends parallel to Saint Louis River Road, approximately 0.25 miles to the north. The AUAR Study Area is a smaller geographic footprint and scale than the AUAR Study Area within the adopted Hermantown Industrial Alternative Urban Areawide Review (AUAR) on October 6, 2025.

Development Scenario

The development scenario defined in Table 1 and shown in Figure 2, is proposed to be evaluated in the AUAR. The scenario reflects the density and land uses presently allowed under the City of Hermantown's current *2045 Comprehensive Plan*.

Table 1: AUAR Development Scenario

Component	Scenario 1
Industrial Building Area (square feet)	1.8 million
Total Project Area (acres)	**278 acres**

DRAFT

Figure 1: AUAR Study Area

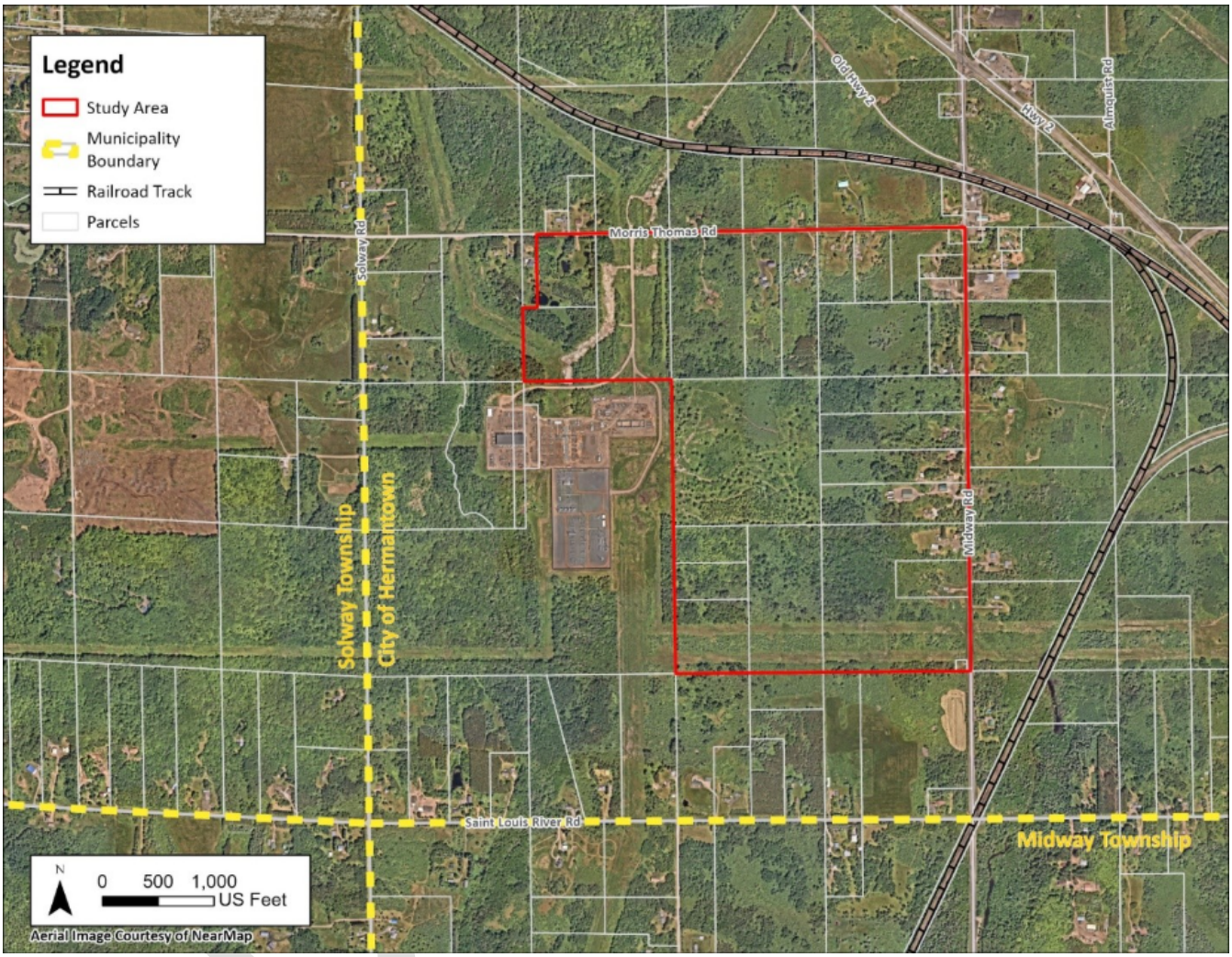
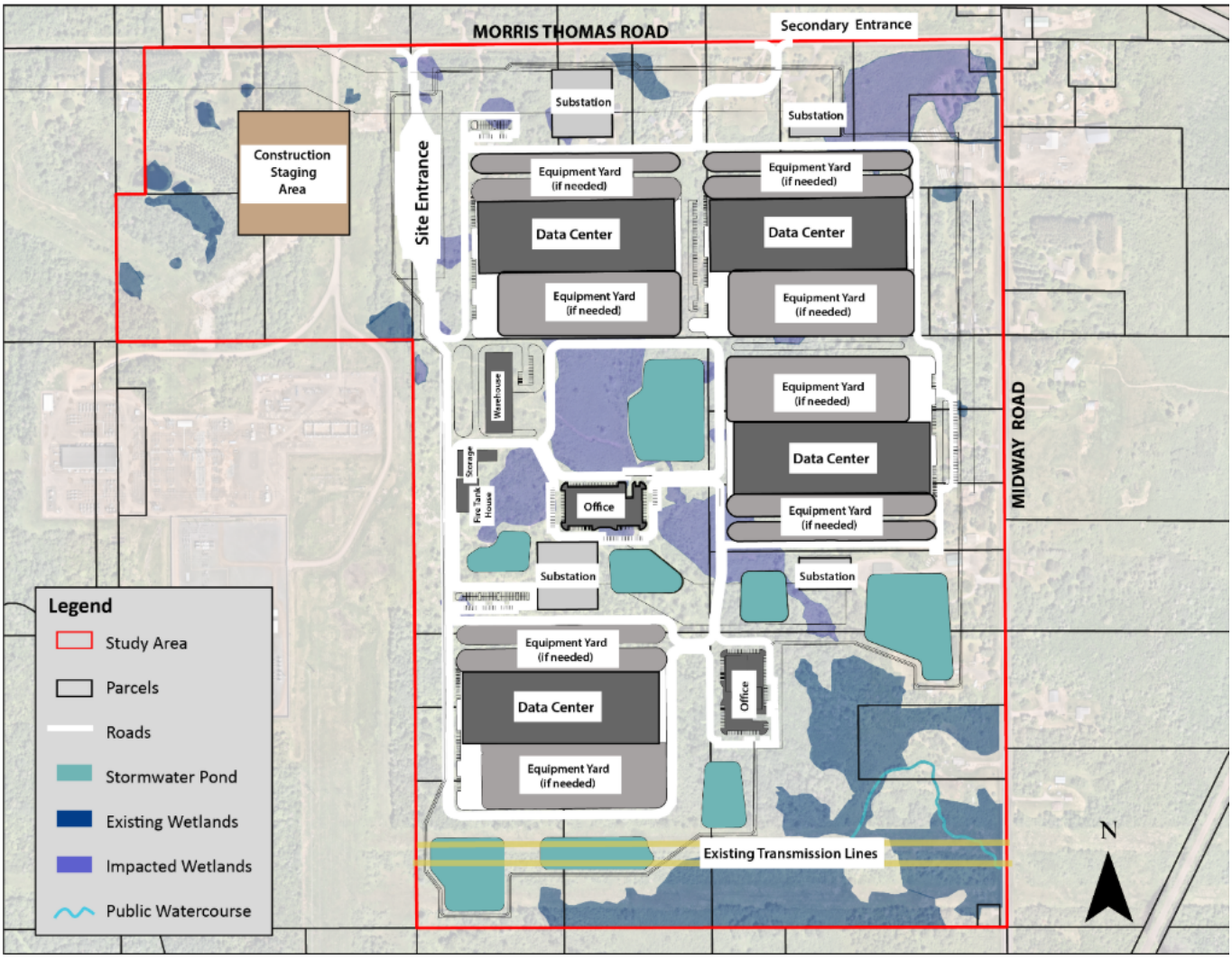


Figure 2: AUAR Development Scenario



Draft AUAR Public Comment Period

Although the exact configuration of each building will not be determined until construction on each parcel is designed, a Draft AUAR will be prepared (based on the Development Scenario) to analyze the individual and cumulative potential effects from the largest building footprints possible and lot configurations with consideration given to existing natural resources, planning and zoning requirements, market trends, and infrastructure needs. The Draft AUAR, when complete, will be available for a required 30-day public comment period (anticipated summer 2026).

Please address comments or questions to:

RGU: City of Hermantown
Eric Johnson
5105 Maple Grove Road
Hermantown, MN 55811
auarcomments@hermantownmn.com

DRAFT

Resolution No. 2026-49

Resolution Clarifying Motion To Table Resolution 2026-45

WHEREAS, on May 4, 2026, the City of Hermantown ("City") City Council held a public hearing on Resolution 2026-45 ("Resolution"); and

WHEREAS, the Resolution was to approve a Development Agreement and Tax Abatement Agreement with Harmony Group LLC for a proposed data center in the southwest corner of the City; and

WHEREAS, after many hours of public comment on the Resolution, the City Council voted 5-0 to table the Resolution to address items raised in the public hearing and to make sure that the City Council had the benefit of the environmental review process before making a decision on the Resolution; and

WHEREAS, the City Council believes it is best for the Hermantown community, the proposed developer and other interested parties to know when the Resolution will come off the table and be brought back for a vote by the City Council.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Hermantown, Minnesota that Resolution 2026-45 will remain on the table until after the Alternative Urban Areawide Review ("AUAR") process is completed.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such resolution was seconded by Councilor _____ and, upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

And the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted on May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown, St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-49 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____

Alissa McClure, City Clerk

CITY COUNCIL MEETING DATE: May 18, 2026

TO: Mayor & City Council

FROM: Paul Senst, Director of Public Works

SUBJECT: Trailer Purchase

☒ **RESOLUTION:** 2026-50 ☐ **ORDINANCE:** ☐ **OTHER:**

REQUESTED ACTION

Approve purchase of Towmaster trailer.

BACKGROUND

The City of Hermantown's Public Works, Utilities and Parks have been growing and upgrading for the last few years. We recently purchased a tracked skid steer and need to upgrade our old skid steer trailer. We have explored options and have come up with a Towmaster T-16-T Galvanized tilt deck trailer as our best option for our Dept. This is part of the 2026 Capital Improvement Plan.

We recommend the purchase be awarded to McCoy Construction & Forestry for the Amount of $ 26,345.00 plus delivery.

Sourcewell Contract: #092922-MR

SOURCE OF FUNDS (if applicable)

2026 CIP Item # Tracked Skid Steer
Fund 401-431100-543

ATTACHMENTS

Resolution
McCoy Construction & Forestry Quote

Resolution No. 2026-50

Resolution Authorizing The Purchase Of A Towmaster T-16T Trailer In The Amount Of $25,920

WHEREAS, the City of Hermantown's Public Works, Utilities, and Parks have been growing and upgrading for the last few years; and

WHEREAS, the Public Works Department has recently purchased a John Deere 325 G Tracked Skid Steer and is in need of a trailer for said purchase; and

WHEREAS, the Public Works Department has evaluated available options and determined that a Towmaster T-16T Galvanized Tilt Deck Trailer best meets the City's needs; and

WHEREAS, the purchase of this equipment is included in the City's 2026 Capital Improvement Plan; and

WHEREAS, the proposed purchase is through McCoy Construction & Forestry in the amount of $25,920, utilizing Sourcewell State Contract #092922-MR; and

WHEREAS, funds for this purchase are available in the 2026 Capital Improvement Plan, Fund 401-431100-543.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hermantown that the purchase of a Towmaster T-16T Trailer from McCoy Construction & Forestry in the amount of $25,920 is hereby approved.

BE IT FURTHER RESOLVED that the Mayor and City Clerk are authorized to execute all necessary documents to complete this purchase.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such resolution was seconded by Councilor _____ and, upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

and the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown, St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-50 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____

Alissa McClure, City Clerk

5/6/2026

City of Hermantown
Public Works
4971 Lightning Drive
Hermantown MN 55810

Re: Towmaster Trailer Quote
*Quoted Under Sourcewell
*City of Hermantown Account #4242
*Sourcewell Contract # 092922-MNR.

Towmaster T-16T (Galvanized)

-Tilt Deck
-20ft Deck with 4ft of 20 Stationary. 2" Nominal Oak
-102" Wide OD, 82" ID
-4ft Stationary Deck
-2 Axles – 8k Oil Bath Dexter Axles
-1 Axle Electric Brakes
-4 Tires 215/75Rx17.5 H 16 Ply
-Steel Wheels
-25k 2 speed Jack
-LED Lights
-5 Pole Plug
-Hitch 2-5/16th's
- D Rings 2 /Side of Stationary 5 Side of Tilt
-Tool Box w/ Lid

Configured Price: $25,920
DOT Inspection: $250
PDI Inspection: $175
Price prior to Freight: $25,920

**Tax/License Fee's all additional if applicable. **
Freight will be a separate charge and quoted at time of delivery
Add $2640 to figure for full length rub rail & stake pocket

June/July ETA

Appreciate the opportunity! Please do not hesitate to call with any questions.

Tony Macke | Territory Manager
3401 Arrowhead Rd.
Duluth, MN 55811
Office: 218-722-7456 | Cell: 218-355-8067
http://mccoycf.com

CITY COUNCIL MEETING DATE: May 18, 2026

TO: Mayor & City Council

FROM: Trish Crego, Utility and Infrastructure Director

SUBJECT: Permanent Easement from MN Power

☒ **RESOLUTION:** 2026-51 ☐ **ORDINANCE:** ☐ **OTHER:**

REQUESTED ACTION

Approve Permanent Easements.

BACKGROUND

The City of Hermantown desires to construct a portion of the Lightning Drive Improvement and trail Project in 2026-2027. The city requires permanent easement within MN Power (ALLETE) property PID 395-0010-04405. The easement has been reviewed and negotiated to accommodate the City's future use for including trails and development. The City is paying for the easements, based upon an uncomplicated appraisal by SRF. It is recommended the Council accept the easement agreements.

SOURCE OF FUNDS (if applicable)

240-433500-510 pro 323

ATTACHMENTS

Resolutions
Easement Agreement 395-0010-04405

Resolution No. 2026-51

Resolution Authorizing And Directing Mayor And City Clerk To Execute An Acceptance Of Easement Agreement To The City Of Hermantown For Parcel 395-0010-04405 To From Minnesota Power For The Hermantown Lightning Drive Improvements And Trail Project

WHEREAS, the City of Hermantown ("City") desires to construct a trail and install utilities on a portion of existing power easements in the City of Hermantown ("Project"); and

WHEREAS, the City needs to obtain an easement ("Easement") from Minnesota Power to construct the Project and Minnesota Power has executed and delivered the required Easement to the City; and

WHEREAS, the City Attorney has reviewed and negotiated an acceptable easement and recommends approval, and

WHEREAS, MNP has executed and delivered the required Easement agreement to the City; and

WHEREAS, the City desires to accept the Easement as described in and granted by the Easement Agreement attached hereto as Exhibit A.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Hermantown, Minnesota as follows:

1. The Mayor and City Clerk are hereby authorized and directed to execute and deliver the Acceptance of the Easement Agreement for Parcel 395-0010-04405 from Minnesota Power.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such resolution was seconded by Councilor _____ and, upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

and the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown, St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-51 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____

Alissa McClure, City Clerk

EXHIBIT A

[TOP THREE INCHES RESERVED FOR RECORDING DATA]

EASEMENT AGREEMENT

THIS INDENTURE is made and entered into this _____ day of _____, 2026, between **Minnesota Power, a division of Allete, Inc.**, a Minnesota corporation, ("Grantor") and **City of Hermantown**, a Minnesota municipal corporation, ("Grantee") in response to the following situation:

A. Grantor is the owner of real property located in St. Louis County, Minnesota, and legally described on Exhibit A attached hereto (the "Property").

B. Grantee desires to construct a public roadway, pedestrian/bicycle trail, and utility improvements as part of Project 547 in the area of Lightning Drive (the "Project").

C. Grantor agrees to provide a perpetual, non-exclusive, easement (the "Easement") for road, utility, pedestrian/bicycle trail and ancillary right of way purposes, including, but not limited to, the construction and maintenance of the Project, over, under, and across the Property owned by Grantor, within the Easement Area identified by the legal description for the Easement and legally described on Exhibit B and depicted on Exhibit C attached hereto.

D. Grantee understands and agrees that the rights granted herein are subject to any existing rights-of-way, for highways, roads, railroads, pipelines, laterals, ditches, public utilities and other easements heretofore granted across any part of the lands affected by this Easement or presently in use by Grantor's electric transmission lines. The Project and Easement are intended to exist alongside and not interfere with Grantor's use of the Property for electric transmission.

NOW, THEREFORE, in consideration of mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. The Recitals are included as a part hereof.

2. Grantor grants Grantee the Easement over, under and across the Easement area, together with the right to locate the Easement area by surveying and the placement of appropriate markers, if necessary, the right to enter upon and occupy as much of the Easement area as may be necessary to construct, maintain, repair, improve, alter or remove any portion of the Project located thereon, including any required slope and fill, and the right to remove any and all trees and shrubs and herbage thereon and the right to clear and keep the Easement area cleared as required for its efficient operation and control, and to allow Grantee access to the public improvements located thereon.

3. Grantee shall construct and maintain said improvements in a safe condition and in good repair, at its own expense.

4. The Easement shall be perpetual and shall run with the land and shall be binding upon the heirs, successors and assigns of the parties.

5. No amendment or modification of this Agreement shall be effective unless made by written instrument signed by Grantor and Grantee or their respective successors and assigns.

6. If any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the remainder of such provision or any other provisions hereof.

7. This Agreement shall be governed by and construed under the laws of the State of Minnesota.

8. This Agreement modifies the legal description in that Trail Permit between the parties dated October 3, 2014, with regard to the same Property described herein,

FROM:

The easterly 150 feet of the described parcel, and the northerly 50 feet of the described parcel.

TO:

The easterly 73 feet of the described parcel, and the northerly 50 feet of the described parcel.

[SIGNATURES APPEAR ON NEXT PAGE]

IN WITNESS WHEREOF, the said Grantor has caused this instrument to be executed on the day and year first above written.

Minnesota Power, a division of Allete, Inc.

By James B. Atkinson
Its Manager-Siting & Land Rights

STATE OF MINNESOTA)
) ss.
COUNTY OF ST. LOUIS)

The foregoing instrument was acknowledged before me this 7 day of May, 2026, by James B. Atkinson the Manager-Siting & Land Rights of Minnesota Power, a division of Allete, Inc., a Minnesota corporation, on behalf of the corporation.

(Stamp)

SKYRAE LYDIA CLARE CAMPANELLA
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan. 31, 2030

Skyrae Campanella
(signature of notarial officer)

Title (and Rank): Notary Public

My commission expires: 1.31.2030
(month/day/year)

[ACCEPTANCE APPEARS ON NEXT PAGE]

ACCEPTANCE

The City of Hermantown hereby accepts the foregoing easement.

Dated: _____

CITY OF HERMANTOWN

By _____
Its Mayor

And By _____
Its City Clerk

STATE OF MINNESOTA)
) ss.
COUNTY OF ST. LOUIS)

The foregoing instrument was acknowledged before me this _____ day of _____, 2026, by Wayne Boucher and Alissa McClure, the Mayor and City Clerk, respectively, of the City of Hermantown and on behalf of the City of Hermantown.

(Stamp)

_____
(signature of notarial officer)

Title (and Rank): Notary Public

My commission expires: _____
(month/day/year)

THIS INSTRUMENT WAS DRAFTED BY:
Gunnar B. Johnson
Overom Law, PLLC
802 Garfield Avenue
Suite 101
Duluth, MN 55802
218-625-8463

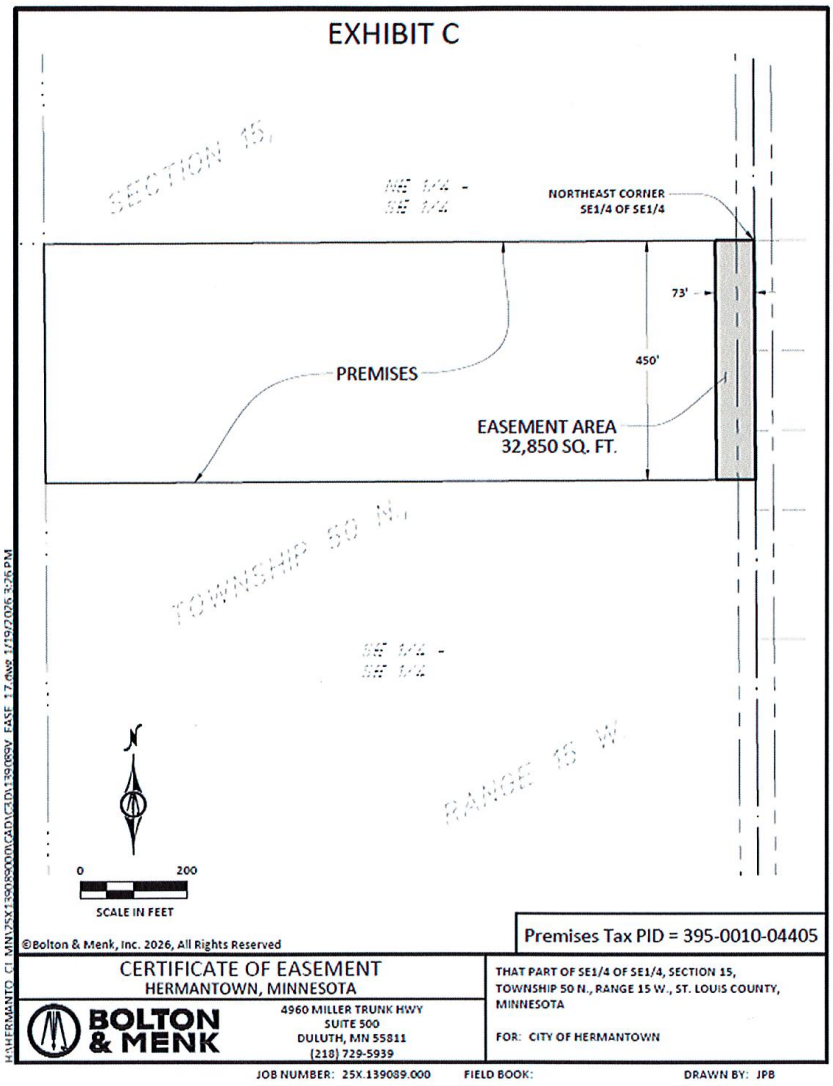
EXHIBIT A
Legal Description

The Northerly 450.00 feet of the Southeast Quarter of the Southeast Quarter of Section 15, Township 50 North, Range 15 West, St. Louis County, Minnesota.

EXHIBIT B

The East 73.00 feet of the North 450 feet of the Southeast Quarter of the Southeast Quarter of Section 15, Township 50 North, Range 15 West, St. Louis County, Minnesota.

EXHIBIT C


EXHIBIT C
SECTION 15,
NE 1/4 - NE 1/4
NORTHEAST CORNER SE1/4 OF SE1/4
73'
450'
PREMISES
EASEMENT AREA 32,850 SQ. FT.
TOWNSHIP 50 N.,
SE 1/4 - NE 1/4
RANGE 15 W.
N
0
200
SCALE IN FEET
©Bolton & Menk, Inc. 2026, All Rights Reserved
Premises Tax PID = 395-0010-04405
CERTIFICATE OF EASEMENT
HERMANTOWN, MINNESOTA
BOLTON & MENK
4960 MILLER TRUNK HWY
SUITE 500
DULUTH, MN 55811
(218) 729-5939
THAT PART OF SE1/4 OF SE1/4, SECTION 15, TOWNSHIP 50 N., RANGE 15 W., ST. LOUIS COUNTY, MINNESOTA
FOR: CITY OF HERMANTOWN
JOB NUMBER: 25X.139089.000
FIELD BOOK:
DRAWN BY: JPB

CITY COUNCIL MEETING DATE: May 18, 2026

TO: Mayor & City Council

FROM: Trish Crego, Utility and Infrastructure Director

SUBJECT: Feasibility Report and Public Hearing – Project 548: The Reconstruction of Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road in Sections 23-26

☒ **RESOLUTION:** 2026-52 ☐ **ORDINANCE:** ☐ **OTHER:**

REQUESTED ACTION

Accept the Preliminary Feasibility Report and Call for Public Hearing for Project 548 The Reconstruction of Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road In Sections 23-26 Hearing for Monday, June 15, 2026.

BACKGROUND

As part of the City's Road Improvement Program, the City intends to make improvements on Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road in Sections 23-26 in 2028. The City Engineer has prepared the attached Preliminary Feasibility Report which addresses in a more specific way the improvements that are needed and a more detailed cost estimate. This is one of the required steps in the road improvement process since it is the intention of assessing property owners along this project.

Prior to June 15, staff will invite residents along the project to an informal public information meeting to explain the Project 548 and answer any questions.

The City Council should accept the report and call for a public hearing on the improvement to be held on June 15, 2025.

SOURCE OF FUNDS (if applicable)

402-431150-305 proj 548	Special Assessments
Sales Tax (Road)	Stormwater/Street light utility fees

ATTACHMENTS

Resolution
Feasibility Report

Resolution No. 2026-52

Resolution Receiving Preliminary Engineering Report And Calling For A Public Hearing For Road Improvement District No. 548 (The Reconstruction Of Stebner Road (MSAS 103) Between Morris Thomas Road And Maple Grove Road In Sections 23-26)

WHEREAS, pursuant to the City of Hermantown's Road Improvement program, a preliminary engineering report ("Report") has been prepared by Northland Consulting Engineering, Inc. with reference to the road improvement The Reconstruction Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road (approx. 10,500 lineal feet) As Part of The City Road Improvement Plan in Sections 23-26 ("Project"); and

WHEREAS, the City Council has been advised by Northland Consulting Engineering, Inc. the consulting engineer for such project in the Report that the proposed improvements are feasible and should best be made as proposed; and

WHEREAS, the City Council believes that it is in the best interests of the City of Hermantown that further consideration be given to Road & Utility Improvement District No. 548 in the City of Hermantown; and

WHEREAS, Chapter 429 of the Minnesota Statutes provides that no such improvement shall be made until the City Council shall have a public hearing on such improvements following mailed notice and two publications thereof in the official newspaper stating the time and place of the hearing, the general nature of the improvement, the estimated costs thereof and the area proposed to be assessed in accordance with law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Hermantown, Minnesota, as follows:

1. The City Council receives the preliminary engineering report for Road & Utility Improvement Project 548 (The Reconstruction of Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road (approx. 10,500 lineal feet) as Part of The Road Improvement Plan)

2. The Council will consider the improvement of such road improvements in accordance with the Report and the assessment abutting property for all or a portion of the cost of the improvement pursuant to Minnesota Statutes, Chapter 429 at an estimated total cost of the improvement of $6.6 million.

3. A public hearing on the proposed improvements will be held **Monday, June 15, 2026 at 6:30 p.m.** in the Administrative Services Building, 5105 Maple Grove Road, Hermantown, Minnesota.

4. The notice of hearing attached hereto as Exhibit A is approved and the City Clerk is hereby authorized and directed to cause such notice to be published thrice in the official newspaper, on **May 28th, June 4** and once on **June 11, 2026.**

4. The City Clerk is further authorized and directed to mail such notice to the owner of each parcel of land within the area proposed to be assessed as described in such notice no later than **May 28th, 2026**. For purpose of giving such mailed notice, owners shall be those shown to be such on the records of the St. Louis county Auditor. As to properties not listed on the records of the St. Louis County Auditor, the City Clerk shall ascertain such ownership by any practicable means and give mailed notice to such owners.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such motion was seconded by Councilor _____ and, upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

and the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown, St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-52 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____
Alissa McClure, City Clerk

EXHIBIT A

NOTICE OF PUBLIC HEARING ON ROAD IMPROVEMENT DISTRICT NO. 548 (THE RECONSTRUCTION OF STEBNER ROAD (MSAS 103) BETWEEN MORRIS THOMAS ROAD AND MAPLE GROVE ROAD AS PART OF THE CITY ROAD IMPROVEMENT PLAN IN SECTIONS 23-26

NOTICE IS HEREBY GIVEN, that the City Council of the City of Hermantown will meet in the council chambers of Administrative Services Building, 5105 Maple Grove Road, Hermantown, Minnesota, at 6:30 p.m. on Monday, June 15, 2026 to consider the feasibility report of Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road (approx. 10,500 lineal feet) As Part of The City Road Improvement Plan in Sections 23-26

The City Council proposes to proceed in accordance with the provisions of Minnesota Statutes Chapter 429.011 to 429.111 of the Minnesota Statutes.

The area proposed to be assessed for such improvement is every piece and parcel of property benefited by such improvement, whether abutting thereon or not, based upon the benefits received by each piece and parcel.

The proposed assessment is $9,750 for each residential parcel and $25,000 for commercial properties. The estimated cost of such improvement is $1.2 million.

A reasonable estimate of the impact of the assessment will be available at the hearing.

Such persons as desire to be heard with reference to the proposed improvements will be heard at this meeting. Written or oral comments are encouraged and will be considered at this hearing.

Authorized by the City Council.

Alissa McClure, Clerk
City of Hermantown

Northland
Consulting Engineers, L.L.P.

Structural, Civil and Forensic Engineering Services

CITY OF HERMANTOWN

PRELIMINARY ENGINEERING REPORT

AND

FEASIBILITY STUDY

Prepared: May 12th, 2026

Stebner Road Feasibility Study

(MSAS 103)

Morris Thomas Road to Maple Grove Road

(CSAH 56 to CSAH 6)

Stret Improvement District 548

NCE JOB NUMBER: 26-8000

RECOMMENDED: _____ 5/12/26

Hermantown City Engineer — Date

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1. LEGAL BASIS FOR REPORT
2. REPORT
3. APPENDICIES
    I. Appendix A – Overall Map
    II. Appendix B – Typical Roadway Sections
    III. Appendix C – Engineer's Estimate of Cost

LEGAL BASIS FOR REPORT

This report is prepared pursuant to a Resolution approved by the Hermantown City Council calling for the preparation of a preliminary engineering report, pursuant to Minnesota Statutes Section 429.031.

This report is prepared in accordance with said Section 429.031. Specifically, this report hereby advises the City Council, in a preliminary way, as to whether the proposed improvement is necessary, cost-effective, and feasible and as to whether it should best be made as proposed or in connection with some other improvement.

This report also includes the estimated cost of the improvements as recommended.

The compensation paid to Northland Consulting Engineers, LLC. for preparing this report is based on the following factors:

1. The time and labor required.
2. The experience and knowledge of the preparer.
3. The complexity and novelty of the problems involved.
4. The extent of the responsibilities assumed.

The compensation paid to Northland Consulting Engineers, LLC. for preparing this report is not based on a percentage of the estimated cost of the improvement.

PURPOSE

The purpose of this report is to determine the necessity, cost effectiveness, and economic feasibility for a reconditioning project on Stebner Road (MSAS 103) between Morris Thomas Road and Maple Grove Road (approx. 10,500 lineal feet). It is anticipated this project will be an urban reconditioning project that will utilize Municipal State Aid dollars to fund a majority or all of the project.

EXISTING CONDITIONS

Stebner Road is an urban municipal road that runs north-south from Hwy 53 to Getchell Road. Two miles of Stebner Road, between Morris Thomas Road and Maple Grove Road, are due for roadway improvements to repair significant deterioration. NCE has found that this section of Stebner Road is in poor condition and quickly deteriorating. The stress of aging and weathering on the pavement, sidewalk, and utilities have caused various cracking and drainage issues that create unsuitable driving conditions that are beyond the scope of incremental repairs. The existing sidewalk along this section of Stebner Road is out of compliance with current ADA standards due to the sidewalk width, grades, and ramps. The existing roadway segment is broken into three sections based on the year it was last reconstructed.

- Morris Thomas Road to Hermantown Road – Reconstructed in 2004
- Hermantown Road to Radar Road – Reconstructed in 1999
- Radar Road to Maple Grove Road – Reconstructed in 1994

Listed in the table below is the segment identified for reconstruction.

Existing Conditions - Street Improvement				
Segment	**Road Name**	**Length**	**Width**	**Infrastructure Condition**
1	Stebner Road (Morris Thomas Rd to Hermantown Rd)	3,700'	32'	Bituminous – Poor Sidewalk – Poor Curb and Gutter – Moderate
2	Stebner Road (Hermantown Rd to Radar Rd)	4,200'	32'	Bituminous – Poor Sidewalk – Poor Curb and Gutter – Moderate
3	Stebner Road (Radar Rd to Maple Grove Rd)	2,600'	32'	Bituminous – Poor Sidewalk – Poor Curb and Gutter – Moderate

Corridor Condition

Most of the current road is in poor/failing condition with visible signs of deterioration throughout this section of Stebner Road. The most prominent distress is transverse cracks that run perpendicular to the traffic direction. Longitudinal and fatigue cracks are also prevalent throughout section of roadway. This shows the pavement has outlived the expected 25-year life span with a majority of the road being 27 and 32 years old. In addition to the failing bituminous pavement, the curb and gutter, and sidewalks have also deteriorated in select locations.



Example of Transverse cracks



Example of Longitudinal cracks

Utilities Condition

The steel castings for water, storm, and sanitary have shifted from yearling freeze thaw conditions. This has resulted in the deterioration of pavement around the utility structures along with the casting elevations to move out of tolerance causing adverse driving conditions. The condition of the utilities is unknown at this time and requires further inspection. This includes fire hydrants, watermain, sanitary sewer main, and the storm water system along this stretch of Stebner Road. Public Works will conduct testing of the watermain for leaks and will televise the sanitary sewer for pipe integrity and I & I. The sanitary sewer was installed in 1999 and the watermain was installed in 1994.



Example of Fatigue cracks



Example of utility casting conditions

DESIGN

It is NCE's recommendation that the roadway improvements are designed and constructed to the City of Hermantown Standard construction specifications for an urban road design to match the current roadway section and profile. This includes 32' bituminous pavement with curb and gutter along with sidewalk. NCE is proposing a mill and overlay for this section of roadway along with complete sidewalk replacement along with curb and gutter. A mill and overlay includes the grinding and removal of the entire bituminous section followed by the placement of a new bituminous section. Per the State Aid requirements, up to 20% of the sidewalk and curb/gutter can be placed using State Aid funding.

Road Improvements

The table below summarizes the road segments to be improved as part of the Street Improvement District.

Proposed Construction - Street Improvement District				
Segment	**Road Name**	**Road Length**	**Road Width**	**Improvement Strategy**
1	Stebner Road (Morris Thomas Rd to Hermantown Rd)	3,700'	32'	Mill & Overlay Full Sidewalk Replacement ADA Improvements Curb & Gutter Replacement
2	Stebner Road (Hermantown Rd to Radar Rd)	4,200'	32'	
3	Stebner Road (Radar Rd to Maple Grove Rd)	2,600'	32'	



Damaged Sidewalk



Damaged Curb & Gutter

Mill & Overlay: The existing bituminous (4"-5") will be grinded away and replaced with a new bituminous section.

Curb & Gutter: Up to 20% of the existing curb and gutter will be removed and replaced.

Sidewalk: Removal and reconstruction of all sidewalk in compliance with ADA requirements.

Utility Evaluation

Storm Sewer: Manhole and catch basin casting will be required to be replaced or adjusted to match the finished grade of the improved roadway.

Sanitary Sewer: Sanitary sewer main will need to be televised prior to design to determine if any sewer will need to be replaced. Manhole and catch basin casting will be required to be replaced or adjusted to match the finished grade of the improved roadway.

Watermain and Fire Hydrants: It is not anticipated for any watermain replacement work to be done as part of this improvement. NCE will coordinate with the Public Works Department to determine if there are any areas of concern for watermain and fire hydrants that need to be part of this roadway improvement that would require repairs.

Other Utilities: Minnesota Power, Charter, and Lumen likely have utilities along this corridor. A utility design meeting will identify the extent of the private utilities.

Overall inspection of these utilities is needed to assess the current conditions to make the necessary improvements. With the roadway being exposed for the reconstruction, the repair and reconstruction of any utility infrastructure is more cost effective and makes this an advantageous opportunity to make the necessary repairs.

STATE AID FUNDING

This roadway improvement project will utilize Municipal State Aid funding to help fund the project. The project will be subject to the Local State-Aid Standards, 8820.9946 *Minimum Design Standards, Urban; Reconditioning Projects*.

"Reconditioning" includes resurfacing, replacement, or rehabilitation of the pavement structure to extend the life of the roadway and effectively address critical safety and operations needs through minor improvements to the existing facility. Reconditioning projects generally utilize the existing horizontal and vertical alignment, may entail minor widening or geometric improvement, and normally require little or no additional right-of-way. Reconditioning may include changes in vertical or horizontal alignment involving no more than 20 percent of the length of the project. Reconditioning may include curb replacement along no more than 20 percent of the length of the project, not including curb replacement for purposes of meeting the Americans with Disabilities Act requirements. Work does not normally extend beyond the existing ditch bottom.

CONCLUSION

Based on discussions with the City Administrator and Public Works Director, it is NCE's recommendation that the City Council approve a mill and overlay project for this section of Stebner Road. Northland Consulting Engineers believe the improvements above are beneficial to the City of Hermantown. The improvements to roadways will be a major benefit, allowing for improved travel along Stebner Road. Below is a summary of the projected cost for the improvements to the Street Improvement District.

PROJECTED COSTS

Cost Estimates for the Street Improvement District have been developed and are attached. The estimated costs are broken down below. These costs are developed by looking at the pavement improvement strategy. See attached Project Cost Estimate.

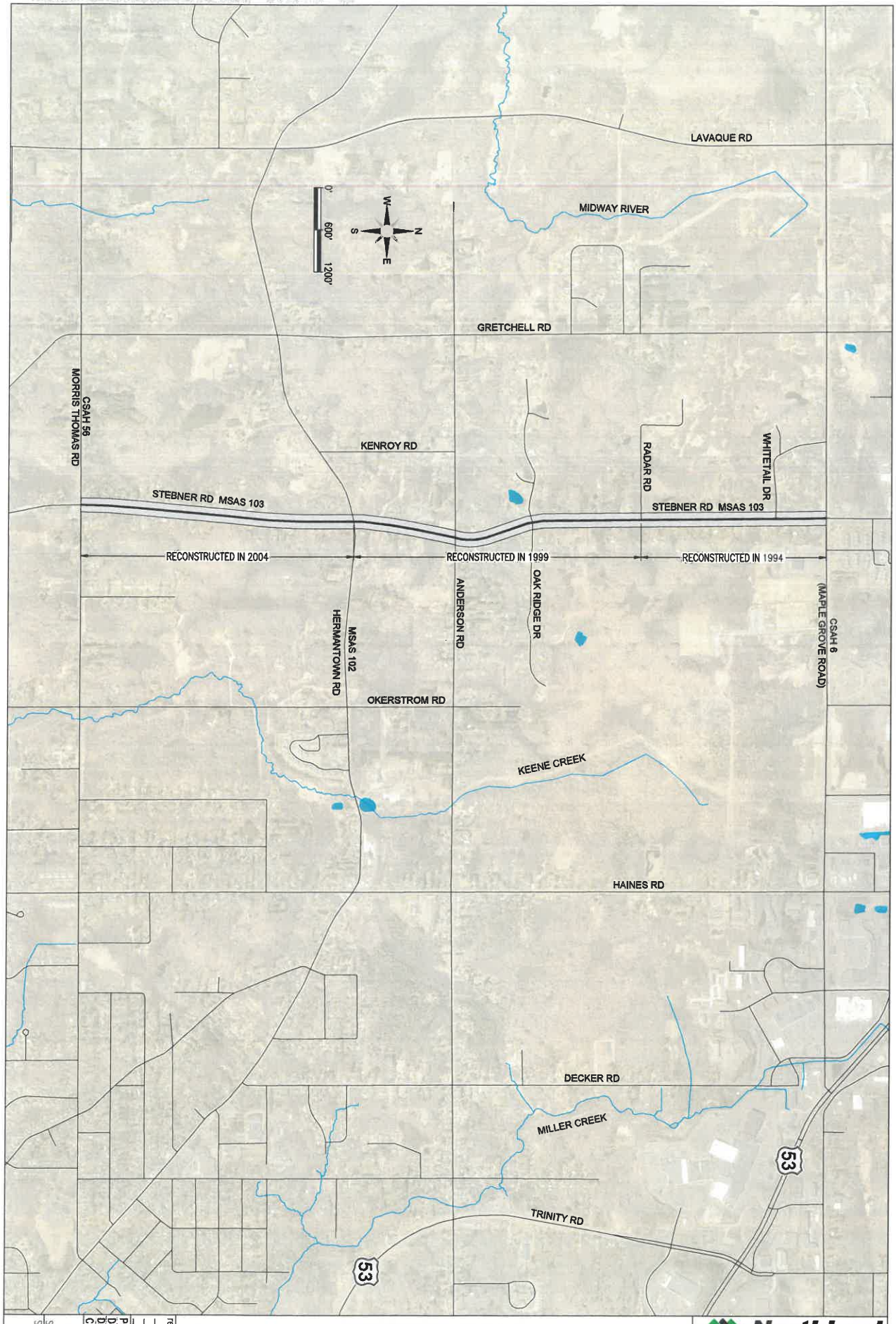
PROJECTED COSTS

See Appendix C for a breakdown of the cost projections of the project.

Estimated Construction Costs:	
Stebner Road Mill & Overlay	**$2,719,400**
Design and Construction Engineering (7.5% for Each)	$ 271,940
Surveying	$ 25,000
Construction Contingency (10%)	$ 271,940
City Administrative Cost (5%)	$ 135,970
Estimated Total Project Costs	**$ 3,560,220**
Funding Sources:	
Stormwater Utility Fund	$ 50,000
Assessments (95 Parcels $9,400)	$ 893,000
MNDOT State-Aid	$ 2,617,220
Total	**$ 3,560,220**

APPENDICIES

Appendix A - Overall Map



STEBNER ROAD
FEASIBILITY STUDY
HERMANTOWN, MN

OVERALL MAP
Sheet Title
A
Sheet Number

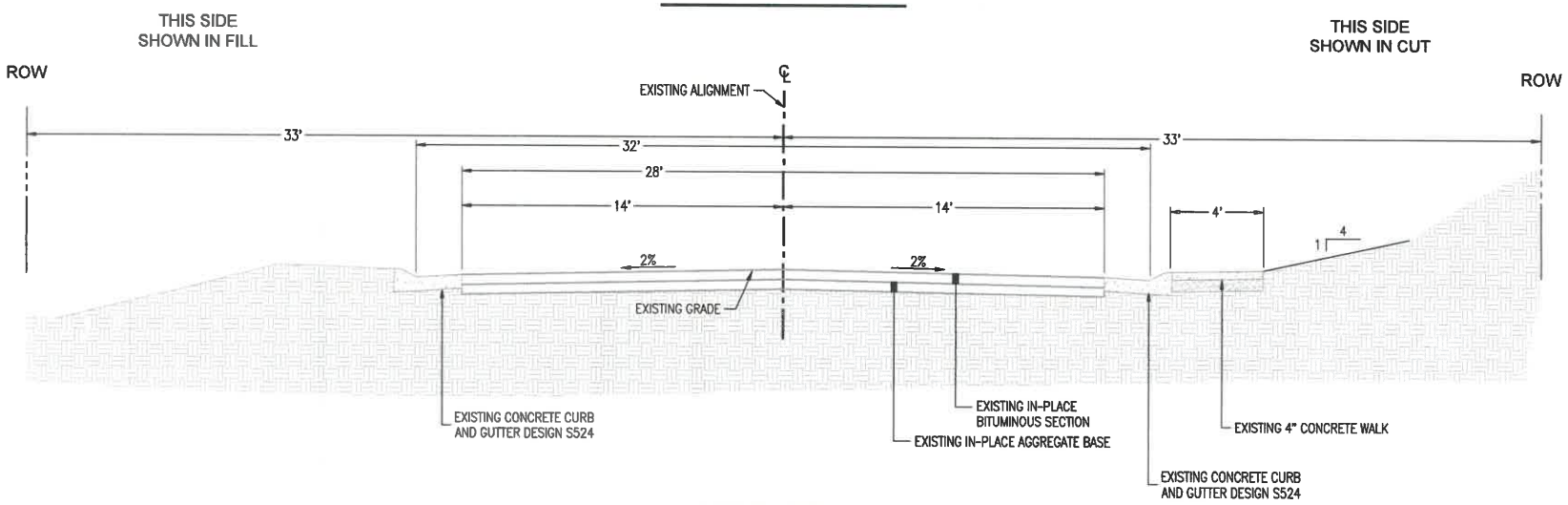
Proj: 26-ABC
Date: 04/07/26
Drawn: JRM
Checked: TLL

revision

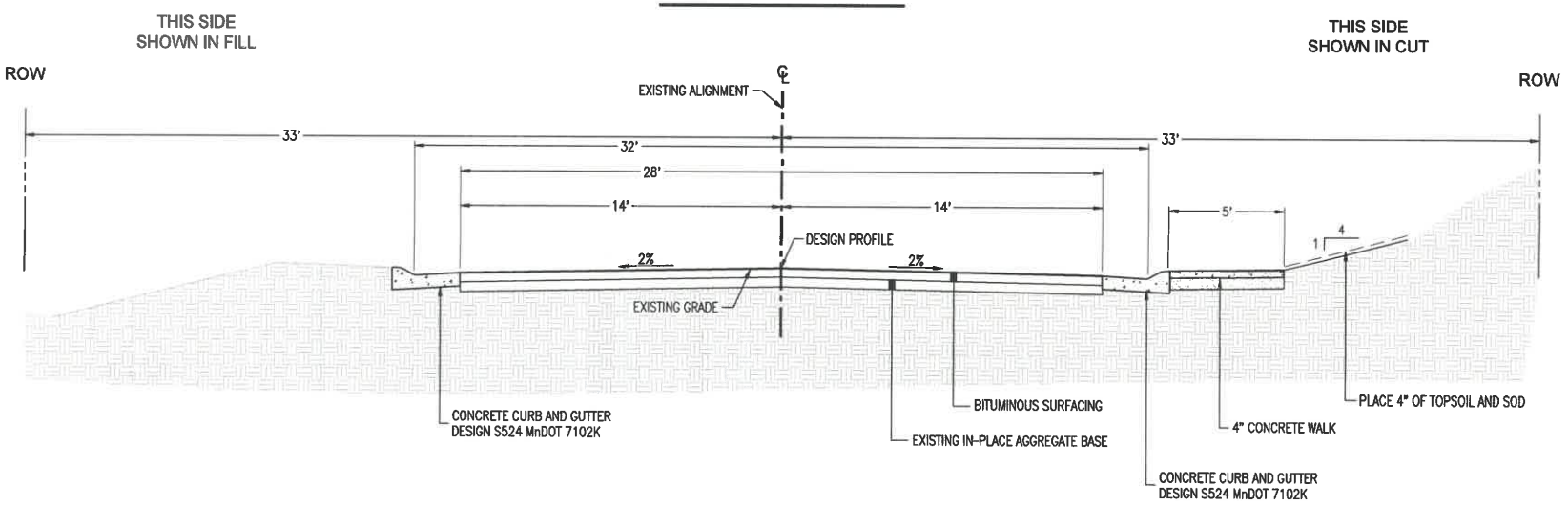
Northland
Consulting Engineers L.L.P.
Structural, Civil and Forensic Engineering Services
Voice: (218)727-5995
Fax: (218)727-7779
www.nce-engineers.com

Appendix B - Typical Roadway Sections

EXISTING TYPICAL SECTION
STEBNER ROAD



DESIGN TYPICAL
MILL & OVERLAY
STEBNER ROAD



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STEBNER ROAD
FEASIBILITY STUDY
HERMANTOWN, MN

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TYPICAL SECTION
Sheet Title

Sheet Number
B

Appendix C – Engineer's Estimate of Cost

Northland Consulting Engineers L.L.P.
Structural, Civil and Forensic Engineering

Stebner Road Engineer's Estimate

Date: 4/16/2026

Item No.	Spec. No.	Item Description	Unit of Measure	Total Estimated Quantities	NCE Estimated Unit Price	NCE Estimated Total Cost
1	2021.501	MOBILIZATION	LS	1	$ 125,000.00	$ 125,000.00
2	2104.502	REMOVE SIGN	EACH	30	$ 40.00	$ 1,200.00
3	2104.502	REMOVE MAIL BOX SUPPORT	EACH	70	$ 40.00	$ 2,800.00
5	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	1000	$ 5.00	$ 5,000.00
6	2104.503	REMOVE CURB AND GUTTER	LF	4224	$ 5.00	$ 21,120.00
7	2104.504	REMOVE CONCRETE WALK	SY	4700	$ 10.00	$ 47,000.00
8	2106.507	EXCAVATION - COMMON	CY	500	$ 25.00	$ 12,500.00
9	2106.507	COMMON EMBANKEMTN (CV)	CY	500	$ 25.00	$ 12,500.00
10	2211.507	AGGREGATE BASE (CV) CLASS 5 (DRIVEWAY)	CY	250	$ 50.00	$ 12,500.00
11	2211.51	AGGREGATE BASE (CV) CLASS 5	CY	500	$ 30.00	$ 15,000.00
12	2531.62	TRUNCATED DOMES	SF	500	$ 75.00	$ 37,500.00
13	2232.504	MILL BITUMINOUS SURFACE (5.0")	SY	33,000	$ 12.00	$ 396,000.00
14	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B)	TON	5,667	$ 100.00	$ 566,700.00
15	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B) (DRIVEWAY)	TON	400	$ 150.00	$ 60,000.00
16	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3;B)	TON	3,778	$ 100.00	$ 377,800.00
17	2504.602	ADJUST VALVE BOX	EACH	10	$ 75.00	$ 750.00
18	2504.602	ADJUST CURB STOP	EACH	10	$ 75.00	$ 750.00
19	2506.502	ADJUST FRAME AND RING CASTING	EACH	55	$ 400.00	$ 22,000.00
20	2521.518	4" CONCRETE WALK	SF	52,800	$ 12.00	$ 633,600.00
21	2531.503	CONCRETE CURB AND GUTTER DESIGN S524	LF	4,224	$ 35.00	$ 147,840.00
22	2540.602	MAIL BOX SUPPORT	EACH	70	$ 150.00	$ 10,500.00
23	2563.601	TRAFFIC CONTROL	LS	1	$ 75,000.00	$ 75,000.00
24	2564.502	INSTALL SIGN TYPE C	EACH	30	$ 150.00	$ 4,500.00
25	2564.618	SIGN TYPE C	SF	250	$ 20.00	$ 5,000.00
26	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$ 3,500.00	$ 3,500.00
27	2573.502	CULVERT END CONTROLS	EACH	50	$ 250.00	$ 12,500.00
28	2573.503	SILT FENCE; TYPE HI	LF	10,000	$ 5.00	$ 50,000.00
29	2575.504	SODDING TYPE LAWN	SY	3,000	$ 10.00	$ 30,000.00
30	2575.523	RAPID STABILIZATION METHOD 4	SY	3,000	$ 5.00	$ 15,000.00
31	2580.503	INTERIM PAVEMENT MARKING	LF	10,560	$ 0.50	$ 5,280.00
32	2582.503	4" DOUBLE SOLID LINE PAINT	LF	5,280	$ 1.00	$ 5,280.00
33	2582.503	4" SOLID LINE PAINT	LF	5,280	$ 1.00	$ 5,280.00

NCE'S Estimated Construction Costs Subtotal	$ 2,719,400.00
Construction Contingency (10%)	$ 271,940.00
gn and Construction Engineering (7.5%+75%)	$ 407,910.00
Surveying	$ 25,000.00
City Administrative Costs (5%)	$ 135,970.00
Estimated Total Project Costs	**$ 3,560,220.00**

CITY COUNCIL MEETING DATE: May 18, 2026

TO: Mayor & City Council

FROM: Eric Johnson, Community Development Director

SUBJECT: Preliminary and Final Plat – Hawkline Business Park

☒ **RESOLUTION:** 2026-53 ☐ **ORDINANCE:** ☐ **OTHER:**

REQUESTED ACTION

Council approval of a preliminary and final plat with conditions for Hawkline Business Park, a 6 lot, development in a BP – Hermantown Business Park zoning district.

BACKGROUN

Applicant (Scannell Properties #791, LLC) is requesting approval of a Preliminary and Final Plat associated with the construction of a 231,000 square foot warehouse/distribution facility in the northwest quadrant of Highway 53 and Lavaque Bypass (Project). The property is located in a Hermantown Business Park (BP) zoning district.

SITE INFORMATION:

Parcel Size:	+/-46 acres
Legal Access:	Lavaque Bypass Road
Wetlands:	Yes, delineation approved in 2024; Impacts currently under review by TEP
Existing Zoning:	BP – Hermantown Business Park
Airport Overlay:	Yes – zones 2 and 3
Shoreland Overlay:	None
Comprehensive Plan:	Business and Light Manufacturing

Development Details

The Applicant is proposing the constructing of a 231,000 square foot warehouse/distribution facility in the northwest quadrant of Highway 53 and Lavaque Bypass (Project). The proposed project consists of the following elements:

- 231,000 square foot warehouse/distribution facility - +/-38.1 acres total
- 516 parking spaces (20 – office, 114 – warehouse, 315 – delivery van, 67 – seasonal employee)
- 3 – stormwater detention basins
- Seed/sod or undisturbed areas
- Future phase area – +/- 3.1 acres
- Existing parcel – +/- 3.1 acres
- New roadway right of way - +/- 0.9 acres

- Existing roadway right of way for Lavaque Bypass Road - +/- 1.7 acres

The project area is currently comprised of four parcels with the Applicant proposing to reconfigure the parcels into six parcels; 1) a 38.0 acre parcel for the proposed project; 2) a 3.1 acre lot for a future development project; 3) a 3.1 acre parcel for the existing building along Hwy 53; 4) a 0.9 acre right of way deeded to the City for the purposes of building a future road which will provide access to Lavaque Bypass and 5 and 6) two parcels of 1.7 acres of right of way deeded to St. Louis County for Lavaque Bypass Road.

A public hearing for this proposed project was held on April 21, 2026. There were no members of the public who spoke at the meeting. The Planning and Zoning Commission unanimously recommended the application to the City Council for their review and approval.

Since the Planning and Zoning Commission meeting, the preliminary plat has been updated to reflect the shorter proposed road right of way into the property from Lavaque Bypass Road as well as the retention of the existing building along Hwy 53, which requires the creation of a separate lot.

Zoning Analysis
The entirety of the land area is zoned BP – Hermantown Business Park.

Lot Size
The proposed preliminary and final plat meets the BP – Hermantown Business Park dimensional standards for development for both the land areas located within Safety Zones 2 and 3 associated with the Airport safety zones.

Setbacks
The proposed site plan meets or exceeds the building setbacks associated with the BP – Hermantown Business Park zoning district.

Utilities
The City, property owner and Applicant have entered into an agreement for the expansion of public utilities to serve this site and project. In addition, the City has a grant from MN DEED to cover a portion of the costs associated with the work.

The public utility expansion involves the following:

- Installing a new lift station on NE corner of Hwy 53 & Lavaque Bypass Road
- Boring a forcemain under Hwy 53 into the existing manhole outside the Aery apartment property
- Extending water main on Lavaque Bypass to the southern cul-de-sac to the property
- Improving the existing lift station on Ugstad Road in order to add capacity for the proposed development and future development opportunities within the area

Once the City sanitary sewer and water mains are extended to the property, the Applicant will then extend the utilities into the site privately in order to provide connection to the proposed building and future outlot. This work will be done at the Applicants expense.

All of the design work will either be prepared and/or reviewed by the City Engineer.

Stormwater

The Applicant is proposing that the stormwater for the Project will consist of a wet detention pond that outlets to the larger stormwater retention pond for the entire 46 acre site, which is located on the southwest quadrant of the property. Impervious areas will be collected upstream of the pond and routed through a bay filter for treatment before discharging to the pond.

The final and signed storm water management plan will be further developed as the project details are finalized.
Once the application is found in compliance with the City storm water ordinance, a storm water certificate will be issued.

Road Improvements

The Applicant is proposing two access points into the property. A right in/out along Lavaque Bypass Road will be constructed as a public road/right of way with the entrance being approximately 680 feet north of the Highway 53/Ugstad Road/Lavaque Bypass Road intersection. As part of the overall project, the City, applicant and St. Louis County have entered into an agreement for the reconstruction of Lavaque Bypass as well as the intersection of Lavaque Bypass and Ugstad Road at the north end of the project area.

The road improvements include:

- Construction of a 325 foot long public road/cul-de-sac approximately 680 feet north of the Highway 53/Ugstad Road/Lavaque Bypass Road intersection
- Construction of a 650 foot long public road/cul-de-sac connecting to Ugstad Road
- Construction of a roundabout at the intersection of Ugstad Road and Lavaque Bypass Road
- Construction of a raised center median approximately 1,800 feet long from 500 feet north of the Hwy 53/Ugstad Road/Lavaque Bypass Road intersection to the new roundabout

Wetlands

A wetland delineation was done as part of the site analysis for the project and was reviewed in the field in the fall of 2024 and late summer 2025. There will be wetland impacts associated with the proposed project as well as the City constructed cul-de-sac at the north end of the property with the impacts being viewed as a connected project. The City will require a wetland replacement plan documenting how any wetland impacts will be mitigated with this being required prior to the commencement of site work. There are approximately 3 acres of wetlands proposed to be impacted as part of the entire project work.

Park Dedication Fees

The Applicant will be required to pay park dedication fees consistent with the requirements of the City Zoning Ordinance. Park dedication fees will be paid according to the Hermantown Fee Schedule. Those fees currently are:

Development Type	Recommended
Commercial and Industrial	$1,100/acre

Summary:

Staff recommends approval of the Preliminary and Final Plat based on the following findings:

1. The proposed plat meets the intent of the BP – Hermantown Business Park Zoning District and the overall goals and policies of the Zoning Ordinance.

2. The proposed plat meets the Comprehensive Plan criteria for development.

3. The project will be served by public water and sewer which will be constructed by the applicant. The new water and sewer main will be constructed by the City as part of a Development Agreement with the Applicant.

4. Prior to starting any site work, the Applicant shall hold a preconstruction meeting with the appropriate development, construction, and City representatives.

5. Prior to issuance of a building permit:
   a) All necessary permits shall be obtained.

6. Erosion control measures shall be utilized and remain in place throughout the construction period, and shall not be removed until vegetation is established on the site.

7. Prior to issuance of a building permit, all necessary permits shall be obtained, including, without limitation, any stormwater permits required by the Minnesota Pollution Control Agency.

8. The Applicant shall comply with the following conditions during construction:
   a) Development activity shall comply with all City noise ordinances. There shall be no construction activity between the hours of 10 p.m. and 7 a.m.
   b) Loud equipment shall be kept as far as possible from adjacent residences.
   c) The site shall be kept free of dust and debris that could blow onto neighboring properties.
   d) Public streets shall be maintained free of dirt and shall be cleaned as necessary.
   e) The City shall be contacted a minimum of 72 hours prior to any work in a public street or right-of-way. Work in a public street shall take place only upon the

determination by the Public Works Director that appropriate safety measures have been taken to ensure motorist and pedestrian safety.

f) No burning or burying of trees, stumps or brush is allowed on site.

g) The Zoning Administrator may impose additional conditions if it becomes necessary in order to mitigate the impact of construction on surrounding properties.

9. Prior to the issuance of any temporary or permanent occupancy permit the following shall be completed:
   a) All exterior building improvements shall be completed.
   b) All disturbed areas on the site shall be seeded or sodded.

10. The Applicant shall pay a park dedication fee of $41,910.00 (38.1 acres x $1,100/acre). The Applicant will be required to pay park dedication fees consistent with the requirements of the City Zoning Ordinance. Payment is due at the time of approval of the Project or as agreed to in the development agreement.

11. The Applicant shall sign a consent form assenting to all conditions of this approval.

12. The Applicant shall pay an administrative fine of $750 per violation of any condition of this approval.

SOURCE OF FUNDS (if applicable)

N/A

ATTACHMENTS:

- Resolution
- Location Map
- Plat
- Overall Project Plan

Resolution No. 2026-53

Resolution Approving Preliminary And Final Plat Of Hawkline Business Park And Imposing Conditions On The Final Plat

WHEREAS, Scannell Properties #791, LLC (Applicant) has requested a preliminary and final plat for Hawkline Business Park comprised of 6 lots on the overall property described in Exhibit A, in an BP – Hermantown Business Park zoning district; and

WHEREAS, the Hermantown Planning and Zoning Commission recommended the approval of the preliminary and final following a public hearing on April 21, 2026; and

WHEREAS, upon the satisfaction of the conditions set forth herein, the final plat will satisfy the requirements of the Hermantown Zoning Code; and

WHEREAS, the City Council has duly considered this matter and believes that it is in the best interests of the City of Hermantown that the final plat be approved, subject to certain conditions being met.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Hermantown, Minnesota, as follows:

1. The final plat is in accordance with and conformity to the Hermantown Comprehensive Plan and Hermantown Zoning Ordinance.

2. The final plat of Hawkline Business Park is hereby approved.

3. The following conditions are imposed upon the final plat:

    a. Final plat approval will be void if: (1) a final plat is not recorded with St. Louis County within one calendar year of preliminary plat approval; and (2) the City has not received and approved a written request for a time extension within one calendar year of final plat approval.
    b. The title of the land underlying the plat shall be approved by the City Attorney.
    c. Applicant shall enter into a development agreement with the City that outlines development responsibilities and provide financial securities for site improvements and utility installation which includes:
        i. Letter of Credit or other financial surety acceptable to the City Attorney for 125% of the construction value of the road and infrastructure improvements to be made at the time of approval of the Final Plat, or
        ii. Installation of road and infrastructure facilities prior to obtaining the Final Plat for the development.
        iii. Letter of Credit or other financial surety acceptable to the City Attorney for 125% of the construction value of the stormwater facilities to be made at the time of approval of the Final Plat.

d. Regardless of the impact on the number of approved lots, all lots will meet the minimum standards for lot area and width as well as all other design standards of the Hermantown Zoning Ordinance.
e. The applicant shall submit and receive approval from the City Engineer of a permanent stormwater treatment plan that meets the City standards codified in Sections 1080 and 1060 of the City Code.
f. The applicant shall sign a consent form assenting to all conditions of this approval.
g. The applicant shall pay an administrative fine of $750 per violation of any condition of this approval.

4. The lots will be served by public water and sewer which will be constructed by the applicant. The new water and sewer main to the overall property will be constructed by the City

5. Prior to starting any site work, the Applicant shall hold a preconstruction meeting with the appropriate development, construction, and City representatives.

6. Prior to issuance of a building permit:
    a. All necessary permits shall be obtained.

7. Erosion control measures shall be utilized and remain in place throughout the construction period, and shall not be removed until vegetation is established on the site.

8. Not conduct any on-site burning or burial of brush or other site debris on the Property.

9. Prior to issuance of a building permit, all necessary permits shall be obtained, including, without limitation, any stormwater permits required by the Minnesota Pollution Control Agency.

10. The Applicant shall comply with the following conditions during construction:

    a. Development activity shall comply with all City noise ordinances. There shall be no construction activity between the hours of 10 p.m. and 7 a.m.
    b. Loud equipment shall be kept as far as possible from adjacent residences.
    c. The site shall be kept free of dust and debris that could blow onto neighboring properties.
    d. Public streets shall be maintained free of dirt and shall be cleaned as necessary.
    e. The City shall be contacted a minimum of 72 hours prior to any work in a public street or right-of-way. Work in a public street shall take place only upon the determination by the Public Works Director that appropriate safety measures have been taken to ensure motorist and pedestrian safety.
    f. The Zoning Administrator may impose additional conditions if it becomes necessary in order to mitigate the impact of construction on surrounding properties.

11. Prior to the issuance of any temporary or permanent occupancy permit the following shall be completed:

    a. All exterior building improvements shall be completed.
    b. All disturbed areas on the site shall be have erosion control measures in place.

12. The Applicant shall pay a park dedication fee of $41,910.00 (38.1 acres x $1,100/acre). The Applicant will be required to pay park dedication fees consistent with the requirements of the City Zoning Ordinance. Payment is due at the time of approval of the Project or as agreed to in the development agreement.

13. The Applicant shall sign a consent form assenting to all conditions of this approval.

14. The Applicant shall pay an administrative fine of $750 per violation of any condition of this approval.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such resolutions was seconded by Councilor _____ and, upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

and the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown, St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-53 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____
Alissa McClure, City Clerk

ACCEPTANCE OF RESOLUTION

Scannell Properties #791, LLC ("Applicant") hereby acknowledges and accepts the conditions specified on the foregoing Resolution and covenants and agrees to comply with each and every such condition.

Applicant acknowledges that the failure to comply with all of the modifications and conditions shall constitute a violation of the Hermantown Zoning Ordinance and that the City of Hermantown may, in such event, exercise and enforce its rights against the undersigned by instituting any appropriate action or proceeding to prevent, restrain, correct or abate the violation including, without limitation, exercising and enforcing its rights against any security that the undersigned may provide to the City to insure its compliance with the conditions contained in the foregoing Resolution.

Applicant acknowledges that this Resolution shall be recorded with the title to the property described in the text of the Resolution.

IN WITNESS WHEREAS, Scannell Properties #791, LLC has executed this acceptance this ____ day of _____, 2026.

_____
Scannell Properties #791, LLC

STATE OF MINNESOTA)
)ss.
COUNTY OF ST. LOUIS)

The foregoing instrument was acknowledged before me this ____ day of _____, 2026, by Scannell Properties #791, LLC.

_____
Notary Public

EXHIBIT A

S1/2 OF NE1/4 OF SE1/4 EX N 462 FT OF ELY 830 FT OF SECTION 4, TOWNSHIP 50, RANGE 15, ST. LOUIS COUNTY, MINNESOTA.

Parcel ID: 395-0010-00820

NLY 462 FT OF ELY 830 FT OF S1/2 OF NE1/4 OF SE1/4 EX NLY 60 FT OF ELY 153 FT OF SECTION 4, TOWNSHIP 50, RANGE 15, ST. LOUIS COUNTY, MINNESOTA.

Parcel ID: 395-0010-00822

SE1/4 OF SE1/4 EX FOR HWY & EX 1.88 AC ALONG HWY #53 & EX COMMENCING AT SE CORNER OF SAID SEC 4; THENCE N00DEG40'26"E ALONG E LINE OF SAID SE1/4 OF SE1/4 A DISTANCE OF 797.90 FT TO POINT OF BEGINNING; THENCE N87DEG14'19"W A DISTANCE OF 338.83 FT; THENCE N67DEG27'49"W A DISTANCE OF 165.41 FT; THENCE N09DEG05'43"E A DISTANCE OF 291.59 FT; THENCE S85DEG07'56"E A DISTANCE OF 450.62 FT TO E LINE OF SAID SE1/4 OF SE1/4; THENCE S00DEG40'26"W ALONG SAID E LINE A DISTANCE OF 329.43 FT TO POINT OF BEGINNING OF SECTION 4, TOWNSHIP 50, RANGE 15, ST. LOUIS COUNTY, MINNESOTA.

Parcel ID: 395-0010-00854

PART OF SE1/4 OF SE1/4 COMM AT SE CORNER THENCE W ALONG S LINE 385.26 FT THENCE N 1 DEG 27 MIN 45 SEC W 156.56 FT TO PT OF BEG THENCE NWLY ON R/W LINE OF U.S. HWY #53 442.51 FT THENCE N 61 DEG 5 MIN 9 SEC W TANGENT TO CURVE OF SAID R/W 110 FT THENCE N 28 DEG 54 MIN 51 SEC E 160 FT THENCE S 61 DEG 5 MIN 9 SEC E 110 FT THENCE SELY ALONG TANGENT CURVE RADIUS 1143.40 FT CHORD BEARING S 70 DEG 5 MIN 25 SEC E AN ARC DISTANCE OF 359.39 FT TO A PT 384.2 FT W OF E LINE OF SAID FORTY THENCE S PARALLEL TO SAID E LINE 163.32 FT TO PT OF BEG. OF SECTION 4, TOWNSHIP 50, RANGE 15, ST. LOUIS COUNTY, MINNESOTA.

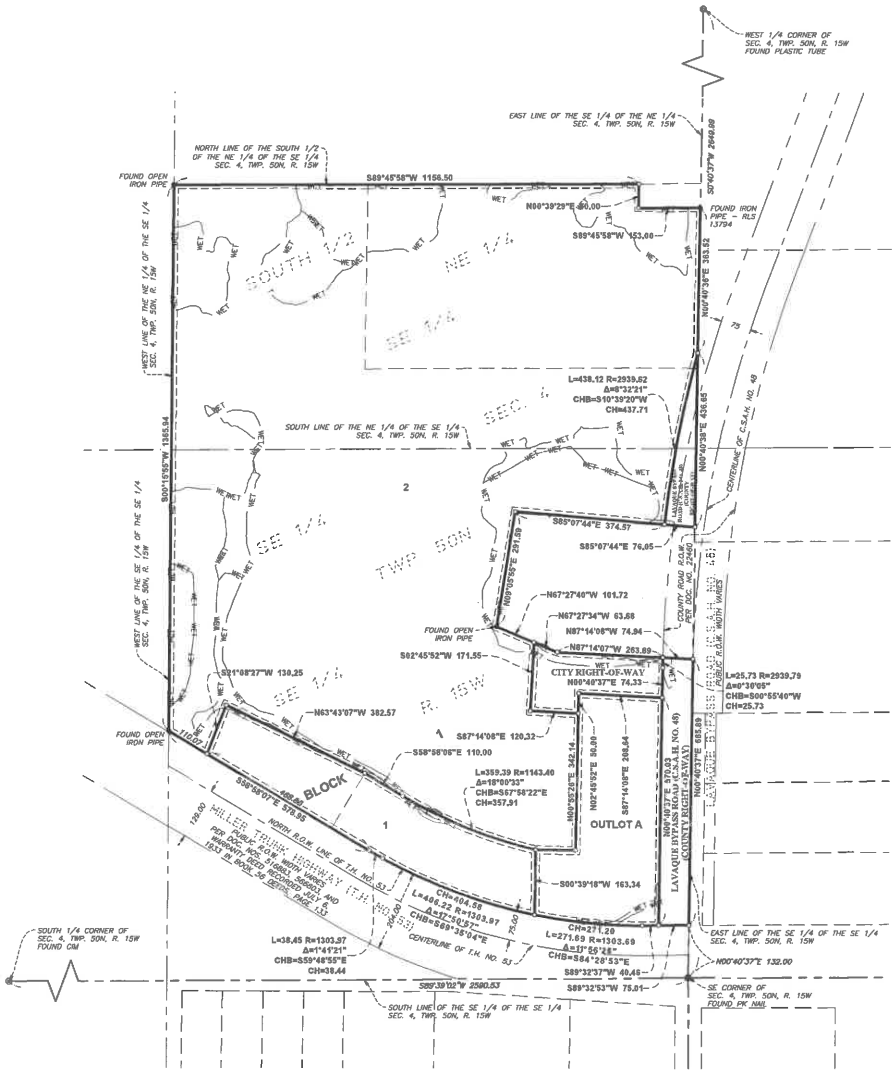
Parcel ID: 395-0010-00853

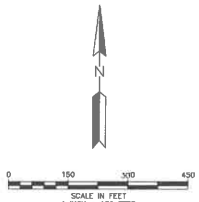
Location Map



HAWKLINE BUSINESS PARK

PART OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, AND PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 50 NORTH, RANGE 15 WEST, ALL IN ST. LOUIS COUNTY, MINNESOTA





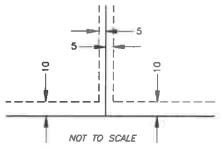
BEARING ORIENTATION NOTE:

THE EAST LINE OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 4, TOWNSHIP 50 NORTH, RANGE 15 WEST IS ASSUMED TO BEAR N00°40'37"E.

LEGEND

- ● *DENOTES IRON MONUMENT FOUND*
- ○ *DENOTES 1/2 INCH X 14 INCH IRON MONUMENT SET WITH PLASTIC CAP MARKED PLS NO. 52734*
- ● *DENOTES FOUND PK NAIL*
- ◉ *DENOTES FOUND CAST IRON MONUMENT*
- —— WET —— *DENOTES EXISTING WETLAND LINE*

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:

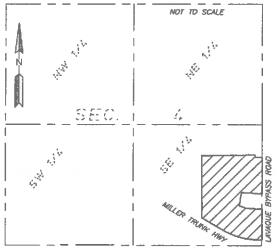


BEING 5 FEET IN WIDTH AND ADJOINING LOT LINES AND BEING 10 FEET IN WIDTH AND ADJOINING PUBLIC WAYS AND REAR LOT LINES, UNLESS OTHERWISE INDICATED ON THIS PLAT.

VICINITY MAP

SECTION 4, TOWNSHIP 50N, RANGE 15W

NOT TO SCALE



KNOW ALL PERSONS BY THESE PRESENTS: That _____, an _____, fee owner(s) of the following described property situated in the County of St. Louis, State of Minnesota to wit:

Real property in the City of Hermantown, County of St. Louis, State of Minnesota, described as follows:

The Northerly 462.00 feet of the Easterly 830 feet of the South Half of the Northeast Quarter of the Southeast Quarter, Section 4, Township 50 North, Range 15 West of the Fourth Principal Meridian; EXCEPT the Northerly 60.00 feet of the Easterly 153.00 feet thereof.

Abstract Property

Real property in the City of Hermantown, County of St. Louis, State of Minnesota, described as follows:

The South Half of the Northeast Quarter of he Southeast Quarter except the Northerly 462 feet of the Easterly 830 feet thereof, Section 4, Township 50 North, Range 15 West, St. Louis County, Minnesota.

Abstract Property

All that part of the Southeast Quarter of Southeast Quarter (SE 1/4 of SE 1/4), Section Four (4), Township Fifty (50) North of Range Fifteen (15) West of the Fourth Principal Meridian, which lies Northerly of U.S. Highway #53, EXCEPT that part described as follows:
Commencing at the southeast corner of said Section 4; thence North 00 degrees 40 minutes 28 seconds East, along the east line of said SE ¼-SE ¼ a distance of 797.90 feet to the point of beginning; thence North 87 degrees 14 minutes 19 seconds West a distance of 338.83 feet; thence North 87 degrees 27 minutes 49 seconds West a distance of 165.41 feet; thence North 09 degrees 05 minutes 43 seconds East a distance of 291.59 feet; thence South 85 degrees 07 minutes 56 seconds East a distance of 450.62 feet to the east line of said SE ¼ SE ¼; thence South 00 degrees 40 minutes 28 seconds West, along said east line a distance of 329.43 feet to the point of beginning.

Abstract Property

Has caused the same to be surveyed and platted as HAWKLINE BUSINESS PARK and does hereby donate and dedicate to the public for public use the drainage and utility easements as created by this plat.

In witness whereof said _____, on _____, has caused these presents to be signed by its proper officer this

_____day of _____, 20_____

Signed: _____

_____, _____
Signature Title

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20_____, by _____, _____ of _____, a(n) _____, on behalf of the company

_____
(Printed name)_____
Notary Public, _____County, _____
My Commission Expires_____

SURVEYORS CERTIFICATE

I Kyle A. Domek do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____, 2025.

_____
Kyle A. Domek, Land Surveyor
Minnesota License No. 52734

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this _____ day of _____, 2026, by Kyle A. Domek.

_____ _____
(Signature) (Name Printed)

Notary Public, _____ County, Minnesota
My Commission Expires_____

CITY OF HERMANTOWN CITY COUNCIL

Approved by the City Council of the City of Hermantown, St. Louis County, Minnesota, at a regular meeting thereof, on the _____day of _____, 20_____.

_____ _____
Mayor Clerk

ST. LOUIS COUNTY SURVEYOR

I hereby certify that in accordance with Minnesota Statutes 505.021, Subd. 11, this plat has been reviewed and approved this _____ day of _____, 20_____.

Nick C. Stewart _____
County Surveyor Deputy

ST. LOUIS COUNTY AUDITOR

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9, taxes payable for the year 20_____ on the land hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes and transfer entered this_____ day of_____, 20_____.

Wendy Lavitt _____
Registrar of Titles Deputy

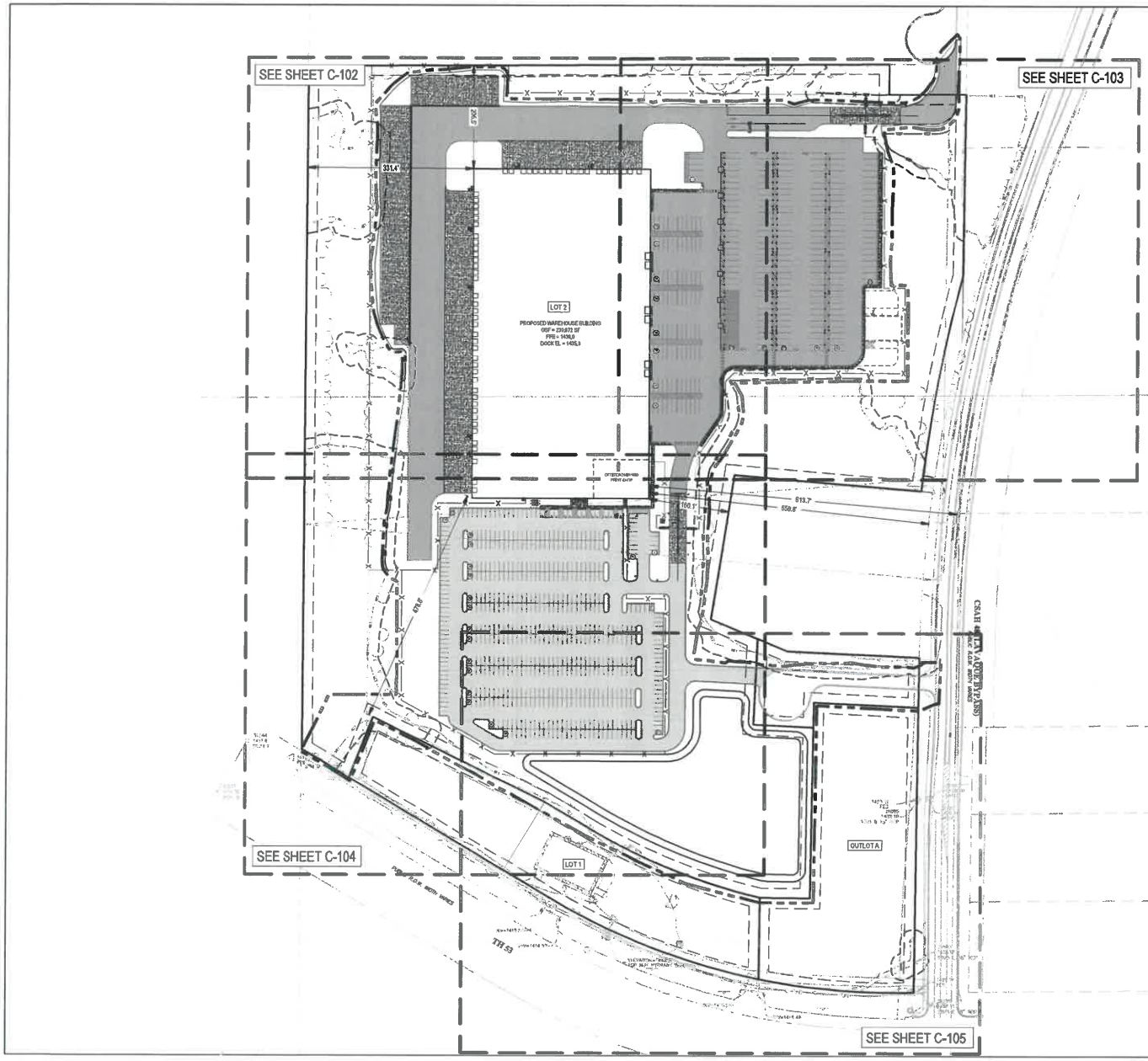
ST. LOUIS COUNTY RECORDER

I hereby certify that this instrument was filed in the office of the County Recorder for record on this _____ day of _____, 20_____, at _____ o'clock ___M., as Document No. _____.

Wendy Lavitt _____
County Recorder Deputy

Stantec

Sheet 1 of 1 Sheets



N

GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 inch = 100 ft.

LEGEND

- PROPERTY BOUNDARY
- SETBACK LINE
- EXISTING EASEMENT LINE
- B612 CURB AND GUTTER
- BITUMINOUS PAVEMENT TYPE I
- BITUMINOUS PAVEMENT TYPE I (W/ SEALCOAT)
- BITUMINOUS PAVEMENT TYPE II
- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- FENCE
- GUARDRAIL
- (#) PROPOSED PARKING COUNT

NOTES

1. SEE SHEET G-002 FOR ADDITIONAL PROJECT NOTES.
2. DIMENSIONS ARE SHOWN TO FACE OF CURB, UNLESS NOTED OTHERWISE.
3. DESIGNED BY OTHERS ITEMS SHOWN FOR REFERENCE ONLY. EXACT LOCATION, DETAIL, AND DESIGN ARE BY OTHERS. COORDINATE WITH PROJECT PARTNERS TO OBTAIN RELATED CONSTRUCTION DOCUMENTS/DRAWINGS.

SITE ANALYSIS TABLE

ADDRESS			
EXISTING ZONING	C - High Density Commercial		
PROPOSED ZONING	C1 - Office/Light Industrial		
PROPOSED USE	Warehousing / Distribution Center		
LOT AREA SUMMARY			
LOT NUMBER	TOTAL AREA (AC.)	IMPERVIOUS AREA (AC.)	PERVIOUS AREA (AC.)
EXISTING PARCEL SUMMARY	49.36		
LOT 2: DISTRIBUTION FACILITY	38.13	20.28	17.97
LOT 1	3.11	2.13	0.98
OUTLOT A	3.15	ASSUMED 65% MAX	ASSUMED 35% MIN
DEEDED RIGHT OF WAY	4.98	TBD	TBD
PROPOSED USE TOTAL	49.35	26.37	23.09
BUILDING SUMMARY			
LOT NUMBER	BUILDING FOOTPRINT (SF)	GROSS FLOOR AREA (SF)	# OF STORIES
LOT 2: DISTRIBUTION FACILITY	230,972	230,972	1
PARKING SUMMARY			
TOTAL PARKING	REQUIRED	PROPOSED	
PROPOSED USE	190	588	
ACCESSIBLE PARKING	REQUIRED	PROPOSED	
PROPOSED USE	12	13	
GREENSPACE SUMMARY			
	CODE REQUIREMENT	PROPOSED	
IMPERVIOUS AREA (INCL. BLDG.)	65%	53%	
PERVIOUS AREA		47%	
BUILDING AREA		14%	
SETBACK SUMMARY			
	REQUIRED	PROPOSED	
FRONT (EAST)	20'	559.8' (ROW)/160.1' (PROP)	
FRONT (ROAD CENTER LINE)	20'	613.7' (NEW)	
SIDE (NORTH)	20'	266.5'	
SIDE (SOUTH)	20'	478.8'	
REAR (WEST)	20'	331.4'	

WARNING:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE (NOT INCLUDING THE DAY OF THE REQUEST, WEEKENDS, OR HOLIDAYS) FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
CALL BEFORE YOU DIG

GOPHER STATE ONE CALL
TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166

Stantec
ONE CARLSON PARKWAY
SUITE 100
PLYMOUTH, MN 55447
PHONE: 763-252-6800
FAX: 952-471-1295
WWW.STANTEC.COM

CLIENT: SCANNELL PROPERTIES

PROJECT TITLE:
FXG DULUTH
(HAWKLINE BUSINESS PARK)
CITY OF HERMANTOWN, ST. LOUIS COUNTY
MINNESOTA

ISSUE NO.	DATE:	DESCRIPTION:
1	10/10/25	PRELIMINARY SET
2	11/21/25	PRELIMINARY SET REVISION
3	12/19/25	PRELIMINARY SET
4	05/05/26	PRELIMINARY SET

CERTIFICATION:
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
NOT FOR CONSTRUCTION
MICHAEL P. DIRICH
LICENSE NO.: 54009
DATE: 05/05/2026

PROJECT NO.: 193003341
DWN BY: JRL | CHK'D BY: PWS | APP'D BY: MDH
ISSUE DATE: 05/05/2026
ISSUE NO.: 4
SHEET TITLE: OVERALL SITE PLAN
SHEET NO.: C-101

CITY COUNCIL MEETING DATE: May 18, 2026

TO: Mayor & City Council

FROM: Joe Wicklund, Assistant City Administrator

SUBJECT: Fireworks Purchase and Contract for City's SummerFest Celebration

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☒ **RESOLUTION:** 2026-54 ☐ **ORDINANCE:** ☐ **OTHER:**

REQUESTED ACTION

Approve purchase and contract for fireworks display on July 17, 2026, to celebrate Hermantown's 50th birthday, our country's 250th birthday, and our annual homecoming celebration; SummerFest.

BACKGROUND

Building on the success of the fireworks show on the City's 50th birthdate, there is a community desire to further highlight our 50th year as a City and the country's 250th birthday as part of Hermantown's SummerFest.

This event – which would be held in Fichtner Park – would invite families and friends to celebrate the the 50th birthday of the City of Hermantown, as we successfully did on December 31, 2025, as well as the United States of America's 250th birthday.

Working with Chief Graves of the HFD, we have been able to secure a trusted partner for this event. Flashing Thunder Fireworks performed our previous event last December.

The total bid is for $13,980.

SOURCE OF FUNDS (if applicable)

101-417200-343
Communications Budget

ATTACHMENTS

Resolution
Quote(s) from:
Flashing Thunder Fireworks

Resolution No. 2026-54

Resolution Authorizing And Directing Mayor And City Clerk To Execute And Deliver Purchase Agreement For Fireworks From Flashing Thunder Fireworks

WHEREAS, The City of Hermantown has a desire to again celebrate the 50th anniversary of becoming a City; and

WHEREAS, the City also wants to commemorate the 250th birthday of the United States of America; and

WHEREAS, the City knows that such events are special opportunities to celebrate history, shared experiences, and an exciting future; and

WHEREAS, the opportunity to hold a community-wide celebration as part Hermantown's annual SummerFest that highlights our 50 years as a City and 250 years as a country; and

WHEREAS, staff has been able to connect with a trusted fireworks partner who has provided services successfully in neighboring communities and the most-recent New Year's Eve Birthday Celebration in Hermantown; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hermantown that the Mayor and City Clerk are hereby authorized and directed to execute and deliver on behalf of the City of Hermantown a purchase for the fireworks and a contract for their launch on July 17, 2026, with Flashing Thunder Fireworks.

Councilor _____ introduced the foregoing resolution and moved its adoption.

The motion for the adoption of such resolution was seconded by Councilor _____, and upon a vote being taken thereon, the following voted in favor thereof:

Councilors _____

and the following voted in opposition thereto:

Councilors _____

WHEREUPON, such resolution was declared duly passed and adopted May 18, 2026.

STATE OF MINNESOTA)
COUNTY OF ST. LOUIS) SS.
CITY OF HERMANTOWN)

I, the undersigned, being the duly qualified and acting Clerk of the City of Hermantown,

St. Louis County, Minnesota, a Minnesota municipal corporation, hereby certify that the above and foregoing Resolution 2026-54 is a true and correct copy of the Resolution as adopted by the City Council on the 18th day of May, 2026.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of said City of Hermantown, the 19th day of May, 2026.

_____

Alissa McClure, City Clerk



Curt Serbus - MN Pyro-Technician

Curt Serbus: 763-227-3941 11646 272nd Ave NW, Zimmerman, MN 55398

Hermantown Summerfest 2026

SOLD TO:
City of Hermantown, MN

POC: Zach Graves (ph) 218-591-1716
Hermantown Fire Dept
5111 Maple Grove Rd
Hermantown, MN

DISPLAY LOCATION:

Hermantown City Baseball Field - 4118 Ugstad Rd

INVOICE

Order #: **HermantownSmrfst-INV 7-2026**
Order Date:
Customer #:
Sales Person: Curt Serbus

Show Type	Show Date	Terms	
Electronic Fired	see below		

Item Description		Shell Count		Amount
Fireworks Display for Hermantown Summerfest (Fri) 17 July 2026				
Alternate "rain day": Jul 18 or To Be Determined				
- 30 minute display				
Aerial Shells:				
- 2.5" Finale Chains w/ Titanium Salute		60		
- 2.5" Finale Chains w/ Asst'd Color shells		60		
- 3" Asst'd color shells - Special Effects		30		
- 3" Asst'd color shells - doubles		72		
- 3" Asst'd color shells - Japanese style shells		36		
- 3" Asst'd color shells - Italian style shells		36		
- 3" Finale Chains w/ color shells		30		
- 3" Finale Chains w/ Red/Blue&Titanium salute w/tail		30		
- 4" Asst'd color shells		100		
- 4" Finale Chains w/ Brocade shells		6		
- 5" Asst'd color shells		30		
	Aerial Shells:	**490**		$6,886.00
Cakes:				
6 - Slice Cakes		60		
6 - 25 shot cakes		150		
6 - 36 shot cakes		216		
4 - 49 shot fan cakes		196		
2 - 100 shot (Z & fan) cakes		200		
2 - 100 shot finale cakes		200		
1 - 150 shot fan cakes		150		
	Cakes and Mines (shots):	**1172**		$4,594.00
	Grand Total # of Shots in Display:		**1662**	
Equipment and Other:				
Electric Matches, lead wire and supplies				$550.00
Custom and Other Display Items:				
Insurance Fee:				$925.00
Shooter Fee:				$900.00
HAZMAT Shipping Fee:				$275.00
Rental Truck and Equipment:				$150.00
County or City Permit Fee:				$0.00
	Net Order:			**$14,280.00**
Discount: Multi-year discount (NYE 2025)				***-$300.00***
Sales Tax: (If applicable)				$0.00
			TOTAL:	**$13,980.00**

Flashing Thunder Fireworks
SELLER: Curt Serbus DATE:

By: *Curtis J. Serbus* 4/25/2026

City of Hermantown, MN
BUYER REPRESENTATIVE: DATE:

By: _____ _____

Curt Serbus - Pyrotechnician
Curt Serbus: 763-227-3941 11646 272nd Ave NW, Zimmerman, MN 55398
700 East Van Buren Street, Mitchell Iowa, 50461

CONTRACT FOR SERVICE

This contract is entered into this **11th day of May 2026** by and between Curt Serbus (MN Certified Pyrotechnician), Flashing Thunder Fireworks Spectacular of 700 E. Van Buren St, Mitchell, IA 50461, telephone 641-732-5558, fax 641-732-1385, designated herein as the "Seller", and the **City of Hermantown, MN** designated as "Buyer".

Seller will deliver to Buyer, fireworks on **July 17, 2026**, and/or will make necessary substitutions of equal or greater value, with an alternate "rain date" of **To Be Determined.** Seller agrees to perform the fireworks display safely and in accordance with such Federal, State, and local laws that might be applicable.

Seller agrees to check the display area after the presentation of the fireworks display for any "duds" or other material that might not have ignited. Any such material found shall be disposed of as required by all Federal, State, and Local rules and regulations or as is the standard practice of Seller.

Buyer will furnish the minimum safety distance required per NFPA 1123. In no case shall spectators be allowed closer than 70 feet per inch of shells diameter. Buyer will provide adequate monitoring/security to maintain these distance factors. Buyer also agrees to have adequate fire protection and coordinate with local Fire Department to be available on site during the display.

It is agreed and understood that Buyer will pay the purchase price of **$13,980.00** plus sales tax if applicable, with the option to increase the amount of the fireworks display if so desired. This contract is valid on the date of signature. 50% of the purchase price is to be paid as a deposit within 30 days of the contract validation. The balance is to be paid within ten days following the presentation of the display. In case of weather related delay buyer is responsible for shoot fee and shipping expenses. In case of Buyer cancellation, the deposit is not refundable.
All payments must be made out to: Flashing Thunder Fireworks.
Please mail it to: Curt Serbus, 11646 272nd Ave NW, Zimmerman, MN 55398.

Buyer acknowledges and agrees that any balance past due is subject to a finance charge computed by a "Periodic Rate" of 1.5% per month, which is an annual percentage of 18%, applied to the balance due after specified payment due dates above. The Parties acknowledge and agree that any legal action commenced regarding this contract or collection shall be brought in the Circuit Court of Mitchell County, Osage, Iowa, and that Iowa law shall govern the determination of rights, responsibilities and remedies. Buyer shall further be entirely responsible for any attorney fees and court costs incurred by Seller in enforcing its rights under this contract and to collect any unpaid balance.

FLASHING THUNDER FIREWORKS	City of Hermantown, MN
Curt Serbus	Authorized Agent
PYROTECHNICIAN	BUYER
By: Curt Serbus	By: _____
Authorized Agent	Authorized Agent
Date: 5/11/2026	Date: _____