

March 2024 Environmental Review Implementation Subcommittee meeting

Wednesday, March 20 from 1 – 4:00 p.m.

Join in person or online

- In person: [520 Lafayette Road, St. Paul, MN 55155](#), lower level conference rooms
 - Online: For the meeting link and more information, visit the [ERIS meeting webpage](#)
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Participating in board meetings

Attending in person

The Environmental Review Implementation Subcommittee (ERIS) will convene its meeting in person in the lower level conference rooms at the Minnesota Pollution Control Agency St. Paul office building. All visitors must sign in at the front desk. Transportation options:

- Bicycle: Visit the [Saint Paul Bike Map](#) webpage for route information. Outdoor bicycle parking is available to the left of the front doors near the loading dock.
- Transit: Use [Metro Transit's Trip Planner](#) to determine the best routes and times.
- Car: You may park in a Visitor Parking space in the parking lot just outside the front door, or park in one of the visitor lots. The visitor lots are the Blue Lot (Olive St. and University Ave.) and the Jupiter Lot (on Grove St. across from the Ramsey County Law Enforcement Center); please see the [parking map](#). Parking in these lots is free of charge. You must register your vehicle at the front desk upon arrival.

Attending virtually

Members of the public may join the meeting virtually using the Teams link at the board meeting webpage link above. Please review the [Guide to Teams Participation](#) for additional information.

Accessibility

Please contact Environmental Quality Board (EQB) staff at least one week prior to the event at info.EQB@state.mn.us to arrange an accommodation. Meeting materials can be provided in different forms, such as large print, braille, or on a recording.

Public input opportunities at EQB meetings

EQB encourages public input and appreciates the opportunity to build shared understanding with members of the public. The options for public input for this meeting are described below.

Oral public comment

In this meeting, the board will accept oral public comment where specifically noted on the agenda. The following are the procedures and guidelines for giving oral public comment:

- If you wish to speak:
 - Virtual: when prompted, use the “raise hand” feature in Teams, located at the top of your screen.
 - In person: sign up at the welcome table before the meeting starts.
- Your remarks will be limited to two (2) to three (3) minutes. When necessary, the chairperson may limit commenters’ time for remarks to ensure there is equal opportunity for the public to comment.
- When the chairperson calls on you to speak:
 - Introduce yourself before beginning your comment.
 - Please keep your remarks to those facts which are relevant and specific, as determined by the chairperson, to the agenda item at hand.
 - Please be respectful of board members, staff, and other meeting participants. Avoid questioning motives. The chair, vice-chair, or other presiding officer will not tolerate personal attacks.
 - Please note that the chair will use their discretion for directing public comment to ensure the board’s ability to effectively conduct business.

Written public comment

You may submit written comment to EQB by emailing your letter to info.EQB@state.mn.us or mailing to: Environmental Quality Board, 520 Lafayette Road, Saint Paul, MN 55155. Comments must be received by EQB staff **by noon the day before the meeting** in order to be made available for the meeting.

Staff will compile letters, make them available to members and the public online, and attach them to the public record. Any written comments received after this deadline will be included in the next meeting packet.

All comments will be made available to the public. Please only submit information that you wish to make available publicly. EQB does not edit or delete submissions that include personal information. We reserve the right to not publish any comments we deem offensive, intimidating, belligerent, harassing, bullying, or that contain any other inappropriate or aggressive behavior.

Agenda

Note that all listed times are estimates and are advisory only.

1. Welcome and roll call (1:00 pm)

Nancy Daubengerger – Chair, EQB; Commissioner, Department of Transportation (acting ERIS chair)

2. Approval of consent agenda (1:10 pm)

- Meeting minutes from the July 19, 2023, Environmental Review Implementation Subcommittee meeting on packet page 5
- Preliminary agenda for the March 20, 2024, Environmental Review Implementation Subcommittee meeting

3. Executive Director's report (1:15 pm)

Catherine Neuschler – Executive Director, EQB

4. Election of Chair (1:20 pm)

Type of item: Decision

Summary: Under the Committee's operating procedures, the subcommittee is to elect a chairperson at their first meeting each year. The chair presides at ERIS meetings.

Outcome: ERIS elects a chair to serve until their first meeting in 2025.

5. MPCA Feedlots EAW form (1:25 pm)

Type of item: Informational

Summary: EQB staff will summarize the intent and process for alternative EAW forms. MPCA staff will walk through their proposed updates to the draft alternative form for feedlots. A memo can be found on packet page 9, followed by the feedlot form and guidance for the form.

Outcome: ERIS hears update and is able to have any needed discussion on the draft EAW form for feedlots.

Presenter: Kayla Walsh – Environmental Review Program Administrator, EQB; Megen Kabele, Environmental Review Project Manager, Minnesota Pollution Control Agency

Public Comment: We will take public comment specifically on this item.

6. ER Program Performance Report for 2022 and 2023 (2:30 pm)

Type of item: Informational

Summary: Environmental review program staff will provide an overview of ER program measures from 2022 and 2023, and how those measures (such as frequency of ER processes used, which RGUs are doing review, project types, etc.) compare to past trends. Staff will also discuss preliminary ideas to revise the EQB's Data Management Plan to continue to improve our ability to answer key questions about environmental review, including how much ER is done, how long does it take, and how well is it done. The Performance Report memo can be found on packet page 58.

Outcome: The Board will under current measures and provide feedback on potential additional data gathering and measurement.

Presenter: Jesse Krzenski – Environmental Review Program Administrator, EQB

7. **GHG Emission Calculator update (3:15 pm)**

Type of item: Informational

Summary: EQB staff are preparing to work with a technical advisory team and a contractor to produce a new climate calculator. This calculator will specifically combine existing data resources into one easy to use tool for use in answering the EAW questions relating to climate.

Outcome: ERIS hears update on climate calculator and is able to ask any questions.

Presenters: Kayla Walsh – Environmental Review Program Administrator and Stephanie Aho – Greenhouse Gas Data Analyst, EQB

8. **Mandatory Category Report process (3:25 pm)**

Type of item: Informational

Summary: EQB staff provide an overview and update on the writing process for the Mandatory Category Report, due to the legislature every three years. The upcoming report is due December 1, 2024.

Outcome: ERIS hears update and is able to have any needed discussion

Presenter: Kayla Walsh – Environmental Review Program Administrator, EQB

9. **Public comment (3:45 pm)**

The board welcomes oral public comment; this public comment section will be for items other than the alternative EAW form for animal feedlots. Please see guidance and procedures on packet page 2.

10. **Closing and adjournment (4:00 pm)**

July 2023 Environmental Review Implementation Subcommittee meeting

Wednesday, July 19, 2023 | 1:00-4:00 p.m. | 520 Lafayette Road, St. Paul, MN 55155, Conference Room 100 and via Teams.

Minutes

1. Welcome and roll call

Chair Sarah Strommen called to order the meeting of the Environmental Review Implementation Subcommittee.

Members present: Grace Arnold, Joseph Bauerkemper, Nancy Daubenberger, Rylee Hince, Katrina Kessler, Paul Nelson, Sarah Strommen

EQB staff present: Catherine Neuschler, Rebeca Gutierrez-Moreno, Hazel Houle, Jesse Krzenski, Kayla Walsh

2. Approval of consent agenda

- Meeting minutes from October 19, 2022, Environmental Review Implementation Subcommittee meeting
- Proposed agenda for July 19, 2023, Environmental Review Implementation Subcommittee

Member Nelson noted that Items 4 and 6 in the draft October meeting minutes contain sentences stating that ERIS will take action in certain areas, whereas ERIS did take action at the meeting, so the verbiage should be changed to the past tense.

Chair Strommen and the subcommittee members agreed to the minutes update suggested by Member Nelson.

Motion: Member Daubenberger moved the consent agenda; Member Arnold seconded. Motion carries with a unanimous vote.

3. Executive Director's report

Catherine Neuschler – Executive Director, EQB

- Environmental Review planning director position is posted and closes July 31.

4. Potential Environmental Review FY24 Workplan

Presenters: Catherine Neuschler – Executive Director, EQB; Kayla Walsh – Environmental Review Program Administrator, EQB

Type of item: Recommendation

Summary: The subcommittee heard an overview of the environmental review program's workplan for state fiscal year 2024 (July 1, 2023 to June 30, 2024). Staff discussed resources and capacity; reviewed larger proposed projects in more detail; and identified how certain projects support improvements recommended from the continuous improvement process.

The 8 improvements have turned into 13 projects. EQB needs to balance staff capacity with the projects.

Public comment:

Juventino Meza, Lawyer representing Minnesota Interfaith Power and Light (MNIPL): Stressed urgency for the decisions EQB is considering. In particular, lifecycle emissions analysis with projects to include emissions outside of Minnesota.

Andy Pearson, Minnesota 350: Lifecycle analysis in regards to pipeline issues – need a mandatory category based on greenhouse gas emissions ready for the next Mandatory Categories Report. Consider assigning more staff from agencies to the Environmental Quality Board as an interim to boost that capacity, so that we can reach not only phase one on the first implementation suggestion, but also phase two as quickly as possible. The expert panel should be prioritized for inclusion in the staff time.

Willis Mattison, ecologist: Request that the work plan be revised to make clear that reforms to NEPA and MEPA are needed and make the implementation of them immediate rather than long term.

Noelle Cirisan, political manager for Minnesota 350: We need lifecycle analysis on greenhouse gas emissions to happen much more quickly than the EQB staff recommendations outlined.

Joy Anderson, attorney at the Minnesota Center for Environmental Advocacy (MCA): If the decision criteria project does become the project that the EQB moves forward with, which would be a major change in how environmental review is implemented, MCEA would strongly move to make sure that ease of application is not the main point of these changes. We need to ensure that the criteria for decision making are aimed at what the statute says to determine whether the project has the potential for significant environmental effects. It seems to us that the criteria are probably not doing as well at that as they can, considering that almost no EIS are ever ordered from an EAW. The second project, training for RGU's, is a good idea and is urgent.

Akilah Sanders-Reed: Implores the represented agencies to leverage their staff capacity to help provide resources to the EQB, to move the goals around lifetime and life cycle review updates more expediently than the current timeline, and to boldly embrace the groundwork that has already been done.

Claire Olson: Strongly supports lifecycle analysis, and hopes that EQB staff can get the support they need to move quickly on implementation.

Sara Wolff, CURE: See attached comment, received by email during the meeting.

Discussion:

ERIS is interested in hearing more about lifecycle analysis; staff indicated they have been discussing how it could be integrated into the greenhouse gas emission calculation project. ERIS members want to continue to hear about that projects to support climate information in EAWs.

ERIS also suggested that the full Board hear more about the state's overall climate work in order to put EQB's work, especially in environmental review, in context.

ERIS asked for the work plan, when presented to the Board to include the FTE that are required to do the work, along with a timeline.

Outcome: ERIS agreed to make a recommendation to the full Board on the environmental review program related components of the FY24 EQB staff workplan as follows:

1. Do not remove any items that are currently in the staff recommendation from consideration by the board.
2. Add the FTE resources that are needed to complete the proposed items on the work plan and crosswalk the items on the work plan with opportunities for continuous improvement items, generally, and then specifically to incorporate the greenhouse gas life cycle analysis to understand how much of that work here encompassing opportunities within those items for board development and board learning.
3. Identify stopping points or decision points within work plan items, so that the full EQB could create phases if necessary.
4. Recommend to the board that they consider some balance between the project work items and attention placed to strategic planning work.

Motion: Member Nelson moved to approve the recommendations; Member Daubenberger seconded. Motion carries with a unanimous vote.

Next steps: Present the ERIS recommendation to the EQB in August.

5. Environmental Review Projects (Odyssey) Database

Presenter: Jesse Krzenski – Environmental Review Program Administrator, EQB

Type of item: Informational

Summary: An overview of the new Environmental Review Projects Database. The database will provide access to information on all environmental review projects published in the *EQB Monitor*. Any information provided about a project as a part of publication requirements will be stored in the database along with all required documents including all project related documents and decision documents. The database stores this information by each specific project and creates a project page to house all documents submitted through the process which can then be downloaded to view. The search functionality allows users to search for projects by specific areas or mandatory categories. The database began storing project information when the *EQB Monitor* submittal service was updated in May and will house all environmental review project information going forward from that launch date.

Jesse gave a demonstration of the database. The database can be found at the Environmental Review Projects Database [webpage](#).

Discussion:

Account users are responsible for uploading the project content to the database. The database is public facing so anybody can see the data and download the documents.

Possibly data could be included in the future regarding which projects have actually been completed in order to evaluate potential cumulative impacts.

6. Public comment

There were no comments during this item.

7. Closing and adjournment

Member Daubenberger motioned to adjourn. Member Bauerkemper seconded. All in favor; meeting adjourned.

Memo

Date: March 8, 2024

To: Environmental Review Information Subcommittee

From: Kayla Walsh, EQB Staff

RE: Alternative Form for Feedlot Environmental Assessment Worksheets

The Minnesota Pollution Control Agency (MPCA) or the county with delegated feedlot authority is the responsible governmental unit (RGU) for feedlot Environmental Assessment Worksheets (EAWs). Any alternative EAW forms must be approved by the EQB Chair; once approved, they may be used in place of the standard EAW form for their approved purpose(s). There is currently an alternative form that is approved for animal feedlots.

History and background

In a 1999 veto of a feedlot bill, then-Governor Ventura directed state agencies to develop an [alternative EAW form for animal feedlots](#). Specifically, the Governor directed “The Environmental Quality Board Chair, working with the representatives of the Minnesota Pollution Control Agency and the Department of Agriculture, shall develop an alternative Environmental Assessment Worksheet (EAW) that would be used when preparing an EAW on new or expanded feedlot projects...”

This alternative EAW form was meant to expedite preparation time and minimize costs without reducing the quality of information in the EAW. The first EAW alternative form for feedlots came out in 2000. No updates have followed.

Planned updates

MPCA is now developing updates to the alternative EAW form for animal feedlots with the goal of providing clarity and asking specific questions related to feedlots that will help inform decisions. Many of these proposed changes make the feedlot form better aligned with the [standard EAW form](#), specifically asking for information on greenhouse gas emissions (see question 18 on the standard form). MPCA is also developing guidance on how to complete the form; that guidance is provided for informational purposes, but EQB is not required to act on MPCA’s guidance document.

The MPCA completes the vast majority of feedlot EAWs in Minnesota. However, there are circumstances where a county may be the RGU for a feedlot EAW. If an updated EAW form is approved, the updated feedlot form will be available as an option for any RGU conducting an EAW for a proposed feedlot. If the RGU determines the form meets their needs, they may use it. If an updated form is approved, it will replace the existing version of the alternative feedlot EAW form created in 2000. The standard EAW form may always be used.

Authority

In order to be used by an RGU, any alternative Environmental Assessment Worksheet (EAW) form must be approved by the EQB chair as described under Minnesota Rules:

4410.1300 EAW FORM.

*A. The EQB chair shall develop an EAW form to be used by the RGU. **The EQB chair may approve the use of an alternative EAW form if an RGU demonstrates the alternative form will better accommodate the RGU's function or better address a particular type of project and the alternative form will provide more complete, more accurate, or more relevant information.***

B. The EAW form shall be assessed by the EQB chair periodically and may be altered by the EQB chair to improve the effectiveness of the document...

Evaluating an alternative EAW form

When determining if a mandatory category or project type would benefit from having an approved alternative form, consider if the alternative form can achieve the goals described in the rule, including the following:

- Better accommodate the RGU's function
- Better address a particular type of project
- Provide more complete information
- Provide more accurate information
- Provide more relevant information

Next steps

- MPCA will finish outreach.
- Final adjustments will be made to the draft EAW form.
- MPCA will come back to ERIS in June seeking a recommendation for the board to approve it at the next board meeting.

Attachments

Draft Alternative EAW form for Animal Feedlots

Draft Guidance

ENVIRONMENTAL ASSESSMENT WORKSHEET Alternative Form for Animal Feedlots

Note to preparers: This form is authorized for the preparation of Environmental Assessment Worksheets (EAWs) for **animal feedlots**. Project proposers should consult the Pollution Control Agency's *Guidelines for Alternative EAW Form for Animal Feedlots* at <https://www.eqb.state.mn.us/guidelines-alternative-eaw-form-animal-feedlots>.

Note to reviewers: The Alternative EAW Form for Animal Feedlots provides information about a **feedlot** project that may have the potential for significant environmental effects. **The project proposer may supply reasonably accessible data but does not complete the final worksheet. The final EAW is prepared by the Minnesota Pollution Control Agency (MPCA) Environmental Review Unit, acting as the Responsible Governmental Unit (RGU). The EAW determines whether an Environmental Impact Statement (EIS) should be prepared. Comments on this EAW must be submitted to the MPCA during the 30-day comment period which begins with notice of the availability of the EAW in the *EQB Monitor*, found at <https://mpca.commentinput.com/comment/search>. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.**

1. **Feedlot Project Title:** **MPCA Tempo AI #:**

2. **Feedlot Proposer:**
Landowner, Leasee, or other title
Address, Email, Phone

- 2a. **Technical Contact / Contractor:**
Title
Address, Email, Phone

3. **RGU:**
Contact:
Title
Address, Email, Phone

4. **Reason for EAW Preparation: (check one)**
Required: Discretionary
 EIS Scoping Citizen petition
 Mandatory EAW RGU discretion
 Proposer initiated

If EAW is mandatory, does it apply to Subpart A or B?

Green – new GHG and Climate Change language
 Blue – language & formatting from standard EAW (unless a [hyperlink](#))
 Red – staff edits, housekeeping, improvements

Select A or B (X)	<p>MN Rule 4410.4300 Subp. 29 – Animal Feedlots. The PCA is the RGU for the types of projects listed in items A and B unless the county will issue the feedlot permit, in which case the county is the RGU. However, the county is not the RGU prior to January 1, 2001.</p>
A.	<p>For the construction of an animal feedlot facility with a capacity of 1,000 animal units or more or the expansion of an existing facility by 1,000 animal units or more if the facility is not in an area listed in item B.</p>
B.	<p>For the construction of an animal feedlot facility of more than 500 animal units or expansion of an existing animal feedlot facility by more than 500 animal units if the facility is located wholly or partially in any of the following sensitive locations: shoreland; a delineated flood plain, except that in the flood plain of the Red River of the North the sensitive area includes only land within 1,000 feet of the ordinary high water mark; a state or federally designated wild and scenic river district; the Minnesota River Project Riverbend area; the Mississippi headwaters area; or an area within a drinking water supply management area delineated under chapter 4720 where the aquifer is identified in the wellhead protection plan as vulnerable to contamination; or within 1,000 feet of a known sinkhole, cave, resurgent spring, disappearing spring, Karst window, blind valley, or dry valley.</p>

5. Project Location:

- Counties:
- Governing Cities or Townships:
- PLS Locations (¼, ¼, Section, Township, Range):
- Watersheds (81 major watershed scale, HUC 8):
- GPS Coordinates:
- Tax Parcel Numbers:

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

- County map showing the general location of the project
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries
- Site plan showing all significant project and natural features. [Pre-construction site plan and post-construction site plan.](#)
- Map of manure application sites
- Map of permanent manure stockpiles
- Map showing all wells, tile inlets, residences, and sensitive receptors within a **1.5 mile** radius of the feedlot **and/or** manure land application **sites**
- Feedlot Permit Application (county or state)
- **Tribal boundaries within 10 miles**
- 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. Climate Adaptation and Resilience).

6. Project Description

a. Provide the brief project summary to be published in the *EQB Monitor* (approximately 50 words).

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize:

- 1) Purpose of project
- 2) Construction, operation methods, and features that will cause physical manipulation of the environment or will produce wastes,
- 3) Modifications to existing equipment or industrial processes,
- 4) Significant demolition, removal, or remodeling of existing structures; and
- 5) Timing and duration of construction activities

Facility components (show on site map)	Existing or Proposed?	Quantity	Total Area (sq ft)/Volume (gal)
Animal Holding Areas			
• Total Confinement Barns			
• Partial Confinement Barns			
• Open Lots			
• Individual Animal Housing Areas			
Manure Storage Areas			
• Liquid Manure Storage Areas			
• Solid Manure Storage Areas			
Other Components			
• Feed Storage Areas			
• Mortality Management Areas			
• Composting Sites			
• Anerobic Digester			
• Pipelines			
• Other			

c. Animal information

Animal Type	Number Existing	Animal Units ^a Existing	Number after project	Animal Units ^a after project
Swine				
Dairy cattle				
Beef cattle				
Turkeys				
Chickens				
Other (Identify species)				

Green – new GHG and Climate Change language
 Blue – language & formatting from standard EAW (unless a [hyperlink](#))
 Red – staff edits, housekeeping, improvements

TOTAL					
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^a An “animal unit” or “AU” is a unit of measure developed to compare the differences in the amount of manure produced by livestock species. The “AU” is standardized to the amount of manure produced on a regular basis by a slaughter steer or heifer, which also correlates to 1,000 pounds of body weight. The “AU” is used for administrative purposes by various governmental entities for permitting and record-keeping.

d. Manure Information

Annual Manure Generation

Animal Type	Existing Annual Generation		After Project Annual Generation	
	Liquid (gal)	Solid (ton)	Liquid (gal)	Solid (ton)
Swine				
Dairy cattle				
Beef cattle				
Turkeys				
Chickens				
Other (Identify species)				
TOTAL				

Storage

Check any of the items below that are part of the manure management system proposed for this feedlot.

- | | |
|--|---|
| <input type="checkbox"/> Stockpiling | <input type="checkbox"/> Dry manure/litter under barn storage |
| <input type="checkbox"/> Liquid storage under barns | <input type="checkbox"/> Manure Composting system |
| <input type="checkbox"/> Liquid storage outside of barns | <input type="checkbox"/> Anaerobic Digestion |
| <input type="checkbox"/> Dry manure / litter pack | <input type="checkbox"/> Manure Solids Separation |

Capacity

Manure storage capacity	<input type="checkbox"/> Months	<input type="checkbox"/> Days
Acres of land available for manure application		
Acres of land needed for manure application		

e. Are future stages of this development including development on any other property planned or likely to happen?

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

f. Is this project a subsequent stage of an earlier project?

If yes, briefly describe the past development, timeline and any past environmental review.

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Red – staff edits, housekeeping, improvements

DRAFT

7. Climate Adaptation and Resilience

a. Climate Trends.

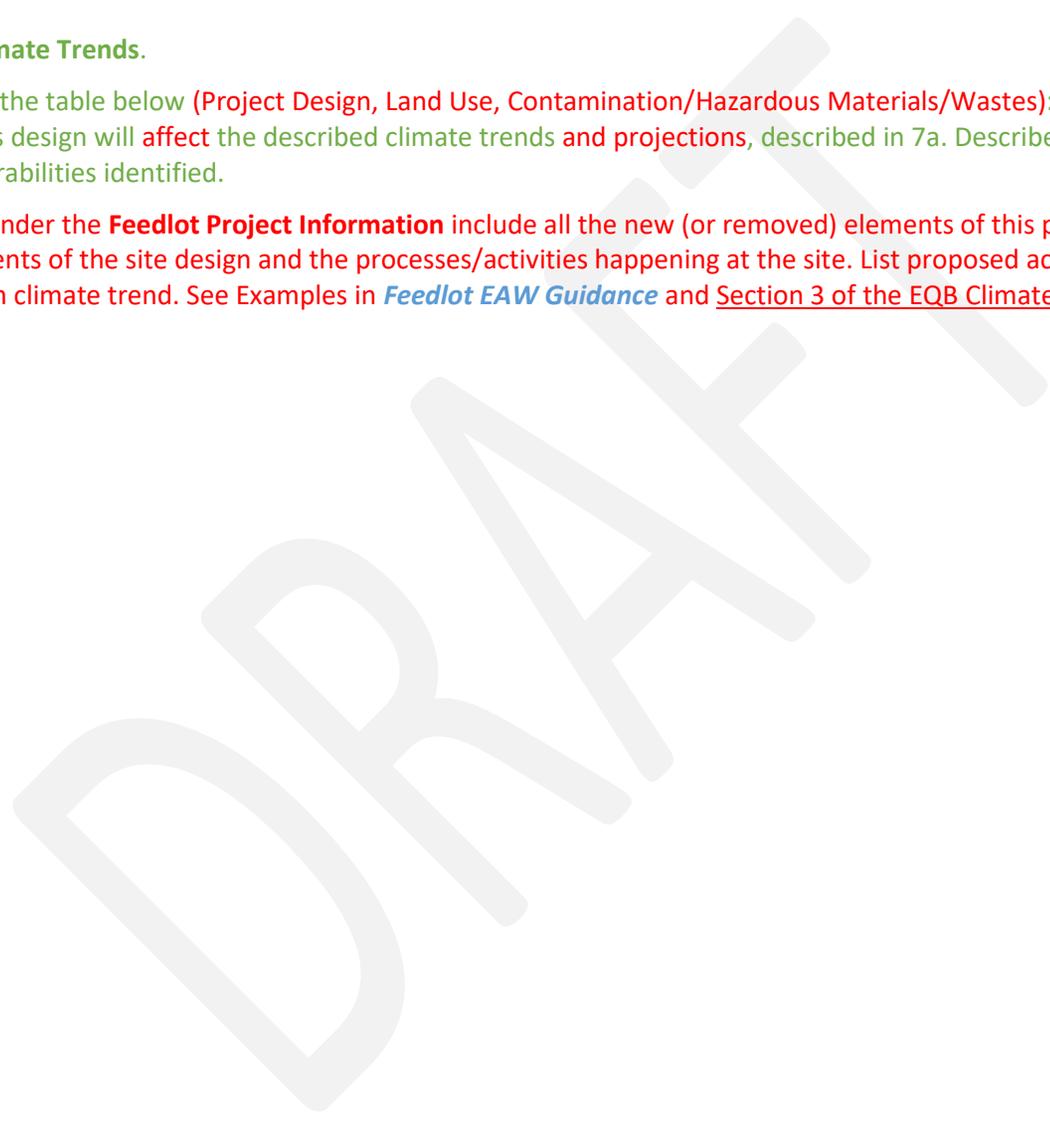
Describe the climate trends in the general location of the project and how climate change is anticipated to affect that location during the life of the project. Refer to [Feedlot EAW Guidance](#) to find resources on climate trends and projections, and to specify how each climate trend interacts with the Project Location.

State of Minnesota Climate Trends (data driven) & Projected Climate Change (model driven)	County / Local Trends	Anticipated affects to Project Location Address Anticipated Climate Change Hazards: storm intensity, flooding, extreme heat, drought, and wildfire
Climate Trends		
Increasing Temperature Average annual temperature increasing		
Increasing Precipitation Average annual precipitation increasing		
Increasing Temperature Winter minimums increasing		
Increasing Temperature Nighttime temperatures increasing		
Increasing Precipitation Extreme events increasing		
Projected Climate Change		
Projected climate change: Increasing risk of heat waves		
Projected climate change: Increasing risk of drought		

b. Project Interaction with Climate Trends.

For each Resource Category in the table below (Project Design, Land Use, Contamination/Hazardous Materials/Wastes): Describe how the project’s proposed activities and how the project’s design will **affect** the described climate trends and projections, described in 7a. Describe proposed adaptations to address the climate change risks and vulnerabilities identified.

Proposed activities identified under the **Feedlot Project Information** include all the new (or removed) elements of this project that could be affected by the climate trends, including elements of the site design and the processes/activities happening at the site. List proposed activities and describe how these activities will interact with each climate trend. See Examples in [Feedlot EAW Guidance](#) and [Section 3 of the EQB Climate Guidance](#).



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Resource Category	Climate Trends & Climate Projections	Feedlot Project Information: Components of Proposed Activities	Potential Environmental Impacts: Address <i>Anticipated Climate Change Hazards</i> : storm intensity, flooding, extreme heat, drought, and wildfire	Adaptation Strategies: Address applicable timeframe - construction, near-term, long-term
Project Design Land Use Contamination/ Hazardous Materials/ Wastes	<ul style="list-style-type: none"> • Average Temperature Increasing • Winter Minimum Temperature Increasing • Nighttime Temperature Increasing • Average Annual Precipitation Increasing • Extreme Precipitation Events Increasing • Projection: Increasing risk of heat waves • Projection: Increasing risk of drought 			
Water Resources	<i>Address in Item 12</i>			
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (rare features)	<i>Address in Item 14</i>			

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8. Cover types: Estimate the acreage of the site with each of the following cover types before and after development:

Cover Types	Before (acres)	After (acres)
Wetlands and shallow lakes (<2 meters deep)		
Deep lakes (>2 meters deep)		
Wooded/forest		
Rivers and streams		
Brush/Grassland		
Cropland		
Livestock rangeland/pastureland		
Lawn/landscaping		
<u>Green infrastructure TOTAL (from table below*)</u>		
Impervious surface		
Stormwater Pond (wet sedimentation basin)		
Other (describe)		
TOTAL		

<u>Green Infrastructure*</u>	<u>Before (acreage)</u>	<u>After (acreage)</u>
<u>Constructed infiltration systems (infiltration basins/infiltration trenches/ rainwater gardens/bioretention areas without underdrains/swales with impermeable check dams)</u>		
<u>Constructed tree trenches and tree boxes</u>		
<u>Constructed wetlands</u>		
<u>Constructed green roofs</u>		
<u>Constructed permeable pavements</u>		
<u>Other (describe)</u>		
<u>TOTAL*</u>		

<u>Trees</u>	<u>Percent</u>	<u>Number</u>
<u>Percent tree canopy removed or number of mature trees removed during development</u>		
<u>Number of new trees planted</u>		

9. 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

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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.

Unit of Government	Application Status		
	Planned	Submitted	Not required
MPCA			
• Feedlot Permit - NPDES ^a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Feedlot Permit – SDS ^b	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Feedlot Permit - Construction Stormwater Permit ^c			
• Solid Waste (Anaerobic Digester) ^d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DNR			
Water Appropriations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Waters Work Permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permit to Take	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Government			
Conditional Use Permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Variance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify regulatory unit)			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

^a A National Pollutant Discharge Elimination System (NPDES) permit is required for any facility that currently has capacity, or is proposing to have capacity that meets or exceeds any one of the federal large confined animal feeding operation (CAFO) thresholds and discharges to waters of the United States

^b A State Disposal System (SDS) permit is required for any facility that currently has capacity, or is proposing to have capacity, for a total of 1,000 or more animal units (AU). A facility that is required to obtain an SDS permit may choose to obtain an NPDES permit in lieu of the SDS permit

^c Feedlots only need to apply for a construction stormwater permit when both of the following apply; the feedlot has not applied for a NPDES feedlot permit and 5 acres or more will be disturbed during construction.

^d Permit category is dependent on feedstock type.

Cumulative potential effects may be considered and addressed in response to individual EAW Item No. 10-20, or the RGU can address all cumulative potential effects in response to EAW Item No. 22. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 21.

10. Land uses

a. Describe

- i. Existing uses of the site as well as adjacent lands to and near the site, and give the distances and directions to nearby residences, schools, daycare facilities, senior citizen housing, places of worship, open space, cemeteries, trails, prime or unique farmlands, tribal lands, culturally significant sites, and other places accessible to the public (including roads) within one mile of the feedlot and within or

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adjacent to the boundaries of the manure application sites. **Identify existing registered feedlots within five miles.**

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

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc. **Note: If project is within 10 miles of tribal lands, reach out to respective tribal nations in consideration of this section.**

iv. If any critical facilities (i.e. facilities necessary for public health and safety, those storing hazardous materials, or those with 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.

b. Discuss the project’s compatibility with nearby land uses, county zoning, tribal nation(s), and plans listed in Item 9a above, concentrating on implications for environmental effects.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10b above and any risk potential.

11. Geology, soils and topography / land forms

a. Geology - Describe the geology of the 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.

Geologic Features of Special Concern	Project site	Manure Application Sites
Unconfined or shallow aquifer?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Less than 50 ft of soil cover over karst-identified bedrock?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Less than 40 inches of soil cover over karst-identified bedrock?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Karst features ^a within 300 ft?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

^a Karst features include sinkholes, caves, resurgent springs, disappearing springs, karst windows, blind/dry valleys

b. Soils and topography - Describe the soils on the site, giving NRCS 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 12, b.ii.

Soils information for the land application sites will be addressed in Item 12. v (d).

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Soil Classification and Location

NRCS Soil Classifications	Feedlot	Manure Storage Area	Manure Application Sites

12. Water resources

a. Describe surface water and groundwater features on or near the feedlot project site and manure application areas in a.i. and a.ii. below and on attached maps.

i. **Surface water** - lakes, streams, wetlands, intermittent streams, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the 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.

ii. **Groundwater** – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) if a project is within a federal wellhead protection areas or drinking water supply management areas found near/within tribal boundaries; 4) 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; 5) identify groundwater pollution susceptibility due to geology, unsealed wells, nearby contaminants, etc.

Indicate **Yes or No** whether any of the following **geologic site hazards to groundwater** are present at the feedlot project site, manure storage area, or manure application sites.

	Feedlot	Manure Storage Area	Manure Application Sites
Karst features (sinkhole, cave, resurgent spring, disappearing spring, karst window, blind valley, or dry valley)			
Exposed or highly fractured bedrock			
Soils developed in bedrock (as shown on soils maps)			
Sandy Soils and/or Sand Plain			
Other identified geologic hazards			

For any identified geologic hazards to groundwater, describe the features, show them on a map, and discuss proposed design and mitigation measures to avoid or minimize potential impacts.

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

All sewage produced in Minnesota must be disposed of in accordance with Minn. R 7080.2450 subp.

6. 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.
- 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. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.
- 3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.

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.

iii. Water appropriation

Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the water source, quantity (amount per animal per day), duration, use and purpose of the water use and if a DNR water appropriation permit is required and has been obtained. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used

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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.

Water Use & Supply

Current Water Use (gal/yr)		<input type="checkbox"/> Not applicable
Proposed Water Use (gal/yr)		<input type="checkbox"/> Not applicable

List all sources of surface water sources for water appropriations:

Type of surface water source*	Volume	Location	Maximum Pumping Rate

*Existing well, public supply, new well, other water source

Aquifer Test required by the DNR? Yes
 Option Waived
 Unknown

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, 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.

b) Other surface waters- Describe and show on maps any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent **streams**, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal, riparian alteration, **drain tiling, and tile inlets or outlets**. 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

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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. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Identify water resources affected and give the DNR Public Waters Inventory number(s) if the water resources affected are on the Public Waters Inventory (PWI). Describe proposed mitigation measures to avoid or minimize impacts.

v. Manure management. Give a brief description of how manure will be collected, stored, and applied. Include a description of any manure processing activities such as liquid solid separation and anaerobic digestion. Attach copy of Manure Management Plan (MMP). If an anaerobic digester will process manure, list any other feedstocks used in the digester.

a) Manure removal activities.

Manure removal frequency: Once per year Twice per year
 Other: _____

Time required for manure removal: _____ Days/year

Time required for agitation of liquid manure storage areas: _____ Days/year Not applicable

b) Manure Transfer

Will any amount of manure be transferred to a third party for land application or anaerobic digester?

No – skip 1-3
 Yes, Land Application – Complete 1-3 Yes, Anaerobic Digester - Complete 1, 4-5

1) Estimated amount of manure transferred throughout the year

Transfer timeframe	Liquid (gal)	Solid (ton)
June - September		
October 1 – October 14		
October 15 – November 30		
December 1 – February 28		
March 1 – March 31		
April 1 – May 31		
TOTAL		

2) Describe the protocols used to ensure information about nutrient content, nitrogen and phosphorus rate requirements, and setback requirements are made available to the recipient(s).

- 3) Describe any efforts to limit the potential for application of transferred manure to fields without actively growing crops during the summer and early fall (before Oct. 15) and during frozen or snow-covered conditions.
- 4) Describe any efforts to limit dust and odor to nearby residences and the amount and speed of transfer trucks.
- 5) Describe time of day and scope of operations needed to transfer manure.

c) Manure Land Application (non-transfer)

Will any amount of manure be applied to fields owned, leased, rented, or otherwise controlled by any member of the ownership entity of the feedlot?

Yes – complete 1-5 below No – skip 1-5 below

- 1) Estimated amount of manure applied throughout the year

Application timeframe	Liquid (gal)	Solid (ton)
June - September		
October 1 – October 14		
October 15 – November 30		
December 1 – February 28		
March 1 – March 31		
April 1 – May 31		
TOTAL		

Describe anticipated manure application technologies and methods of application and incorporation. Include measures to limit potential for runoff, especially for manure applied in winter conditions.

- 2) Describe any measures used to manage field soil phosphorous levels to prevent excessive phosphorus build-up.
- 3) Describe any measures (BMPs) used to limit potential for nitrate impacts to water resources.
- 4) If land application acres drain to a waterbody with an impairment, describe the measures used to limit land application effects on the impairment.

d) Manure application fields

- 1) General description

Describe each land application field. Include in the description the following:

Field name/ID, location (Township-Range-Section), tillable acres, predominate soil type, field tiling system, irrigation system, description of bordering lands/roads, waters (within 2 miles) receiving runoff or tile line flow.

- 2) Map the manure application fields. Show on a map the following within or near (300 ft) land application fields:

Lakes, rivers, streams, intermittent streams, wetlands, county/judicial ditches, open tile intakes, wells, springs, Karst features (*Sinkholes, caves, resurgent springs, disappearing springs, karst windows, blind/dry valleys*). Include DNR Public Waters Inventory numbers

(if available) and any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water.

- 3) Additional field sensitivity information. Below each of the following items list any fields that meet the criteria described.
- a. Fields within Drinking water supply management areas (DWSMAs) or Source Water Protection Areas (SWPAs) with medium to high vulnerability, including tribal drinking water supply areas.
 - b. Fields planned for winter manure applications.
 - c. Fields with soil phosphorous tests levels above 21 ppm Bray 1 or 16 ppm Olson and have surface water within 300 feet.
 - d. Fields with soil phosphorous tests levels above 75 ppm Bray 1 or 60 ppm Olson.
 - e. Fields that could receive broadcast manure (not immediately incorporated) that have slopes at 6% or greater.
- 4) Using Web Soil Survey data, list any fields with at least 33% of the acreage that meets the following:
- a. sensitive aquifer assessment rating
 - b. soil texture of sand, loamy sand, loamy coarse sand, fine sand, loamy fine sand, coarse sand, or very fine sand.
 - i. depth to bedrock of 40 inches or less
 - ii. soil erosion (“T factor”) rating of 5 or more tons/acre/year
 - iii. frequently flooded
- e) **Manure application setbacks**
Describe any required setbacks for land application systems.
- f) **Other methods of manure utilization.**
If the project will utilize manure other than by land application, please describe the methods.
- g) **Dead Animal Disposal.**
Describe the quantities of dead animals anticipated, the method for storing and disposing of carcasses, and frequency of disposal. How will nuisance wildlife be managed that are attracted by carcasses? What is the response to a major disease or death event? Identify local ordinance restrictions for animal disposal, composting, etc.

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 ground water 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.

- 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.
- 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 new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that ~~used by~~ the project will use. 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.
- D. 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.

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.
- B. Describe rare features such as state-listed (endangered, threatened, and species of special concern) and federally listed (endangered and threatened-) species, native plant communities, Minnesota Biological Survey (MBS) Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (-Minnesota Conservation Explorer (MCE) Project ID _____) from which the data were obtained and attach the Natural Heritage Review letter from the DNR. Federal species should be queried utilizing the U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) website. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.
- C. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project including how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss potential impacts to identified state and federally listed species, and any avoidance or mitigation measures that will be taken to avoid or minimize these impacts
- D. Identify measures that will be taken to avoid, minimize, or mitigate the adverse effects to fish, wildlife, plant communities, ecosystems, and sensitive ecological resources, such as calcareous

fens. Separately discuss measures to avoid, minimize, or mitigate the adverse effects to state and federally listed species.

15. Cultural Resources

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, 3) architectural features, 4) Tribal connections to the site.

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.

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.

17. Air

Identify the major sources of air or odor emissions from this feedlot.

a. Stationary source emissions - Describe the type, sources, quantities, and compositions of any emissions from stationary sources. Include any hazardous air pollutants and criteria pollutants. 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. Describe any proposed feedlot design features or air or odor emission mitigation measures to be implemented to avoid or minimize potential adverse impacts and discuss their anticipated effectiveness.

If no feedlot design features or mitigations were proposed, provide a summary of the results of an air emissions modeling study designed to compare predicted emissions at the property boundaries with state standards, health risk values, or odor threshold concentrations. The modeling must incorporate an appropriate background concentration for hydrogen sulfide to account for potential cumulative air quality impacts.

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.

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 17a). 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.

d. Describe any plans to notify neighbors of operational events (such as manure storage agitation and pump out) that may result in higher-than-usual levels of air or odor emissions.

18. Greenhouse Gas (GHG) Emissions/Carbon Footprint

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- 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. **Utilize the Feedlot Greenhouse Gas Emissions Calculator, found at (insert reference location).**

The following tables are examples; other layouts are acceptable for providing GHG quantification results.

Construction Emissions

Scope	Type of Emission	Emission Sub-type	Project-related CO ₂ e Emissions (tons/year)	Calculation method(s)
Scope 1	Combustion	Mobile Equipment	Empty cell	Empty cell
Scope 1	Land Use	Conversion	Empty cell	Empty cell
Scope 1	Land Use	Carbon Sink	Empty cell	Empty cell
TOTAL			Empty cell	Empty cell

Operational Emissions

Scope	Type of Emission	Emission Sub-type	Existing facility CO ₂ e Emissions (tons/year)	Project related CO ₂ e Emissions (tons/year)	Total CO ₂ e Emissions (tons/year)	Calculation method(s)
Scope 1	Combustion	Mobile Equipment				
Scope 1	Combustion	Stationary Equipment				
Scope 1	Combustion	Area				
Scope 1	Non-Combustion	Stationary Equipment				
Scope 1	Land Use	Carbon Sink				
Scope 2	Off-site Electricity	Grid-based				
Scope 2	Off-site Steam Production	Not applicable				
Scope 3	Off-site Waste Management	Area				
TOTAL						

B. GHG Assessment

- i. Describe any mitigation considered to reduce the project’s GHG 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.
- iii. Quantify the proposed projects predicted net lifetime GHG emissions (total tons/#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.

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 taken to minimize or mitigate the effects of noise.

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,
 - a. Estimate the number of heavy truck trips generated per week and describes their routing over local roads. Describe any road improvements to be made.
 - b. Identify manure application routes and crossings, type of hauling equipment, impacts to road surface, impacts to traffic. Identify use and road crossings of drag hoses.
- 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.

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.*

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

D. Will new or expanded utilities, roads, other infrastructure, or public services be required to serve the project? Yes No

If yes, please describe.

21. Cumulative potential effects

Cumulative potential effects may be considered and addressed in response to individual EAW Item No.10-20.

- 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.
- 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.
- 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.

22. Other potential environmental effects

If the project may cause any additional environmental effects not addressed by items 1 to 20, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

RGU CERTIFICATION

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 “phased actions,” pursuant to Minn. R. 4410.0200, subp. 60, 4410.1000, subp. 4, and 4410.4300, subp. 1.
- Copies of this EAW are being sent to the entire EQB distribution list.

Name and Title of Signer:

Signature

Date:

The format for the alternative Environmental Assessment Worksheet form has been approved by the Chair of the Environmental Quality Board pursuant to Minn. R. 4410.1300 for use for animal feedlot projects. For additional information contact: Environmental Quality Board, 520 Lafayette Road, St. Paul, Minnesota, 55155-4194, 651-296-6300, or at their website <https://www.eqb.state.mn.us/content/environmental-review-program>

MPCA Environmental Review for Animal Feedlots

GUIDANCE

This guidance provides supplemental information for feedlot proposers about preparing an Environmental Assessment Worksheet (EAW) using the **Alternative EAW Form for Animal Feedlots**. In addition to informing the public and decision makers, the information disclosed in the EAW is an information gathering process that informs permitting actions. An EAW's purpose is to provide information regarding a project regarding the potential for significant environmental effects. This process will determine if additional environmental analysis is needed through and Environmental Impact Statement. The EAW may also indicate how the project can be modified to lessen its environmental impacts. Such modifications may be imposed as permit conditions.

The Environmental Quality Board (EQB) also publishes [EAW Guidance](#) for the EAW process and preparation of an EAW in general. Information in the EQB Guidance may also be useful to feedlot proposers when gathering project specific information necessary for preparing the alternative animal feedlot EAW form.

General guidance. The project proposer is required to supply all reasonably accessible data or information to adequately address questions within the EAW form, or as requested by the Responsible Governmental Unit (RGU). The finalized EAW (the version reviewed by the public) is required by law to be prepared by the Minnesota Pollution Control Agency (MPCA). The MPCA is the RGU for Animal Feedlots that meet unit threshold for mandatory EAWs identified in MN Rule 4410.4300, Subp. 29, unless the county will issue the feedlot permit, in which case the county is the RGU. However, the county is not the RGU prior to January 1, 2001.

Pre-application Meeting. MPCA recommends an application meeting with MPCA Environmental Review Unit and relevant permit programs. This meeting will help to clarify the proposed project scope, desired construction timeframes, applicable MPCA EAW and permit requirements, and respective processes necessary to complete both in a timely manner.

Item-specific guidance

- 1.** Enter the same name used on application for feedlot permits. The name listed on the EAW should indicate the animal species. If there could be confusion with another similarly named feedlot, a geographic reference should be added (township name and, if needed, section number). An example of a complete name is: *Joe Jones Swine Facility – Norway Township*.
- 2.** The Feedlot Proposer is the entity that has applied for or would receive the approval for the project and not a consultant, attorney, or other entity or person representing the proposer.
- 2a.** The person listed as the contact should be familiar with the technical nature of the project and the data provided on the EAW form. The contact may be an engineer or other consultant if so desired by the proposer.

3. The RGU for Animal Feedlots is the MPCA -Environmental Review Unit or the Local Government Unit (LGU). The MPCA will complete this section and the Tempo AI # upon receipt.

4. **Reason for EAW Preparation.** Complete reason for the EAW preparation, and if an EAW is required or discretionary for the proposed project. This determination can be reviewed in the recommended pre-application meeting with the RGU. Indicate which Subpart the project is relevant in MN Rule [4410.4300](#), [Subpart 29 A.](#) or [Subpart 29 B.](#), based on Animal Units and if the feedlot is located in a designated Sensitive Area.

Tables 1 and 2 show the **mandatory EAW and exemption categories** effective July 1, 2003 for construction of new animal feedlots (Table 1) and expansion of existing feedlots (Table 2). The boxes below provide definitions of terms used in the tables and the conditions established by the legislature that a feedlot must meet to be eligible for the new exemption.

Table 1. New Animal Feedlot Construction

<i>Number of Animal Units</i>	Non-Sensitive Areas		Sensitive Areas	
	<i>Exempt?</i>	<i>EAW Mandatory?</i>	<i>Exempt?</i>	<i>EAW Mandatory?</i>
1000 or more	No	Yes	No	Yes
500-999	Yes, if exemption conditions met.	No	No	Yes
300-499	Yes, if exemption conditions met.	No	No	No
50-299	Yes	No	No	No
Less than 50	Yes	No	Yes	No

Table 2. Expansion of Existing Feedlot

<i>Number of Animal Units added</i>	<i>Total number of Animal Units after construction</i>	Non-Sensitive Areas		Sensitive Areas	
		<i>Exempt?</i>	<i>EAW Mandatory?</i>	<i>Exempt?</i>	<i>EAW Mandatory?</i>
1000 or more	1000 or more	No	Yes	No	Yes
500-999	Less than 1000*	Yes, if exemption conditions met.	No	No	Yes
100-499	Less than 1000*	Yes, if exemption conditions met.	No	No	No
50-99	Not applicable	Yes	No	No	No
Less than 50	Less than 50	Yes	No	Yes	No

*If the total cumulative capacity of the animal feedlot is 1000 animal units or more, than the feedlot is not exempt.

Such animal feedlots are exempt if:

1. The application for the animal feedlot includes a written commitment by the proposer to design, construct and operate the facility in full compliance with Minnesota Pollution Control Agency (MPCA) feedlot rules; and
2. The county board holds a public meeting for citizen input at least ten business days before the MPCA or county issues a feedlot permit unless another public meeting for citizen input has been held with regard to the feedlot to be permitted.

The MPCA has revised the feedlot permit application form to incorporate additional language satisfying condition #1.

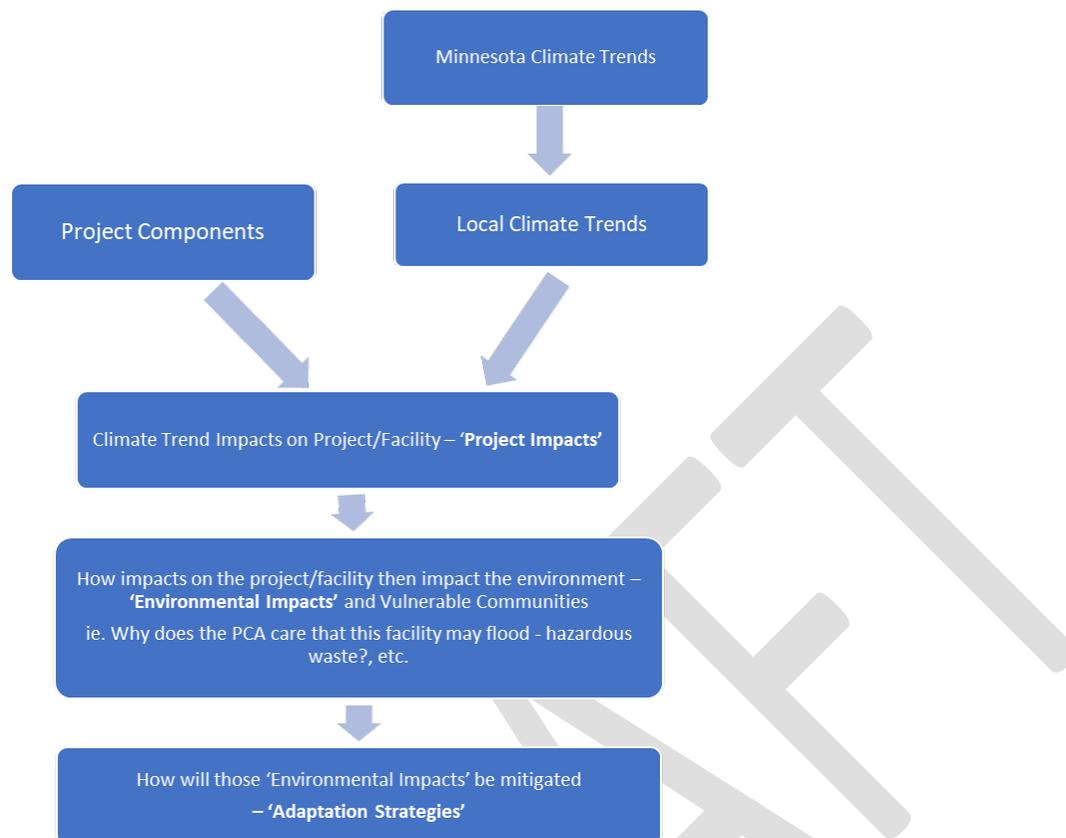
For suggestions about holding a public meeting for citizen input consult “New Exemptions for Environmental Review of Feedlots From 2003 Legislative Session” (available at the EQB website under Feedlot Environmental Review at: www.eqb.state.mn.us/review.html)

5. Project Location. Include the location of the feedlot and the manure application fields. Provide the required and maps showing all significant project features, environmental conditions, and jurisdictions.

6. Project Description. If this project is an expansion of an existing feedlot, or if there may be future expansions, it may result in a “phased action.” Minnesota Rule requires all parts of phased action be reviewed, which could impact what is covered in the EAW. Phased actions are discussed in [Guide to Minnesota Environmental Review Rules \(May 2010\)](#). Questions about phased actions can be referred to the RGU.

7. Climate Adaptation and Resilience. It is beneficial for the proposer to clearly make the connection(s) between local climate trends and project components so reviewers can evaluate impacts to the proposed project, the surrounding area and how the impacts will be considered in the design, construction, operation, and maintenance of the project over its projected lifetime. Utilize [Section 3 in the standard EAW Guidelines for Climate Adaptation and Resilience](#) for additional clarification and examples.

Figure 1. Climate Adaptation and Resilience Review Process



7a. Climate Trends

Minnesota's climate already is changing rapidly and will continue to do so for the foreseeable future. Temperatures are increasing -- especially in winter -- and larger, more frequent extreme precipitation events are occurring. Substantial warming during winter and at night, increased precipitation, and heavier downpours already have affected our natural resources, and how we interact with and use them. The decades ahead will bring even warmer winters and nights, and even larger rainfalls, along with the likelihood of increased summer heat and the potential for longer dry spells ([MN DNR - Climate Trends](#)).

The following climate trends and projects are identified in this section and are expected to continue into the future:

Climate Trends (data-driven):

- Average annual temperature increasing
- Average annual precipitation increasing
- Winter minimums increasing
- Nighttime temperatures increasing
- Extreme events increasing

Projected climate change (model-driven):

- Increasing risk of heat waves
- Increasing risk of drought

These trends are identified in the tables below. If additional climate trends are included, assess any impacts

through each Resource Category and Project Component. For additional information, see the [EQB EAW Guidance: Developing a carbon footprint and incorporating climate adaptation and resilience.](#)

Table 3. Climate Trends and Projection Guide

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State of Minnesota Climate Trends (data driven) & Projected Climate Change (model driven)	Climate Trend Tools for County / Local Trends
Increasing Temperature 1. Average annual temperature increasing	Minnesota Climate Trends <ul style="list-style-type: none"> • Choose Geographic Unit • Data Option Selections: <ul style="list-style-type: none"> Average Temperature Time Scale: 12 months Month Ending: December Data Start Year: 1980 Data End year: Current year • Compare Years and Show Trend starting in 1980 – Current Year • Plot Data
Increasing Precipitation 2. Average annual precipitation increasing	Minnesota Climate Trends <ul style="list-style-type: none"> • Choose Geographic Unit • Data Option Selections: <ul style="list-style-type: none"> Precipitation Time Scale: 12 months Month Ending: December Data Start Year: 1980 Data End year: Current year • Compare Years and Show Trend starting in 1980 – Current Year • Plot Data
Increasing Temperature 3. Winter minimums increasing	Minnesota Climate Trends <ul style="list-style-type: none"> • Choose Geographic Unit • Data Option Selections: <ul style="list-style-type: none"> Minimum Temperature Time Scale: 4 months Month Ending: March Data Start Year: 1980 • Compare Years and Show Trend starting in 1980 – Current Year • Plot Data
Increasing Temperature 4. Nighttime temperatures increasing	Minnesota Climate Trends <ul style="list-style-type: none"> • Choose Geographic Unit • Data Option Selections: <ul style="list-style-type: none"> Minimum Temperature Time Scale: 4 months Month Ending: March Data Start Year: 1980 • Compare Years and Show Trend starting in 1980 – Current Year • Plot Data
Increasing Precipitation 5. Extreme events increasing	Minnesota Climate Trends <ul style="list-style-type: none"> • Choose Geographic Unit • Data Option Selections: <ul style="list-style-type: none"> Precipitation Time Scale: 4 months

	<p>Month Ending: March Data Start Year: 1980</p> <ul style="list-style-type: none">• Compare Years and Show Trend starting in 1980 – Current Year• Plot Data
<p>Project Climate change:</p> <ul style="list-style-type: none">• Increasing risk of heat waves	<p>Minnesota Climate Explorer</p> <ul style="list-style-type: none">• Choose Geographic Unit• Click on Projected Future• Select Climate Variable Maximum Temperature Time Scale: 3 months Month Ending: August• Plot Data
<p>Projected climate change:</p> <ul style="list-style-type: none">• Increasing risk of drought	<p>Minnesota Climate Explorer</p> <ul style="list-style-type: none">• Choose Geographic Unit• Click on Projected Future• Select Climate Variable Precipitation Time Scale: 3 months Month Ending: August• Plot Data

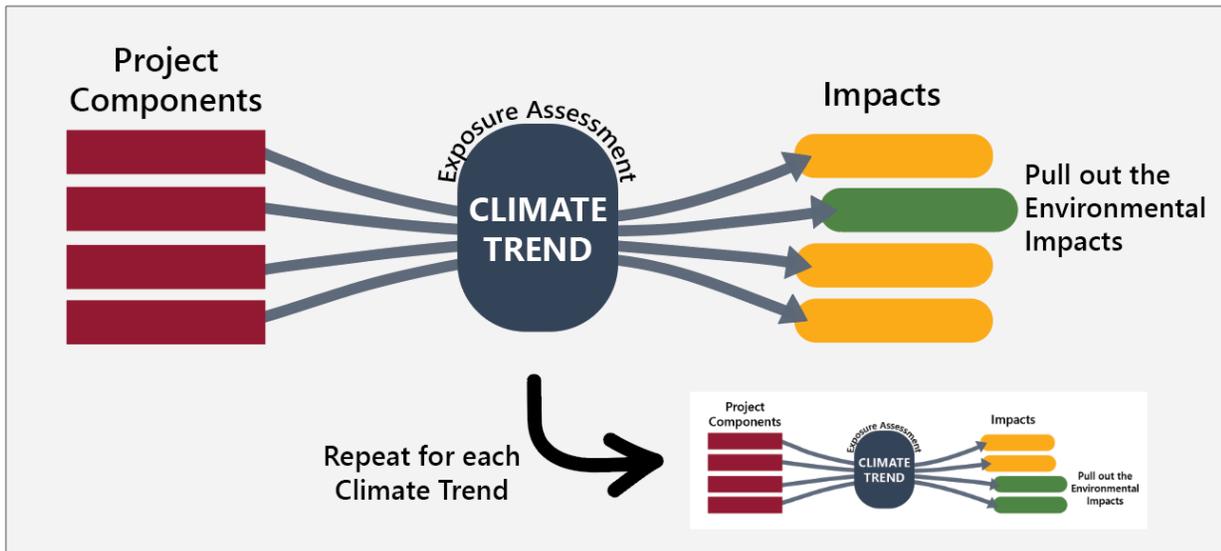
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Table 4. Resources used to determine Climate Trends:

Climate Trend Tools	
	From EQB guidance
Current Trends	Minnesota Climate Trends
Projected Changes	Minnesota Climate Explorer
Climate Hazard Projections	Climate Mapping for Resilience and Adaptation (CMRA) Assessment
	Climate Resilience Evaluation and Awareness Tool (CREAT) Climate Change Scenarios Projection Map
	Risk Factor
Additional Information Sources	National Climate Assessment (NCA4 Volume II or more recent), especially Chapter 21: Midwest; Chapter 28: Reducing Risk; Maps in Chapters 6 & 7.
	Intergovernmental Panel on Climate Change Assessment Report (IPCC 6 or more recent) and Interactive Atlas
	National Oceanic and Atmospheric Administration (NOAA) Climate.gov
	Additional Resources used by Project Proposer

7b. Project Interaction with Climate Trends. Review of the interactions between the project components with the climate trends follows the Exposure Assessment process as illustrated in Figure 2. Each individual project component is compared against the identified climate trend to evaluate the potential impacts and determine which may impact the environment.

Figure 2. Exposure Assessment



To understand how this project and the above outlined Climate Trends could impact the environment, it is important to understand what components of the project are being affected. Identify relevant project components under the **Feedlot Project Information** in the Table 5 below. Project Components include all the new (or removed) elements of this project that could be affected by the climate trends, including elements of the site design and the processes/activities happening at the site.

For each Resource Category in Table 5 (**Project Design, Land Use, Contamination/HazMat/Wastes**): Describe how the project's proposed activities and how the project's design will interact with the described climate trends and projections, described in 7a. Describe proposed adaptations to address the climate change risks and vulnerabilities identified.

Resource Categories

Project Design - How climate change is anticipated to affect the design of the project, such as changes to land cover, construction materials, site design, etc.

Land Use – The compatibility of activities with land use, planning and zoning, as it relates primarily to the development and the projected climate changes for the project location.

Contamination / Hazardous Materials / Wastes – Describe any operational concerns due to warmer, wetter weather with more extreme rainfall events and localized flooding such as increased leaching, erosion, and sedimentation.

Utilize the table below to list proposed activities and describe how each of these activities will interact with each climate trend and projection listed in 7a. *Examples are in italics, below.*

Table 5. Interaction between Components of Proposed Activities and Identified Climate Trends and Projections

Resource Category	Climate Trends & Climate Projections	Project Information (Components of Proposed Activities)	Potential Environmental Impacts Address <i>Anticipated Climate Change Hazards</i> : storm intensity, flooding, extreme heat, drought, and wildfire	Adaptation Strategies (with applicable timeframe - construction, near-term, long-term)
Project Design	Increasing Temperature <ul style="list-style-type: none"> Average Temperature Increasing 	<i>Example: Increased impervious surfaces.</i>	<i>Environmental Impact not foreseen with interaction between impervious surfaces and average temperature increasing.</i>	N/A
		<i>Increased constructed surfaces, such as dark roofing and asphalt.</i>	<i>Increased heat absorption during the day that is radiated at night, which increases heat island effect and amplifies warming temperatures of climate change.</i>	<i>Use of light-colored building materials and surfaces to reduce heat absorption. Regular maintenance and updates to infrastructures, as needed, for life of project.</i>
		<i>Increased quantity of concrete and building construction materials, and infrastructure.</i>	<i>Infrastructure more vulnerable to damage and deterioration from elevated temperatures.</i>	<i>Use of construction materials that are resilient to increasing temperatures for the life of the project.</i>
		<i>(List others, as appropriate)</i>		

Resource Category	Climate Trends & Climate Projections	Project Information (Components of Proposed Activities)	Potential Environmental Impacts Address <i>Anticipated Climate Change Hazards</i> : storm intensity, flooding, extreme heat, drought, and wildfire	Adaptation Strategies (with applicable timeframe - construction, near-term, long-term)
	Increasing Temperature <ul style="list-style-type: none"> • Winter Minimum Temperature Increasing 	<i>Increased impervious surfaces.</i>	<i>Increased seasonal melting periods, creating risk of localized flooding in immediate and generalized area of the project, in addition to other stormwater effects, especially when vegetative buffers are absent.</i> <i>Reduced site vegetation during winter thaw and increased stormflow velocity over frozen ground, increasing soil erosion and stream sedimentation.</i>	<i>Utilize best management practices and management solutions to contain stormwater and mitigate the impacts of rural development on stream ecosystems.</i> <i>Vegetate with a plant mix more tolerant of long-term changes in precipitation or temperature.</i>
		<i>Increased constructed surfaces, such as dark roofing and asphalt.</i>	<i>Increased heat absorption during the day that is radiated at night, which increases heat island effect and amplifies warming temperatures of climate change.</i>	<i>Use of light-colored building materials and surfaces to reduce heat absorption. Regular maintenance and updates to infrastructures, as needed, for life of project.</i>
		<i>Increased quantity of concrete and building construction materials, and infrastructure.</i>	<i>Infrastructure more vulnerable to damage from elevated temperatures over more days during the year.</i>	<i>Use of construction materials that are resilient to increasing temperatures for the life of the project.</i>
		<i>(List others as appropriate)</i>		
	Increasing Temperature <ul style="list-style-type: none"> • Nighttime Temp Increasing 	Repeat Project Components for each Climate Trend ↓		

Resource Category	Climate Trends & Climate Projections	Project Information (Components of Proposed Activities)	Potential Environmental Impacts Address <i>Anticipated Climate Change Hazards</i> : storm intensity, flooding, extreme heat, drought, and wildfire	Adaptation Strategies (with applicable timeframe - construction, near-term, long-term)
	Increasing Precipitation <ul style="list-style-type: none"> • Average Annual Precipitation Increasing 			
	Increasing Precipitation <ul style="list-style-type: none"> • Extreme Precipitation Events Increasing 			
	<ul style="list-style-type: none"> • Increasing risk of heatwaves 			
	<ul style="list-style-type: none"> • Increasing risk of drought 			

Resource Category	Climate Trends	Project Information (Proposed Activities)	Potential Environmental Impacts <i>Address Anticipated Climate Change Hazards: storm intensity, flooding, extreme heat, drought, and wildfire</i>	Adaptation Strategies <i>(with applicable timeframe - construction, near-term, long-term)</i>
Land Use	Increasing Temperature	<i>Increased groundwater use.</i>	<i>Environmental Impact not foreseen with interaction between increased groundwater use and average temperature increasing.</i>	N/A
	<ul style="list-style-type: none"> Average Temperature Increasing 	<i>Increased manure storage volume.</i>	<i>Increased risk of catastrophic spills, affecting water quality, wildlife, and wildlife habitat.</i>	<i>Follow manure hauling and application best management practices outlined in Manure Management Plan.</i> <i>Regular inspections of manure storage facilities and hauling equipment.</i> <i>Advise employees of emergency procedures in event of spill.</i>
		<i>Removal of site vegetation.</i>	<i>Increased risk of erosion, sedimentation, and pollution into nearby waterways and streams. This is amplified by increased precipitation and increased intensity of storms.</i>	<i>Utilize intermittent reclamation practices during construction to reduce erosion and establish permanent vegetation as soon as construction is complete.</i> <i>Follow SWPP practices during construction.</i> <i>Vegetate with a plant mix more tolerant of long-term changes in precipitation or temperature.</i>
		<i>(List others as appropriate)</i>		
	Increasing Temperature	<i>Repeat Project Components for each Climate Trend ↓</i>		
	<ul style="list-style-type: none"> Winter Minimum Temperature Increasing 			

Resource Category	Climate Trends	Project Information (Proposed Activities)	Potential Environmental Impacts <i>Address Anticipated Climate Change Hazards: storm intensity, flooding, extreme heat, drought, and wildfire</i>	Adaptation Strategies (with applicable timeframe - construction, near-term, long-term)
	<ul style="list-style-type: none"> Increasing risk of heat waves 			
	<ul style="list-style-type: none"> Increasing intensity of drought 			
Contamination/ Hazardous Materials/Wastes	Increasing Temperature <ul style="list-style-type: none"> Winter Minimum Temperature Increasing 			

Resource Category	Climate Trends	Project Information (Proposed Activities)	Potential Environmental Impacts <i>Address Anticipated Climate Change Hazards: storm intensity, flooding, extreme heat, drought, and wildfire</i>	Adaptation Strategies (with applicable timeframe - construction, near-term, long-term)
	Increasing Temperature <ul style="list-style-type: none"> Nighttime Temp Increasing 			

Resource Category	Climate Trends	Project Information (Proposed Activities)	Potential Environmental Impacts <i>Address Anticipated Climate Change Hazards: storm intensity, flooding, extreme heat, drought, and wildfire</i>	Adaptation Strategies <i>(with applicable timeframe - construction, near-term, long-term)</i>
	<ul style="list-style-type: none"> Increasing risk of heat waves 			
	<ul style="list-style-type: none"> Increasing intensity of drought 			
	Water Resources	<i>Address in Item 12</i>	<i>Address in Item 12</i>	<i>Address in Item 12</i>
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (rare features)	<i>Address in Item 14</i>	<i>Address in Item 14</i>	<i>Address in Item 14</i>	<i>Address in Item 14</i>

8. Cover Types. [See standard EAW Climate Guidance](#) to identify acreage of Cover Types as it relates to Green Infrastructure.

9. Permits and Approvals required. Note that *final decisions are prohibited until all appropriate environmental review has been completed*. See Minnesota Rules, Chapter 4410.3100.

10. Land uses. Local planning and zoning officials and tribal governments should be consulted about the consistency of the project with any applicable local ordinances. It may be prudent to obtain a letter from the local unit documenting project consistency with local ordinances, and to attach a copy to the EAW submission.

For projects on or near Indian Reservations/tribal lands/Indian Country, ensure the proposed project is consistent with tribal law therefore best practice is to contact relevant tribal officials and obtain a letter documenting the project's consistency with tribal law

11. Geology, soils and topography / land forms. Distinguishes geological characteristics of the project site versus manure application site(s).

12. Water Resources. Describe surface water and groundwater features on or near the project site and manure application areas in the table and on attached maps. Indicate whether any **geologic site hazards to ground water or sensitive areas to surface waters** are present at the feedlot, manure storage area, or manure application sites. If yes, describe the features, show them on a map, and discuss proposed design and mitigation measures to avoid or minimize potential impacts. If known, address any cumulative impacts of the proposed project or expansion to these water resources.

Water appropriation. If the project uses more than 10,000 gallons per day or 1 million gallons per year, a permit application is required by DNR to appropriate water. ([Minn Stat. 2023.103G.287](#)) . A DNR Preliminary Well Construction Assessment is Required prior to the construction of a new water supply well, and a permit application and a valid water appropriation permit is required prior to appropriation of groundwater. Please describe the water source, depth of wells or surface water features, and total volume of water needed for animal use, cooling, and cleaning. Describe proposed measures to ensure maximum efficiency of water use and conservation.

Other surface waters. In addition to the standard EAW requirements, describe permanent controls to manage or treat runoff. Identify water resources affected and give the DNR Public Waters Inventory number (PWI) if the water resources affected are on the PWI. Describe proposed mitigation measures to avoid or minimize impacts.

Manure management. Give a brief description of how manure will be collected, stored, transferred (if applicable) and applied at this facility. Include a description of any manure processing activities such as liquid solid separation and anaerobic digestion. Attach copy of Manure Management Plan (MMP). If an anaerobic digester will process manure, list any other feedstocks used in the digester.

Indian Reservations. For projects on or near Indian Reservations, a tribal permit application may be required for water appropriation. Contact relevant tribal officials for more information if your project is on or near an Indian Reservation.

13. Contamination/Hazardous Materials/Waste – [Insert information here as it pertains to feedlot operations.](#)

14. Fish, wildlife, plant communities, and sensitive ecological resources (rare features)

The DNR Division of Ecological and Water Resources maintains the Natural Heritage Information System (NHIS), a collection of databases that provides the most comprehensive information on Minnesota's rare natural features (e.g., MBS Sites of Biodiversity Significance, DNR Native Plant Communities). The NHIS public layers are available to view via the Minnesota Conservation Explorer (MCE) or to download from the Minnesota Geospatial Commons. To identify potential impacts to rare features, request a Natural Heritage Review via the Minnesota Conservation Explorer. MCE will automatically assess potential impacts to Minnesota's rare features and provide a Natural Heritage Review letter or a notice that further review by DNR staff is needed before a Natural Heritage Review letter can be issued. The Natural Heritage Review letter informs project proposers of any potential impacts to rare features and includes actions to follow state law and recommended measures to avoid or minimize disturbance to ecologically significant areas or state-listed species. The Natural Heritage Review letter should be attached to the EAW and the project proposer should address all issues mentioned in the letter when answering Question 14 of the EAW.

To identify potential impacts to federally listed species, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool. Use the information provided when answering Question 14 of the EAW.

15. Cultural Resources.

Cultural Resources needs definitions of "traditional cultural properties," "close proximity," and "tribal connections" all need definitions or consistent terms should be used throughout the EAW worksheet.

Guidance should also be provided here to contact not only the SHPO but also the THPO (Tribal Historic Preservation Officer).

16. Visual. Proponents need to inquire with local and tribal ordinances and zoning in their area regarding visual effects.

17. Air. An Air Emissions Risk Analysis (AERA) may be required per [Air Assessment Practice Guidance](#). The study and its results must be summarized in the EAW to provide information about the potential for significant air or odor impacts.

To address potential cumulative air impacts, the modeling must include appropriate background concentrations for hydrogen sulfide. Guidance on obtaining an appropriate background hydrogen sulfide concentration can be found in *Guidelines on Air Quality Models*, 40 CFR Ch. I (7-1-99 Edition), Appendix W to Part 51 (section 9.2). This document can be found at http://www.epa.gov/scram001/guidance/guide/appw_99.pdf Appendix 4 is a letter from the Commissioner of the PCA providing further information about the current requirements for air quality cumulative impacts analysis.

It is recommended that a modeling protocol be developed by the proposer and reviewed by the MPCA in a pre-application meeting before the modeling study is undertaken. Modeling requirements: H₂S, ammonia, odor. Be sure AERA is included.

18. GHG Emissions/Carbon Footprint – work on this section. Refer to EQB Guide.

19. Noise needs a discussion of how a project proponent determines the effect of noise in the vicinity of the project and define what is considered vicinity as it relates to noise. Reference state, local, tribal, and potentially federal noise standards. Quality of life definition. For example - the cumulative impact of the proposed project on noise in the area,

environmental justice concerns (Minn. Stat. 116.065).

20. Transportation 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.

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Appendix 1. Agency Contacts and Other Resources

The following agencies may review an EAW or provide information on how to appropriately respond to questions on the EAW form.

State agencies

Environmental Quality Board	651-757-2873
Department of Agriculture	651-296-1488
Department of Health	651-215-0807
Department of Natural Resources.....	651-296-4796
(or the regional office indicated on the DNR map below)	
Department of Transportation	651-779-5094
Metropolitan Council.....	651-602-1000
Data Center	651-602-1140
Environment Resource Planning and Management.....	651-602-1145
Environmental Services	651-602-1005
Minnesota Geological Survey	612-627-4780
Minnesota Historical Society	651-296-5462
Minnesota Planning	651-296-3985
Datanet.....	651-296-6866
Pollution Control Agency	
Environmental review coordinator	651-296-7398

Tribal Nations

(Insert relevant contacts and departments (Natural Resources, Env Review, Etc))

Federal agencies

Army Corps of Engineers	651-290-5200
Fish and Wildlife Service.....	612-713-5300

Natural Resources Conservation Service (check local phone directory blue pages)

Other resources

Minnesota Department of Transportation County highway maps: These maps show all roads, national and state parks, forests, wildlife management areas and refuges.

MnDOT Map Sales.....651-296-2216
<http://www.dot.state.mn.us/maps.shtml>

U.S. Geological Survey maps: These 7.5-minute maps are available for the entire state from local map dealers and government agencies.

Minnesota Geological Survey.....612-627-4780
<http://www.geo.umn.edu/mgs>

U.S. Geological Survey..... 800-ASK-USGS
<http://mapping.usgs.gov>

Insert Online Mapping Resources for:

Aerial Photos, Soils, Water Resources, Air, Cultural, Tribal, etc.

Insert Glossary of Terms, or incorporate into document:

Animal units: EQB's rules use animal units as defined in the MPCA chapter 7020 rules.

Sensitive areas are shorelands; delineated flood plains (along Red River only includes 1,000 feet from bank); federal, state or local wild and scenic river districts; within 1,000 feet of a karst feature (sinkhole, cave, disappearing spring, resurgent spring, karst window, dry valley or blind valley); and vulnerable parts of delineated drinking water supply management areas.

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Appendix 2: Glossary of Karst Terms

The following definitions are extracted from *A Glossary of Minnesota Karst Terminology*, Jeffrey A. Green, MnDNR, and Calvin A. Alexander, Jr., University of Minnesota, May 1999.

Blind valley: A valley that terminates abruptly at a point where its stream sinks, or once sank, underground. As sinks develop higher up the blind valley, the original valley termination may be dry under most flow conditions.

Cave: A natural underground room or series of rooms and passages large enough to be entered by a man; generally formed by solution of limestone.

Dry valley: Valley that lacks a permanent surface stream. Dry valleys are common on carbonate rocks with good primary permeability, such as the chalk, and occur on other permeable rocks such as sandstone. Dry valleys on cavernous limestone were formed when streams flowed on the surface, either before secondary permeability and cave systems developed, or when caves were blocked by ground ice in periglacial climates. The valleys became dry when underground drains formed or were re-opened, capturing first part and then all of the surface drainage.

Karst: (noun): A landscape created on soluble rock with efficient underground drainage. Karst is characterized by caves, dolines, a lack of surface drainage and other climatically controlled features, and is mainly, but not exclusively, formed on limestone. The name derives from the German form of Kras – the Classical Karst straddling the border between Slovenia and Italy. In this original, temperate, karst the dominant landforms are dolines, but contrasting landscapes are the pinnacle, cone, and tower karsts of the tropics, and the fluviokarst and glaciokarst of colder climates. The uncapitalized term “kras” originally denoted bare, stony ground in the Slovene language. (adjective) Features, characteristics or functions produced by the solution of soluble geologic materials.

Karst window: Depression revealing a part of a subterranean river flowing across its floor, or an unroofed part of a cave.

Resurgence: Point at which an underground stream reaches the surface and becomes a surface stream. In European literature, the term is reserved for the reemergence of a stream that has earlier sunk upstream.

Sinkhole: General terms for closed depression. They may be basin, funnel, or cylindrical shaped.

Spring: Any natural discharge of water from rock or soil onto the surface of the land or into a body of surface water.

Appendix 3: Acceptable Feedlot Air Quality Mitigation Practices (Update this section)

This document is intended as guidance to assist producers and regulators in their review of various feedlot air quality control measures and practices. This information is compiled based on a review of scientific literature, demonstration projects and ongoing research efforts by the University of Minnesota Biosystems and Agricultural Engineering Department.

Production unit (livestock building and manure storage) odor control options			
System:	Description:	Advantages:	Disadvantages:
Oil Sprinkling	Vegetable oil is sprinkled daily at low levels in the animal pens.	Helps in the reduction of airborne dust and odors.	Creates an oily environment and greasy residue on the floor and pen partitions if too much oil is sprinkled.
Biofilters	Odorous gases are passed through a bed of compost and wood chips; bacteria and fungal activity help oxidize organic volatile compounds.	Reduces odor and hydrogen sulfide emissions effectively.	May need special fans because of pressure drop.
Biological and chemical wet scrubbers	Odorous gases are passed through a column packed with different media types; water (and/or chemical) is sprayed over the top of the column to help optimize biological and chemical reactions.	Reduces odors, H ₂ S, and NH ₃ emissions effectively	Capital and operational costs; disposal of collected pollutants.
Washing Wall	A wetted pad is installed in a stud wall about 5 feet upwind of ventilation fans and downwind of hog in a tunnel ventilated building.	Dust reduction of 50% and 33% reduction of ammonia at medium ventilation rates.	For tunnel ventilated buildings only. No documentation on odor reduction.
Solid Composting	Biological process in which aerobic bacteria convert organic material into a soil-like manure called compost; it's the same process that decays leaves and other organic debris in nature.		

Natural Crust	Dairy and sometimes swine storage basins can form a natural crust. This crust will reduce odor emissions.	Effectively controls odors.	Techniques to produce and maintain a natural crust are elusive, but developing.
Straw Cover	Wheat, barley or other straw is floated on the manure surface.	Effectively controls odor.	Must be applied annually and maintained throughout the year. A geotextile cover or related material can be used to support the straw and keep solids from entering the basin.
Plastic Cover	Non-porous cover floated on the liquid surface. Cover traps gases before they escape. Gases must be drawn off and treated.	Nearly eliminates odor emissions.	Gases must be withdrawn from under the cover and treated. No good technologies developed for this process.
Anaerobic Digestion	Biological process where organic carbon is converted to methane by anaerobic bacteria under controlled conditions of temperature and pH.	Reduces odor and organic matter; produces biogas which can be converted to heat or electricity; retains nutrients; easier handling of liquid.	Capital costs and requires skilled management.
Aerobic Treatment	Biological process whereby organic matter is oxidized by aerobic bacteria; mechanical aeration is required in order to supply oxygen to the bacterial population.	Reduces odor, organic matter and nutrients (if desired).	Capital and operating costs; separation step (liquid/solid) may be necessary for most slurries.

Memo

Date: March 8, 2024

To: Environmental Review Implementation Subcommittee

From: Jesse Krzenski, Environmental Review Program Administrator, EQB

RE: Minnesota Environmental Review Performance Report 2022-2023

Introduction

The Environmental Quality Board (EQB or Board) oversees the state of Minnesota's Environmental Review Program, as authorized in Minnesota Statutes, chapter 116D, and implemented by Minnesota Rules, chapter 4410. Under these laws, the Board has responsibility for monitoring Environmental Review (ER) Program effectiveness and the authority to make program improvements, which may include modifying ER Program requirements and procedures, adjusting the EAW form, and providing updates to ER guidance. EQB also assists governmental units and members of the public with understanding environmental review rules and fulfills administrative functions for the ER program.

State statutes and rules delegate the authority to apply the rules and complete review of individual projects to other state agencies and local governments (Responsible Governmental Units or RGUs).

Environmental Review Program data and information

The ER program has been collecting data about environmental review projects in Minnesota for many years. In 2020, EQB staff developed the first Data Management Plan (DMP), which established a standardized methodology for collecting and assessing data and information. The goal of data collection under the plan is to understand the program's effectiveness and identify areas of improvement. In addition to the data and information identified in the DMP, EQB staff consider the need for ER Program changes through feedback from:

- Discussions at Board meetings and Subcommittee meetings
- Advisory panels convened by the Board
- Public comments on periodic rulemaking
- Assessment performed to complete the *Mandatory Category Report* (compiled every three years)
- One-on-one conversations during technical assistance

Annually, EQB staff compile and assess the data and information identified in the DMP and present the results to members of the Environmental Review Implementation Subcommittee (ERIS).

The delegated nature of the ER Program creates numerous challenges for collecting data and information. In addition, the complexity of environmental review means that a multidisciplinary and comprehensive approach is needed to effectively evaluate the resulting social, economic, and environmental outcomes. The Board and EQB staff team continue to look for opportunities for improved data and information collection, analysis, and program evaluation.

The data that is currently collected in the ER Program is heavily focused on representing how many environmental reviews are being completed in a given year. While it is important to understand and continue to analyze those metrics it does not tell us how well environmental review is being done. Moving forward, staff will be working on updating the data management plan to better understand what data can be collected to measure the quality of environmental reviews and if they are achieving the objectives and responsibilities of the program.

Minnesota Environmental Review Program Overview

Table 1: 2022 & 2023 Minnesota Environmental Review Program Overview

Metric	2022 summary	2023 Summary	Description	Metric analysis
Frequency of ER Program process types	<ul style="list-style-type: none"> • 78 EAWs <ul style="list-style-type: none"> ○ 82% by local RGUs ○ 60% located in Greater MN • 7 AUARs • 14 Citizen Petitions • 0 EISs 	<ul style="list-style-type: none"> • 53 EAWs <ul style="list-style-type: none"> ○ 74% by local RGUs ○ 62% located in Greater MN • 6 AUARs • 14 Citizen Petitions • 2 EISs 	This data provides insight on how often ER occurs on an annual basis.	This information is useful in understanding the program and the workload on both RGUs and the EQB.
Frequency of mandatory categories by RGU and by location	<ul style="list-style-type: none"> • 17 different mandatory categories • 4 discretionary 	<ul style="list-style-type: none"> • 16 different mandatory categories • 10 discretionary 	This data provides information as to what types of projects are going through ER. 2022 had a high volume of projects triggering the industrial, commercial, institutional mandatory category.	Greater information could be gained by comparing yearly frequencies of mandatory categories. This information might also help point towards where additional support and guidance may be needed.
Frequency of comment letters submitted on ER projects (EAWs)	<ul style="list-style-type: none"> • Average of 7* letters per project <p><i>* One project received 7047 comment letters, including this project the average was 97 letters per project.</i></p>	<ul style="list-style-type: none"> • Average of 11 letters per project 	This information is intended to provide some insight into public engagement on ER, to support accountability in decision making.	More information is needed to understand the degree to which members of the public engage with the environmental review documents. More information may be gained by asking for the number of substantive comments received during the public comment period.
Time for completing review by ER process type	<ul style="list-style-type: none"> • EAW: 83 days • EIS: N/A • AUAR: 160 days 	<ul style="list-style-type: none"> • EAW: 97 days • EIS: 770 days • AUAR: 210 days 	This metric measures the time from when an RGU determines a submittal (usually from a project proposer) is complete to the time an adequacy decision is made.	This measures governmental processes, but not the time needed to gather the data and the information that goes into early draft stages of ER processes. Greater information is needed to better assess the time it takes to complete ER.

Metric	2022 summary	2023 Summary	Description	Metric analysis
Cost of completing review	<ul style="list-style-type: none"> • ER master contract <ul style="list-style-type: none"> ○ 12 contracts started in 2022 	<ul style="list-style-type: none"> • ER master contract <ul style="list-style-type: none"> ○ 13 contracts started in 2023 	The ER master contract was created to streamline ER completion for RGUs.	This program launched in 2020 and has not produced enough information yet to make conclusions on cost of ER. So far, the program has only been utilized by state agencies so there is a need to expand the use to all RGUs.
Frequency and type of technical assistance provided by EQB staff	<ul style="list-style-type: none"> • 284 requests, resulting in 709 points of contact with EQB staff 	<ul style="list-style-type: none"> • Frequency not tracked in 2023 	This data is collected to provide some information on program efficiency; it also helps identify EQB staff workload.	The high volume of technical assistance indicates a need to update guidance documents and ER webpages to ensure information is clearly written, effectively communicated, and easy to find.
Perceptions of whether the ER process provided usable information (EAWs)	<ul style="list-style-type: none"> • 86% of RGUs indicated that the environmental review process provided usable information. • 74% of the time RGUs indicated that the environmental review process identified mitigation measures. 	<ul style="list-style-type: none"> • 89% of RGUs indicated that the environmental review process provided usable information. • 83% of the time RGUs indicated that the environmental review process identified mitigation measures. 	This data was included to support transparency. This feedback is from surveys that RGUs file after completing a review process. The survey data indicates the ER Program is effectively identifying usable information.	The questions that we ask of RGUs regarding the implementation of ER could better collect facts and information, not just perceptions. Better information could potentially be gained from information provided after a project completes permitting.
Frequency of unique public participation opportunities	<ul style="list-style-type: none"> • 73% of RGUs said the environmental review process provided public participation that would not have otherwise occurred. 	<ul style="list-style-type: none"> • 77% of RGUs said the environmental review process provided public participation that would not have otherwise occurred. 	This data has also been included to support transparency. Feedback from RGUs surveyed indicate the ER Program is creating public participation opportunities.	By definition, a project undergoing ER has a mandatory public comment period thus adding public participation that would not otherwise happen. The questions being asked need to be revised to support better analysis of the impact of public participation on a project's outcomes, time, cost, etc.

2022 & 2023 ER Data

Frequency of ER Program process types

This assessment provides information about the following ER Program process types:

- Environmental Assessment Worksheet (EAW)
- Environmental Impact Statement (EIS)
- Alternative Urban Areawide Review (AUAR)
- Petitions for environmental review (which may or may not result in a project undergoing review)

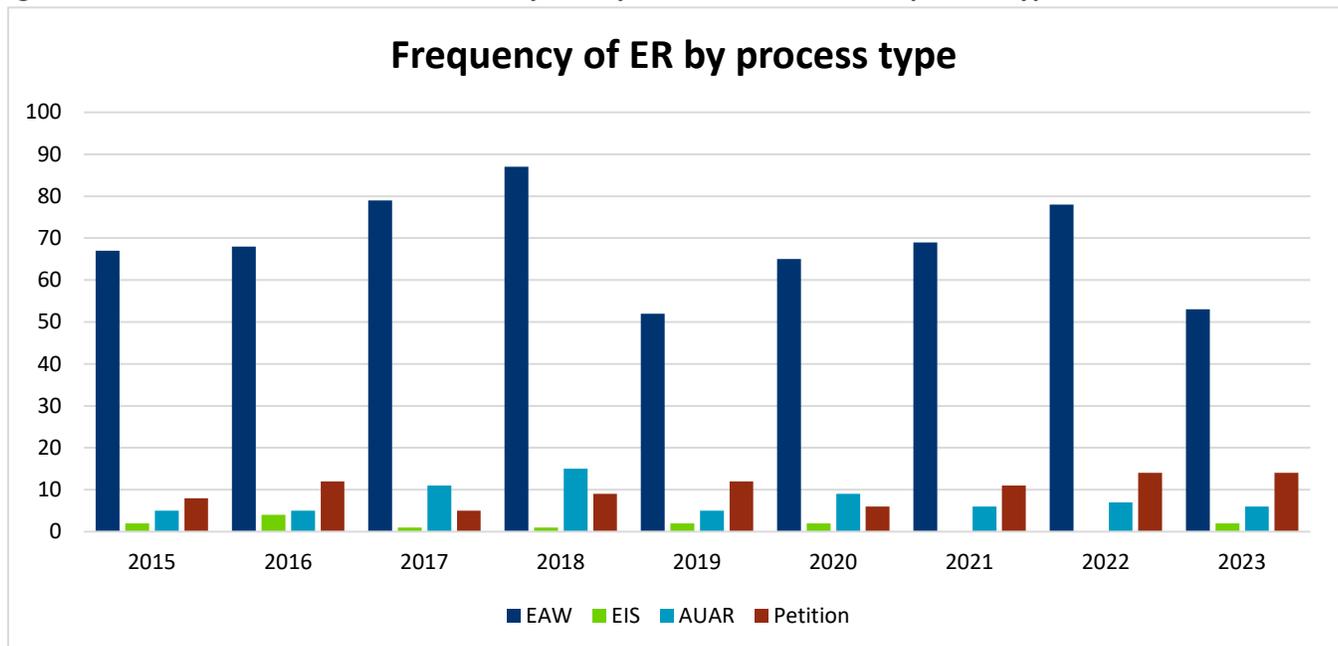
In 2022, RGUs completed a total of 99 processes related to proposed projects while 2023 saw a total of 74 processes. These included either completing environmental review (EAW, EIS, or AUAR) or determining the need for environmental review in response to a petition. (See [Figure 1.](#))

Table 2: ER process comparison

2022	2023
78 EAWs	53 EAWs
0 EISs	2 EISs
7 AUARs	6 AUARs
14 Petitions	14 Petitions

The frequency of environmental review processes completed in 2022 and 2023 was fairly consistent with the program’s trends over time, within the normal year-to-year variations. 2023 did see a drop in number of EAWs completed from 78 in 2022 to 53, the EQB will continue to monitor to see if this trend continues but would anticipate seeing the number climb again in 2024. It is also somewhat unusual for no full environmental impact statements to be completed; no EISs were completed in 2022. See [Figure 1: Environmental review trends over years by environmental review process type.](#)

Figure 2: Environmental review trends over years by environmental review process type



Frequency of mandatory categories by RGUs and geographic location

In 2022, 55 unique RGUs completed mandatory and discretionary EAWs for 78 proposed projects. Local units of government completed 82% and state agencies completed 15% of the EAWs in 2022 (Figure 2). The year 2023 saw 39 unique RGUs completing mandatory and discretionary EAWs for the total 53 proposed projects. Local units of government completed 74% and state agencies completed 26% of the EAWs in 2023 (Figure 3).

Consultants were noted as assisting in the EAW process for 87% of projects with a local RGU in 2022 (the 2023 data was partially unavailable for consultant counts). Local RGUs may include watershed districts, soil and water conservation districts, counties, towns, cities, port authorities, housing authorities, and the Metropolitan Council.

Figure 2: RGUs conducting environmental review in 2022

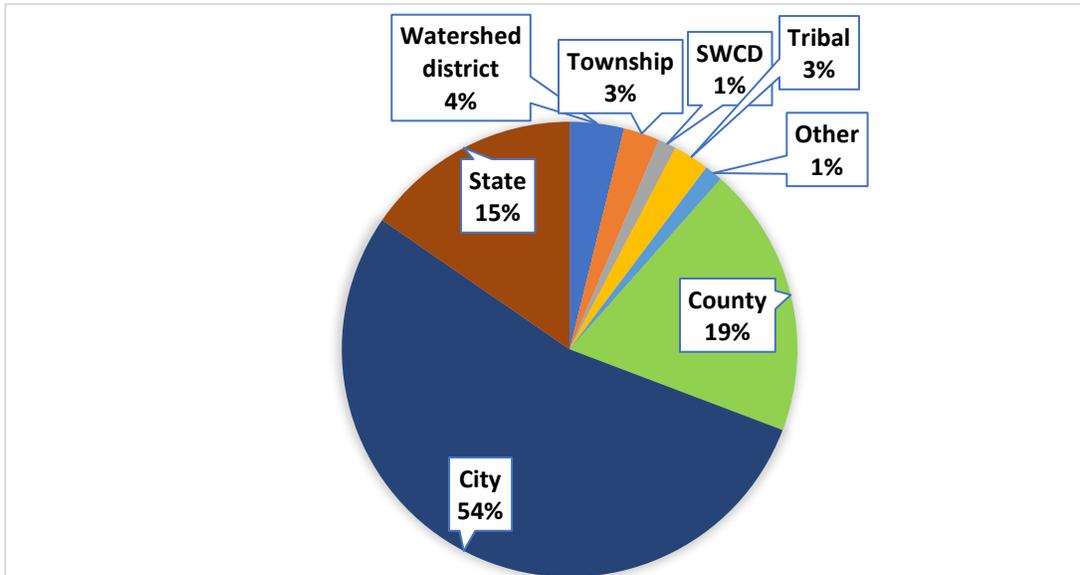
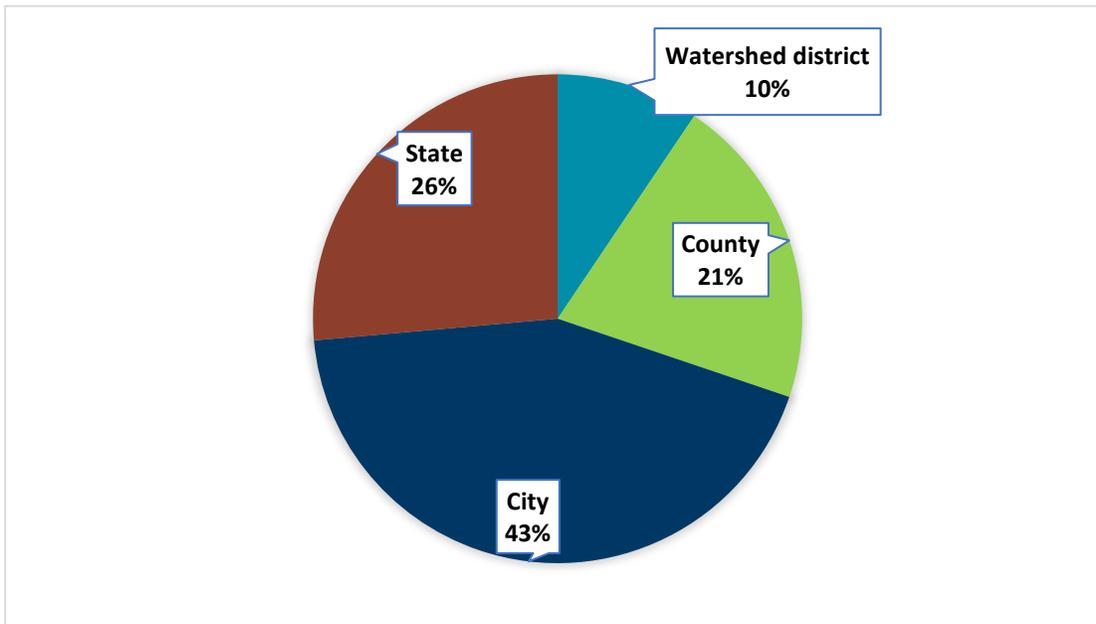


Figure 3: RGUs conducting environmental review in 2023



In 2022, the most frequent project types that required review included: wetlands and public waters (12 projects); residential development (13 projects); nonmetallic mineral mining (8 projects); industrial, commercial, and institutional facilities (14 projects); and residential development in shoreland (4 projects); together accounting for 65% of projects in 2022. 2023, the most frequent project types were represented by wetlands and public waters (11 projects); residential development (7 projects); and historical places (four projects); together accounting for 42% of projects in 2023. Discretionary EAWs completed in 2023 counted for 19% of all projects conducting EAWs compared to 5% in 2022.

Projects outside the seven-county Twin Cities metropolitan area made up 61% of EAWs completed in 2022 and 2023 combined. Projects in the seven-county Twin Cities metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington) made up 39% of the EAWs completed. See [Appendix A](#) (2022) and [Appendix B](#) (2023) for a further breakdown of EAWs completed by mandatory category.

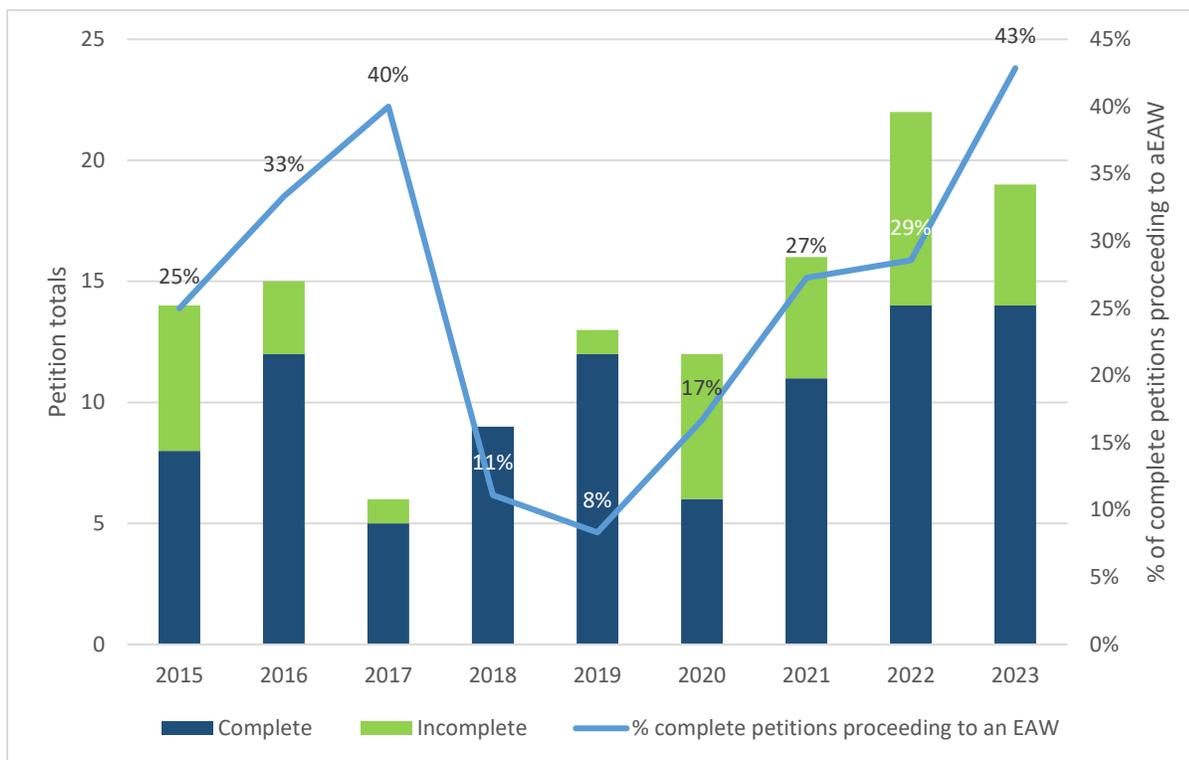
Two EISs were completed in 2023 ([Appendix C](#)). Both triggered mandatory EIS categories as listed in [Minn. R. 4410.4400](#), one for nuclear fuels and nuclear waste, and one for public waters and public water wetlands. Both projects were completed by State RGUs and were located outside of the Twin Cities metropolitan area.

Frequency of petitions

In 2022 and 2023, 14 complete petitions were submitted each year – they included the required components laid out in [Minn. R. 4410.1100, subps. 1 and 2](#) – and EQB staff assigned them to an RGU ([Figure 4](#)).

It is important to note that of the 28 total complete petitions, 13 (eight in 2022 and five in 2023) required more than one submittal to the EQB as the original submittal was missing at least one of the required components. Two petitions deemed incomplete (one each year) never followed up with a new submittal. This is a high percentage of incomplete submittals and likely indicates a need for updated guidance regarding petitions.

Figure 4: Number of projects petitioned for by year vs the percent proceeding to an EAW



[Table 3](#) (2022) and [Table 4](#) (2023) depicts the project type of each complete petition as it would best align with a mandatory category as well as the number of projects that proceeded through the petition process and resulted in an EAW being required for the project. A petition has a number of routes it can conclude with and they are as follows; approval (positive declaration on the need for an EAW), denial (negative declaration on the need for an EAW), be placed on hold due to the fact that there is no government approval over the project at that time, or result in a discretionary EAW order from a proposer initiating the process, or an RGU can deny a petition and still order a discretionary EAW. In 2022 and 2023, 4 and 6 respectively, of the complete petitions resulted in an EAW being ordered for a project, see [Figure 4](#) for representation of percent of complete petitions resulting in an EAW being required by year. These numbers are not necessarily reflected in the total EAWs completed in 2022 or 2023 as the total count is comprised of EAWs that have completed an EIS need decision within the year.

Table 3: 2022 Petitions by project type and outcomes

Project type petitioned based on mandatory category reference	Number of complete petitions	Number of complete petitions resulting in an EAW	Number of complete petitions on hold
Subp. 3. Electric-generating facilities	1	1	-
Subp. 7. Pipelines	2	1	1
Subp. 12. Nonmetallic mineral mining	2	2	-
Subp. 19. Residential development	1	-	-
Subp. 19a. Residential development in shoreland outside of the seven-county Twin Cities metropolitan area	1	-	-
Subp. 20a. Resorts, campgrounds, and RV parks in shorelands	1	-	-
Subp. 22. Highway projects	1	-	-
Subp. 29. Animal feedlots	2	-	1
Subp. 31. Historical places	1	-	-
Subp. 32. Mixed residential and industrial-commercial projects	1	-	-
No mandatory category – Ditch improvement project	1	-	1
Total	14	4	3

Table 4: 2023 Petitions by project type and outcomes

Project type petitioned based on mandatory category reference	Number of complete petitions	Number of complete petitions resulting in an EAW	Number of complete petitions on hold
Subp. 12. Nonmetallic mineral mining	3	3	
Subp. 14. Industrial, commercial, institutional	1	0	
Subp. 19. Residential development	2	0	
Subp. 20a. Resorts, campgrounds, and RV parks in shorelands	3	2	
Subp. 31. Historical places	1	1	
Subp. 37. Recreational trails	1	0	
No mandatory category – Ditch improvement project	3	0	3
Total	14	6	3

Opportunities for public participation in the ER Process

RGUs submitted 78 notices of final decisions on environmental assessment worksheets in 2022 and 53 in 2023 and reported the number of comment letters received for each project. RGUs reported receiving a minimum of zero and a maximum of 7,047 comment letters on environmental review documents. The number of comment letters may vary based on the level of controversy and/or the level of effort by an RGU to ensure public concerns are considered during the review process.

In 2022, on average, 97 comment letters were received per project, however that number is heavily influenced by one project that received over 7,000 letters. If that project is removed from the calculation, the average comment letters received per project was seven. In 2023, the average number of comment letters received per project was 11.

Appendix A: 2022 Environmental Assessment Worksheet Mandatory Categories

EAW Mandatory Category reference (MR 4410.4300)	Number of Projects	State RGU # of Projects	Local RGU # of Projects	Located in Greater MN	Located in Twin Cities Metro
Subp. 3. Electric-generating facilities	1	0	1	0	1
Subp. 12. Nonmetallic mineral mining	8	0	8	7	1
Subp. 14. Industrial, commercial, institutional	14	0	14	3	11
Subp. 15. Air pollution	1	1	0	1	0
Subp. 18. Wastewater	2	2	0	1	1
Subp. 19. Residential development	13	0	13	4	9
Subp. 19a. Residential development in shoreland outside of the seven-county Twin Cities metropolitan area	4	0	4	4	0
Subp. 22. Highway projects	2	1	1	1	1
Subp. 24. Water appropriation and impoundments	1	1	0	1	0
Subp. 25. Marinas	1	0	1	1	0
Subp. 26. Stream diversion	3	1	2	1	1
Subp. 27. Wetlands and public waters	12	4	8	9	3
Subp. 29. Animal feedlots	1	1	0	1	0
Subp. 31. Historical places	3	1	2	3	0
Subp. 32. Mixed residential and industrial- commercial projects	3	0	3	1	2
Subp. 36. Land use conversion, including golf courses	3	0	3	2	1
Subp. 36a. Land conversions in shoreland	1	0	1	1	0
Subp. 37. Recreational trails	1	0	1	1	0
4410.1000 Subp. 3. Discretionary	4	0	2	4*	0
Sub-Total		12	64	47	31
Total	78			*2 Tribal RGU EAWs	

Appendix B: 2023 Environmental Assessment Worksheet Mandatory Categories

EAW Mandatory Category reference (MR 4410.4300)	Number of Projects	State RGU # of Projects	Local RGU # of Projects	Located in Greater MN	Located in Twin Cities Metro
Subp. 7. Pipelines	1	1	0	1	0
Subp. 12. Nonmetallic mineral mining	1	0	1	0	1
Subp. 14. Industrial, commercial, institutional	2	0	2	2	0
Subp. 15. Air pollution	1	1	0	1	0
Subp. 19. Residential development	7	0	7	4	3
Subp. 19a. Residential development in shoreland outside of the seven-county Twin Cities metropolitan area	2	0	2	2	0
Subp. 20. Campgrounds and RV parks	2	0	2	2	0
Subp. 22. Highway projects	3	1	2	2	1
Subp. 26. Stream diversion	2	0	2	1	1
Subp. 27. Wetlands and public waters	11	3	8	9	2
Subp. 29. Animal feedlots	1	1	0	1	0
Subp. 31. Historical places	4	0	4	3	1
Subp. 32. Mixed residential and industrial- commercial projects	2	0	2	0	2
Subp. 34. Sports or entertainment facilities	1	0	1	0	1
Subp. 36. Land use conversion, including golf courses	2	0	2	2	0
Subp. 37. Recreational trails	1	1	0	1	0
4410.1000 Subp. 3. Discretionary	10	6	4	2	8
Sub-Total		14	39	33	20
Total	53				

Appendix C: 2023 Environmental Impact Statement Mandatory Categories

EIS Mandatory Category reference (MR 4410.4400)	Number of Projects	State RGU # of Projects	Local RGU # of Projects	Located in Greater MN	Located in Twin Cities Metro
Subp. 2. Nuclear fuels and nuclear waste	1	1	0	1	0
Subp. 20. Public waters and public water wetlands	1	1	0	1	0
Total	2	2	0	2	0