CITY OF
EAGLE LAKE
WHERE OPPORTUNITY SOARS

September 1, 2022

EQB Monitor Distribution List and Required Parties

RE: Notice of Decision and Responses to Comments

To Whom it May Concern:

Enclosed is a notice of decision and responses to comments relative to the Fox Meadows Project.

Please submit questions to the contact person listed below:

Jennifer J. Bromeland
City Administrator
Eagle Lake City Hall
705 Parkway Avenue, PO Box 159
Eagle Lake, MN 56024

Email: jbromeland@eaglelakemn.com
Phone: 507-257-3218

Sincerely,

Jennifer J. Bromeland
City Administrator

FINDINGS OF FACT AND RECORD OF DECISION
ENVIRONMENTAL ASSESSMENT WORKSHEET
For Fox Meadows Development
Location: Tax Parcel Numbers R121018400013 and R391018400005

Responsible Government Unit
RGU Agency: City of Eagle Lake
Contact Person: Jennifer Bromeland
Title: City Administrator
Address: 705 Parkway Avenue
City, State, ZIP: Eagle Lake, MN 56024
Phone: 507.257.3218
Email: jbromeland@eaglelakemn.com

Proposer
Company: Schrom Construction
Contact Person: Troy Schrom
Title: Owner
Address: 704 Parkway Avenue
City, State, ZIP: Eagle Lake, MN 56024
Phone: 507.257.5101
Email: troymschrom@gmail.com

Final Action: Based on the Environmental Assessment Worksheet, the "Findings of Fact and Record of Decision," and related documentation for the above project, the City of Eagle Lake concluded the following on August 30, 2022:

1. The Environmental Assessment Worksheet, including public comments and responses to comments, this "Findings of Fact and Record of Decision" document, and related documentation for the "Fox Meadows Development" (Project) were prepared in compliance with the procedures of the Minnesota Environmental Policy Act and Minn. Rules, Parts 4410.1000 to 4410.1700.

2. The Environmental Assessment Worksheet, including public comments and responses to comments, this "Findings of Fact and Record of Decision" document, and related documentation for the project have satisfactorily addressed all the issues for which existing information could have been reasonably obtained.

3. The Project does not have the potential for significant environmental effects based upon the above findings and the evaluation of the following four criteria (per Minn. Rules, Parts 4410.4300 Subp. 3):

   - Type, extent, and reversibility of environmental effects.
   - Cumulative effects of related or anticipated future projects.
   - Extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority.
   - Extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by public agencies or the project proposer, or of environmental reviews previously prepared on similar projects.

4. The finding by the City that the EAW is adequate and no Environmental Impact Statement (EIS) is required provides no endorsement, approval or right to develop the project by the City and cannot be relied upon as an indication of such approval. This finding allows the Fox Meadows Development to formally initiate the City's and other agencies' processes for considering the specific permits and approvals necessary for development and operation of the project, and for the City in this process, informed by the record of the EAW, to identify and encourage conditions for compatible project construction, and assure their implementation at the project site.

Consequently, the City makes a Negative Declaration and does not require the preparation of an Environmental Impact Statement for the project.

I. ENVIRONMENTAL REVIEW AND RECORD OF DECISION

The City of Eagle Lake prepared a Mandatory Environmental Assessment Worksheet (EAW) for the Fox Meadows Development according to the Environmental Review Rules administered by the Minnesota Environmental Quality Board (EQB) under Rule 4410.4300 Subpart 19.B Residential Development.

The Fox Meadows Development (Project) consists of constructing 228 new residential units in Eagle Lake, Minnesota. The development site is located in the southeast portion of Eagle Lake on two parcels currently used as cultivated cropland along the east side of South Agency Street. The project would include a mix of multi-family housing units, twin homes, and single family lots with associated roads, utilities, and a stormwater management system. A park would also be created surrounding an existing wetland in the northeast corner of the project area.

II. EAW NOTIFICATION AND DISTRIBUTION

1. The EAW for this proposed project was submitted for the City of Eagle Lake's review on July 8, 2022. The City of Eagle Lake, as RGU, certified the EAW as complete at the July 11, 2022 City Council meeting. Written RGU notification was issued on July 13, 2022.

2. Notice of the completed EAW was issued on July 18, 2022 and published in the Minnesota Environmental Quality Board's *Monitor* (volume 46-30) on July 26, 2022. The period of time for public comment on the EAW started on July 26, 2022, and ended on August 25, 2022.

3. Written notice was also posted on the city website and in the Mankato Free Press newspaper (published July 24, 2022). These notices provided information on where copies of the EAW were available, notified the public of a public meeting, and invited the public to provide written comments during the 30-day comment period. One printed copy of the EAW was also made available for public viewing at city hall.

4. Electronic copies of the EAW were distributed to the agencies identified on the EAW Distribution List (updated July 14, 2022) as dictated by the Minnesota Environmental Quality Board.

5. The City of Eagle Lake hosted two public meetings. One public informational meeting was held on July 11, 2022 and a public hearing was held during the August 1, 2022 city council meeting. No public comments were received at either meeting.

III. COMMENTS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

During the public notice period 30 comments were received from the public and agencies. A Response to Comment document was prepared. There were general comments about the proposed project, acknowledgement of specific EAW topics, factual (substantive) comments, opinions and recommendations. Appendix A includes a list of all the comments received. Appendix B contains the written comments received.

The City analyzed the comment letters to identify individual comments that were substantive in nature and required a specific response. Responses were prepared for all substantive comments in the Comment Resolution Log document (Appendix A).

IV. ISSUES IDENTIFIED IN THE EAW

The following factual discrepancies (substantiative) or impact issues were identified during the EAW process, either during its development or public review. They are listed by the EAW section number and name.

- Section 7. Climate Adaptation and Resilience: Clarification about the project life span and stormwater management sustainability. Additional information was requested Additional information was provided in the Comment Resolution Log and revised within Section 7.b, and Table 7-1 of the EAW.

- Section 9. Permits and Approvals: Additional permits were identified and added to Table 9-1 of the EAW.

- Section 10. Land Use: Discrepancies in the FEMA flood zones were identified. Additional information was provided in the Comment Resolution Log and Section 10.a.iii and iv (Land Use) of the EAW was revised.

- Section 11. Geology, Soils, and Topography: Concern about NRCS soil classifications and suitability for dwellings was raised. Additional information was provided in the Comment Resolution Log.

- Section 12. Water Resources: Questions were raised about the wastewater capacities of the Mankato Water Resources Reclamation Facility and potable water service to the project development. Several questions and recommendations were also submitted pertaining to the existing drainage patterns, groundwater levels, and permanent stormwater treatment system design. Additional information was provided in the Comment Resolution Log and Section 12.b.ii (Stormwater).

- Section 13. Contamination/Hazardous Materials/Wastes: Blue Earth County provided information about a potential underground tank(s) at an old farmstead that since has been demolished. Additional information was provided in the Comment Resolution Log and revised within Section 13.a of the EAW.

- Section 14. Wildlife: Clarification was requested about how the proposed project would affect protected species. Additional information was provided in the Comment Resolution Log.

- Section 15. Historic Properties: The cultural resources survey report was requested and provided to the State Archaeologist office. State Historic Preservation Office (SHPO) provided a concurrence letter stating there are no cultural resources concerns.

- Section 20. Transportation: Concerns and clarification about projected traffic volumes was requested by two residents. Additional information was provided in the Comment Resolution Log.

V. COMPARISON OF POTENTIAL IMPACTS WITH EVALUATION CRITERIA

In deciding whether a project has the potential for significant environmental effects and whether an Environmental Impact Statement (EIS) is needed, the Minnesota Environmental Quality Board rules (4410.1700 Subp. 6 & 7) require the responsible governmental unit, the City in this case, to compare the impacts that may be reasonably expected to occur from the project with four criteria by which potential impacts must be evaluated. The following is that comparison:

1. Type, Extent, and Reversibility of Environmental Effects

The city finds that the analysis completed during the EAW process is adequate to determine whether the project has the potential for significant environmental effects. The EAW describes the type and extent of impacts anticipated to result from the proposed project. In addition to the information in the EAW, the public/agency comments received during the public comment period (see the Appendix A - Comment Resolution Log) were taken into account in considering the type, extent and reversibility of project impacts. None of the impacts considered rose to the level of significant and none of the environmental effects are irreversible.

2. Cumulative Effects of Related or Anticipated Future Projects

The reasonably foreseeable future projects include a northern extension of township road T-721 along the eastern boundary of the project area. The extension of the township road would affect traffic and noise in the area in combination with the proposed project. While the proposed T-721 road extension may have minor natural resource impacts for a stream crossing, additional future projects are unlikely to contribute to cumulative impacts on natural resources. Currently, no specific projects are known for this location and potential effects cannot be projected at this time.

3. Extent to Which the Environmental Effects are Subject to Mitigation by Ongoing Public Regulatory Authority

Fox Meadows Development will acquire any required permit and approvals that may be required by federal, state and local agencies and implement any required conditions necessary, including those that will reduce impacts and further protect the environment. Table 1 lists the permits or approvals that may be required for project construction and operation. Depending on final design, it is expected that not all these permits will be required.

Table 1: Permits and approvals

Unit of Government	Type of Application	Status
Blue Earth County	Wetland Boundary & Type Determination	Pending
Blue Earth County	Wetland Permit (Exemption, No- Loss or Replacement Plan)	To be submitted
U.S. Army Corps of Engineers	Wetland Jurisdictional Determination	To be submitted
U.S. Army Corps of Engineers	Section 404 Clean water Act	To be obtained, if necessary

Unit of Government	Type of Application	Status
City of Eagle Lake and Le Ray Township	Annexation Agreement	To be determined
City of Eagle Lake	Final Plat Approval	To be submitted
City of Eagle Lake	Property and Zoning	To be submitted
City of Eagle Lake	Utilities (Water and Stormwater)	To be submitted
City of Mankato	Sanitary Sewer Extension Permit Application	To be submitted
City of Eagle Lake	Mechanical and Heating Permit	To be submitted
City of Eagle Lake	Electrical Permit	To be submitted
City of Eagle Lake	Building Permit	To be submitted
City of Eagle Lake	After hours work permit	To be determined if necessary
Minnesota Department of Natural Resources	Water Appropriations Permit (Temporary Construction Dewatering)	To be obtained, if necessary
Minnesota Pollution Control Agency	NPDES construction stormwater permit	To be submitted
Minnesota Pollution Control Agency	Section 401 Water Quality Certification	To be obtained, if necessary
Minnesota Pollution Control Agency	Sanitary Sewer Extension Permit	To be obtained, if necessary

The Fox Meadows Development will be required to obtain multiple building permits from the City for the construction of infrastructure and individual residential dwellings. The city would be able to access the property during construction to determine if city codes, ordinances, and permit conditions are being followed.

The Fox Meadows Development will also require a Construction Stormwater Permit under the National Pollutant Discharge Elimination System (NPDES) program and develop a Stormwater Pollution Prevention Plan (SWPPP) before starting construction. The project will adhere to the SWPPP to prevent stormwater runoff during construction of the project including the implementation of erosion and sediment control best management practices.

Other permits may be required once the project design is complete. These permits and approvals necessary to construct and operate the project will require enforceable measures and conditions that will further reduce environmental effects.

4. **Extent to which Environmental Effects Can be Anticipated and Controlled as a Result of other Environmental Studies Undertaken by Public Agencies or the Project Proposer, or of Environmental Reviews Previously Prepared on Similar Projects.**

Although not exhaustive, the City reviewed the following documents as part of the environmental analysis for the Project:

- Data presented in the EAW and their associated references
- Permits and environmental review of similar projects
- Public and agency comments received and the project proposers responses
- Revised portions of the EAW
- Final EAW, dated August 26, 2022

The project is not to the final design stage and project elements would be reconsidered during further development to minimize impacts. The environmental effects of the Project have been assessed and the list of permits and approvals identified in Table 1 will require the Fox Meadows Development to obtain approvals prior to construction. The Fox Meadows Development would also be required to conform with regional and local plans. There are no elements of the Project that pose the potential for significant environmental effects.

VI. DECISION ON THE NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT

Based on the Environmental Assessment Worksheet, the "Findings of Fact and Record of Decision," and related documentation for this project, the City of Eagle Lake, the responsible governmental unit (RGU) for this environmental review, concludes the following:

1. The Environmental Assessment Worksheet, this "Findings of Fact and Record of Decision" document, and related documentation for the Fox Meadows Development were prepared in compliance with the procedures of the Minnesota Environmental Policy Act and Minn. Rules, Parts 4410.1000 to 4410.1700.

2. The Environmental Assessment Worksheet, this "Findings of Fact and Record of Decision" document, and related documentation for the project have satisfactorily addressed all the issues for which existing information could have been reasonably obtained.

3. The project does not have the potential for significant environmental effects based upon the above findings and the evaluation of the following four criteria (per Minn. Rules, Parts 4410.1700 Subp. 7):

    - Type, extent, and reversibility of environmental effects.

    - Cumulative effects of related or anticipated future projects.

    - Extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority.

    - Extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by public agencies or the project proposer, or of environmental reviews previously prepared on similar projects.

The finding by the City that the final EAW is adequate and no EIS is required provides no endorsement, approval or right to develop the project by the City and cannot be relied upon as an indication of such approval. This finding allows the Fox Meadows Development to formally initiate the City's process for considering the specific permits and approvals necessary for development and operation of the project, and for the City in this process, informed by the record of the EAW, to identify and encourage conditions for compatible project construction, and assure their implementation at the project site.

Consequently, the City makes a Negative Declaration and does not require the preparation of an Environmental Impact Statement for the project.

Attachments:

Appendix A: Comment Resolution Log
Appendix B: Public and Agency Comments Received
Appendix C: Revised EAW text
Appendix D. Final EAW

NOW THEREFORE BE IT ORDERED that a Negative Declaration is hereby made, and no Environmental Impact Statement is required.

Eagle Lake City Council

Tim Auringer
Mayor

9-1-22
Date

ATTEST:

Jennifer J. Bromeland
City Administrator

9/1/22
Date

Appendix A

Comment Resolution Log

ENVIRONMENTAL REVIEW COMMENT RESOLUTION LOG
Fox Meadows Development (August 26, 2022)
Braun Intertec Project No: B2203087

Comment No.	Date Received	EAW Section/Ref.	Exhibit/Table No.	Commenter	Comment Received	Comment Type	Project Proposer Response	EAW Revision	RGU Acceptance
1	8/3/2022	20.a, b (Transportation)	Not Applicable	D. Craig Rosfjord (121 Peggy Lane, Eagle Lake, MN)	If/when the project is completed with 228 units, this will increase the number of commuters in and out of the proposed development area. Will it be feasible for all the increased traffic to be routed only on north and south Agency Street? As per the projects traffic analysis by the Institute of Transportation Engineers (ITE) Trip Generation Report, the ITE identified commuting rates of 10 trips per day and 1 per peak hour for single family units, and 7 trips per day and 0.7 trips per peak hour for multi-family units. The project would result in 1,896 trips per day and 190 trips per peak hour. This is a considerable increase of traffic on Agency Street. Is there any thought of a major north south road on the east side of the project that would connect Township Highway 282/211th. Street to Parkway Avenue? This would give commuters a second entrance point to the development area.	Substantive	The 228 units is for the entire 80 acre property, with the initially developed 40 acres utilizing Agency Street and Maple Street, and a future road on the east side of the 80 acres that would route south to 211th Street, though not likely to Parkway Avenue in the near to middle term.	Not Applicable	Response Acceptable
2	8/8/2022	15 (Historic Properties)	Not Applicable	Minnesota State Historic Preservation Office (Sarah Beimers)	SHPO office concludes that there are no properties listed in the National or State Registers of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project.	Acknowledgement	Comment noted.	Not Applicable	Not Applicable
3	8/9/2022	20.a, b (Transportation)	Not Applicable	Mark Huebl (500 S. Agency St., Eagle Lake, MN)	I was wondering about the extra traffic on agency Street with the 228 new spaces.	Substantive	Agency Street is designated functionally as a "Major Collector." MnDOT determines Major Collectors to carry a range of Average Daily Traffic (ADT) of 1,000 to 8,000 ADT. In 2021, as part of the Agency Street reconstruction design, Blue Earth County determined the (ADT) of Agency Street at 2650. Although future traffic studies and improvements could be required if intersections or roadway segments experience decreases in Levels of Service, it does not appear that this project will require immediate improvements to Agency Street.	Not Applicable	Response Acceptable
4	8/17/2022	15 (Historic Properties)	Not Applicable	Minnesota Department of Administration - State Archaeologist (Jennifer Tworzyanski)	I am in the process of reviewing the Fox Meadows EAW and would like to request a copy of the phase I cultural resource survey report referenced in section 15 of the EAW document. Once I am able to review the report I will be able to appropriately comment on the EAW. FYI: I copied Dylan Goetsch and Melissa Cerda from the Minnesota Indian Affairs Council's Cultural Resource Department in case they would like a copy of the report as well.	Acknowledgement	Phase I Cultural Resource Survey For Fox Meadows Residential Development report (In Situ Archaeological Consulting, July 6, 2022) and SHPO letter (August 8, 2022) emailed to commentor on August 18, 2022.	Not Applicable	Not Applicable
5	8/24/2022	9 (Permits and Approvals)	Table 9-1	Minnesota Pollution Control Agency (Karen Kromar)	This Section includes the US Army Corps of Engineers (USACE) Wetland Jurisdictional Determination but does not specifically include the USACE Section 404 permit. The MPCA Water Quality Certification does not appear in this section a required approval. However, the EAW mentions other aquatic habitats may be subject to regulations under section 404 or other state statues. Clarification is needed to determine if the section 404 permit is required and if so, then the MPCA 401 Certification is also required. For further information about the 401 Water Quality Certification process. Please contact Bill Wilde at 651-757-2825 or William.wilde@state.mn.us.	Substantive	The USACE Section 404 permit (necessary if proposed wetland impacts are jurisdictional) and MPCA 401 Water Quality Certification (necessary if an individual Section 404 permit is needed) was added to Table 9-1.	Table 9-1 Revised	Revision Acceptable
6	8/24/2022	9 (Permits and Approvals)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	It may be necessary to obtain a Sanitary Sewer Extension Permit from the MPCA prior to Construction. The application form and additional information on this process can be found at http://www.pca.state.mn.us/water/permits/index.html#sanitarysewer. Questions on the sanitary sewer extension permit process should be directed to Dave Sahil at 651-757-26-87 or David.sahil@state.mn.us	Substantive	MPCA Sanitary Sewer Extension Permit was added to Table 9-1.	Table 9-1 Revised	Revision Acceptable
7	8/24/2022	12.b.i.1 (Water Resources - wastewater)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	While there is discussion about the capacity of the Mankato Water Resources Reclamation Facility (WRRF), which Eagle Lake is connected to, there is no discussion about the available capacity of the existing City of Eagle Lake collection system capacity and whether any improvements may be necessary for the proposed project.	Substantive	The City confirmed there are no sewer collection capacity concerns in terms of available infrastructure and pumping capacity. Future development (outside of Fox Meadows on the south and west sides of the City) may trigger the need for an interceptor sewer and/or improvements to the main lift station/forcemain, depnding on future proposed land uses.	Not Applicable	Response Acceptable
8	8/24/2022	12.b.i (Water Resources - wastewater)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	A map showing the project location, general sewer route and Mankato WRRF would be a nice addition to the EAW.	Recommendation	Comment noted.	Not Applicable	Response Acceptable
9	8/24/2022	12.b.ii (Water Resources - water appropriation)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	There is no discussion of existing drinking water supply issues or the capacity of the existing system or other utility needs for the development.	Substantive	The City confirmed there are no water supply capacity concerns in terms of available infrastructure and well capacity. Future development outside of a fully built Fox Meadows development may trigger well capacity concerns, depending on future land uses and potable water demands.	Not Applicable	Response Acceptable
10	8/24/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	If the site has the ability to discharge stormwater to the unnamed creek along the east side of the proposed development that has construction related impairments, additional erosion and sediment control best management practices (BMPs) will be required during the construction that are not mentioned in the EAW. Additional BMPs include immediately providing temporary soil stabilization measures on any portion of the site with exposed soils that will be unworked for 7 or more days and providing a temporary sediment basin where 5 or more acres drain to a common location. Also, if the site has the ability to discharge to the creek and all phases of the site will result in 50 or more acres of disturbance, the Stormwater Pollution Prevention Plan (SWPPP) will requ're submittal to the MPCA for review and approval prior to obtaining National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater Permit (CSW Permit) coverage.	Acknowledgement	As noted in Section 12.b.ii and Table 9-1, the project will require NPDES Construction Stormwater Permit coverage and a Stormwater Pollution Prevention Plan (SWPPP), which will define appropriate erosion and sediment control best management practices during and after construction activity.	Not Applicable	Response Acceptable

Comment No.	Date Received	EAW Section/Ref.	Exhibit/Table No.	Commentor	Comment Received	Comment Type	Project Proposer Response	EAW Revision	RGU Acceptance
11	8/24/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	The large wetland at the site will require use of redundant (double) down gradient sediment controls installed if construction must encroach the existing 50 feet of existing natural buffer to the wetland.	Acknowledgement	There is no existing buffer around the large wetland. As noted in Section 12.b.ii and Table 9-1, the project will require NPDES Construction Stormwater Permit coverage and a Stormwater Pollution Prevention Plan (SWPPP), which will define appropriate erosion and sediment control best management practices during and after construction activity.	Not Applicable	Response Acceptable
12	8/24/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	The Project owner will be required to ensure that CSW Permit coverage is maintained for all phases of the development. If portions of the site are sold to new owners for construction, such as through selling of individual lots, the owner will need to ensure that the new owners obtain their own coverage under the permit using the MPCA Subdivision Registration process and that a SWPPP describing remaining BMPs for the site is provided to the new owners.	Acknowledgement	Comment noted.	Not Applicable	Response Acceptable
13	8/24/2022	7 (Climate Adaptation and Resilience)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	The EAW identifies increasing rainfall trends and temperature in the location but does not address the climate trends in the stormwater section of the EAW and how they will be addressed. The Project proposer is strongly encouraged to utilize Low Impact Development strategies and green infrastructure for more sustainable development. The CSW Permit requires volume reduction practices to reduce stormwater discharges which can be met with these practices. Additional trees should be planted within the development to provide shade to reduce heat island affects and help absorb increased stormwater runoff. Use of native plants in stormwater infiltration areas and open spaces provide pollinator habitat in addition to reducing runoff. Questions regarding Construction Stormwater Permit requirements should be directed to Roberta Getman at 507-206-2629 or Roberta.Getman@state.mn.us.	Acknowledgement	Climate considertions for low impact development and water resources is addressed in Table 7-1, "Project Design" and "Land Use" categories.	Not Applicable	Response Acceptable
14	8/24/2022	22 (Other Potential Environmental Effects)	Not Applicable	Minnesota Pollution Control Agency (Karen Kromar)	Please note that chloride (salt) is a growing issue for lakes, streams, and groundwater around the state. Chloride can come from both de-icing salt and water softener salt. For the proposed Project, the MPCA recommends smart salting practices for de-icing streets and driveways during the winter weather months and water softening best practices be used year-round. Additional resources are available at https://www.pca.state.mn.us/water/statewide-chloride-resources.	Acknowledgement	Comment noted.	Not Applicable	Response Acceptable
15	8/24/2022	10.a.iii, iv (Land Use)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 8 The EAW states: "According to Federal Emergency Management Agency (FEMA) flood maps, a flood hazard study has not been completed for the project area." And "No floodplain is known to exist within or adjacent to the project area." It should be noted that there is currently FEMA floodplain mapped in the northeast portion of the property that is proposed to be developed. This floodplain is on the unnamed stream that leads from the outlet of Eagle Lake. FEMA's preliminary floodplain maps show that the mapped floodplain is just northeast of the property that is proposed to be developed. See Attachment A.	Substantive	Sections 10.a.iii and iv have been revised to clarify the floodplain and Zone A flood hazard area in relation to the project area.	Sections 10.a.iii and iv Revised	Response Acceptable
16	8/24/2022	11.b (Soils and Topography)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 10. "Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils." The EAW describes a Geotechnical Evaluation of the project area. It should be noted that over 87-percent of the soils on the site have a rating of Very Limited for Dwellings with Basements according to the USDA NRCS. See Attachment B.	Substantive	The soil and topography on the site is common for the area. Common construction practices including, but not limited to: dewatering, overexcavation and replacement of soft and wet soils with clean, crushed rock, and minimizing construction traffic on wet subgrades should be expected to facilitate construction.	Not Applicable	Response Acceptable
17	8/24/2022	12.a.ii (water Resources - groundwater)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 12 – The EAW states: "The depth to ground water ranges from 920-940 feet above mean sea level or approximately 70-100 feet below ground surface (Berg 2016) Based on this mapped depth, groundwater is not anticipated to be encountered during excavation for basement levels of the new residential buildings or for the installation of utilities." It should be noted that it is extremely likely that seasonally saturated soils with very shallow water tables will be encountered during the excavations for basements and the installation of utilities for this project. According to USDA's NRCS web soil survey, the soils within the entire project area have a depth to seasonal water table of less than 3 feet. See attachment C. It should additionally be noted that the EAW previously states on page 10: "A shallow water table is present in the project area within wetlands and ranges from the ground surface to depths of approximately 10 feet. This shallow water table is representative of the regional water table aquifer within the project area (Berg 2016)."	Substantive	As indicated by the soil borings, seasonal perched groundwater will likely be present and thus, some temporary construction dewatering may be required in excavations for foundations and utilities. This condition is common for the area. An appropriate subsurface drainage system should be provided to allow for removal of any perched groundwater for structures with below-grade levels.	Not Applicable	Response Acceptable
18	8/24/2022	12.a.ii (water Resources - groundwater)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 12 – The EAW states: "The Minnesota Department of Health (MDH) Minnesota Well Index was reviewed and there are no wells mapped within the project area boundaries or within a quarter mile of the project area as shown in Figure 11." While the County does not know of other in-use wells in the project area, there was a large farmstead in the northwest portion of the property just to the east of S Agency St (513 S Agency Street). A well on this property was sealed in 1991, however there could be another well or wells that previously served the very old farmstead on this property. The County recommends a well search with a magnetometer to help identify unsealed wells in this part of the property before it is developed. Attachment D shows a 1983 aerial photo of the building site.	Opinion/Speculative	Comment noted. As stated in Section 12.b.iii, if wells are discovered during construction, appropriate MDH well sealing measures would be followed by a licensed well contractor.	Not Applicable	Response Acceptable
19	8/24/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 13- The EAW states: "Currently, stormwater runoff flows overland across the agricultural fields on site and follows topography draining into the large wetland in the northeast portion of the project area." It should be noted that over 36 acres of the development drains to other areas other than the wetland in the northeast portion of the property. 9.9 acres of the property currently drains to the north and 26.6 acres drains to the south and west towards CSAH 27 (S Agency St). See Attachment E.	Substantive	Stormwater runoff acreages and direction of flow was added to Section 12.b.ii.	Section 12.b.ii Revised	Revision Acceptable

Comment No.	Date Received	EAW Section/Ref.	Exhibit/Table No.	Commenter	Comment Received	Comment Type	Project Proposer Response	EAW Revision	RGU Acceptance
20	8/24/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 13. The EAW states: "Infiltration and filtration measures are also under consideration for the project's stormwater management system design and will vary based on the geotechnical evaluation results." It should be noted that 3 feet of separation from seasonally saturated soils is required from the bottom of an infiltration practice. As is shown on the soil survey and from what was submitted with the wetland delineation, it is likely not possible to have three feet of separation from seasonally saturated soils anywhere on the property. The Minnesota Stormwater Manual states: There is a large portion of the state (more than 50 percent) where the seasonal high water table depth is located less than 3 feet from the surface. In these areas it may be impossible to get the 3 feet of separation from the bottom of an infiltration practice to the seasonal high water table depth REQUIRED under the NPDES Construction General Permit (CGP). Non-infiltration BMPs, such as lined filtration or settling practices, should be considered in areas with shallow groundwater."	Acknowledgement	Comment noted. The permanent stormwater management design will take into consideration the Geotechnical results, in comformance with NPDES Construction Stormwater permit requirements.	Not Applicable	Response Acceptable
21	8/24/2022	12.b.iv.a (Water Resources - surface waters - wetlands)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 14 Wetlands - The EAW states: "Five small, farmed wetlands would be filled for construction of the proposed project area. The large wetland in the northeast corner of the site will be avoided (Figure 5)." It should be noted that a Blue Earth County decision on the Wetland Boundary & Type Determinations has not been made as is indicated on page 7. The wetland replacement plan application has also not been submitted to Blue Earth County. When this application is submitted, it will be reviewed for compliance with Minnesota Rules Chapter 8420, specifically the sequencing analysis. As the EAW mentions, the large wetland is being avoided. The application for the replacement plan will be reviewed to determine whether any of the smaller wetlands can also be avoided or disturbance minimized in accordance with Minnesota Rules Chapter 8420.	Acknowledgement	Comment noted.	Not Applicable	Response Acceptable
22	8/24/2022	13.a (Contamination/Hazardous Materials/Wastes)	Not Applicable	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	Page 15 - 13. Contamination/Hazardous Materials/Wastes - The EAW states: "Based on the results of reviewing the MPCA WIMN database and historical use as cropland, no contaminated environmental media (soil, groundwater etc.) or environmental hazards are expected to be present within the project area." The northwest portion of the property included portions of a farmstead, barns and agricultural buildings as recently as the mid-1990's. The buildings have been removed but it is possible that there is a buried tank or tanks on the northwest portion of the project area. The County's well sealing records for the farmstead from 1991 describe a buried fuel tank and a gas pump. The well was sealed at 513 S Agency Street, but the farmstead extended well into this project area. See Attachment E.	Substantive	Investigation of the farmstead will be considered prior to construction. Section 13.a was revised to include this information.	Section 13.a Revised	Revision Acceptable
23	8/24/2022	Proposed Conditions Map	Figure 6	Blue Earth County Property and Environmental Resources Department (Michael Stalberger)	While the map in the EAW is a concept, it should be noted that there likely will be more roads/impervious surfaces in the development as the currently proposed concept plan does not conform with the Eagle Lakes Subdivision rules which state: " The maximum length of blocks shall be twelve hundred (1,200) feet. Blocks over six hundred (600) feet long may require pedestrian ways at least ten (10) feet wide at their approxiamte centers." The eastern block is currently proposed at over 1,350 feet on the southern section and over 1,426 feet on the north.	Acknowledgement	Comment noted. Future phases of the proposed development will conform to current City planning and zoning requirements at the time of submittal.	Not Applicable	Response Acceptable
24	8/25/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Minnesota Department of Natural Resources (Joanne Boettcher)	The EAW notes that three stormwater ponds will be installed, and that "the proposed stormwater basin design would reduce stormwater flow rates and pollutant loads leaving the site". However, no modeling or design information is provided. Please provide more information on: • the proposed stormwater ponds' capacity and maintenance • details on the stormwater reuse system • how the pond will be designed to treat water quality • the runoff volumes for a range of storm events and the change in runoff volume and peak flow due to the development • where the stormwater ponds drain to and impacts to any receiving waters • the presence of any agricultural drainage tile, what will be done with it, and how it interacts with the stormwater system. how the pond and its outlet will be designed to assure it does not support and/or propagate invasive fish (e.g., goldfish, carp, etc.). We recommend that development projects hydrologically mitigate changes in the runoff volume and peak flow rates by adding sufficient storage, water use (evapotranspiration), and infiltration capacity within the development. We also recommend that water quality practices are integrated into the project. These factors would prevent additional and more polluted water from being contributed to the Le Sueur River watershed. Most of these concerns could be addressed by incorporating dense, native landscaping and adding dispersed rain gardens as discussed below. Permeable pavement and other design features could also be implemented.	Substantive	Permanent stormwater mamagement design is in progress, and the fesibility of the design is based on geotechnical study and final plat approval (as stated in Seciton 12.b.ii). Agricultural drain tile (if encountered during construction) will be disabled and/or removed during construction. The final stormwater management plan will meet NPDES Construction Stormwater Permit requirements and City of Eagle Lake Stormwater Management Plan standards.	Not Applicable	Response Acceptable

Comment No.	Date Received	EAW Section/Ref.	Exhibit/Table No.	Commenter	Comment Received	Comment Type	Project Proposer Response	EAW Revision	RGU Acceptance
25	8/25/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Minnesota Department of Natural Resources (Joanne Boettcher)	Goldfish (Carassius auratus) and koi are regulated invasive species in Minnesota, which means it is legal to possess, sell, buy, and transport, but it is illegal to release them into the environment. Goldfish in urban stormwater ponds have become a frequent issue for cities. Presumably, the goldfish are being placed by residents. Goldfish are destructive to natural environments, and become a management problem. We recommend that either the pond design and/or education be developed to prevent this problem. Ponds can be designed to accommodate predator fish to manage any potential goldfish releases as well as provide angling opportunities for residents, particularly children. Please contact DNR Fisheries staff Craig Soupir for more information or assistance on pond design, management, or education on this topic.	Recommendation	Comment noted. Permanent stormwater management design will consider features to prevent or reduce goldfish presence.	Not Applicable	Response Acceptable
26	8/25/2022	14.b, c (Wildlife)	Not Applicable	Minnesota Department of Natural Resources (Joanne Boettcher)	The EAW does not identify that the project area is within a low potential zone of the Rusty Patch Bumblebee. Please identify what measures will be taken to avoid disturbance of the species. The project should consult USFWS IPAC. As noted in the EAW, the Monarch butterfly is a candidate species for federal listing, as such, no special requirements may be necessary. However, we do want to note that if any wild grass type areas are disturbed during the growing season, this disturbance would likely result in local impacts to monarch larvae. Monarch larvae (caterpillar) eggs are laid on - and the caterpillars can only consume - milkweed. Common milkweed and other milkweed species are found throughout this region, including in small patches of grasses such as road ditches, filed borders, etc. We recommend that wildlife friendly erosion control and invasive species best practices (see attachment) are used during construction. Products containing plastics and especially plastic	Substantive	While the project area is located within a low-potential zone for the Rusty Patched Bumble Bee, as discussed in Section 14.b., suitable habitat for pollinators (including the bee) is not present. Landcover at the site is dominantly cultivated cropland, which does not typically include floral resources for pollinators and provides poor foraging habitat as a result. Additionally, no forested/wooded land, areas of dense shrubs or leaf litter are present within the project area, and therefore suitable nesting or overwintering habitat for the Rusty Patched Bumble Bee is also not present. As result, it is extremely unlikely the bee would be present within the project area. The IPaC report was provided in Appendix A.	Not Applicable	Not Applicable
27	8/25/2022	7.a (Climate Adaptation and Resilience)	Not Applicable	Minnesota Department of Natural Resources (Joanne Boettcher)	The climate change analysis uses a 30-year lifespan. Please explain why the project is only anticipated to last 30 years or update the analysis. A 50 to 100-year lifespan would provide a more realistic or conservative (cautious) analysis. Section 7b of the EAW form asks that the project "describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified." Then Table 7-1 refers readers to Item 12 (water resources) and 14 (wildlife and rare features). However, we did not find any specific discussion addressing this topic in these sections. Please provide specific analysis of this topic. Of particular concern are the potential impact to water resources (refer to comments in the Water Resources section above and apply these considerations to 50-100 year life span).	Opinion/Speculative	The Minnesota Climate Explorer is accepted as a reasonable prediction model. 30 years was used as the minimum residential structure life and most reasonable time frame projection based on the current data available. Table 7-1 was revised to include Water Resource and Wildlife considerations and adaptations.	Table 7-1 Revised	Revision Acceptable
28	8/25/2022	Sustainable Building Principles	Not Applicable	Minnesota Department of Natural Resources (Joanne Boettcher)	As currently proposed, the project may not contain any green infrastructure (Table 8-2), with the feasibility of infiltration basins being evaluated. There is also no commitment to use more sustainable building practices. We encourage development planning that better address greenhouse gases and climate change. In order for any proposed development to avoid the detriments of urban sprawl and negative impacts to ecology and hydrology, we recommend the development is designed in accordance with Low Impact Development and Green Infrastructure standards. We recommend the green building of homes and business, such as through a LEED certified structures. The project should consider adding rooftop solar, which is becoming one of the most affordable energy sources and does not rely on fossil fuels.	Recommendation	Comment noted. Sustainable building practices will be incropated into each design, if feasible and financially viable, at the time of individual plan approvals.	Not Applicable	Not Applicable
29	8/25/2022	Landscaping/Land Cover	Table 8-1, Table 8-3	Minnesota Department of Natural Resources (Joanne Boettcher)	The EAW identifies that 8 trees (Table 8-3) will be planted, and there will be 14 acres of grasses and brush (Table 8-1). The project should consider adding a substantial number of trees. Tall, native trees could be planted throughout the project area, in particular, adjacent parking areas and the South and West sides of structures to offer shade and reduce temperatures. Dense native tree and shrub plantings would offer birds food and nesting habitat. Please identify what the 14 acres of grasses and brush will be planted to and if any additional development of these 14 acres is planned for the project lifespan. We again recommend that the area is planted to native species. Turf grass does not offer ecological or water quality benefits and therefore should only be used in areas designed for turf type uses (e.g. play and picnic areas). Dense, native plant landscaping and small, planted water basins could offer substantial ecological and water quality and quantity benefits and help mitigate impacts	Recommendation	Additional trees will be incorporated into the landscaping plans of private individual lots and blocks, as stated in Table 8-3. As shown on Figure 6 and Table 8-1, the approxiamtely 14 acres will be grass/brushland species, which is not defined as manicured per EQB guidance for land cover. The restoration of this area is several years out, therefore exact seed mix/species is not known at this time.	Not Applicable	Not Applicable
30	8/25/2022	12.b.ii (Water Resources - stormwater)	Not Applicable	Minnesota Department of Natural Resources (Joanne Boettcher)	Instead of diverting all stormwater to three basins, diverting water first to small, shallow, dispersed planted basins or rain gardens would add more storage capacity, evapotranspiration, and water quality treatment within the development. The plants within the rain gardens would increase settling time and provide biological treatments, therefore reducing pollutants from reaching downstream waters. The rain gardens should be planted with native plants that bloom spring through fall, which would offer habitat to native pollinators, including the imperilled monarch butterfly. We encourage the project to develop a detailed conservation and landscaping plan that integrates dense, native plantings and enhanced stormwater treatment incorporating the principles discussed above.	Recommendation	Permanent stormwater mamagement design is in progress, and the fesibility of the design is based on geotechn'cal study and final plat approval (as stated in Seciton 12.b.ii). Agricultural drain tile (if encountered during construction) will be disabled and/or removed during construction. The final stormwater management plan will meet NPDES Construction Stormwater Permit requirements and City of Eagle Lake Stormwater Management Plan standards.	Not Applicable	Not Applicable

Appendix B

Public and Agency Comments Received

Fristed, Travis

From: Jennifer Bromeland <jbromeland@eaglelakemn.com>
Sent: Thursday, August 4, 2022 1:47 PM
To: Fristed, Travis; troymschrom@gmail.com
Subject: FW: Fox Meadows Development

Good Afternoon,

I'm not sure if this is an official comment for the EAW but to err on the side of caution, wanted to forward to be included.

Thank you.

Jennifer J. Bromeland
City Administrator
City of Eagle Lake
705 Parkway Avenue
PO Box 159
Eagle Lake, MN 56024
P: (507) 257-3218
C: (507) 399-1030

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From: Craig Rosfjord <craigrosfjord@yahoo.com>
Sent: Wednesday, August 3, 2022 10:13 AM
To: Jennifer Bromeland <jbromeland@eaglelakemn.com>
Subject: Fox Meadows Development

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hello Jennifer,

Thank you for publishing the 228-unit Fox Meadows Development proposal. What a great project and addition to Eagle Lake!

COMMENT #1

If/when the project is completed with 228 units, this will increase the number of commuters in and out of the proposed development area. Will it be feasible for all the increased traffic to be routed only on north and south Agency Street? As per the projects traffic analysis by the Institute of Transportation Engineers (ITE) Trip Generation Report, the ITE identified commuting rates of 10 trips per day and 1

COMMENT #1

per peak hour for single family units, and 7 trips per day and 0.7 trips per peak hour for multi-family units. The project would result in 1,896 trips per day and 190 trips per peak hour. This is a considerable increase of traffic on Agency Street. Is there any thought of a major north south road on the east side of the project that would connect Township Highway 282/211th. Street to Parkway Avenue? This would give commuters a second entrance point to the development area.

Thank you for your time.

D. Craig Rosfjord
121 Peggy Lane
Eagle Lake, MN. 56024-9620
(507) 257-3244

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

August 8, 2022 COMMENT #2

Craig Picka
In Situ Archaeological Consulting
7630 Executive Drive
Eden Prairie, MN 55344

RE: Fox Meadows – Proposed Residential Development
T108 R25 S18, Eagle Lake, Blue Earth County
SHPO Number: 2022-1446

Dear Craig Picka:

Thank you for continuing consultation on the above-referenced project. We have reviewed the cultural resources survey report: *Phase I Cultural Resource Investigation for the Fox Meadows Residential Development Project, Blue Earth County, Minnesota, SHPO Number: 2022-1446* (July 6, 2022, In Situ Archaeological Consulting). Based on the results of the survey, we conclude that there are **no properties** listed in the National or State Registers of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800. If this project is considered for federal financial assistance, or requires a federal permit or license, then review and consultation with our office will need to be initiated by the lead federal agency. Be advised that comments and recommendations provided by our office for this state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

If you have any questions regarding our review of this project, please contact Kelly Gragg-Johnson, Environmental Review Program Specialist, at kelly.graggjohnson@state.mn.us.

Sincerely,

Sarah J. Beimers
Environmental Review Program Manager

COMMENT #3

Mark Huebl
500 S. Agency st
Eagle Lake
I was wondering about the extra traffic on Agency Street with the 228 new spaces.

COMMENT #4

Fristed, Travis

From: Fristed, Travis
Sent: Thursday, August 18, 2022 9:49 AM
To: Jennifer.Tworzyanski@state.mn.us
Cc: Dylan.Goetsch@state.mn.us; melissa.cerda@state.mn.us; Jennifer Bromeland; troymschrom@gmail.com
Subject: RE: Fox Meadows Development EAW Cultural Resource Report Request
Attachments: MN SHPO_20220808.pdf; Fox Meadows_SHPO Cover Letter_20220707.pdf; Braun_Fox Meadows_Cultural Report_07072022.pdf

Hello Jennifer,
As requested, attached please find the report and SHPO letter for this project.

Thanks,

Travis Fristed, PWS
Group Manager, Principal Scientist
Braun Intertec
11001 Hampshire Avenue S | Minneapolis, MN 55438
952.995.2027 direct | 952.500.1180 mobile

From: Jennifer Bromeland <jbromeland@eaglelakemn.com>
Sent: Wednesday, August 17, 2022 1:52 PM
To: Fristed, Travis <TFristed@braunintertec.com>; troymschrom@gmail.com
Subject: FW: Fox Meadows Development EAW Cultural Resource Report Request
Importance: High

Good Afternoon,

Please see below a request for phase I cultural resource survey report.

Thank you.

Jennifer J. Bromeland
City Administrator
City of Eagle Lake
705 Parkway Avenue
PO Box 159
Eagle Lake, MN 56024
P: (507) 257-3218
C: (507) 399-1030

From: Tworzyanski, Jennifer (ADM) <Jennifer.Tworzyanski@state.mn.us>
Sent: Wednesday, August 17, 2022 1:51 PM
To: Jennifer Bromeland <jbromeland@eaglelakemn.com>
Cc: Goetsch, Dylan (MIAC) <Dylan.Goetsch@state.mn.us>; Cerda, Melissa (MIAC) <melissa.cerda@state.mn.us>
Subject: Fox Meadows Development EAW Cultural Resource Report Request

Hello Jennifer,

I am in the process of reviewing the Fox Meadows EAW and would like to request a copy of the phase I cultural resource survey report referenced in section 15 of the EAW document. Once I am able to review the report I will be able to appropriately comment on the EAW. FYI: I copied Dylan Goetsch and Melissa Cerda from the Minnesota Indian Affairs Council's Cultural Resource Department incase they would like a copy of the report as well.

Thank you,
-Jennifer

Jennifer Tworzyanski *(she/her/hers)*
Assistant to the State Archaeologist
Office of the State Archaeologist
328 West Kellogg Blvd
St Paul, MN 55102
651.201.2265

DEPARTMENT OF ADMINISTRATION
STATE ARCHAEOLOGIST

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August 24, 2022

Jennifer Bromeland
City Administrator
City of Eagle Lake
705 Parkway Avenue
PO Box 159
Eagle Lake, MN 56024

Re: Fox Meadows Development Environmental Assessment Worksheet

Dear Jennifer Bromeland:

Thank you for the opportunity to review and comment on the Environmental Assessment Worksheet (EAW) for the Fox Meadows Development project (Project) located in Eagle Lake, Blue Earth County, Minnesota. The Project consists of a new residential development. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA staff has the following comments for your consideration.

Permits and Approvals (Item 9)

Comment #5 • This section includes the US Army Corps of Engineers (USACE) Wetland Jurisdictional Determination but does not specifically include the USACE Section 404 permit. The MPCA 401 Water Quality Certification does not appear in this section a required approval. However, the EAW mentions other aquatic habitats may be subject to regulations under Section 404 or other state statues. Clarification is needed to determine if the Section 404 permit is required and if so, then the MPCA 401 Certification is also required. For further information about the 401 Water Quality Certification process, please contact Bill Wilde at 651-757-2825 or william.wilde@state.mn.us.

Comment #6 • It may be necessary to obtain a Sanitary Sewer Extension Permit from the MPCA prior to construction. The application form and additional information on this process can be found at http://www.pca.state.mn.us/water/permits/index.html#sanitarysewer. Questions on the sanitary sewer extension permit process should be directed to Dave Sahli at 651-757-2687 or David.Sahli@state.mn.us.

Water Resources (Item 12)

Wastewater

Comment #7 • While there is discussion about the capacity of the Mankato Water Resource Reclamation Facility (WRRF), which Eagle Lake is connected to, there is no discussion about the available capacity of the existing City of Eagle Lake collection system capacity and whether any improvements may be necessary for the proposed Project.

Comment #8 • A map showing the project location, general sewer route and Mankato WRRF would be a nice addition to the EAW.

Comment #9 • There is no discussion of existing drinking water supply issues or the capacity of the existing system or other utility needs for the development.

Stormwater

Comment #10
- If the site has the ability to discharge stormwater to the unnamed creek along the east side of the proposed development that has construction related impairments, additional erosion and sediment control best management practices (BMPs) will be required during the construction that are not mentioned in the EAW. Additional BMPs include immediately providing temporary soil stabilization measures on any portion of the site with exposed soils that will be unworked for 7 or more days and providing a temporary sediment basin where 5 or more acres drain to a common location. Also, if the site has the ability to discharge to the creek and all phases of the site will result in 50 or more acres of disturbance, the Stormwater Pollution Prevention Plan (SWPPP) will require submittal to the MPCA for review and approval prior to obtaining National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater Permit (CSW Permit) coverage.

Comment #11
- The large wetland at the site will require used of redundant (double) down gradient sediment controls installed if construction must encroach the existing 50 feet of existing natural buffer to the wetland.

Comment #12
- The Project owner will be required to ensure that CSW Permit coverage is maintained for all phases of the development. If portions of the site are sold to new owners for construction, such as through selling of individual lots, the owner will need to ensure that the new owners obtain their own coverage under the permit using the MPCA Subdivision Registration process and that a SWPPP describing remaining BMPs for the site is provided to the new owners.

Comment #13
- The EAW identifies increasing rainfall trends and temperature in the location but does not address the climate trends in the stormwater section of the EAW and how they will be addressed. The Project proposer is strongly encouraged to utilize Low Impact Development strategies and green infrastructure for more sustainable development. The CSW Permit requires volume reduction practices to reduce stormwater discharges which can be met with these practices. Additional trees should be planted within the development to provide shade to reduce heat island affects and help absorb increased stormwater runoff. Use of native plants in stormwater infiltration areas and open spaces provide pollinator habitat in addition to reducing runoff. Questions regarding Construction Stormwater Permit requirements should be directed to Roberta Getman at 507-206-2629 or Roberta.Getman@state.mn.us.

Comment #14

Other Potential Environmental Effects (Item 22)

Please note that chloride (salt) is a growing issue for lakes, streams, and groundwater around the state. Chloride can come from both de-icing salt and water softener salt. For the proposed Project, the MPCA recommends smart salting practices for de-icing streets and driveways during the winter weather months and water softening best practices be used year-round. Additional resources are available at https://www.pca.state.mn.us/water/statewide-chloride-resources.

We appreciate the opportunity to review this Project. Please provide your specific responses to our comments and notice of decision on the need for an Environmental Impact Statement. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this EAW, please contact me by email at Karen.kromar@state.mn.us or by telephone at 651-757-2508.

Sincerely,

Karen Kromar

This document has been electronically signed.

Karen Kromar
Planner Principal
Environmental Review Unit
Resource Management and Assistance Division

KK:rs

cc: Dan Card, MPCA, St. Paul
Bill Wilde, MPCA, St. Paul
Dave Sahli, MPCA, St. Paul
Roberta Getman, MPCA, Rochester
Wayne Cords, MPCA, Mankato

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Extension
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410 S. Fifth St.
Mankato, MN 56001

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PO Box 3566
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35 Map Dr.
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FAX: 507-304-4620

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FAX: 507-304-4009
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TDD: 507-304-4399

August 24, 2022

Jennifer Bromeland
City Administrator - City of Eagle Lake
PO Box 159
Eagle Lake MN 56024

RE: Environmental Assessment Worksheet for Fox Meadows Development in Eagle Lake

Dear Jennifer,

The purpose of this letter is to provide written comments from the Property and Environmental Resources Department on the Environmental Assessment Worksheet (EAW) for the Fox Meadows Development in Eagle Lake.

We appreciate the opportunity to review the proposed project and have attached written comments.

Please let me know if you would like to discuss any of these matters further.

Respectfully,

Michael Stalberger
Director, Property and Environmental Resources
507-304-4257
michael.stalberger@blueearthcountymn.gov

Enclosure

Fox Meadows Development
Environmental Assessment Worksheet
City of Eagle Lake
Blue Earth County Property and Environmental Resources Review

COMMENT #15 **Page 8** The EAW states: "According to Federal Emergency Management Agency (FEMA) flood maps, a flood hazard study has not been completed for the project area." And "No floodplain is known to exist within or adjacent to the project area."

It should be noted that there is currently FEMA floodplain mapped in the northeast portion of the property that is proposed to be developed. This floodplain is on the unnamed stream that leads from the outlet of Eagle Lake. FEMA's preliminary floodplain maps show that the mapped floodplain is just northeast of the property that is proposed to be developed. See Attachment A.

COMMENT #16 **Page 10.** "Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils."

The EAW describes a Geotechnical Evaluation of the project area. It should be noted that over 87-percent of the soils on the site have a rating of Very Limited for Dwellings with Basements according to the USDA NRCS. See Attachment B.

COMMENT #17 **Page 12 –** The EAW states**:** "The depth to ground water ranges from 920-940 feet above mean sea level or approximately 70-100 feet below ground surface (Berg 2016) Based on this mapped depth, groundwater is not anticipated to be encountered during excavation for basement levels of the new residential buildings or for the installation of utilities."

It should be noted that it is extremely likely that seasonally saturated soils with very shallow water tables will be encountered during the excavations for basements and the installation of utilities for this project. According to USDA's NRCS web soil survey, the soils within the entire project area have a depth to seasonal water table of less than 3 feet. See attachment C

It should additionally be noted that the EAW previously states on page 10: "A shallow water table is present in the project area within wetlands and ranges from the ground surface to depths of approximately 10 feet. This shallow water table is representative of the regional water table aquifer within the project area (Berg 2016)."

COMMENT #18 **Page 12 –** The EAW states**:** "The Minnesota Department of Health (MDH) Minnesota Well Index was reviewed and there are no wells mapped within the project area boundaries or within a quarter mile of the project area as shown in Figure 11."

While the County does not know of other in-use wells in the project area, there was a large farmstead in the northwest portion of the property just to the east of S Agency St (513 S Agency Street). A well on this property was sealed in 1991, however there could be another well or wells that previously served the very old farmstead on this property. The County recommends a well search with a magnetometer to help identify unsealed wells in this part of the property before it is developed. Attachment D shows a 1983 aerial photo of the building site.

COMMENT #19 **Page 13-** The EAW states: "Currently, stormwater runoff flows overland across the agricultural fields on site and follows topography draining into the large wetland in the northeast portion of the project area."

It should be noted that over 36 acres of the development drains to other areas other than the wetland in the northeast portion of the property. 9.9 acres of the property currently drains to the north and 26.6 acres drains to the south and west towards CSAH 27 (S Agency St). See Attachment E.

COMMENT #20 **Page 13.** The EAW states: "Infiltration and filtration measures are also under consideration for the project's stormwater management system design and will vary based on the geotechnical evaluation results."

It should be noted that 3 feet of separation from seasonally saturated soils is required from the bottom of an infiltration practice. As is shown on the soil survey and from what was submitted with the wetland delineation, it is likely not possible to have three feet of separation from seasonally saturated soils anywhere on the property. The Minnesota Stormwater Manual states: There is a large portion of the state (more than 50 percent) where the seasonal high water table depth is located less than 3 feet from the surface. In these areas it may be impossible to get the 3 feet of separation from the bottom of an infiltration practice to the seasonal high water table depth REQUIRED under the NPDES Construction General Permit (CGP). Non-infiltration BMPs, such as lined filtration or settling practices, should be considered in areas with shallow groundwater."

COMMENT #21 **Page 14 Wetlands -** The EAW states: "Five small, farmed wetlands would be filled for construction of the proposed project area. The large wetland in the northeast corner of the site will be avoided (Figure 5)."

It should be noted that a Blue Earth County decision on the Wetland Boundary & Type Determinations has not been made as is indicated on page 7. The wetland replacement plan application has also not been submitted to Blue Earth County. When this application is submitted, it will be reviewed for compliance with Minnesota Rules Chapter 8420, specifically the sequencing analysis. As the EAW mentions, the large wetland is being avoided. The application for the replacement plan will be reviewed to determine whether any of the smaller wetlands can also be avoided or disturbance minimized in accordance with Minnesota Rules Chapter 8420.

COMMENT #22 **Page 15 - 13. Contamination/Hazardous Materials/Wastes -** The EAW states: "Based on the results of reviewing the MPCA WIMN database and historical use as cropland, no contaminated environmental media (soil, groundwater etc.) or environmental hazards are expected to be present within the project area."

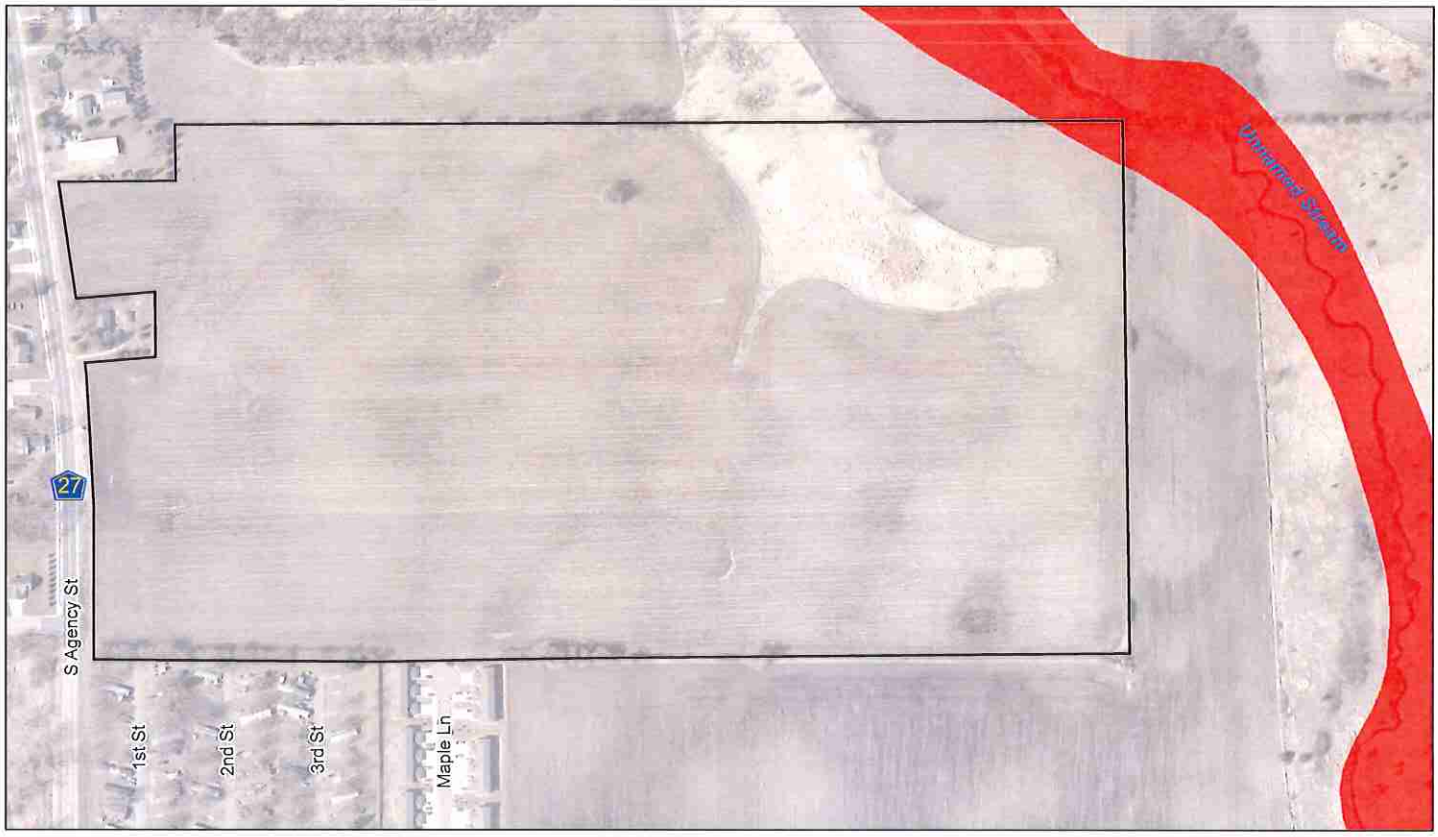
The northwest portion of the property included portions of a farmstead, barns and agricultural buildings as recently as the mid-1990's. The buildings have been removed but it is possible that there is a buried tank or tanks on the northwest portion of the project area. The County's well sealing records for the farmstead from 1991 describe a buried fuel tank and a gas pump. The well was sealed at 513 S Agency Street, but the farmstead extended well into this project area. See Attachment E.

COMMENT #23 **Figure 6 – Proposed Conditions Map -** While the map in the EAW is a concept, it should be noted that there likely will be more roads/impervious surfaces in the development as the currently proposed concept plan does not conform with the Eagle Lakes Subdivision rules which state: "The maximum length of blocks shall be twelve hundred (1,200) feet. Blocks over six hundred (600) feet long may require pedestrian ways at least ten (10) feet wide at their approximate centers." The eastern block is currently proposed at over 1,350 feet on the southern section and over 1,426 feet on the north.

Attachment A

Floodplain Maps

Current FEMA Floodplain



Project Area
Current Floodplain

0 400 800 Feet

Prepared By: Blue Earth County Property & Environmental Resources - 2022

Source: FEMA Q3 Floodplain Data

Preliminary FEMA Floodplain

Project Area

Special Flood Hazard Area

Zone A

N W E S

0 400 800 Feet

Prepared By: Blue Earth County Property & Environmental Resources - 2022

Source: FEMA Preliminary Floodplain Data

Attachment B

Limitations for Dwellings With Basements

Dwellings With Basements—Blue Earth County, Minnesota

Map Scale: 1:4,430 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Blue Earth County, Minnesota
Survey Area Data: Version 19, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 5, 2013—Sep 19, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Dwellings With Basements

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
211	Lura silty clay, 0 to 1 percent slopes	Very limited	Lura (85%)	Ponding (1.00)	5.9	7.7%
				Depth to saturated zone (1.00)		
				Shrink-swell (1.00)		
			Knoke (10%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (0.41)		
			Waldorf (5%)	Depth to saturated zone (1.00)		
				Shrink-swell (1.00)		
238B	Kilkenny clay loam, 2 to 6 percent slopes	Somewhat limited	Kilkenny (90%)	Shrink-swell (0.98)	0.8	1.0%
				Depth to saturated zone (0.96)		
238C	Kilkenny clay loam, 6 to 10 percent slopes, moderately eroded	Somewhat limited	Kilkenny, moderately eroded (90%)	Shrink-swell (0.98)	8.8	11.5%
				Depth to saturated zone (0.96)		
286	Shorewood silty clay loam, 1 to 6 percent slopes	Very limited	Shorewood (90%)	Depth to saturated zone (1.00)	50.8	66.8%
				Shrink-swell (1.00)		
287	Minnetonka silty clay loam	Very limited	Minnetonka (90%)	Depth to saturated zone (1.00)	8.9	11.7%
				Shrink-swell (1.00)		
539	Klossner muck, lake plain, depressional, 0 to 1 percent slopes	Very limited	Klossner, drained (85%)	Ponding (1.00)	0.9	1.2%
				Subsidence (1.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturated zone (1.00)		
			Lura (10%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (1.00)		
			Brownton (5%)	Depth to saturated zone (1.00)		
				Shrink-swell (0.83)		
Totals for Area of Interest					**76.1**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	66.5	87.4%
Somewhat limited	9.6	12.6%
Totals for Area of Interest	**76.1**	**100.0%**

Description

Dwellings are single-family houses of three stories or less. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Attachment C

Soils Depth to Water Table

Depth to Water Table—Blue Earth County, Minnesota

Map Scale: 1:4,430 if printed on A landscape (11" x 8.5") sheet.

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Soil Survey Area: Blue Earth County, Minnesota
Survey Area Data: Version 19, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 5, 2013—Sep 19, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
211	Lura silty clay, 0 to 1 percent slopes	0	5.9	7.7%
238B	Kilkenny clay loam, 2 to 6 percent slopes	90	0.8	1.0%
238C	Kilkenny clay loam, 6 to 10 percent slopes, moderately eroded	90	8.8	11.5%
286	Shorewood silty clay loam, 1 to 6 percent slopes	45	50.8	66.8%
287	Minnetonka silty clay loam	15	8.9	11.7%
539	Klossner muck, lake plain, depressional, 0 to 1 percent slopes	0	0.9	1.2%
Totals for Area of Interest			**76.1**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

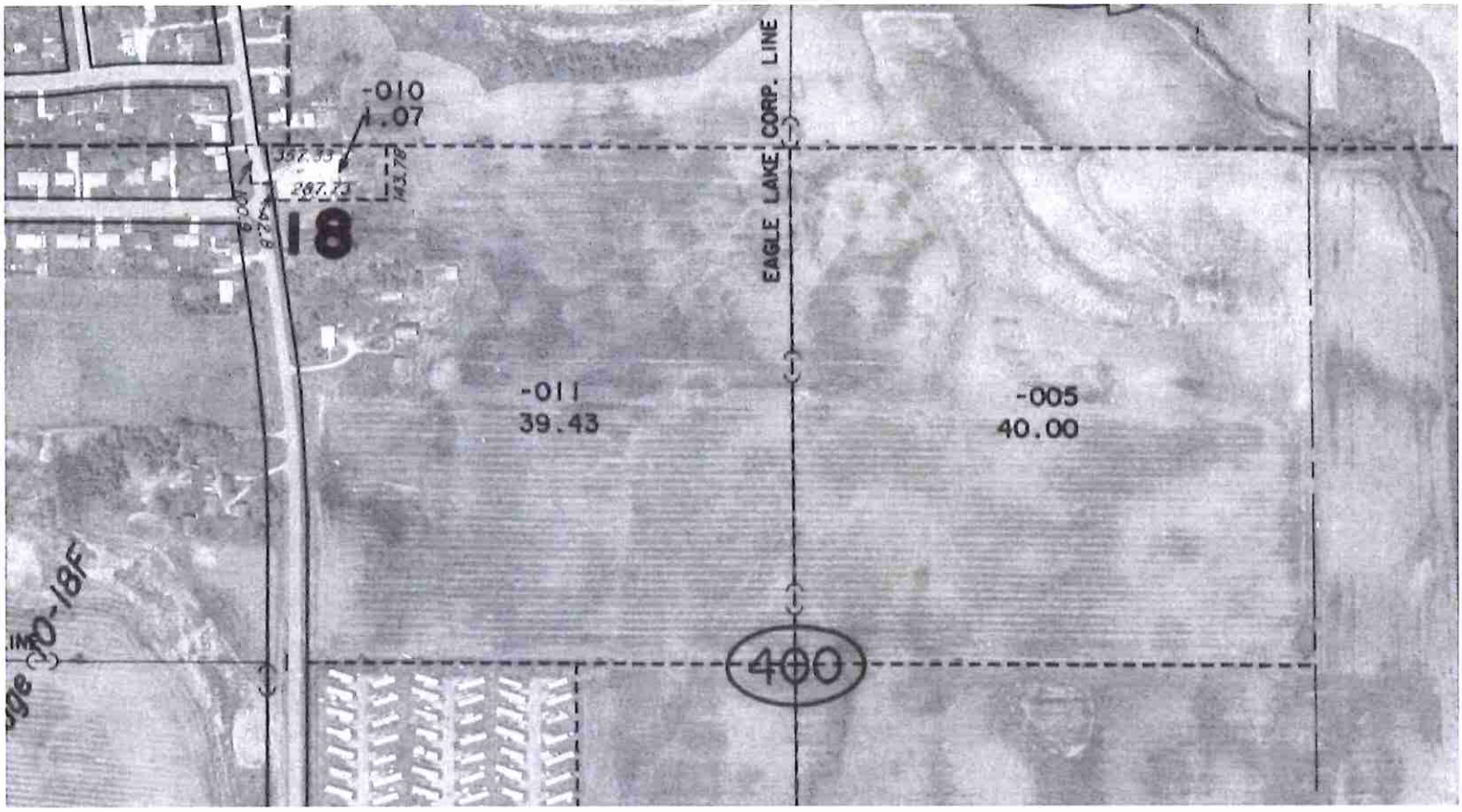
Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Attachment D

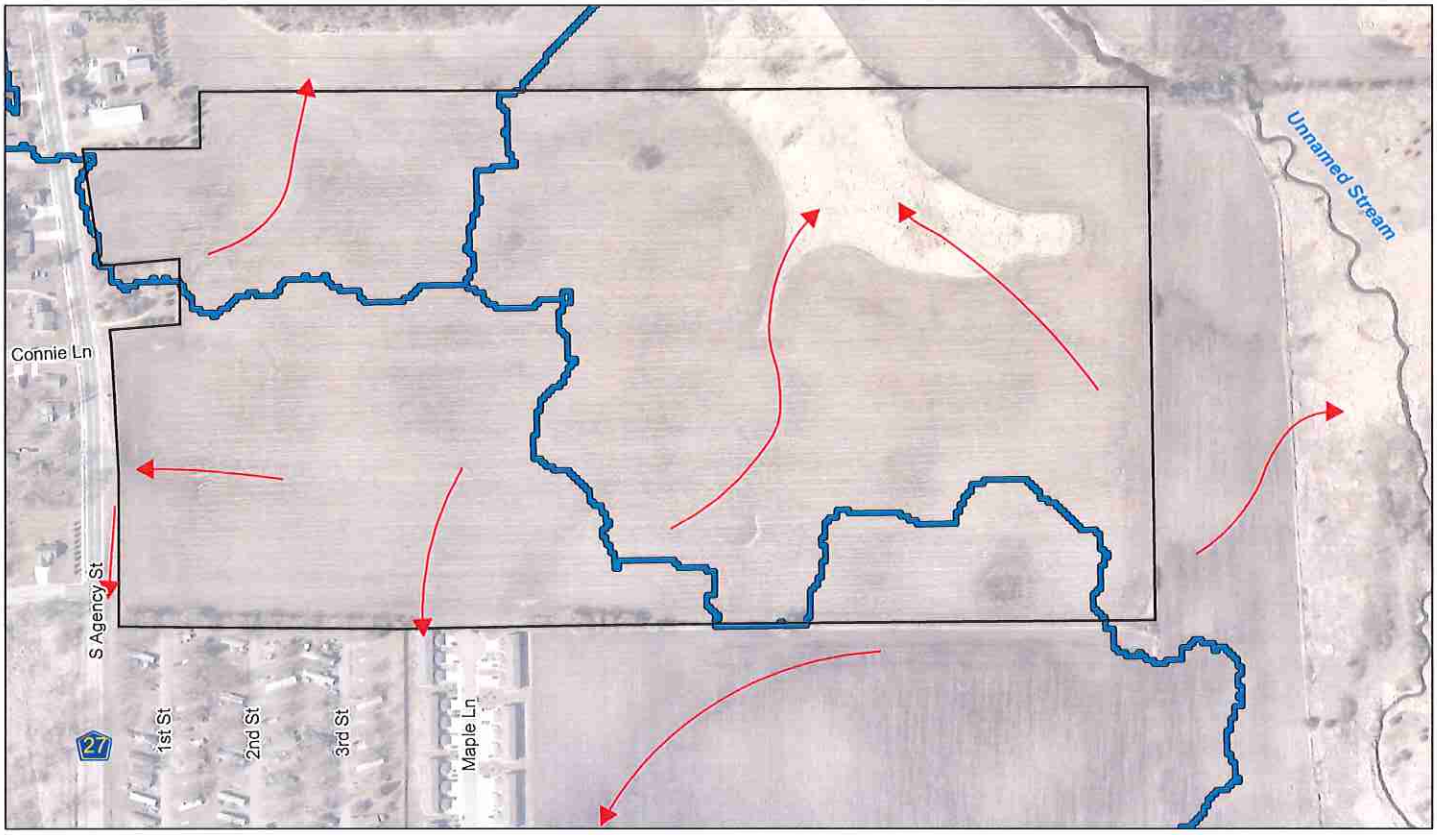
1983 Aerial Photo


-010
1.07
18
EAGLE LAKE CORP. LINE
-011
39.43
-005
40.00
400

Attachment E

Sub-Watersheds

Surface Sub-Watersheds



Surface Water Flow Direction

Surface Sub-Watershed

Project Area

N W E S

0 400 800 Feet

NOTE: Watershed boundaries were created using a 3-Meter Digital Elevation Model from the 2012 LiDAR. The boundaries are based on surface water and do not include subsurface tile.

Prepared By: Blue Earth County Property & Environmental Resources - 2022

Source: 2012 LiDAR

DEPARTMENT OF NATURAL RESOURCES
Division of Ecological & Water Resources
Region 4 (Southern Region)
21371 Highway 15 South
New Ulm, MN 56073

August 25, 2022

Jennifer Bromeland
Eagle Lake City Administrator
jbromeland@eaglelakemn.com

Subject: DNR Comments on Fox Meadows Development Project EAW

Dear Jennifer,

Thank you for the opportunity to review the Environmental Assessment Worksheet (EAW) for the Fox Meadows Residential Development Project. Development projects alter the landscape, ecology, and hydrology for the foreseeable future. As climate change and environmental degradations have come to the forefront of global and local concerns, we encourage careful planning to mitigate impacts and leveraging the project as an opportunity to add ecological benefits and climate-change resiliency. Relatively low-cost measures like planting bareroot native trees and shrubs, planning for multiple rain gardens and native plantings, and integrating green building principles like solar panels could help offset impacts to hydrology and climate change while improving the overall ecological value and creating added value for this neighborhood.

Water Resources

The proposed development would create 25.4 acres of new impervious surface area and up to 31.5 acres of lawn/turf. Impervious surfaces (and turf grass to a lesser degree) create high levels of runoff that are high in pollutant concentrations. The Le Sueur River watershed is already highly stressed by altered hydrologic conditions and is impaired by a number of pollutants and stressors. As such, the project has the potential to exasperate degraded conditions in the Le Sueur River watershed.

COMMENT #24

The EAW notes that three stormwater ponds will be installed, and that "the proposed stormwater basin design would reduce stormwater flow rates and pollutant loads leaving the site". However, no modeling or design information is provided. Please provide more information on:

- the proposed stormwater ponds' capacity and maintenance
- details on the stormwater reuse system
- how the pond will be designed to treat water quality
- the runoff volumes for a range of storm events and the change in runoff volume and peak flow due to the development
- where the stormwater ponds drain to and impacts to any receiving waters
- the presence of any agricultural drainage tile, what will be done with it, and how it interacts with the stormwater system

COMMENT #24

- how the pond and its outlet will be designed to assure it does not support and/or propagate invasive fish (e.g., goldfish, carp, etc.)

We recommend that development projects hydrologically mitigate changes in the runoff volume and peak flow rates by adding sufficient storage, water use (evapotranspiration), and infiltration capacity within the development. We also recommend that water quality practices are integrated into the project. These factors would prevent additional and more polluted water from being contributed to the Le Sueur River watershed. Most of these concerns could be addressed by incorporating dense, native landscaping and adding dispersed rain gardens as discussed below. Permeable pavement and other design features could also be implemented.

COMMENT #25

Goldfish in Stormwater Ponds

Goldfish (Carassius auratus) and koi are regulated invasive species in Minnesota, which means it is legal to possess, sell, buy, and transport, but it is illegal to release them into the environment. Goldfish in urban stormwater ponds have become a frequent issue for cities. Presumably, the goldfish are being placed by residents. Goldfish are destructive to natural environments, and become a management problem. We recommend that either the pond design and/or education be developed to prevent this problem. Ponds can be designed to accommodate predator fish to manage any potential goldfish releases as well as provide angling opportunities for residents, particularly children. Please contact DNR Fisheries staff Craig Soupir for more information or assistance on pond design, management, or education on this topic.

COMMENT #26

Wildlife

The EAW does not identify that the project area is within a low potential zone of the Rusty Patch Bumblebee. Please identify what measures will be taken to avoid disturbance of the species. The project should consult USFWS IPAC.

As noted in the EAW, the Monarch butterfly is a *candidate* species for federal listing, as such, no special requirements may be necessary. However, we do want to note that if any wild grass type areas are disturbed during the growing season, this disturbance would likely result in local impacts to monarch larvae. Monarch larvae (caterpillar) eggs are laid on - and the caterpillars can only consume - milkweed. Common milkweed and other milkweed species are found throughout this region, including in small patches of grasses such as road ditches, filed borders, etc.

We recommend that wildlife friendly erosion control and invasive species best practices (see attachment) are used during construction. Products containing plastics and especially plastic mesh, which tangles and kills wildlife for decades, should not be used.

COMMENT #27

Climate Change Analysis

The climate change analysis uses a 30-year lifespan. Please explain why the project is only anticipated to last 30 years or update the analysis. A 50 to 100-year lifespan would provide a more realistic or conservative (cautious) analysis.

Section 7b of the EAW form asks that the project "describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified." Then Table 7-1 refers readers to item 12 (water resources) and 14 (wildlife and rare

COMMENT #27

features). However, we did not find any specific discussion addressing this topic in these sections. Please provide specific analysis of this topic. Of particular concern are the potential impact to water resources (refer to comments in the Water Resources section above and apply these considerations to 50-100 year lifespan).

COMMENT #28

Sustainable Building Principles

As currently proposed, the project may not contain any green infrastructure (Table 8-2), with the feasibility of infiltration basins being evaluated. There is also no commitment to use more sustainable building practices. We encourage development planning that better address greenhouse gases and climate change. In order for any proposed development to avoid the detriments of urban sprawl and negative impacts to ecology and hydrology, we recommend the development is designed in accordance with Low Impact Development and Green Infrastructure standards. We recommend the green building of homes and business, such as through a LEED certified structures. The project should consider adding rooftop solar, which is becoming one of the most affordable energy sources and does not rely on fossil fuels.

COMMENT #29

Landscaping for Ecology, Wildlife, and Water Resources

The EAW identifies that 8 trees (Table 8-3) will be planted, and there will be 14 acres of grasses and brush (Table 8-1). The project should consider adding a substantial number of trees. Tall, native trees could be planted throughout the project area, in particular, adjacent parking areas and the South and West sides of structures to offer shade and reduce temperatures. Dense native tree and shrub plantings would offer birds food and nesting habitat. Please identify what the 14 acres of grasses and brush will be planted to and if any additional development of these 14 acres is planned for the project lifespan. We again recommend that the area is planted to native species.

Turf grass does not offer ecological or water quality benefits and therefore should only be used in areas designed for turf-type uses (e.g. play and picnic areas). Dense, native plant landscaping and small, planted water basins could offer substantial ecological and water quality and quantity benefits and help mitigate impacts from this project. Prairies or pollinator plantings could be used instead of turf where open views are desired and attract birds and butterflies. In addition to ecological and water quality benefits, nature is proven to improve the mental and physical health of human residents.

COMMENT #30

Instead of diverting all stormwater to three basins, diverting water first to small, shallow, dispersed planted basins or rain gardens would add more storage capacity, evapotranspiration, and water quality treatment within the development. The plants within the rain gardens would increase settling time and provide biological treatments, therefore reducing pollutants from reaching downstream waters. The rain gardens should be planted with native plants that bloom spring through fall, which would offer habitat to native pollinators, including the imperiled monarch butterfly.

We encourage the project to develop a detailed conservation and landscaping plan that integrates dense, native plantings and enhanced stormwater treatment incorporating the principles discussed above.

Sincerely,

Joanne Boettcher

Joanne Boettcher, PE
Regional Environmental Assessment Ecologist

cc:
Craig Soupir, DNR Area Fisheries
Dan Giralomo, DNR Area Hydrologist
Tim Gieseke, Korey Woodley, Scott Roemhildt, DNR Regional Management
Troy Schrom, Schrom Construction, Project Proposer

Appendix C

Revised EAW text

Environmental Assessment Worksheet

Fox Meadows Development

Prepared For

Schrom Construction

BRAUN INTERTEC
The Science You Build On.

Project B2203087
August 26, 2022 FINAL

Deleted: July 8, 2022

Braun Intertec Corporation

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Deleted: 2725
Deleted: 2826
Deleted: July 8

Environmental Assessment Worksheet

September 2021 version

1. **Project Title**
   Fox Meadows Development

2. **Proposer**
   Company: Schrom Construction
   Contact Person: Troy Schrom
   Title: Owner
   Address: 704 Parkway Avenue
   City, State, ZIP: Eagle Lake, MN 56024
   Phone: 507.257.5101
   Fax: N/A
   Email: troymschrom@gmail.com

3. **RGU**
   RGU Agency: City of Eagle Lake
   Contact person: Jennifer Bromeland
   Title: City Administrator
   Address: 705 Parkway Avenue
   City, State, ZIP: Eagle Lake, MN 56024
   Phone: 507.257.3218
   Fax: N/A
   Email: jbromeland@eaglelakemn.com

4. **Reason for EAW Preparation:**
   Check one:

   Required:
   ☐EIS Scoping
   ☒Mandatory EAW

   Discretionary:
   ☐ Citizen petition
   ☐ RGU discretion
   ☐ Proposer initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
   Residential Development 4410.4300, subpart 19.B.

5. **Project Location:**
   County: Blue Earth
   City/Township: City of Eagle Lake and Le Ray Township
   PLS Location (1/4, 1/4, Section, Township, Range): N 1/2, SE 1/4, Section 18, T 108N, R 25W
   Watershed (81 major watershed scale): Le Sueur River (32)
   GPS Coordinates: 44.157607 latitude, -93.873738 longitude
   Tax Parcel Numbers: R121018400013 and R391018400005

6. **Project Description:**
   a. **Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).**

      The Fox Meadows Development (project) consists of constructing 228 new residential units in Eagle Lake, Minnesota. The development site is located in the southeast portion of Eagle Lake on two parcels currently used as cultivated cropland along the east side of South Agency Street. The project would include a mix of multi-family housing units, twin homes, and single family lots with associated roads, utilities, and a stormwater management system. A park would also be created surrounding an existing wetland in the northeast corner of the project area.

Deleted: July 8

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) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.**

The project consists of a new residential development in Eagle Lake, Blue Earth County, Minnesota (Figures 1 and 2). The project area is currently cultivated cropland with a portion of a large wetland in the northeast corner. Small, farmed wetlands are also present along the southern parcel boundary, southeast corner, and northwest corner of the site (Figure 3).

The project would include constructing approximately 228 housing units with associated roads (public and private) and utilities. A stormwater management system with four basins and park land (Figure 4) would also be located in the project area. A playground would be included within a portion of the park land. The housing units would be a mix including approximately 104 multi-family units with 8-plexes, 24 twin homes and 100 single family units (approximately 17 community, 83 detached).

The project is proposed to be built in a minimum of three stages:

1. Stage 1 would include construction of three accesses from South Agency Street, three stormwater basins and 82 housing units divided between three twin homes, eight 8-plexes and 11 community single family homes. One lot would also be prepared for future single family home construction.

2. Stage 2 would include continued construction of roads, a corner lot park and 63 units divided between five 8-plexes, five twin homes and seven community single family homes. Additionally, seven lots would be prepared for single family homes to be built as driven by market demand.

3. Stage 3 would include completion of roads, a fourth stormwater basin, and 8 units within four twin homes. Thirty Six single family lots for future market demand home building would also be prepared during stage 3.

Physical manipulation of the environment would be necessary for construction of the new housing units, associated utilities, streets, and stormwater management system. Construction techniques would include soil excavation & grading, installation of sub-surface utility lines followed by vertical construction.

The project would not involve demolition/removal or remodeling of existing structures and does not involve new or expanded permanent equipment or industrial processes.

Project construction is anticipated to begin in fall 2022 and stage 2 is expected to be completed by 2025. Stage 3 and a potential stage 4 would be completed by 2028 and 2031, respectively (depending on market conditions).

Deleted: July 8

c. **Project magnitude:**

Table 6-1 Project Magnitude

Total Project Acreage	60.15 acres of the 78.70 acre Project Site
Linear project length	Not applicable
Number and type of residential units	104 multifamily units (8-plexes), 24 twin home units (12 homes), 17 single family community and 83 single family detached lots
Residential building area (in square feet)	259,780 total square feet*
Commercial building area (in square feet)	Not applicable
Industrial building area (in square feet)	Not applicable
Institutional building area (in square feet)	Not applicable
Other uses – (in square feet)	Not applicable
Structure height(s)	Approximately 25 feet.

*This is based on the combined square footage of each building type (8-plex, twin home & single family) for the buildings shown on the conceptual plan. Values used were provided square footages for each building type and are subject to change, based on local planning & zoning requirements.

d. **Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.**

The project would consist of constructing approximately 228 mixed housing units in Eagle Lake, Minnesota. Eagle Lake has experienced significant growth over the last two decades including a 36% population increase from 2000 to 2010. Housing stock both within the city and in the greater Mankato area has not kept up with demand and the project would add needed housing units to the community. In addition, construction of new housing units would occur next to a residential area of Eagle Lake and complement the existing neighborhoods while developing a section of underutilized cropland within the city limits.

e. **Are future stages of this development including development on any other property planned or likely to happen? ☐Yes ☒No**

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

Not applicable.

f. **Is this project a subsequent stage of an earlier project? ☐Yes ☒No**

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

Not applicable.

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

The proposed project area is located within the Le Sueur River watershed. The Minnesota Climate Explorer (c) was used to evaluate the climate trends based on this watershed. The 1895 to 2021 profile shows a wide variability of temperature and precipitation data from year to year. The overall trends are described below:

- Average daily mean temperature of 44.52 °F and an increase of 0.13 °F per decade.
- Average daily maximum temperature of 54.89°F and an increase of 0.02 °F per decade.
- Average daily minimum temperature of 34.15 °F and an increase of 0.25 °F per decade.
- Average annual precipitation of 29.87 inches and an increase 0.51 inches per decade.

The future projected data from the Minnesota Climate Explorer was also used to evaluate the anticipated climate conditions within the Le Sueur River watershed during the life of the project. Thus, the mid-century (2040-2059) projections were used in this evaluation, as summarized below. This range of years is assumed at a representative concentration pathway (RCP) of 4.5 which is an intermediate scenario where emissions decline after peaking around year 2040. The values presented below are the model mean, with the upper and lower ranges from the eight general circulation global climate models obtained from CMIP5 (Coupled Model Intercomparison Project, Phase 5 (https://pcmdi.llnl.gov/mips/cmip5/):

- Average daily mean temperature of 48.59 °F with an upper range of 52.42 °F and a lower range of 45.21 °F.
- Average daily maximum temperature of 55.36 °F with an upper range of 58.97 °F and a lower range of 52.40 °F.
- Average daily minimum temperature of 42.05 °F with an upper range of 46.30 °F and a lower range of 37.74 °F.
- Average annual precipitation of 32.07 inches with an upper range of 64.93 inches and a lower range of 16.02 inches.

If future climate conditions follow the projected values, the average daily mean, maximum, and minimum temperatures are each expected to rise over the life of the project. The climate models also project an increase in the average annual precipitation of approximately 2.2 inches (roughly a 7% increase) over the life of the project.

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b. **For each Resource Category in the table below: Describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.**

Table 7-1 Climate Considerations by Resource Category

Resource Category	Climate Considerations	Project Information	Adaptations
Project Design	The proposed residential units would include energy efficient building materials and new appliances that would comply with all local codes and ordinances.	Climate change risks and vulnerabilities identified include: ▪ Increased greenhouse gas emissions	Minnesota state building code will define future materials used in construction, which may include the owner's choice of sustainably produced products and energy efficient systems available at the time of design.
Land Use	Project would convert land from agricultural to residential with increased impervious surface area.	Climate change risks and vulnerabilities identified include: ▪ Increased stormwater runoff from climate related increase in precipitation.	Stormwater management system will include a water reuse system used for irrigation and increased capacity to manage anticipated additional runoff from the projected precipitation increase.
Water Resources	Projected climate change will increase precipitation volumes and frequency above the current regulatory stormwater management requirements.	Climate change risks and vulnerabilities identified include: Increased stormwater runoff from climate related increases in precipitation.	Permanent stormwater management systems will be oversized (where feasible with consideration to site constraints) to accommodate increased volumes and rates from the projected precipitation increase.
Contamination/ Hazardous Materials/Wastes	Projected climate change is not expected to affect the anticipated minimal volume of hazardous waste generated at the project area.	It is expected minimal amounts of typical household hazardous wastes would be generated from the project once construction is completed and the units are occupied.	Not applicable. Climate change is not expected to affect how hazardous waste is managed/disposed of by future residents of the project area.
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Projected climate change may change current fish, wildlife, plant communities, and sensitive ecological resources.	There is very little suitable and viable habitat for wildlife and plant community resources on site. There are no fish or	The proposed project will change land uses from agricultural uses to naturally vegetated cover in portions of the site, therefore increasing suitable habitat for

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		sensitive ecological resources current on site.	wildlife and plant communities.

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

Table 8-1 Cover Types

Cover types	Before (Acres)	After (Acres)
Wetlands and shallow lakes (<2 meters deep)	4.87	4.65
Deep lakes (>2 meters deep)	0	0
Rivers/streams	0	0
Wooded/forest	0	0
Brush/Grassland	0	13.97
Cropland	73.83	0
Lawn/landscaping	0	31.47
Green infrastructure (from table 8-2 below)	0	0
Impervious surface	0	25.39*
Stormwater Ponds	0	3.22
Other (describe)	0	0
TOTAL	**78.7**	**78.7**

**Includes assumed square footages of single homes up to 3,000 square feet each.*

Table 8-2 Green Infrastructure

Green Infrastructure	Before (Acres)	After (Acres)
Constructed infiltration systems (infiltration basins, infiltration trenches, rainwater gardens, bioretention areas without underdrains, swales with impermeable check dams)	0	3.22*
Constructed tree trenches and tree boxes	0	0
Constructed wetlands	0	0
Constructed green roofs	0	0
Constructed permeable pavements	0	0
Solar panels	0	0
TOTAL (add to table 8-1 above)	0	**3.22**

**Feasibility of stormwater basin design to be determined.*

Table 8-3 Trees

Trees	Percent	Number
Percent tree canopy removed or number of mature trees removed during development	0	0
Number of new trees planted	800	8*

**Assumed to meet any City of Eagle Lake landscaping requirements. Additional tree plantings may be required at the time of plan approval per phase.*

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 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.***

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Table 9-1 Permits and Approvals

Unit of Government	Type of Application	Status
Blue Earth County	Wetland Boundary & Type Determination	Pending
Blue Earth County	Wetland Permit (Exemption, No-Loss or Replacement Plan)	To be submitted
U.S. Army Corps of Engineers	Wetland Jurisdictional Determination	To be submitted
U.S. Army Corps of Engineers	Section 404 Clean water Act	To be obtained, if necessary
City of Eagle Lake and Le Ray Township	Annexation Agreement	To be determined
City of Eagle Lake	Final Plat Approval	To be submitted
City of Eagle Lake	Property and Zoning	To be submitted
City of Eagle Lake	Utilities (Water and Stormwater)	To be submitted
City of Mankato	Sanitary Sewer Extension Permit Application	To be submitted
City of Eagle Lake	Mechanical and Heating Permit	To be submitted
City of Eagle Lake	Electrical Permit	To be submitted
City of Eagle Lake	Building Permit	To be submitted
City of Eagle Lake	After hours work permit	To be determined if necessary
Minnesota Department of Natural Resources	Water Appropriations Permit (Temporary Construction Dewatering)	To be obtained, if necessary
Minnesota Pollution Control Agency	NPDES construction stormwater permit	To be submitted
Minnesota Pollution Control Agency	Section 401 Water Quality Certification	To be obtained, if necessary
Minnesota Pollution Control Agency	Sanitary Sewer Extension Permit	To be obtained, if necessary

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Table 9-2. Financial Assistance

Funding Source	Structure	Status
Tax Increment Financing (TIF)	TBD	Pending

10. **Land Use:**
    a. **Describe:**
        i. **Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.**

The existing site consists of cultivated cropland with a large wetland in the northeast portion of the site. Land use in the surrounding area is primarily agricultural, residential, and undeveloped with wetlands. Single family homes are present to the west across South Agency Street and multi-family housing is located directly south of the project area. The remainder of the surrounding area consists of cropland with wetlands present to the north beyond a small crop field. An unnamed stream is located east of the site beyond the immediately adjacent crop field. Trees at the site are primarily located along the northern and southern boundaries with a few individuals scattered near the northeast wetland.

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No parks, trails or recreation areas are located in the project area. Parks, trails, and open spaces within 1 mile of the site include Eagle Lake Park approximately 0.40 miles west of the project area. Additional public lands, trails and parks in the greater surrounding area include the Sakatah Singing Hills state trail (1.85 miles north), the Gilfillan Lake Wildlife Management Area (2.35 miles northeast), Wildwood County Park (2.25 miles south), Bray Park and Campground (3.90 miles northeast) and state forest land on the island in Eagle Lake (2.70 miles northwest).

According to Eagle Lake's December 2019 Zoning Map (most recent), the western parcel of the project area (within the city limits) is zoned for agricultural use. The eastern parcel of the project area is currently located within LeRay Township and is also zoned for agricultural use according to the most recent township zoning map. Annexation of the eastern parcel into the City of Eagle Lake is planned for the near future.

According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) web soil survey, the majority of the site is classified as prime farmland.

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.**

The proposed project is not specifically discussed in the current Blue Earth County Land Use Plan (adopted December 2018) since cities within the county, including Eagle Lake were designated to create their own land use or comprehensive plans.

Eagle Lake's comprehensive plan is dated November 1991 and primarily discusses development related to the relocation of US Highway 14 through the city, which has since been completed, leaving the plan out of date. Additionally, land use for the project area is not identified in the 1991 comprehensive plan.

A 2006 Land Use Plan for Eagle Lake identified the project's parcels as an area for "Limited High Density Residential Development", defined as buildings with no more than eight units.

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

According to Federal Emergency Management Agency (FEMA) flood maps, the current floodplain is mapped in a small portion of the northeast corner of the project area. The flood hazard study has not been finalized for the project area, however the Zone A preliminary flood hazard area is mapped off-site (northeast) of the project area.

The project area is not located within a shoreland, wild and scenic river, critical area, agricultural preserve, or special district.

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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.**

No critical facilities are proposed in floodplain areas.

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

Both parcels within the project area designated for agricultural use under current City of Eagle Lake and Le Ray township zoning. However, the project is compatible with the surrounding residential areas and rezoning the parcels would allow for the construction of needed additional housing units within Eagle Lake. Rezoning of the project area's parcels is consistent with both the City's goal to provide additional housing units and the 2018 Blue Earth County land use plan directive to balance development and the preservation of cropland within existing municipalities.

Additionally, the project meets the goals of "Limited High Density Residential Development" as defined (no more than 8 units per building, provides adequate low, medium, and high density affordable housing for all income levels/age groups and would enhance the surrounding similar density residential development) in the 2006 Land Use Plan for Eagle Lake.

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

When construction permits for Stage 1 of the project are issued, the project areas' western parcel (within the City of Eagle Lake), would be rezoned from agricultural to residential under the appropriate classification (multi vs single family). It is anticipated the project area's eastern parcel (currently within Le Ray Township) would be rezoned for residential during future annexation of the parcel into the City of Eagle Lake. The timing for annexation of the eastern parcel is currently unknown and would be dependent on market demand for single family home construction on the parcel. Rezoning of the two parcels would ensure the proposed project is compatible with city zoning and land use goals.

11. **Geology, Soils, and Topography/Land Forms:**

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

The unconsolidated sediments within the project area vicinity are diamicton, a group of Pleistocene age glacial sediments, which consist of loam to clay loam with clasts of gravel, scattered cobbles, and rare boulders. Diamicton deposits may also contain till, and varying amounts of gray siliceous shale fragments. These sediments are associated with melting of stagnant ice from glaciers and may be sorted from resedimentation by moving or still waters (Jennings et. al, 2012). The surficial geology is shown on Figure 7A.

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The depth to bedrock within the Site is estimated to be between 200-300 feet below ground surface (Steenberg et. al, 2012). The uppermost bedrock units within the vicinity of the Project Area are the Lower Ordovician, Shakopee Formation and Oneota Dolomite. The Shakopee Formation is described as a yellow-gray to grayish-orange thin to thickly bedded, sandy oolitic dolostone with two facies: the Willow River Member is a light brown to grayish-orange, thin to medium bedded, sandy oolitic, intraclastic dolostone and the New Richmond Member is a yellow-gray, fine to coarse grained quartz sandstone and sandy dolostone. The Oneta Dolomite is described mostly as a very thick to thick bedded light brown to grayish-orange finely crystalline, microbial dolostone that is divided into several formal and informal members (Steenberg et. al, 2012).

No sinkholes or karst conditions are known to be present within the Project area. A shallow water table is present in the project area within wetlands and ranges from the ground surface to depths of approximately 10 feet. This shallow water table is representative of the regional water table aquifer within the project area, which is not a significant source of groundwater within Blue Earth County (Berg 2016).

Since the proposed project involves new construction on parcels historically disturbed from crop cultivation, construction of the new buildings and associated infrastructure is not anticipated to adversely affect the geologic conditions within the project area.

b. **Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other 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.**

According to the USDA-NRCS Web Soil Survey, the soils within the proposed project area consist of the following classifications:

Table 11-1 USDS-NRCS Soil Types

Map Unit Symbol	Map Unit Name	% of Project Area	Drainage	Farmland Classification
286	Shorewood silty clay loam, 1-6 % slopes	66.91%	Moderately well drained	Prime farmland
238B	Kilkenny clay loam, 2-6 % slopes	1.00	Moderately well drained	Prime farmland
238C	Kilkenny clay loam, 6-10 % slopes, moderately eroded	11.56	Moderately well drained	Farmland of statewide importance
211	Lura silty clay, 0-1 % slopes	7.56	Very poorly drained	Prime farmland if drained

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Map Unit Symbol	Map Unit Name	% of Project Area	Drainage	Farmland Classification
287	Minnetonka silty clay loam	11.78	Poorly drained	Prime farmland if drained
539	Klossner muck, lake plain, depressional, 0-1 % slopes	1.19	Very poorly drained	Farmland of statewide importance

A map of the soil unit locations is provided as Figure 8. As indicated in Table 11-1 above, soils in the project area consist primarily of moderately well drained, clay loams. Areas of poorly drained silty clay/silty clay loam soils are mapped in the northwest, southeast and southwest portions of the project area in addition to the wetland in the northeast portion of the project area. Very poorly drained muck is also mapped within the wetland.

Braun Intertec is currently in the process of completing a Geotechnical Evaluation of the project area. If any soils within the project area are of limited use for construction purposes, implementation of additional engineering practices may be necessary to achieve the proposed project's goals. Any soils deemed to be unsuitable for the proposed project's construction, would be excavated and replaced with suitable imported fill material. The earthwork contractor would be responsible for the reuse or export of any excess soil generated during construction.

The topography of the project area is relatively level with the exception of the northeast corner, where steep slopes drop into the wetland present. Elevations range from approximately 990 to 1,020 feet above mean sea level, as illustrated on Figure 9.

12. Water Resources:
    a. **Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.**
        i. **Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/flood fringe location, 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.**

            The preliminary wetland delineation report identifies six wetlands that are present within the project area. The largest wetland is located in the northeast portion of the project area and is part of a larger wetland complex that extends north off-site of the project area. The remaining five wetlands are farmed isolated wetlands. No other surface waters or aquatic resources are present within the project area. The wetland delineation report is pending review by the Local Government Unit, with an anticipated approval in July-August 2022.

            The nearest surface waters are an unnamed intermittent stream located approximate 0.10 miles east of the project area and Eagle Lake, located approximately 0.80 miles to the north. Eagle Lake is identified as a Minnesota Department of Natural Resources (MnDNR) Public Water- inventory number 07006002. One large wetland located approximately 285 feet offsite and north of the project area is also identified as a MnDNR Public Water- inventory

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number 07003700. Numerous other wetlands and a few unnamed streams are present within 1-mile of the project area as shown on Figure 10.

The intermittent stream closest to the project area (to the east) is also identified as an Impaired Water for aquatic life according to the Minnesota Pollution Control Agency (MPCA) 2022 Impaired Waters list (07020011-606). A second unnamed stream located approximately 0.75 miles south of the project area is also on the MPCA 2022 Impaired Waters list (07020011-510) for aquatic life (Figure 10). No impacts from the proposed project are anticipated to either of these impaired streams.

Eagle Lake (0.80 miles north of the Site) is also classified as a lake of Moderate Biological Significance by the MnDNR.

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

The depth to ground water ranges from 920-940 feet above mean sea level or approximately 70-100 feet below ground surface (Berg 2016). Based on this mapped depth, groundwater is not anticipated to be encountered during excavation for basement levels of the new residential buildings or for the installation of utilities. The Minnesota Department of Health (MDH) Minnesota Well Index was reviewed and there are no wells mapped within the project area boundaries or within a quarter mile of the project area as shown in Figure 11. The western edge of the site is located within the MDH Eagle Lake wellhead protection area.

b. **Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.**

i. **Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.**

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

The full build out of the project is estimated to generate approximately 62,500 gallons per day of domestic strength wastewater. There is no industrial process wastewater generated at the site and pretreatment would not be required.

Eagle Lake is served by the City of Mankato wastewater collection system. The collection system discharges to Mankato's Water Resource Reclamation Facility (WRRF) in Mankato, Minnesota. According to the WRRF, 3 percent (or 0.34 million gallons per day (MGD)) of their average wet weather flows are from the City of Eagle Lake. The WRRF

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would not need additions or improvements to treat the estimated increased discharge anticipated from the proposed project.

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.**

   Not applicable.

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.**

   No wastewater from the proposed project would be discharged to surface water.

ii. **Stormwater – Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the 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 (BMPs) to address 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.**

Currently, stormwater runoff flows overland across the agricultural fields on site and follows topographic breaks, Approximately 9.9 acres drain to the north/northwest, 26.6 acres drain to the south, and the remaining 42.2 acres draining into the large wetland in the northeast portion of the project area. After construction, stormwater runoff from the project area would be directed into three stormwater retention basins/ponds and one additional basin located throughout the development. The proposed stormwater basin design would reduce stormwater flow rates and pollutant loads leaving the site. Infiltration and filtration measures are also under consideration for the project's stormwater management system design and will vary based on the geotechnical evaluation results. The final stormwater management plan will meet NPDES Construction Stormwater Permit requirements and City of Eagle Lake Stormwater management plan standards.

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Temporary erosion and sediment control best management practices (BMPs) would initially be installed (per the Project's SWPPP), maintained/repaired, and amended throughout the construction phases as required to remain compliant with the NPDES construction stormwater permit. Temporary BMPs may include (but are not limited to) silt fence, bio-rolls/filter logs, rock construction entrances, mulch/hydro mulch, temporary seeding, and permanent seeding (native and turf, where appropriate) or sod for final vegetation establishment.

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

Temporary short-term construction dewatering of groundwater may be required at the time of construction (depending on current field conditions) to facilitate construction activities of phased grading, placement of structural footings, and utility trenches/pits. If dewatering is anticipated to exceed 10,000 gallons per day or 1,000,000 gallons per year, the contractor performing the applicable work would be required to obtain a Temporary Construction Dewatering Water Appropriations Permit from the Minnesota Department of Natural Resources (MDNR) prior to initiating dewatering activities. Measures to avoid, minimize, or mitigate the environmental effects from construction related to dewatering are unknown at this time, and therefore would be determined when developing the dewatering plan as required by a future Stormwater Pollution Prevention Plan (SWPPP) amendment of the NPDES Construction Stormwater Permit.

There are no identified wells within the project boundary that would require sealing (Figure 11). If wells are discovered during construction, appropriate MDH well sealing measures would be followed by a licensed well contractor.

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iv. Surface Waters

a) **Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.**

Five small, farmed wetlands would be filled for construction of the proposed project area. The large wetland in the northeast corner of the site will be avoided (Figure 5). To offset for impacts to these wetlands, a compensatory mitigation plan would be provided that proposes the purchase of wetland mitigation credits within Bank Service Area 9. No other impacts to surface waters or wetlands are anticipated from the proposed project (Figure 10).

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

Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No physical alterations or indirect effects to existing surface waters are anticipated from the proposed project. The project would not change the type or number of watercrafts used on any nearby surface waters.

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.**

The Minnesota Pollution Control Agency (MPCA) "What's in My Neighborhood" (WIMN) online database was reviewed to determine if any existing contamination or potential environmental hazards exist on or near the project area. No facilities or sites enrolled within MPCA programs were identified by the database within the project area. Several sites with construction stormwater permits were identified in the WIMN database, in addition to one industrial

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stormwater permit for Eagle Lake Public Works Maintenance and one hazardous waste generator permit for Bauer's Special Outboard Motor Repair were identified within a half mile of the project area. All stormwater permits identified within a half mile are listed as active and the hazardous waste generator permit for Bauer's Special Outboard Motor Repair is listed as inactive according to the WIMN database.

Based on the results of reviewing the MPCA WIMN database and historical use as cropland, no contaminated environmental media (soil, groundwater etc.) or environmental hazards are anticipated to be present within the project area. Potential buried tank(s) may be present within an old farmstead area, located in the northwest corner of the project area (based on 1991 Blue Earth County well sealing records). If contamination or any environmental hazards are encountered during proposed project construction, the contaminated media would be managed and disposed of by the project contractor(s) in accordance with local and state regulations.

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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.**

Typical construction wastes from the project, such as concrete, bituminous, drywall, wood, metal, and plastic sheeting, etc. would result from construction of the buildings and associated facilities. The construction contractor would minimize, store, and dispose of all solid waste in accordance with local and state regulations and in compliance with the NPDES construction stormwater permit. Waste produced during construction would be disposed of by a licensed waste hauler at an appropriate facility.

Mixed municipal waste and recyclable waste would be generated by the proposed project once construction is complete. The waste would be managed by an appropriately licensed waste hauler and would be disposed of in accordance with applicable regulations. It is anticipated that the mixed municipal waste would be hauled to the landfill in Mankato operated by LJP Waste Solutions who provides solid waste management services to the City of Eagle Lake.

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 will be utilized in the project. 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.**

Hazardous materials are not currently generated within the project area. Hazardous materials would not be present at the construction site, except for fuel and lubricants as necessary for the construction. Cleaning solutions and synthetic oils/lubricants may be used during project construction and as part of operations and would be stored in marked containers in accordance with applicable regulations. Required spill kits and containment materials would be present during work activities and easily accessible if needed. Any hazardous materials generated by the contractor during construction would be disposed of by the contractor at facilities licensed to

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dispose of such wastes. If a spill were to occur during construction, the Minnesota Duty Officer would be contacted and appropriate action to remediate would be taken immediately in accordance with MPCA guidelines and regulations in place at the time of project construction.

Following construction, the use of chemicals/hazardous materials is expected to be limited. Types, quantities, and composition of chemicals/hazardous materials would be typical of residential activities. In multi-family buildings, these chemicals and materials would be labeled, stored, and disposed of in accordance with applicable regulations.

No above or below ground fuel storage tanks would be present once the project is complete.

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.**

Hazardous waste is not currently generated in the project area. Any hazardous materials generated by the contractor during construction would be disposed of by the contractor at facilities licensed to dispose of such wastes. Following construction, the proposed project is not anticipated to generate hazardous wastes but may generate minimal quantities of universal wastes such as spent fluorescent lamps and bulbs. Residents would be expected to store and disposed of any universal wastes in accordance with applicable regulations.

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 in near the site.**

The project area is located in the southeast portion of Eagle Lake and extends east outside the city limits into LeRay Township. The majority of the project area consists of cultivated cropland except for a wetland in the northeast portion of the site. Minimal natural vegetation cover exists within the project area and tree cover is limited to wind breaks planted along the northern and southern boundaries. The surrounding area is primarily a mix of cultivated cropland and residential neighborhoods with wetlands and streams also present. Given the majority of the surrounding area has been disturbed for agricultural use or residential development, limited habitat is present to support fish and wildlife.

b. **Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-997) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.**

Braun Intertec holds a license agreement from the Minnesota Department of Natural Resources (MnDNR) for a local copy of the Natural Heritage Information System (NHIS) geodatabase (License #997). A query of the database was made for Element Occurrences (EO) within 1 mile of the project area. No Element Occurrences were found in the NHIS database within 1 mile of the project area.

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An online query was submitted to the US Fish & Wildlife (USFWS) database Information for Planning and Conservation (IPaC; https://ecos.fws.gov/ipac/). The IPaC results (Appendix B) indicated that the project area is within the range of two federally listed species: the threatened Northern Long-eared Bat and the candidate Monarch Butterfly. The IPaC results do not indicate observations of these species near or within the project area. IPaC results identified species that may occur within the project area based on the broad geographic ranges of the species (such as occurrence within the county). In contrast, the NHIS results report actual observations within a set distance (one mile was used for this report).

Table 14-1: State and Federal Species Status within 1 mile of the Project Area

Scientific Name	Common Name	State Status	Federal Status	Type
Myotis septentrionalis	Northern Long-eared Bat	Special Concern	Threatened	Bat
Danaus plexippus	Monarch Butterfly	N/A	Candidate	Insect

With limited tree cover and wooded or forested areas greater than 1,000 feet from the project area, suitable habitat for the Northern Long-eared bat is not present. Additionally, due to the lack of floral resources for pollinators within the project area, suitable habitat for the Monarch Butterfly is also not present. As a result, neither species is anticipated to be present within the project area.

The project area does not occur in or near designated Critical Habitat and no portion of the project area is located within or adjacent to a Minnesota Biological Survey site.

The IPaC results also noted that no bald eagles or migratory birds of concern have been documented within the vicinity of the project area. Since eagles and migratory birds are protected by federal statutes administered by the US Fish & Wildlife Service, if migratory birds or bald eagles are found occupying the project area during construction, any potential impacts would be permitted in accordance with all applicable state and federal laws.

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

Since the project area is primarily cultivated cropland, it provides little value as habitat for fish and wildlife, native ecosystems, or plant communities. Development of the project area is not anticipated to adversely affect any rare and/or protected species identified in federal and state databases. The treatment of stormwater within the project area and implementation of a SWPPP during construction would eliminate any indirect impacts from sedimentation to aquatic species in the surrounding water bodies.

The project area is not within a township containing known hibernacula or roosting sites of Northern long-eared bats, and suitable habitat is absent from the project area. As a result, no

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adverse effects to the Northern Long-eared bat are anticipated to occur from the proposed project.

The Monarch butterfly is listed as candidate species by USFWS and is not currently protected under the Endangered Species Act (ESA). Voluntary conservation measures for the Monarch butterfly are encouraged for development projects that occur within its range. Conservation measures would include planting native flowering vegetation species in landscaping that bloom spring through fall and remove/control invasive plant species present.

There is minor risk for the introduction and spread of invasive species from the proposed project. Project plans are for construction of buildings, impervious surfaces, and landscaped areas.

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

During construction all disturbed soils would be temporarily protected by sediment and erosion control measures that would be installed and maintained for the duration of the proposed project.

15. **Historic Properties:**
Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the 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.

A request was made to the Minnesota SHPO regarding historic structures, archeological sites and/or traditional cultural properties that may exist on or near the project site. The SHPO response indicated that due to the nature and location of the proposed project, completion of a Phase I archaeological survey is recommended (Appendix B). The Phase I Cultural Resource Investigation was conducted, and report provided on July 6, 2022. Preliminary results found no cultural resources of significance on the project site. The report is pending review by the Minnesota SHPO office.

No properties within Eagle Lake or LeRay Township (including the project area) are listed on the National Register of Historic Places.

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.

There would be an increase in visual imprint within the project area since the proposed project would construct approximately 125 new residential buildings once all three stages are complete. However, there are no scenic views or vistas on or near the project area. The new residential structures would be of comparable size to existing residential buildings in the surrounding area and no taller than the surrounding buildings. There would be no unusual plumes, lighting, or glares from the proposed project. All exterior lighting would be provided in pedestrian walking

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paths and vehicle access points for safety and security purposes in a manner consistent with other residential structures in the area.

17. **Air:**

a. **Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.**

The residential buildings in the project area will use natural gas for building heating. The twin homes and single-family homes are expected to use natural gas for water heating and the 8-plex buildings are expected to use electric water heating systems. Natural gas may be used to provide heat for other appliances such as clothes dryers. The space heating and water heating systems for the buildings are currently under design but are not anticipated to significantly impact air quality.

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

As described further under item 20, there would be some increase in traffic as a result of the project which would result in an increase in the type of air pollution generated by vehicle exhaust. These air pollutants include carbon monoxide, nitrogen oxides, volatile organic compounds, particulate matter, greenhouse gases, and air toxics; however, the project would not substantially worsen traffic conditions and therefore a significant decrease in air quality is not expected.

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

Construction of the proposed project would generate temporary dust and odors during construction. Construction equipment would have gasoline and diesel engine emissions and would create temporary fugitive dust emissions, especially in the areas where soil would be excavated, transported, and placed. The fugitive dust emissions would be controlled by watering, sprinkling, and/or application of calcium products as necessary and appropriate.

Odors may be generated from operation of construction equipment engines and construction truck traffic. Odor mitigation measures would include minimizing equipment used on-site, minimizing idling, maintaining engines in good repair, and minimizing idling truck traffic through scheduling.

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After the proposed development site buildings and roadways are constructed, the project is not anticipated to produce any ongoing substantial odors or dust.

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18. **Greenhouse gas (GHG) emissions/Carbon footprint**

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

Table 18-1 includes a summary of the potential GHG emissions for this project. The supporting calculations are included in Appendix D. Emission calculations are based on conservative assumptions, and therefore likely overestimates of actual emissions that may be generated from the proposed project.

The primary greenhouse gases emitted from the buildings include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from the combustion of fossil fuels. A common way to report emissions of these gases is to multiply the emissions of each gas (in tons) by its global warming potential (GWP) and to report the total GHG emissions as total carbon dioxide equivalents (CO_2e).

The following assumptions were made in estimating the greenhouse gas emissions from the project site buildings:

- Natural gas will be used for building heating in all buildings, as well as for water heating in twin homes and single-family homes. The estimated annual natural gas usage for all residential buildings at the proposed project site is approximately 7.8 million cubic feet (mmcf) per year.

- Electricity will be used for water heating in 8-plex buildings. Other electricity uses at all buildings will include air conditioning, refrigeration, and other uses.

The GHG emissions from the residential buildings are estimated to be approximately 466 tons per year (tpy) of CO_2e.

Other direct sources of emissions added under Scope 1 include:

- Land Use Change
- Mobile Sources (vehicle tailpipe emissions) from for onsite operations
- Mobile Sources for construction

Mobile source emissions associated with onsite building operations (deliveries, building maintenance, etc.) are expected to be minimal and infrequent, and have not been quantified.

With emissions from these sources included, the total Scope 1 GHG emissions are approximately 555 tpy of CO_2e.

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Indirect Emissions include Scope 2 emissions from offsite electricity generation for electricity consumed at the residential buildings (approximately 478 tons per year of CO_2e) and Scope 3 emissions from offsite waste management (approximately 145 tons per year of CO_2e). Actual electricity consumption would be dependent on the efficiency of the water heating systems, electrical fixtures, and appliances installed in the buildings. Actual types and quantities of wastes generated at the residential buildings would depend on the types of wastes generated and waste diversion programs implemented by the municipality (e.g., diversion of compostable organic materials and/or diversion of recyclable materials).

Table 18-1. Greenhouse Gas Emissions

Direct Emissions (Scope 1)

Emission Source		CO_2e TPY
Residential Building Natural Gas Use		466
Total Residential Building GHG Emissions		**466**
Other Scope 1 Emission Sources	Mobile Sources (Onsite Operations) [1]	-
	Mobile Sources (Construction)	**87.5**
	Land-Use (Construction)	**2.4**
All Scope 1 Emissions	**Total Direct Emissions**	**555**

[1] Following the completion of the construction phase, mobile source emissions associated with onsite operations (deliveries, maintenance, etc.) are expected to be minimal and infrequent, and have not been quantified.

Indirect Emissions (Scope 2 and 3)

Scope	Emission Source	CO_2e TPY
Scope 2	Off-Site Electricity Production	**478**
Scope 3	Off-Site Waste Management	**145**

Atmospheric Removal of GHGs

Scope	Emission Source	CO_2e TPY
Other	Land-Use (Sinks) [2]	-

[2] Proposed land-use changes are not expected to produce greenhouse gas reductions (sinks).

Total Emissions including Sinks = Direct Emissions + Indirect Emissions + Sinks

Scope	Emission Source	CO_2e TPY
Scope 1, 2, and 3	**Total**	**1,179**

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b. GHG Assessment

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

The greenhouse gas emissions mitigation strategies considered for this project include the construction of medium-density housing units, installation of high-efficiency appliances, and installation of LED lighting fixtures.

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

In a white paper prepared by Jonathan Rose Companies titled "Location Efficiency and Housing Type - Boiling it Down to BTUs," March 2011 (https://www.epa.gov/sites/default/files/2014-03/documents/location_efficiency_btu.pdf), Jonathan Rose Companies presents data from the Energy Information Administration's 2005 Household Residential Energy Consumption Survey (RECS) that demonstrates that single-family attached housing units consume an average of 18% less energy annually than similarly sized single-family detached housing units. The author of this white paper attributes this difference primarily "due to the inherent efficiencies from more compact size and shared walls among units." Whether building heating utilizes point-of-use natural gas combustion or electricity generated at a fossil-fuel powered power plant, this increase in energy efficiency per housing unit as compared to single-family detached housing units results in direct reductions of greenhouse gas emissions.

The installation of high-efficiency appliances and LED lighting fixtures are currently under consideration.

iii. **Quantify the proposed project's predicted new 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.**

It is conservatively assumed that the project lifetime is 30 years. Over this 30-year period, the estimated greenhouse gas emissions associated with this project are approximately 35,400 tons of CO_2e. As discussed earlier, this estimate includes emissions from onsite natural gas combustion, construction-phase mobile source emissions, and electricity usage. This estimate does not include mobile source emissions associated with vehicle trips to and from the site.

The estimated electricity usage from the project structure is included in the overall greenhouse gas emissions from offsite energy generation provided in Table 18-1 above. As Minnesota's power generation portfolio shifts toward using more renewable power generation sources such as wind and solar, the greenhouse gas emissions from offsite power generation would continue to be reduced over the lifetime of the project.

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19. **Noise:**

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

During Construction

There would be temporary noise impacts as a result of construction of the new residential units, park space and associated infrastructure. Construction would include the use of heavy equipment consisting of but not limited to cranes, lifts, scrapers, dump trucks, backhoes, bulldozers, and rollers. Construction noise is expected to occur only during typical daytime working hours. Use of loud equipment is expected to occur in short durations. The nearby residences are the closest receptors but are separated from the project site by South Agency Street or a line of trees and should not be affected by the temporary increase in noise during construction.

Operations

The proposed project is not expected to generate significant noise. Noise generated from the project area after construction would be negligible compared to the noise from surrounding roadways including Highway 14. Additional traffic volume on South Agency Street due to the project is not expected to greatly increase roadway noise experienced at the site. Therefore, the proposed project is not expected to contribute to excessive noise or nonconformance with the noise standards on or off-site.

20. **Transportation:**

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

The proposed project would increase passenger vehicle traffic in the surrounding vicinity and provide parking for vehicles with each housing unit. However, on a regional scale the increase in vehicle traffic is expected to be minimal and based on projections by Jones, Haugh & Smith, Inc. traffic from the proposed project would not exceed the mandatory traffic study thresholds of peak hour traffic exceeding 250 vehicles or 2,500 daily trips.

Based the project's 228 total units (100 single family and 128 multi-family), and the Institute of Transportation Engineers (ITE) Trip Generation Report 10th Edition rates of 10 trips per day and 1 per peak hour for single family units, and 7 trips per day and 0.7 trips per peak hour for multi-family units, the project would result in 1,896 trips per day and 190 trips per peak hour. Peak hours for residential areas are usually defined as 7-9 am and 4-6 pm.

Public transportation within Eagle Lake is currently provided by the City of Mankato through a pilot program called Kato Flex, with bus service to Mankato. Participants currently register and are picked up at their home address with drop off available anywhere bus service is provided within Mankato. Bus service is available through Kato Flex Monday through Friday from 6 am to 6 pm. The use of public transportation would not be disrupted by the construction of the project.

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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.**

Since the proposed project is residential and would generate a minimal increase in vehicle traffic, no major disruptions to existing traffic conditions or regional transportation operations are anticipated from the project. The proposed project would not impact the safety or level of service of local roads.

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

The project would provide three new entrances/exits from the development onto South Agency Street. Each entrance would be from the three proposed extensions of public roads within the new development: Blace Avenue, Connie Lane, and Thomas Drive. The entrance/exit from each street would also be aligned with the existing portions of the streets to the west and provide connections to the adjacent residential neighborhoods. The road extensions and new entrances/exits would direct traffic from the development and provide safe connections to South Agency Street. No other measures are anticipated to be necessary for management of traffic generated from the project.

21. **Cumulative Potential Effects:**

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

The geographic area of the proposed project is 78.70 acres primarily within the city limits of Eagle Lake where the land use is primarily cropland or existing residential development. The timeframe for this project review focuses on present and future projects since effects from past projects are reflected in the description of the existing conditions and resources of the project area and surrounding vicinity.

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

The City of Eagle Lake is currently experiencing rapid growth and new residential development has recently been proposed for the west and southwest portions of the city. Additionally, the townhomes and mobile home park adjacent to the south of the site were completed in 2015 and 2017 to provide needed additional housing units within the city.

The reasonably foreseeable future projects include a northern extension of township road T-721 along the eastern boundary of the project area. The extension of the township road would affect traffic and noise in the area in combination with the proposed project. While the proposed T-721 road extension may have minor natural resource impacts for a stream crossing, additional future projects are unlikely to contribute to cumulative impacts on natural resources.

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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.**

Given the identified future projects, cumulative effects when combined with anticipated project effects are not expected for the following resources: geology, soils, topography, water resources, contamination, hazardous and solid waste, fish, wildlife, plant communities, sensitive ecological resources and historic properties.

Development of the project area would alter land use from agricultural to residential, increase traffic in the immediate vicinity and increase demands for water supply and wastewater treatment. However, the existing water distribution and wastewater treatment collection systems already have capacity for to accommodate the new development. No potential cumulative effects are anticipated from the proposed Fox Meadows Development.

The future extension of township road T-721 east of the project area, could result in additional residential development on current agricultural land south of the project area. Currently, no specific projects are known for this location and potential effects cannot be projected at this time. However, the plans for additional residential development within the City of Eagle Lake would balance farmland preservation with the need for additional housing units and maintain natural resources while minimizing impacts from new development.

22. **Other Potential Environmental Effects:**
If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No additional impacts from this project other than those discussed above are anticipated.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____ Date _____

Title _____

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Figures

Appendix A

USFWS IPaC Trust Resources Report

BRAUN
INTERTEC

Appendix B

SHPO Correspondence

BRAUN
INTERTEC

Appendix C

Greenhouse Gas Calculations

BRAUN
INTERTEC

Appendix D

References

Jennings, Carrie E., Lusardi, Barbara A. and Gowan, Angela S., "Surficial Geology," Geologic Atlas – Blue Earth County, Minnesota, County Atlas Series, Atlas C-26, Part A, Plate 3, Scale 1:100,000, University of Minnesota - Minnesota Geological Survey, 2012.

Berg, James A., "Geologic Atlas of Blue Earth County, Minnesota- Plate 7, Bedrock Groundwater Flow Directions", County Atlas Series, Atlas C-26, Part B Plate 7, Scale: 1:100,000 - Minnesota Department of Natural Resources, 2016.

Berg, James A., "Geologic Atlas of Blue Earth County, Minnesota- Report," County Atlas Series, Atlas C-26, Part B, - Minnesota Department of Natural Resources, 2016.

Runkel, A.C.; Meyer, G.N.; Lusardi, B.A. (2011). C-26 Geologic Atlas of Blue Earth County, Minnesota [Part A]. Minnesota Geological Survey. Retrieved from the University of Minnesota Digital Conservancy, https://hdl.handle.net/11299/116097.

Steenberg, Julia R., "Bedrock Geology," Geologic Atlas – Blue Earth County, Minnesota, County Atlas Series, Atlas C-26, Part A, Plate 2, Scale 1:100,000, University of Minnesota - Minnesota Geological Survey, 2012.

Steenberg, Julia R. "Bedrock topography and Depth to bedrock," Geologic Atlas – Blue Earth County, Minnesota, County Atlas Series, Atlas C-26, Part A, Plate 6, Scale 1:100,000, University of Minnesota - Minnesota Geological Survey, 2012.

"Web Soil Survey: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture," *Web Soil Survey* http://websoilsurvey.nrcs.usda.gov/app/, Accessed April 20, 2022.

Appendix D

Final EAW

Environmental Assessment Worksheet

Fox Meadows Development

Prepared For

Schrom Construction

BRAUN INTERTEC
The Science You Build On.

Project B2203087
August 26, 2022 FINAL

Braun Intertec Corporation

Table of Contents

Environmental Assessment Worksheet

September 2021 version

1. **Project Title**
   Fox Meadows Development

2. **Proposer**
   Company: Schrom Construction
   Contact Person: Troy Schrom
   Title: Owner
   Address: 704 Parkway Avenue
   City, State, ZIP: Eagle Lake, MN 56024
   Phone: 507.257.5101
   Fax: N/A
   Email: troymschrom@gmail.com

3. **RGU**
   RGU Agency: City of Eagle Lake
   Contact person: Jennifer Bromeland
   Title: City Administrator
   Address: 705 Parkway Avenue
   City, State, ZIP: Eagle Lake, MN 56024
   Phone: 507.257.3218
   Fax: N/A
   Email: jbromeland@eaglelakemn.com

4. **Reason for EAW Preparation:**
   Check one:

   Required:
   ☐EIS Scoping
   ☒Mandatory EAW

   Discretionary:
   ☐ Citizen petition
   ☐ RGU discretion
   ☐ Proposer initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
   Residential Development 4410.4300, subpart 19.B.

5. **Project Location:**
   County: Blue Earth
   City/Township: City of Eagle Lake and Le Ray Township
   PLS Location (1/4, 1/4, Section, Township, Range): N 1/2, SE 1/4, Section 18, T 108N, R 25W
   Watershed (81 major watershed scale): Le Sueur River (32)
   GPS Coordinates: 44.157607 latitude, -93.873738 longitude
   Tax Parcel Numbers: R121018400013 and R391018400005

6. **Project Description:**
   a. **Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).**

      The Fox Meadows Development (project) consists of constructing 228 new residential units in Eagle Lake, Minnesota. The development site is located in the southeast portion of Eagle Lake on two parcels currently used as cultivated cropland along the east side of South Agency Street. The project would include a mix of multi-family housing units, twin homes, and single family lots with associated roads, utilities, and a stormwater management system. A park would also be created surrounding an existing wetland in the northeast corner of the project area.

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) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

The project consists of a new residential development in Eagle Lake, Blue Earth County, Minnesota (Figures 1 and 2). The project area is currently cultivated cropland with a portion of a large wetland in the northeast corner. Small, farmed wetlands are also present along the southern parcel boundary, southeast corner, and northwest corner of the site (Figure 3).

The project would include constructing approximately 228 housing units with associated roads (public and private) and utilities. A stormwater management system with four basins and park land (Figure 4) would also be located in the project area. A playground would be included within a portion of the park land. The housing units would be a mix including approximately 104 multi-family units with 8-plexes, 24 twin homes and 100 single family units (approximately 17 community, 83 detached).

The project is proposed to be built in a minimum of three stages:

1. Stage 1 would include construction of three accesses from South Agency Street, three stormwater basins and 82 housing units divided between three twin homes, eight 8-plexes and 11 community single family homes. One lot would also be prepared for future single family home construction.

2. Stage 2 would include continued construction of roads, a corner lot park and 63 units divided between five 8-plexes, five twin homes and seven community single family homes. Additionally, seven lots would be prepared for single family homes to be built as driven by market demand.

3. Stage 3 would include completion of roads, a fourth stormwater basin, and 8 units within four twin homes. Thirty Six single family lots for future market demand home building would also be prepared during stage 3.

Physical manipulation of the environment would be necessary for construction of the new housing units, associated utilities, streets, and stormwater management system. Construction techniques would include soil excavation & grading, installation of sub-surface utility lines followed by vertical construction.

The project would not involve demolition/removal or remodeling of existing structures and does not involve new or expanded permanent equipment or industrial processes.

Project construction is anticipated to begin in fall 2022 and stage 2 is expected to be completed by 2025. Stage 3 and a potential stage 4 would be completed by 2028 and 2031, respectively (depending on market conditions).

c. **Project magnitude:**

Table 6-1 Project Magnitude

Total Project Acreage	60.15 acres of the 78.70 acre Project Site
Linear project length	Not applicable
Number and type of residential units	104 multifamily units (8-plexes), 24 twin home units (12 homes), 17 single family community and 83 single family detached lots
Residential building area (in square feet)	259,780 total square feet*
Commercial building area (in square feet)	Not applicable
Industrial building area (in square feet)	Not applicable
Institutional building area (in square feet)	Not applicable
Other uses – (in square feet)	Not applicable
Structure height(s)	Approximately 25 feet.

*This is based on the combined square footage of each building type (8-plex, twin home & single family) for the buildings shown on the conceptual plan. Values used were provided square footages for each building type and are subject to change, based on local planning & zoning requirements.

d. **Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.**

The project would consist of constructing approximately 228 mixed housing units in Eagle Lake, Minnesota. Eagle Lake has experienced significant growth over the last two decades including a 36% population increase from 2000 to 2010. Housing stock both within the city and in the greater Mankato area has not kept up with demand and the project would add needed housing units to the community. In addition, construction of new housing units would occur next to a residential area of Eagle Lake and complement the existing neighborhoods while developing a section of underutilized cropland within the city limits.

e. **Are future stages of this development including development on any other property planned or likely to happen? ☐Yes ☒No**

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

Not applicable.

f. **Is this project a subsequent stage of an earlier project? ☐Yes ☒No**

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

Not applicable.

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

The proposed project area is located within the Le Sueur River watershed. The Minnesota Climate Explorer (c) was used to evaluate the climate trends based on this watershed. The 1895 to 2021 profile shows a wide variability of temperature and precipitation data from year to year. The overall trends are described below:

- Average daily mean temperature of 44.52 °F and an increase of 0.13 °F per decade.
- Average daily maximum temperature of 54.89°F and an increase of 0.02 °F per decade.
- Average daily minimum temperature of 34.15 °F and an increase of 0.25 °F per decade.
- Average annual precipitation of 29.87 inches and an increase 0.51 inches per decade.

The future projected data from the Minnesota Climate Explorer was also used to evaluate the anticipated climate conditions within the Le Sueur River watershed during the life of the project. Thus, the mid-century (2040-2059) projections were used in this evaluation, as summarized below. This range of years is assumed at a representative concentration pathway (RCP) of 4.5 which is an intermediate scenario where emissions decline after peaking around year 2040. The values presented below are the model mean, with the upper and lower ranges from the eight general circulation global climate models obtained from CMIP5 (Coupled Model Intercomparison Project, Phase 5 (https://pcmdi.llnl.gov/mips/cmip5/):

- Average daily mean temperature of 48.59 °F with an upper range of 52.42 °F and a lower range of 45.21 °F.
- Average daily maximum temperature of 55.36 °F with an upper range of 58.97 °F and a lower range of 52.40 °F.
- Average daily minimum temperature of 42.05 °F with an upper range of 46.30 °F and a lower range of 37.74 °F.
- Average annual precipitation of 32.07 inches with an upper range of 64.93 inches and a lower range of 16.02 inches.

If future climate conditions follow the projected values, the average daily mean, maximum, and minimum temperatures are each expected to rise over the life of the project. The climate models also project an increase in the average annual precipitation of approximately 2.2 inches (roughly a 7% increase) over the life of the project.

b. For each Resource Category in the table below: Describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.

Table 7-1 Climate Considerations by Resource Category

Resource Category	Climate Considerations	Project Information	Adaptations
Project Design	The proposed residential units would include energy efficient building materials and new appliances that would comply with all local codes and ordinances.	Climate change risksand vulnerabilities identified include: ▪ Increased greenhouse gas emissions	Minnesota state building code will define future materials used in construction, which may include the owner's choice of sustainably produced products and energy efficient systems available at the time of design.
Land Use	Project would convert land from agricultural to residential with increased impervious surface area.	Climate change risksand vulnerabilities identified include: ▪ Increased stormwater runoff from climate related increase in precipitation.	Stormwater management system will include a water reuse system used for irrigation and increased capacity to manage anticipated additional runoff from the projected precipitation increase.
Water Resources	Projected climate change will increase precipitation volumes and frequency above the current regulatory stormwater management requirements.	Climate change risksand vulnerabilities identified include: Increased stormwater runoff from climate related increases in precipitation.	Permanent stormwater management systems will be oversized (where feasible with consideration to site constraints) to accommodate increased volumes and rates from the projected precipitation increase.
Contamination/ Hazardous Materials/Wastes	Projected climate change is not expected to affect the anticipated minimal volume of hazardous waste generated at the project area.	It is expected minimal amounts of typical household hazardous wastes would be generated from the project once construction is completed and the units are occupied.	Not applicable. Climate change is not expected to affect how hazardous waste is managed/disposed of by future residents of the project area.
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Projected climate change may change current fish, wildlife, plant communities, and sensitive ecological resources	There is little suitable habitat for wildlife and plant community resources on site. There are no fish or sensitive ecological resources current on site.	Land use will change from agricultural to vegetated cover in portions of the site, therefore increasing suitable habitat for wildlife and plant communities.

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

Table 8-1 Cover Types

Cover types	Before (Acres)	After (Acres)
Wetlands and shallow lakes (<2 meters deep)	4.87	4.65
Deep lakes (>2 meters deep)	0	0
Rivers/streams	0	0
Wooded/forest	0	0
Brush/Grassland	0	13.97
Cropland	73.83	0
Lawn/landscaping	0	31.47
Green infrastructure (from table 8-2 below)	0	0
Impervious surface	0	25.39*
Stormwater Ponds	0	3.22
Other (describe)	0	0
TOTAL	**78.7**	**78.7**

**Includes assumed square footages of single homes up to 3,000 square feet each.*

Table 8-2 Green Infrastructure

Green Infrastructure	Before (Acres)	After (Acres)
Constructed infiltration systems (infiltration basins, infiltration trenches, rainwater gardens, bioretention areas without underdrains, swales with impermeable check dams)	0	3.22*
Constructed tree trenches and tree boxes	0	0
Constructed wetlands	0	0
Constructed green roofs	0	0
Constructed permeable pavements	0	0
Solar panels	0	0
TOTAL (add to table 8-1 above)	0	**3.22**

**Feasibility of stormwater basin design to be determined.*

Table 8-3 Trees

Trees	Percent	Number
Percent tree canopy removed or number of mature trees removed during development	0	0
Number of new trees planted	800	8*

**Assumed to meet any City of Eagle Lake landscaping requirements. Additional tree plantings may be required at the time of plan approval per phase.*

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 plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Table 9-1 Permits and Approvals

Unit of Government	Type of Application	Status
Blue Earth County	Wetland Boundary & Type Determination	Pending
Blue Earth County	Wetland Permit (Exemption, No-Loss or Replacement Plan)	To be submitted
U.S. Army Corps of Engineers	Wetland Jurisdictional Determination	To be submitted
U.S. Army Corps of Engineers	Section 404 Clean water Act	To be obtained, if necessary
City of Eagle Lake and Le Ray Township	Annexation Agreement	To be determined
City of Eagle Lake	Final Plat Approval	To be submitted
City of Eagle Lake	Property and Zoning	To be submitted
City of Eagle Lake	Utilities (Water and Stormwater)	To be submitted
City of Mankato	Sanitary Sewer Extension Permit Application	To be submitted
City of Eagle Lake	Mechanical and Heating Permit	To be submitted
City of Eagle Lake	Electrical Permit	To be submitted
City of Eagle Lake	Building Permit	To be submitted
City of Eagle Lake	After hours work permit	To be determined if necessary
Minnesota Department of Natural Resources	Water Appropriations Permit (Temporary Construction Dewatering)	To be obtained, if necessary
Minnesota Pollution Control Agency	NPDES construction stormwater permit	To be submitted
Minnesota Pollution Control Agency	Section 401 Water Quality Certification	To be obtained, if necessary
Minnesota Pollution Control Agency	Sanitary Sewer Extension Permit	To be obtained, if necessary

Table 9-2. Financial Assistance

Funding Source	Structure	Status
Tax Increment Financing (TIF)	TBD	Pending

10. Land Use:

a. Describe:

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

The existing site consists of cultivated cropland with a large wetland in the northeast portion of the site. Land use in the surrounding area is primarily agricultural, residential, and undeveloped with wetlands. Single family homes are present to the west across South Agency Street and multi-family housing is located directly south of the project area. The remainder of the surrounding area consists of cropland with wetlands present to the north beyond a small crop field. An unnamed stream is located east of the site beyond the immediately adjacent crop field. Trees at the site are primarily located along the northern and southern boundaries with a few individuals scattered near the northeast wetland.

No parks, trails or recreation areas are located in the project area. Parks, trails, and open spaces within 1 mile of the site include Eagle Lake Park approximately 0.40 miles west of the project area. Additional public lands, trails and parks in the greater surrounding area include the Sakatah Singing Hills state trail (1.85 miles north), the Gilfillan Lake Wildlife Management Area (2.35 miles northeast), Wildwood County Park (2.25 miles south), Bray Park and Campground (3.90 miles northeast) and state forest land on the island in Eagle Lake (2.70 miles northwest).

According to Eagle Lake's December 2019 Zoning Map (most recent), the western parcel of the project area (within the city limits) is zoned for agricultural use. The eastern parcel of the project area is currently located within LeRay Township and is also zoned for agricultural use according to the most recent township zoning map. Annexation of the eastern parcel into the City of Eagle Lake is planned for the near future.

According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) web soil survey, the majority of the site is classified as prime farmland.

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.

The proposed project is not specifically discussed in the current Blue Earth County Land Use Plan (adopted December 2018) since cities within the county, including Eagle Lake were designated to create their own land use or comprehensive plans.

Eagle Lake's comprehensive plan is dated November 1991 and primarily discusses development related to the relocation of US Highway 14 through the city, which has since been completed, leaving the plan out of date. Additionally, land use for the project area is not identified in the 1991 comprehensive plan.

A 2006 Land Use Plan for Eagle Lake identified the project's parcels as an area for "Limited High Density Residential Development", defined as buildings with no more than eight units.

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

According to Federal Emergency Management Agency (FEMA) flood maps, the current floodplain is mapped in a small portion of the northeast corner of the project area. The flood hazard study has not been finalized for the project area, however the Zone A preliminary flood hazard area is mapped off-site (northeast) of the project area.

The project area is not located within a shoreland, wild and scenic river, critical area, agricultural preserve, or special district.

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.**

No critical facilities are proposed in floodplain areas.

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

Both parcels within the project area designated for agricultural use under current City of Eagle Lake and Le Ray township zoning. However, the project is compatible with the surrounding residential areas and rezoning the parcels would allow for the construction of needed additional housing units within Eagle Lake. Rezoning of the project area's parcels is consistent with both the City's goal to provide additional housing units and the 2018 Blue Earth County land use plan directive to balance development and the preservation of cropland within existing municipalities.

Additionally, the project meets the goals of "Limited High Density Residential Development" as defined (no more than 8 units per building, provides adequate low, medium, and high density affordable housing for all income levels/age groups and would enhance the surrounding similar density residential development) in the 2006 Land Use Plan for Eagle Lake.

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

When construction permits for Stage 1 of the project are issued, the project areas' western parcel (within the City of Eagle Lake), would be rezoned from agricultural to residential under the appropriate classification (multi vs single family). It is anticipated the project area's eastern parcel (currently within Le Ray Township) would be rezoned for residential during future annexation of the parcel into the City of Eagle Lake. The timing for annexation of the eastern parcel is currently unknown and would be dependent on market demand for single family home construction on the parcel. Rezoning of the two parcels would ensure the proposed project is compatible with city zoning and land use goals.

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

The unconsolidated sediments within the project area vicinity are diamicton, a group of Pleistocene age glacial sediments, which consist of loam to clay loam with clasts of gravel, scattered cobbles, and rare boulders. Diamicton deposits may also contain till, and varying amounts of gray siliceous shale fragments. These sediments are associated with melting of stagnant ice from glaciers and may be sorted from resedimentation by moving or still waters (Jennings et. al, 2012). The surficial geology is shown on Figure 7A.

The depth to bedrock within the Site is estimated to be between 200-300 feet below ground surface (Steenberg et. al, 2012). The uppermost bedrock units within the vicinity of the Project Area are the Lower Ordovician, Shakopee Formation and Oneota Dolomite. The Shakopee Formation is described as a yellow-gray to grayish-orange thin to thickly bedded, sandy oolitic dolostone with two facies: the Willow River Member is a light brown to grayish-orange, thin to medium bedded, sandy oolitic, intraclastic dolostone and the New Richmond Member is a yellow-gray, fine to coarse grained quartz sandstone and sandy dolostone. The Oneta Dolomite is described mostly as a very thick to thick bedded light brown to grayish-orange finely crystalline, microbial dolostone that is divided into several formal and informal members (Steenberg et. al, 2012).

No sinkholes or karst conditions are known to be present within the Project area. A shallow water table is present in the project area within wetlands and ranges from the ground surface to depths of approximately 10 feet. This shallow water table is representative of the regional water table aquifer within the project area, which is not a significant source of groundwater within Blue Earth County (Berg 2016).

Since the proposed project involves new construction on parcels historically disturbed from crop cultivation, construction of the new buildings and associated infrastructure is not anticipated to adversely affect the geologic conditions within the project area.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other 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.

According to the USDA-NRCS Web Soil Survey, the soils within the proposed project area consist of the following classifications:

Table 11-1 USDS-NRCS Soil Types

Map Unit Symbol	Map Unit Name	% of Project Area	Drainage	Farmland Classification
286	Shorewood silty clay loam, 1-6 % slopes	66.91%	Moderately well drained	Prime farmland
238B	Kilkenny clay loam, 2-6 % slopes	1.00	Moderately well drained	Prime farmland
238C	Kilkenny clay loam, 6-10 % slopes, moderately eroded	11.56	Moderately well drained	Farmland of statewide importance
211	Lura silty clay, 0-1 % slopes	7.56	Very poorly drained	Prime farmland if drained

Map Unit Symbol	Map Unit Name	% of Project Area	Drainage	Farmland Classification
287	Minnetonka silty clay loam	11.78	Poorly drained	Prime farmland if drained
539	Klossner muck, lake plain, depressional, 0-1 % slopes	1.19	Very poorly drained	Farmland of statewide importance

A map of the soil unit locations is provided as Figure 8. As indicated in Table 11-1 above, soils in the project area consist primarily of moderately well drained, clay loams. Areas of poorly drained silty clay/silty clay loam soils are mapped in the northwest, southeast and southwest portions of the project area in addition to the wetland in the northeast portion of the project area. Very poorly drained muck is also mapped within the wetland.

Braun Intertec is currently in the process of completing a Geotechnical Evaluation of the project area. If any soils within the project area are of limited use for construction purposes, implementation of additional engineering practices may be necessary to achieve the proposed project's goals. Any soils deemed to be unsuitable for the proposed project's construction, would be excavated and replaced with suitable imported fill material. The earthwork contractor would be responsible for the reuse or export of any excess soil generated during construction.

The topography of the project area is relatively level with the exception of the northeast corner, where steep slopes drop into the wetland present. Elevations range from approximately 990 to 1,020 feet above mean sea level, as illustrated on Figure 9.

12. Water Resources:

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

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/flood fringe location, 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.

The preliminary wetland delineation report identifies six wetlands that are present within the project area. The largest wetland is located in the northeast portion of the project area and is part of a larger wetland complex that extends north off-site of the project area. The remaining five wetlands are farmed isolated wetlands. No other surface waters or aquatic resources are present within the project area. The wetland delineation report is pending review by the Local Government Unit, with an anticipated approval in July-August 2022.

The nearest surface waters are an unnamed intermittent stream located approximate 0.10 miles east of the project area and Eagle Lake, located approximately 0.80 miles to the north. Eagle Lake is identified as a Minnesota Department of Natural Resources (MnDNR) Public Water- inventory number 07006002. One large wetland located approximately 285 feet offsite and north of the project area is also identified as a MnDNR Public Water- inventory

number 07003700. Numerous other wetlands and a few unnamed streams are present within 1-mile of the project area as shown on Figure 10.

The intermittent stream closest to the project area (to the east) is also identified as an Impaired Water for aquatic life according to the Minnesota Pollution Control Agency (MPCA) 2022 Impaired Waters list (07020011-606). A second unnamed stream located approximately 0.75 miles south of the project area is also on the MPCA 2022 Impaired Waters list (07020011-510) for aquatic life (Figure 10). No impacts from the proposed project are anticipated to either of these impaired streams.

Eagle Lake (0.80 miles north of the Site) is also classified as a lake of Moderate Biological Significance by the MnDNR.

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

The depth to ground water ranges from 920-940 feet above mean sea level or approximately 70-100 feet below ground surface (Berg 2016). Based on this mapped depth, groundwater is not anticipated to be encountered during excavation for basement levels of the new residential buildings or for the installation of utilities. The Minnesota Department of Health (MDH) Minnesota Well Index was reviewed and there are no wells mapped within the project area boundaries or within a quarter mile of the project area as shown in Figure 11. The western edge of the site is located within the MDH Eagle Lake wellhead protection area.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

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

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

The full build out of the project is estimated to generate approximately 62,500 gallons per day of domestic strength wastewater. There is no industrial process wastewater generated at the site and pretreatment would not be required.

Eagle Lake is served by the City of Mankato wastewater collection system. The collection system discharges to Mankato's Water Resource Reclamation Facility (WRRF) in Mankato, Minnesota. According to the WRRF, 3 percent (or 0.34 million gallons per day (MGD)) of their average wet weather flows are from the City of Eagle Lake. The WRRF

would not need additions or improvements to treat the estimated increased discharge anticipated from the proposed project.

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.**

   Not applicable.

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.**

   No wastewater from the proposed project would be discharged to surface water.

ii. **Stormwater – Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the 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 (BMPs) to address 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.**

   Currently, stormwater runoff flows overland across the agricultural fields on site and follows topographic breaks. Approximately 9.9 acres drain to the north/northwest, 26.6 acres drain to the south, and the remaining 42.2 acres draining into the large wetland in the northeast portion of the project area. After construction, stormwater runoff from the project area would be directed into three stormwater retention basins/ponds and one additional basin located throughout the development. The proposed stormwater basin design would reduce stormwater flow rates and pollutant loads leaving the site. Infiltration and filtration measures are also under consideration for the project's stormwater management system design and will vary based on the geotechnical evaluation results. The final stormwater management plan will meet NPDES Construction Stormwater Permit requirements and City of Eagle Lake Stormwater management plan standards.

Temporary erosion and sediment control best management practices (BMPs) would initially be installed (per the Project's SWPPP), maintained/repaired, and amended throughout the construction phases as required to remain compliant with the NPDES construction stormwater permit. Temporary BMPs may include (but are not limited to) silt fence, bio-rolls/filter logs, rock construction entrances, mulch/hydro mulch, temporary seeding, and permanent seeding (native and turf, where appropriate) or sod for final vegetation establishment.

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

Temporary short-term construction dewatering of groundwater may be required at the time of construction (depending on current field conditions) to facilitate construction activities of phased grading, placement of structural footings, and utility trenches/pits. If dewatering is anticipated to exceed 10,000 gallons per day or 1,000,000 gallons per year, the contractor performing the applicable work would be required to obtain a Temporary Construction Dewatering Water Appropriations Permit from the Minnesota Department of Natural Resources (MDNR) prior to initiating dewatering activities. Measures to avoid, minimize, or mitigate the environmental effects from construction related to dewatering are unknown at this time, and therefore would be determined when developing the dewatering plan as required by a future Stormwater Pollution Prevention Plan (SWPPP) amendment of the NPDES Construction Stormwater Permit.

There are no identified wells within the project boundary that would require sealing (Figure 11). If wells are discovered during construction, appropriate MDH well sealing measures would be followed by a licensed well contractor.

iv. **Surface Waters**

a) **Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.**

Five small, farmed wetlands would be filled for construction of the proposed project area. The large wetland in the northeast corner of the site will be avoided (Figure 5). To offset for impacts to these wetlands, a compensatory mitigation plan would be provided that proposes the purchase of wetland mitigation credits within Bank Service Area 9. No other impacts to surface waters or wetlands are anticipated from the proposed project (Figure 10).

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

Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No physical alterations or indirect effects to existing surface waters are anticipated from the proposed project. The project would not change the type or number of watercrafts used on any nearby surface waters.

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.**

The Minnesota Pollution Control Agency (MPCA) "What's in My Neighborhood" (WIMN) online database was reviewed to determine if any existing contamination or potential environmental hazards exist on or near the project area. No facilities or sites enrolled within MPCA programs were identified by the database within the project area. Several sites with construction stormwater permits were identified in the WIMN database, in addition to one industrial

stormwater permit for Eagle Lake Public Works Maintenance and one hazardous waste generator permit for Bauer's Special Outboard Motor Repair were identified within a half mile of the project area. All stormwater permits identified within a half mile are listed as active and the hazardous waste generator permit for Bauer's Special Outboard Motor Repair is listed as inactive according to the WIMN database.

Based on the results of reviewing the MPCA WIMN database and historical use as cropland, no contaminated environmental media (soil, groundwater etc.) or environmental hazards are anticipated to be present within the project area. Potential buried tank(s) may be present within an old farmstead area, located in the northwest corner of the project area (based on 1991 Blue Earth County well sealing records). If contamination or any environmental hazards are encountered during proposed project construction, the contaminated media would be managed and disposed of by the project contractor(s) in accordance with local and state regulations.

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.

Typical construction wastes from the project, such as concrete, bituminous, drywall, wood, metal, and plastic sheeting, etc. would result from construction of the buildings and associated facilities. The construction contractor would minimize, store, and dispose of all solid waste in accordance with local and state regulations and in compliance with the NPDES construction stormwater permit. Waste produced during construction would be disposed of by a licensed waste hauler at an appropriate facility.

Mixed municipal waste and recyclable waste would be generated by the proposed project once construction is complete. The waste would be managed by an appropriately licensed waste hauler and would be disposed of in accordance with applicable regulations. It is anticipated that the mixed municipal waste would be hauled to the landfill in Mankato operated by LJP Waste Solutions who provides solid waste management services to the City of Eagle Lake.

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 will be utilized in the project. 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.

Hazardous materials are not currently generated within the project area. Hazardous materials would not be present at the construction site, except for fuel and lubricants as necessary for the construction. Cleaning solutions and synthetic oils/lubricants may be used during project construction and as part of operations and would be stored in marked containers in accordance with applicable regulations. Required spill kits and containment materials would be present during work activities and easily accessible if needed. Any hazardous materials generated by the contractor during construction would be disposed of by the contractor at facilities licensed to

dispose of such wastes. If a spill were to occur during construction, the Minnesota Duty Officer would be contacted and appropriate action to remediate would be taken immediately in accordance with MPCA guidelines and regulations in place at the time of project construction.

Following construction, the use of chemicals/hazardous materials is expected to be limited. Types, quantities, and composition of chemicals/hazardous materials would be typical of residential activities. In multi-family buildings, these chemicals and materials would be labeled, stored, and disposed of in accordance with applicable regulations.

No above or below ground fuel storage tanks would be present once the project is complete.

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.**

Hazardous waste is not currently generated in the project area. Any hazardous materials generated by the contractor during construction would be disposed of by the contractor at facilities licensed to dispose of such wastes. Following construction, the proposed project is not anticipated to generate hazardous wastes but may generate minimal quantities of universal wastes such as spent fluorescent lamps and bulbs. Residents would be expected to store and disposed of any universal wastes in accordance with applicable regulations.

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 in near the site.**

The project area is located in the southeast portion of Eagle Lake and extends east outside the city limits into LeRay Township. The majority of the project area consists of cultivated cropland except for a wetland in the northeast portion of the site. Minimal natural vegetation cover exists within the project area and tree cover is limited to wind breaks planted along the northern and southern boundaries. The surrounding area is primarily a mix of cultivated cropland and residential neighborhoods with wetlands and streams also present. Given the majority of the surrounding area has been disturbed for agricultural use or residential development, limited habitat is present to support fish and wildlife.

    b. **Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-997) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.**

Braun Intertec holds a license agreement from the Minnesota Department of Natural Resources (MnDNR) for a local copy of the Natural Heritage Information System (NHIS) geodatabase (License #997). A query of the database was made for Element Occurrences (EO) within 1 mile of the project area. No Element Occurrences were found in the NHIS database within 1 mile of the project area.

An online query was submitted to the US Fish & Wildlife (USFWS) database Information for Planning and Conservation (IPaC; https://ecos.fws.gov/ipac/). The IPaC results (Appendix B) indicated that the project area is within the range of two federally listed species: the threatened Northern Long-eared Bat and the candidate Monarch Butterfly. The IPaC results do not indicate observations of these species near or within the project area. IPaC results identified species that may occur within the project area based on the broad geographic ranges of the species (such as occurrence within the county). In contrast, the NHIS results report actual observations within a set distance (one mile was used for this report).

Table 14-1: State and Federal Species Status within 1 mile of the Project Area

Scientific Name	Common Name	State Status	Federal Status	Type
Myotis septentrionalis	Northern Long-eared Bat	Special Concern	Threatened	Bat
Danaus plexippus	Monarch Butterfly	N/A	Candidate	Insect

With limited tree cover and wooded or forested areas greater than 1,000 feet from the project area, suitable habitat for the Northern Long-eared bat is not present. Additionally, due to the lack of floral resources for pollinators within the project area, suitable habitat for the Monarch Butterfly is also not present. As a result, neither species is anticipated to be present within the project area.

The project area does not occur in or near designated Critical Habitat and no portion of the project area is located within or adjacent to a Minnesota Biological Survey site.

The IPaC results also noted that no bald eagles or migratory birds of concern have been documented within the vicinity of the project area. Since eagles and migratory birds are protected by federal statutes administered by the US Fish & Wildlife Service, if migratory birds or bald eagles are found occupying the project area during construction, any potential impacts would be permitted in accordance with all applicable state and federal laws.

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

Since the project area is primarily cultivated cropland, it provides little value as habitat for fish and wildlife, native ecosystems, or plant communities. Development of the project area is not anticipated to adversely affect any rare and/or protected species identified in federal and state databases. The treatment of stormwater within the project area and implementation of a SWPPP during construction would eliminate any indirect impacts from sedimentation to aquatic species in the surrounding water bodies.

The project area is not within a township containing known hibernacula or roosting sites of Northern long-eared bats, and suitable habitat is absent from the project area. As a result, no adverse effects to the Northern Long-eared bat are anticipated to occur from the proposed project.

The Monarch butterfly is listed as candidate species by USFWS and is not currently protected under the Endangered Species Act (ESA). Voluntary conservation measures for the Monarch butterfly are encouraged for development projects that occur within its range. Conservation measures would include planting native flowering vegetation species in landscaping that bloom spring through fall and remove/control invasive plant species present.

There is minor risk for the introduction and spread of invasive species from the proposed project. Project plans are for construction of buildings, impervious surfaces, and landscaped areas.

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

During construction all disturbed soils would be temporarily protected by sediment and erosion control measures that would be installed and maintained for the duration of the proposed project.

15. **Historic Properties:**
Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the 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.

A request was made to the Minnesota SHPO regarding historic structures, archeological sites and/or traditional cultural properties that may exist on or near the project site. The SHPO response indicated that due to the nature and location of the proposed project, completion of a Phase I archaeological survey is recommended (Appendix B). The Phase I Cultural Resource Investigation was conducted, and report provided on July 6, 2022. Preliminary results found no cultural resources of significance on the project site. The report is pending review by the Minnesota SHPO office.

No properties within Eagle Lake or LeRay Township (including the project area) are listed on the National Register of Historic Places.

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.

There would be an increase in visual imprint within the project area since the proposed project would construct approximately 125 new residential buildings once all three stages are complete. However, there are no scenic views or vistas on or near the project area. The new residential structures would be of comparable size to existing residential buildings in the surrounding area and no taller than the surrounding buildings. There would be no unusual plumes, lighting, or glares from the proposed project. All exterior lighting would be provided in pedestrian walking paths and vehicle access points for safety and security purposes in a manner consistent with other residential structures in the area.

17. Air:

a. **Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.**

The residential buildings in the project area will use natural gas for building heating. The twin homes and single-family homes are expected to use natural gas for water heating and the 8-plex buildings are expected to use electric water heating systems. Natural gas may be used to provide heat for other appliances such as clothes dryers. The space heating and water heating systems for the buildings are currently under design but are not anticipated to significantly impact air quality.

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

As described further under item 20, there would be some increase in traffic as a result of the project which would result in an increase in the type of air pollution generated by vehicle exhaust. These air pollutants include carbon monoxide, nitrogen oxides, volatile organic compounds, particulate matter, greenhouse gases, and air toxics; however, the project would not substantially worsen traffic conditions and therefore a significant decrease in air quality is not expected.

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

Construction of the proposed project would generate temporary dust and odors during construction. Construction equipment would have gasoline and diesel engine emissions and would create temporary fugitive dust emissions, especially in the areas where soil would be excavated, transported, and placed. The fugitive dust emissions would be controlled by watering, sprinkling, and/or application of calcium products as necessary and appropriate.

Odors may be generated from operation of construction equipment engines and construction truck traffic. Odor mitigation measures would include minimizing equipment used on-site, minimizing idling, maintaining engines in good repair, and minimizing idling truck traffic through scheduling.

After the proposed development site buildings and roadways are constructed, the project is not anticipated to produce any ongoing substantial odors or dust.

18. **Greenhouse gas (GHG) emissions/Carbon footprint**

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

    Table 18-1 includes a summary of the potential GHG emissions for this project. The supporting calculations are included in Appendix D. Emission calculations are based on conservative assumptions, and therefore likely overestimates of actual emissions that may be generated from the proposed project.

    The primary greenhouse gases emitted from the buildings include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from the combustion of fossil fuels. A common way to report emissions of these gases is to multiply the emissions of each gas (in tons) by its global warming potential (GWP) and to report the total GHG emissions as total carbon dioxide equivalents (CO_2e).

    The following assumptions were made in estimating the greenhouse gas emissions from the project site buildings:

    - Natural gas will be used for building heating in all buildings, as well as for water heating in twin homes and single-family homes. The estimated annual natural gas usage for all residential buildings at the proposed project site is approximately 7.8 million cubic feet (mmcf) per year.

    - Electricity will be used for water heating in 8-plex buildings. Other electricity uses at all buildings will include air conditioning, refrigeration, and other uses.

    The GHG emissions from the residential buildings are estimated to be approximately 466 tons per year (tpy) of CO_2e.

    Other direct sources of emissions added under Scope 1 include:

    - Land Use Change
    - Mobile Sources (vehicle tailpipe emissions) from for onsite operations
    - Mobile Sources for construction

    Mobile source emissions associated with onsite building operations (deliveries, building maintenance, etc.) are expected to be minimal and infrequent, and have not been quantified.

    With emissions from these sources included, the total Scope 1 GHG emissions are approximately 555 tpy of CO_2e.

Indirect Emissions include Scope 2 emissions from offsite electricity generation for electricity consumed at the residential buildings (approximately 478 tons per year of CO_2e) and Scope 3 emissions from offsite waste management (approximately 145 tons per year of CO_2e). Actual electricity consumption would be dependent on the efficiency of the water heating systems, electrical fixtures, and appliances installed in the buildings. Actual types and quantities of wastes generated at the residential buildings would depend on the types of wastes generated and waste diversion programs implemented by the municipality (e.g., diversion of compostable organic materials and/or diversion of recyclable materials).

Table 18-1. Greenhouse Gas Emissions

Direct Emissions (Scope 1)

Emission Source		**CO_2e TPY**
Residential Building Natural Gas Use		466
Total Residential Building GHG Emissions		**466**
Other Scope 1 Emission Sources	Mobile Sources (Onsite Operations) [1]	-
	Mobile Sources (Construction)	**87.5**
	Land-Use (Construction)	**2.4**
All Scope 1 Emissions	**Total Direct Emissions**	**555**

[1] Following the completion of the construction phase, mobile source emissions associated with onsite operations (deliveries, maintenance, etc.) are expected to be minimal and infrequent, and have not been quantified.

Indirect Emissions (Scope 2 and 3)

Scope	**Emission Source**	**CO_2e TPY**
Scope 2	Off-Site Electricity Production	**478**
Scope 3	Off-Site Waste Management	**145**

Atmospheric Removal of GHGs

Scope	**Emission Source**	**CO_2e TPY**
Other	Land-Use (Sinks) [2]	-

[2] Proposed land-use changes are not expected to produce greenhouse gas reductions (sinks).

Total Emissions including Sinks = Direct Emissions + Indirect Emissions + Sinks

Scope	**Emission Source**	**CO_2e TPY**
Scope 1, 2, and 3	**Total**	**1,179**

b. GHG Assessment

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

The greenhouse gas emissions mitigation strategies considered for this project include the construction of medium-density housing units, installation of high-efficiency appliances, and installation of LED lighting fixtures.

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

In a white paper prepared by Jonathan Rose Companies titled "Location Efficiency and Housing Type - Boiling it Down to BTUs," March 2011 (https://www.epa.gov/sites/default/files/2014-03/documents/location_efficiency_btu.pdf), Jonathan Rose Companies presents data from the Energy Information Administration's 2005 Household Residential Energy Consumption Survey (RECS) that demonstrates that single-family attached housing units consume an average of 18% less energy annually than similarly sized single-family detached housing units. The author of this white paper attributes this difference primarily "due to the inherent efficiencies from more compact size and shared walls among units." Whether building heating utilizes point-of-use natural gas combustion or electricity generated at a fossil-fuel powered power plant, this increase in energy efficiency per housing unit as compared to single-family detached housing units results in direct reductions of greenhouse gas emissions.

The installation of high-efficiency appliances and LED lighting fixtures are currently under consideration.

iii. Quantify the proposed project's predicted new 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.

It is conservatively assumed that the project lifetime is 30 years. Over this 30-year period, the estimated greenhouse gas emissions associated with this project are approximately 35,400 tons of CO_2e. As discussed earlier, this estimate includes emissions from onsite natural gas combustion, construction-phase mobile source emissions, and electricity usage. This estimate does not include mobile source emissions associated with vehicle trips to and from the site.

The estimated electricity usage from the project structure is included in the overall greenhouse gas emissions from offsite energy generation provided in Table 18-1 above. As Minnesota's power generation portfolio shifts toward using more renewable power generation sources such as wind and solar, the greenhouse gas emissions from offsite power generation would continue to be reduced over the lifetime of the project.

19. **Noise:**

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

During Construction

There would be temporary noise impacts as a result of construction of the new residential units, park space and associated infrastructure. Construction would include the use of heavy equipment consisting of but not limited to cranes, lifts, scrapers, dump trucks, backhoes, bulldozers, and rollers. Construction noise is expected to occur only during typical daytime working hours. Use of loud equipment is expected to occur in short durations. The nearby residences are the closest receptors but are separated from the project site by South Agency Street or a line of trees and should not be affected by the temporary increase in noise during construction.

Operations

The proposed project is not expected to generate significant noise. Noise generated from the project area after construction would be negligible compared to the noise from surrounding roadways including Highway 14. Additional traffic volume on South Agency Street due to the project is not expected to greatly increase roadway noise experienced at the site. Therefore, the proposed project is not expected to contribute to excessive noise or nonconformance with the noise standards on or off-site.

20. **Transportation:**

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

The proposed project would increase passenger vehicle traffic in the surrounding vicinity and provide parking for vehicles with each housing unit. However, on a regional scale the increase in vehicle traffic is expected to be minimal and based on projections by Jones, Haugh & Smith, Inc. traffic from the proposed project would not exceed the mandatory traffic study thresholds of peak hour traffic exceeding 250 vehicles or 2,500 daily trips.

Based the project's 228 total units (100 single family and 128 multi-family), and the Institute of Transportation Engineers (ITE) Trip Generation Report 10th Edition rates of 10 trips per day and 1 per peak hour for single family units, and 7 trips per day and 0.7 trips per peak hour for multi-family units, the project would result in 1,896 trips per day and 190 trips per peak hour. Peak hours for residential areas are usually defined as 7-9 am and 4-6 pm.

Public transportation within Eagle Lake is currently provided by the City of Mankato through a pilot program called Kato Flex, with bus service to Mankato. Participants currently register and are picked up at their home address with drop off available anywhere bus service is provided within Mankato. Bus service is available through Kato Flex Monday through Friday from 6 am to 6 pm. The use of public transportation would not be disrupted by the construction of the project.