



In accordance with the Public Utilities Commission's September 26, 2023, *Order Approving Scope of Environmental Review and Denying Stay*, Energy Environmental Review and Analysis staff provides herein the final scoping decision for the environmental impact statement to be prepared for the Otter Tail to Wilkin Carbon Dioxide Pipeline Project. Consistent with the Order, staff inserted the word "reasonable" in the *Incorporation of Mitigation Measures Identified Through Public Comments* section on page 3. Additionally, because the draft scoping decision was part of a larger document, staff spelled out acronyms and abbreviations at first use and corrected one typographical error.

A handwritten signature in blue ink, appearing to read 'A. Levi', positioned above a horizontal line.

Andrew Levi  
Energy Environmental Review and Analysis

## **Final Scoping Decision**

Otter Tail to Wilkin Carbon Dioxide Pipeline Project

Docket No. IP 7093/PPL-22-422

## INTRODUCTION

Energy Environmental Review and Analysis (EERA) will prepare an environmental impact statement (EIS) on behalf of the Public Utilities Commission (Commission) for the Otter Tail to Wilkin Carbon Dioxide (CO<sub>2</sub>) Pipeline Project (project). The EIS will include the information required for the Commission to make a route permit decision for the project. It will also inform governmental agencies making other permit and approval decisions.

The EIS will be prepared in accordance with Minnesota Rule 4410.2100 to 4410.2800. It will describe the project, the existing environment, and the human and environmental resources potentially affected by the project. It will provide information about potential direct and indirect impacts—both positive and negative—resulting from construction, operation, and maintenance of the project. Decommissioning of the project will be discussed. The EIS will describe mitigation measures that could reasonably be implemented to reduce or eliminate identified negative impacts. The EIS will identify impacts that cannot be avoided and irreversible and irretrievable commitments of resources.

Data and analyses in the EIS will be commensurate with the importance of potential impacts and the relevance of the information to consider mitigation measures. Consideration will be given to the relationship between the cost of data and analyses and the relevance and importance of the information in determining the level of detail to provide in the EIS. Less important material may be summarized, consolidated, or simply referenced.

The EIS will list information sources. If relevant information cannot be obtained within timelines prescribed by applicable statute and rule, the costs of obtaining such information is excessive, or the means to obtain it is unknown, a statement that such information is incomplete or unavailable and the relevance of the information in evaluating potential impacts or alternatives will be included in the EIS.

The issues outlined below will be analyzed in the EIS. This outline is not intended to serve as a table of contents for the document itself. The EIS will incorporate the Scoping environmental assessment worksheet (EAW) by reference.

## ALTERNATIVES

Pursuant to Minnesota Rule 4410.2300(G), an EIS must compare the potentially significant impacts of a proposal with those of other reasonable alternatives to the proposed project. The EIS should include one or more of each of the following types of alternatives or provide an explanation of why no alternative of a particular type is included:

- Alternatives sites (routes),
- Alternative technologies,
- Modified designs or layouts,
- Modified scale or magnitude,
- Alternatives incorporating reasonable mitigation measures, and
- No action alternative.<sup>1</sup>

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<sup>1</sup> Minn. R. 4410.2300(G).

Minnesota Rule 4410.2300(G) states that an alternative may be excluded from detailed analysis in an EIS if “it would not meet the underlying need for or purpose of the project, it would likely not have any significant environmental benefit compared to the project as proposed, or another alternative, of any type, that will be analyzed in the EIS would likely have similar environmental benefits but substantially less adverse economic, employment, or sociological impacts.”

Whether an alternative meets the underlying purpose of a project therefore can be used to determine whether to exclude an alternative from detailed analysis in an EIS. In effect, the purpose statement defines the range of reasonable alternatives to be studied. The purpose of the project is as follows:

The purpose of the project is to capture and transport CO<sub>2</sub> from the Green Plains ethanol plant via pipeline to permanent underground sequestration facilities in North Dakota and to reduce the carbon intensity score of ethanol produced at the Green Plains ethanol plant and enhance its marketability in low-carbon fuel standard markets.

### **Project**

The EIS will evaluate the applicant’s project including the applicant’s adjustments provided during scoping, which included one route adjustment, nine alignment adjustments, modifications to the capture facility, and minor changes to additional temporary workspace and access roads. (Map 1)

### **No Action Alternative**

The EIS will describe expected conditions if a pipeline route permit was not granted, and the project was not constructed. Ethanol production could decrease or increase at the Green Plains ethanol plant. The EIS will discuss variable levels of ethanol production within the no-action alternative but will not try to predict future ethanol production.

### **Alternative Sites**

The project is linear infrastructure; accordingly, alternative sites are alternative routes, that is, alternative paths for delivering CO<sub>2</sub> by pipeline between the applicant’s designated endpoints. The EIS will evaluate alternative routes:

*CURE Alternative 2* This alternative starts at the Green Plains ethanol plant and travels west along County Road 116 to County Highway 11, then follows 240th Street into Wilkin County where it turns into 320th Street, before continuing to the Minnesota-North Dakota border. (Map 2)

*CURE Alternative 3* This alternative starts at the Green Plains ethanol plant, travels west along County Highway 116 and County Highway 11, continuing onto 240th Street. The route then turns south approximately 0.95 miles from the intersection of County Highway 11, 240th Street, and 110th Avenue, along the Otter Tail/Wilkin County border. The route continues south until turning west on Highway 210, then turns south again along 330th Avenue. Continuing south, the route would eventually connect with the preferred route near the intersection of 370th Street and 330th Avenue. (Map 3)

The Commission will not evaluate other CO<sub>2</sub> pipelines (existing, proposed, or newly constructed) that might be utilized to meet the purpose of the project.

### **Alternative Technologies**

The Commission will evaluate alternative technologies.

*Agricultural Practices* The EIS will evaluate a suite of agricultural practices could be used to reduce the carbon intensity of the ethanol produced at the Green Plains ethanol plant—essentially requiring farmers selling corn to the ethanol plant to implement certain agricultural practices. Different practices could include reduced tillage, reduced fertilizer application, cover cropping, or strip and no till. These practices could plausibly reduce or permanently sequester CO<sub>2</sub> sufficient to match the permanent sequestration levels proposed by the project. Avoiding emissions is functionally the same as capturing and permanently sequestering carbon that would otherwise be released to the air. Staff recommends that this alternative technology be included for study in the EIS as it is plausible that these agricultural practices—alone or in combination with other alternatives—could reduce the carbon intensity score of the ethanol produced at a level consistent with the project’s purpose or match the benefits of transporting carbon dioxide away from the region for geological storage.

Staff notes it might be plausible that, when combined with the *Energy Use and Efficiency Changes* alternative below, the need for geological storage could be substantially reduced via a combination of lowered emissions and increase soil sequestration.

*Energy Use and Efficiency Changes* The EIS will evaluate a suite of energy use and efficiency changes such as combined heat and power systems, co-generation, and renewable energy could be used to reduce the carbon intensity of the ethanol produced at the Green Plains ethanol plant. These actions could be undertaken by the Green Plains ethanol plant itself and be required of farmers selling corn to the ethanol plant. Staff recommends this alternative technology be included for study in the EIS as it is plausible—though staff cannot yet say to what extent—that these energy use changes could reduce the carbon intensity score of the ethanol produced at a level consistent with the project’s purpose.

Staff notes it might be plausible that, when combined with the *Agricultural Practices* alternative above, the need for geological storage could be substantially reduced via a combination of lowered emissions and increase soil sequestration.

### **Modified Designs or Layouts**

The EIS will analyze whether an alternative pipe diameter is feasible to the extent that it would result in a significant environmental benefit over the project. EERA will work with the applicant to define this alternative. Specifications will be determined during development of the EIS. All specifications will be based on current PHMSA regulations. If the modified design is feasible, it would be further studied in the EIS. If it is not feasible, the EIS would provide the reasons why and the alternative would be excluded from detailed analysis.

### **Alternative Scale or Magnitude**

The EIS will analyze whether a reduced throughput is feasible to the extent that it would result in a significant environmental benefit over the project. If the modified throughput is feasible, it would be further studied in the EIS. If it is not feasible, the EIS would provide the reasons why and the alternative would be excluded from detailed analysis.

### **Incorporation of Mitigation Measures Identified Through Public Comments**

The EIS will consider all reasonable mitigation measures suggested through public comment. The EIS will identify and recommend reasonable mitigative measures for the project. The EIS will study the use of independent environmental monitors during construction of the project.

## ISSUES

The following issues will be studied in the EIS. Pipeline safety is entirely within the purview of PHMSA. In considering and potentially issuing a route permit for the project, the Commission may not set safety standards (Minnesota Statute 216G.02, Subd. 3). The Commission may, however, require mitigation measures for potential impacts associated with the project. To the extent safety related issues are discussed, the EIS will make every effort to point out any conflict with applicable federal regulations.

### 1.0 Project Information

*The EIS will provide information about the proposed project, including:*

- Purpose
- Description
- Location
- Route Width and Right-of-Way Requirements
- Engineering and Design (including shut-off valve locations)
- Construction (including summer and winter conditions)
- Restoration
- Operation and Maintenance
- Decommissioning
- Cost and Accessibility
- Schedule

### 2.0 Regulatory Framework

*The EIS will discuss the regulatory framework associated with the project:*

- Certificate of Need
- Route Permit
- Environmental Review Process
- Federal Regulations
- Other Permits or Approvals

### 3.0 Affected Environment, Potential Impacts, and Mitigative Measures

*The EIS will discuss the following resources and potential impacts. The EIS will analyze potential impacts during construction, normal operation, and accident conditions, that is, an accidental release of CO<sub>2</sub> from the pipeline. The EIS will also analyze potential impacts associated with decommissioning of the pipeline.*

#### 3.1 Human Settlements

##### **Aesthetics**

The EIS will discuss aesthetic and visual resources in the project area. Visual changes that would occur due to the project will be described.

**Cultural Resources**

The EIS will identify cultural resources and sacred places in the project area. Impacts to tribal trust assets, such as historic hunting grounds, water, lands, and treaty stipulations will also be evaluated. The EIS will evaluate potential impacts to wild rice and its cultivation.

**Land Use and Zoning**

The EIS will discuss current and future land use and zoning. The EIS will review existing land use and zoning plans and ordinances. The EIS will discuss potential impacts to ongoing land uses and whether the project or alternative routes are consistent with current zoning and ongoing land uses.

**Environmental Justice**

The EIS will use U.S. Census Bureau information on race, ethnicity, and poverty rates to determine the potential for disproportionate and adverse effects to tribal, minority, or low-income populations.

**Noise**

The EIS will identify potential noise sources associated with the project. The EIS will discuss short- and long-term noise impacts associated with the project.

**Populated Areas**

The EIS will identify populated areas in the project area, including residences outside urban areas. Potential impact to populated areas and residences will be discussed.

**Public Health and Safety**

The EIS will analyze and discuss potential human health and safety impacts of the project, including potential impacts associated with a pipeline rupture. The analysis will draw on rupture modeling and analysis (see "Studies" section below). Emergency management will be discussed as well as a range of mitigative techniques to address these concerns including training and equipment reimbursement, leak detection equipment, use of an odorant, and public education. Alternative inspection schedules and redundant monitoring will be discussed.

To assess emergency response capabilities in case of a pipeline rupture, the EIS will identify law enforcement agencies, city and community fire departments, volunteer fire departments, rural fire departments, and fire protection districts in the project area. The EIS will also identify hospitals, emergency response centers, emergency medical services, and ambulance districts.

**Public Services and Infrastructure (including right-of-way sharing and utility corridors)**

The EIS will assess potential impacts on public utilities that serve residents and business. Road crossings and associated restoration should damage occur will be discussed. The EIS will identify existing electric and natural gas utilities that could be crossed or affected by the project. Impacts to the electrical grid and local water supply will be analyzed.

**Recreation**

The EIS will identify recreational opportunities in the project area. Potential impacts to these activities or areas will be discussed.

**Socioeconomics**

The EIS will discuss local economies with regional and project-specific significance and will evaluate economic impacts to local economies. Employment will be discussed, including changes in the number

of temporary and permanent jobs associated with the project. Impacts to property values as a result of the project will be discussed.

### **Tribal Treaty Rights**

The EIS will summarize tribal rights reserved through treaties and will evaluate the potential impacts on natural resources associated with these rights.

## 3.2 Economies

### **Agriculture**

The EIS will evaluate potential impacts to agricultural areas and livestock, including prime farmland and potential crop damages and losses. The EIS will discuss potential impacts associated with depth of cover, tile lines, and general damage to farming operations (for example, broken fence).

### **Commercial**

The EIS will evaluate potential impacts to commercial properties.

### **Industrial**

The EIS will evaluate potential impacts to industrial properties.

### **Forestry**

The EIS will evaluate potential impacts to forestry operations.

### **Mining**

The EIS will evaluate potential impacts to mining operations.

### **Tourism**

The EIS will identify tourism centers and designated areas such as trails. The EIS will also assess potential economic impacts to local and regional recreational tourism.

## 3.3 Archaeological and Historic Resources

Sites that are eligible for, listed in, or nominated but currently unevaluated for listing in the Minnesota State Historic Sites Network and the Minnesota State Register of Historic Places will be included in the EIS. In addition, the EIS will assess impacts to historic properties that are eligible for, listed in, or unevaluated for listing in the National Register of Historic Places.

## 3.4 Natural Environment

### **Air**

Air quality impacts associated with the proposed project include associated emissions from fugitive dust and fossil-fuel fired equipment. The air quality impacts analysis will include a review of the emission inventory assessment for criteria pollutants and hazardous air pollutant emissions related to construction and operation of the project. The EIS will review air quality impacts considering federal, state, and local air pollution standards and regulatory requirements, where applicable.



## **Climate Change**

GHG emissions will be assessed due to the project in accordance with EQB Guidance.<sup>2</sup> Construction impacts will include emissions from construction equipment and vehicles, and as well as changes in land use along the pipeline right-of-way. Operational impacts will include operations of the pipeline and capture facilities. Different capture rates and their methodologies will be discussed. The EIS will identify the types of impacts that climate change may have on the environment in Minnesota. The EIS will also consider the potential impacts of climate change on the project itself, such as increased rain and flooding potential.

The EIS will study the potential indirect effects of enhanced oil recovery (EOR). The EIS will study the expected effects on GHG of EOR on GHG emissions or discuss why the effects are too remote or speculative to measure.

## **Geology**

The EIS will assess geology and topography to determine the presence of slopes, including steep vertical and side slopes, using available geologic and topographic studies and databases. These areas will be evaluated in relation to the potential for geohazards, for example, erodibility, landslides, and seismic-related instability.

## **Public and Designated Lands**

The EIS will identify public and designated lands and analyze potential impacts of the project on these areas.

## **Rare and Unique Resources**

The EIS will analyze natural resources with special protection and management. These resources include state and federally listed threatened and endangered species and state and federally designated areas, for example, Scientific and Natural Areas and Minnesota Biological Survey Sites of Biodiversity Significance.

## **Soils**

Potential impacts on soil resources such as topsoil loss or mixing with subsoil, crowning, winter conditions (frozen ground), compaction, erodibility, and potential alteration in soil temperatures from operation of the pipeline will be assessed. The potential effects of frost-heaving (freeze and thaw cycle) on the pipeline will also be assessed.

## **Vegetation**

Vegetation will be assessed through geospatial analysis. Potential impacts to vegetation, including oak trees, will be discussed. The EIS will evaluate the presence and potential for spread of invasive species. Use of a vegetation management plan for the project will be studied.

## **Water Resources**

The EIS will identify water resources, including floodplains, and potential impacts to these resources. Water use and appropriation will be discussed. Waterbody crossing will be discussed, including the

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<sup>2</sup> Environmental Quality Board (July 2023) *Environmental assessment worksheet (EAW) guidance: Developing a carbon footprint and incorporating climate adaptation and resilience*, retrieved from: <https://www.egb.state.mn.us/sites/default/files/documents/2023%20EAW%20Climate%20Guidance.pdf>.

isolated dry trench method and HDD method. Shut-off valve locations will be discussed. Use of sheet piling and trench breaker placement will be discussed.

### **Wetlands**

Wetlands will be identified according to the National Wetlands Inventory (NWI) and Minnesota NWI updates, where available. Special feature wetlands such as calcareous fens and state or federal wetland mitigation bank sites will also be identified. Potential impacts will be discussed.

### **Wildlife and their Habitats**

Typical wildlife species, including aquatic, avian, and terrestrial species, in the project area will be identified. Potential impacts will be discussed.

### 4.0 Unavoidable Impacts

Impacts that cannot be avoided will be identified.

### 5.0 Irreversible and Irretrievable Commitments of Resources

Resource commitments are irreversible when it is impossible or very difficult to redirect that resource to a different future use; an irretrievable commitment of resources means the resource is not recoverable for later use by future generations. These commitments will be identified in the EIS.

### 6.0 Cumulative Potential Effects

Cumulative potential effects could result from the incremental effects of the Project in addition to other projects, including future projects, in the environmentally relevant area that might reasonably be expected to affect the same environmental resources.<sup>3</sup>

With respect to the cumulative potential effects of ethanol production, the EIS will review existing studies of the human and environmental impacts of ethanol production and provide a synthesized analysis of potential impacts to human and environmental resources. Where differences of opinion are evident, those differences will be discussed, but no attempt will be made to resolve those differences. The EIS will not attempt to predict future ethanol production at the Green Plains ethanol plant or in Minnesota generally. Rather, the EIS will provide discussion of possible production scenarios and bracket potential impacts within these hypothetical scenarios.

## **STUDIES**

A *Pipeline Rupture Analysis Study* will be developed to support the assessment of environmental impacts from an accidental release of CO<sub>2</sub> from the project.

EERA will engage a qualified consultant to conduct computer modeling and analysis. This study and its associated report will contain the following information:

Project Design Summary: The study will summarize the proposed CO<sub>2</sub> design and engineering specifications. This is not an engineering review or verification of design but a summary of the

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<sup>3</sup> Minn. R. 4410.0200, Subp. 11a

applicant's proposed project engineering information. This information will be used for modeling purposes.

Computer Software: The study will identify and compare various computer modeling software packages that are available to evaluate and assess a potential release of CO<sub>2</sub> from a pipeline. This will be a representative, not exhaustive, listing and comparison of software. The purpose is to better understand available modeling software packages related to CO<sub>2</sub> release, how they work, limitations of their use, and their utility in assessing risk.

Existing Studies: The study will identify and summarize existing studies concerning CO<sub>2</sub> dispersion from a pipeline rupture.

Review and Verify Applicant's Model: The study will independently review and verify that the applicant's approach, inputs, assumptions, outputs, results, and analysis that it intends to provide to PHMSA are consistent with conservative evaluation of a potential release of CO<sub>2</sub> from the project. The study may utilize CFD or other modeling tools where appropriate based on topography and other factors to "spot check" results. The study will not conduct CFD or other modeling along the entire length of the project. Models used will be appropriate for the project and consistent Minnesota Rule 4410.2300(H). A written summary and analysis of the applicant's modeling results will be provided in the report.

Independent Modeling: The study will independently model CO<sub>2</sub> releases at representative locations under a variety of environmental conditions. Variables will be developed that could include wind speed, humidity, temperature, etc. Realistic inputs will be used given the project's location. Modeling inputs and conditions will be determined based on documented historical averages in the project area as the study is developed. The study will report worst-case scenarios and conduct sensitivity analysis to determine what variables are most important at select locations. Hazard zones will be discussed.

Report: The study will conclude with a report, which will be included as an appendix to the draft EIS. Figure(s) showing plume dispersion(s) from independent modeling results will be included.

#### **IDENTIFICATION OF PERMITS**

The EIS will include a list and description of permits from other governmental agencies that might be required for the project.

#### **ISSUES OUTSIDE THE SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT**

The EIS will not consider the following:

- Any alternative not specifically identified for study in this scoping decision.
- The two additional MCE Project pipelines proposed for south-central Minnesota.
- Easements and acquisition of land for the pipeline.
- The appropriateness of Federal and state policies regarding carbon capture and ethanol. The EIS may reference these policies; however, the EIS will take no position for or against these policies.

- The appropriateness of PHMSA regulations and related standards for CO<sub>2</sub> pipelines. The EIS may reference certain PHMSA standards; however, the EIS will not address the adequacy of these standards.

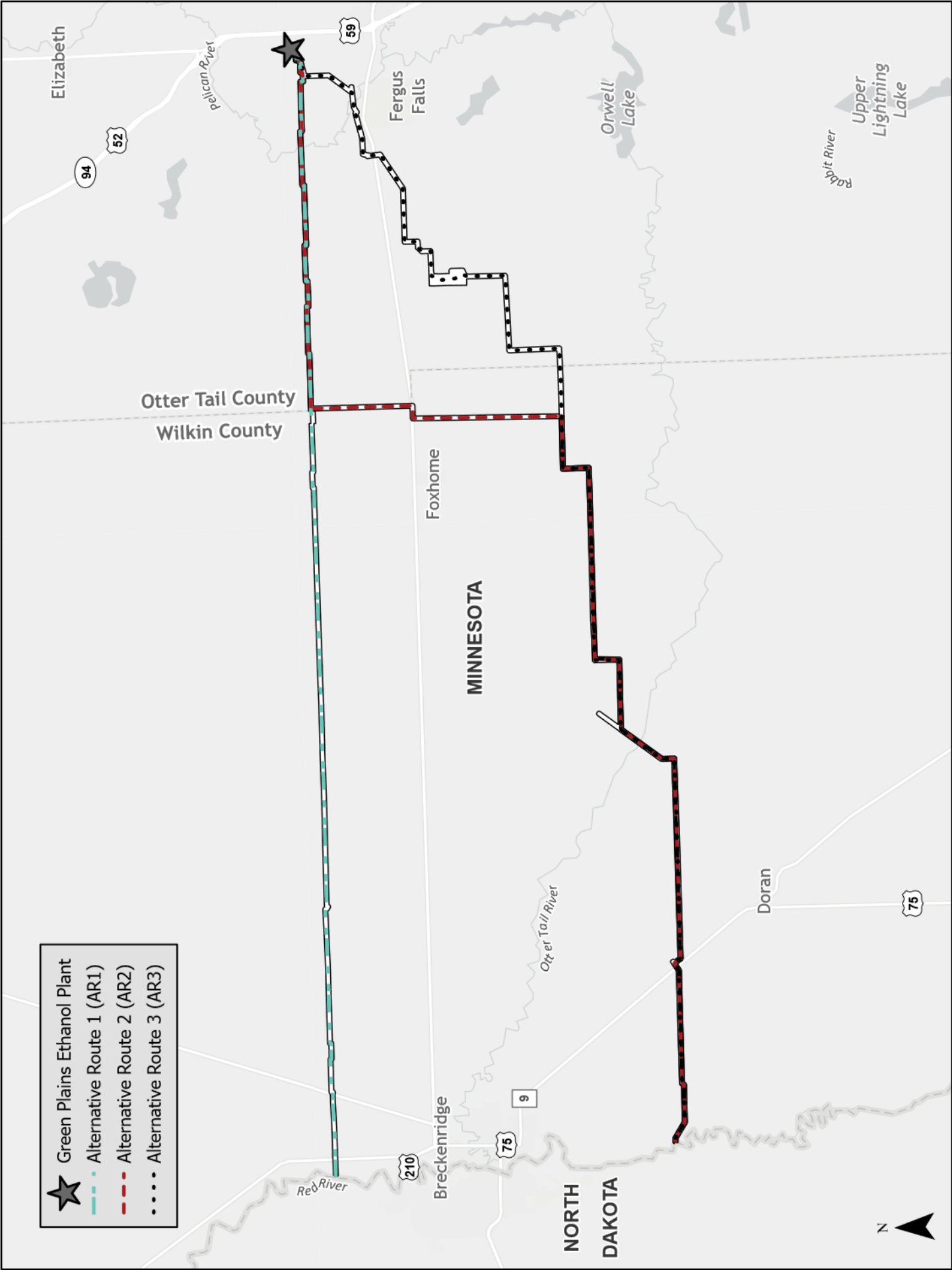
### **SCHEDULE**

Upon issuance of the EIS scoping decision and preparation notice, preparation of the draft EIS will begin. After the draft EIS is complete and made available, public meetings will be held in the project area with an associated public comment period. This process allows the public to provide comments on the draft EIS. At the conclusion of the draft EIS comment period, EERA staff will respond to substantive comments received and issue a final EIS. Following issuance of the final EIS, a public comment period will allow the public to comment on the adequacy of the EIS. In addition, public hearings will be held in the project area with an associated public comment period. Upon completion of the hearing process, the Commission will then decide whether to issue a route permit for the project.

An approximate schedule is as follows: EIS Preparation Notice (Summer 2023), Draft EIS (Winter 2023), Final EIS (Spring 2024), Adequacy Decision (Spring/Summer 2024).

Map

Route Alternatives



- ★ Green Plains Ethanol Plant
- Alternative Route 1 (AR1)
- - - Alternative Route 2 (AR2)
- • • Alternative Route 3 (AR3)

