

Environmental Assessment

Proposed Sartell Substation and 115 kV Transmission Line

Stearns County, Minnesota

Stearns County

May 2009

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List of Acronyms Used in this Document

ACRONYMS	
Commission	Minnesota Public Utilities Commission
CSAH	County State Aid Highway
CUP	Conditional Use Permit
dB	Decibel
dB(A)	Decibel, A-weighted
DNR	Minnesota Department of Natural Resources
EA	Environmental Assessment
EMF	Electromagnetic fields
EQB	Minnesota Environmental Quality Board
GRE	Great River Energy
kV	Kilovolt
MPCA	Minnesota Pollution Control Agency
NAC	Noise Area Classification
NPDES	National Pollutant Discharge Elimination System
ROW	Right-of-way
SEA	Stearns Electric Association
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

1.0 Introduction

1.1 Proposed Project and Project Need

Great River Energy (GRE) is proposing a 115 kilovolt (kV) transmission line project near Sartell in Stearns County, Minnesota (Figure 1-1). Rapid and continuous residential and commercial development in LeSauk Township and the cities of Sartell, Waite Park, St. Joseph and St. Cloud has led to increasing loads on the existing electric distribution system operated by Stearns Electric Association (SEA). Despite the recent economic slowdown, there is strong evidence that customer demand for electricity will continue to grow at a rapid rate in this area.

To address these needs, GRE proposes to increase the voltage capacity of the existing LeSauk distribution substation (owned by SEA), rebuild a short section of existing GRE 69 kV transmission line to 115 kV, and construct approximately two miles of new 115 kV transmission line to serve a new distribution substation that will be constructed by Stearns Electric Association.

1.2 Project Description and Location

The project will be constructed in two phases as described below.

Phase 1

The voltage capacity of the existing LeSauk distribution substation, located in the southwest corner of the intersection of County State Aid Highway (CSAH) 133 and 320th Street (Figure 1-2), will be increased from 69 kV to 115 kV. This conversion will require the upgrade of 0.4 miles of an existing GRE line from 69 kV to 115 kV in Sections 1 & 2, T124N, R29W (shown in purple on Figure 1-2). This upgraded line will extend southwest along CSAH 133 from the LeSauk Substation and connect to an existing Xcel Energy transmission line that crosses CSAH 133 in St. Joseph Township.

This phase of the project is scheduled to be constructed in 2009. The conversion of the LeSauk Substation will relieve electric loading issues on the West St. Cloud Substation and relieve low voltage problems in the surrounding electric transmission system.

Phase 2

SEA will construct a new Sartell 115 kV distribution substation in Section 30, Township 125, Range 28, in the northeast corner of the intersection of CSAH 4 and CSAH 133 (see Figures 1-1 and 1-2). The roughly three-acre parcel of land upon which the substation will be constructed is part of a larger tract of land that was recently annexed by the City of Sartell through an orderly annexation process with LeSauk Township.

Figure 1-1

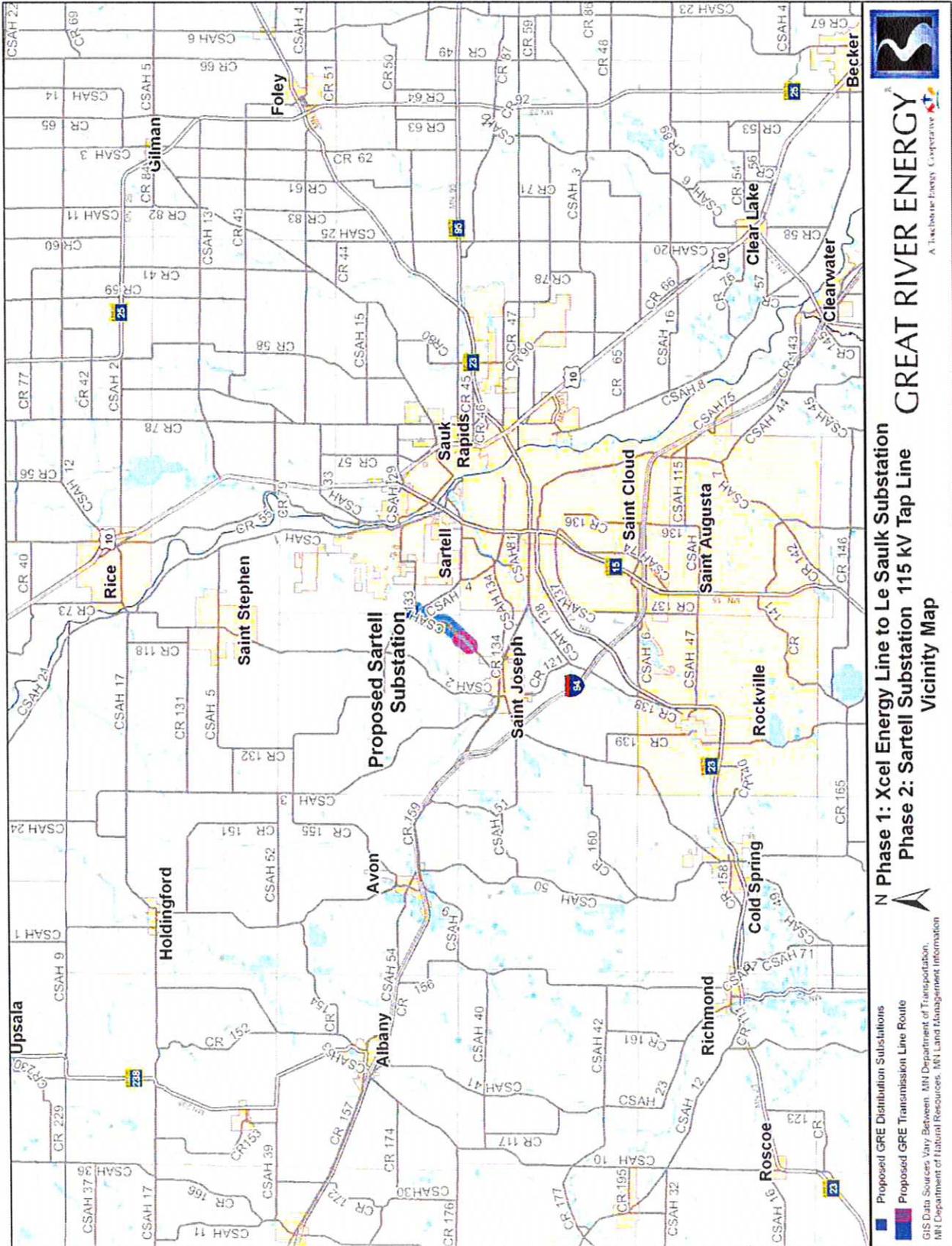
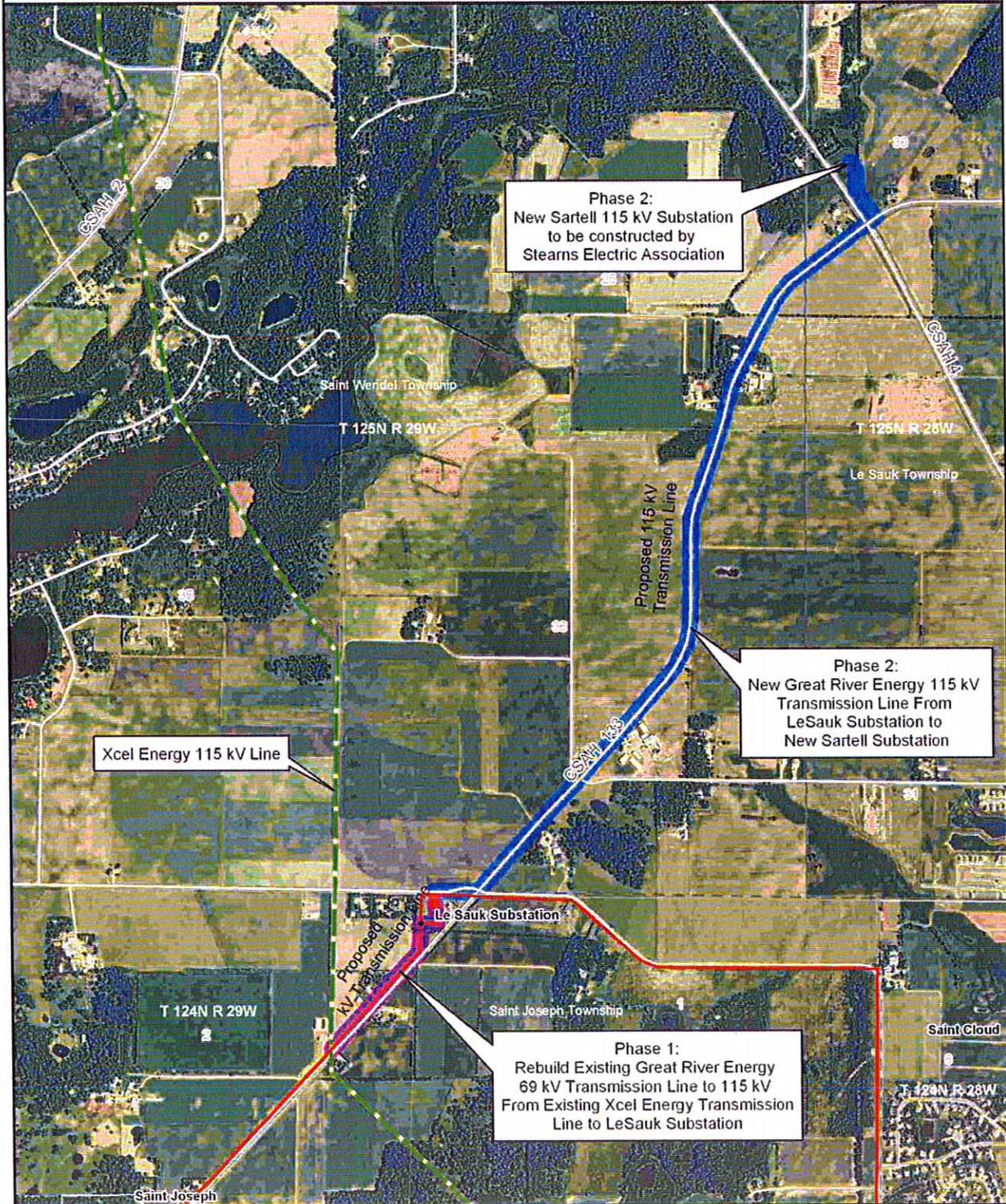


Figure 1-2

Project Map



Great River Energy will construct approximately two miles of new 115 kV transmission line to serve this new distribution substation. The line will be located along CSAH 133 in Section 30, T125N, R28W and Sections 25 & 36, T125N, R29W in Stearns County, Minnesota (shown in blue on Figure 1-2). The existing SEA three-phase distribution line along CSAH 133 will be buried.

This phase of the project is proposed to be built in 2010.

Poles will be single-pole structures and will generally be 70 to 75 feet in height and will be located five feet off of the road right-of-way (ROW) on private property. Guy wires and anchors may be required in some areas, although they will be minimized to the extent possible to reduce the impact on agricultural activities. The single circuit transmission lines will carry four wires (three energized and one non-energized for lightning protection).

These components are discussed in more detail in Section 3.

1.3 Project Cost Estimate

The estimated costs for the project are:

GRE's transmission facilities -	\$1.7 million
SEA's substation	<u>\$1.2 million</u>
Total	\$2.9 million

1.4 Project Schedule

Project permitting activities and the environmental review will start in spring 2009 and continue into early summer 2009.

Easement acquisition is tentatively scheduled to occur in early summer 2009 for the LeSauk Substation conversion and line upgrade, and spring or summer 2010 for the Sartell Substation and new two mile transmission line.

Conversion of the LeSauk Substation is proposed to begin in late fall 2009.

Construction of the Sartell Substation and two-mile transmission line is proposed to begin in fall 2010, with an anticipated in-service date of winter 2010.

2.0 Regulatory Framework

2.1 Permit Requirement

This project falls under the State of Minnesota's Power Plant Siting Act, (Minnesota Statutes § 216E.01-.18 and Minnesota Rules Chapter 7849) for transmission projects over 100 kV and requires a permit from the Minnesota Public Utilities Commission (Commission). However, for eligible projects, a utility may apply to the local unit of government that has jurisdiction over the project for approval instead of applying to the Commission (Minn. Rules 7849.6200). This proposed 115 kV project is eligible for local review.

Stearns County has agreed to act as the lead local unit of government with jurisdiction to approve the project. The County was afforded the opportunity to relinquish its jurisdiction by requesting that the Commission assume jurisdiction, but has elected to maintain jurisdiction of the project. As required by Minn. Rules 7849.6200 Subp.3, a project notice was sent to the Commission by GRE (see Appendix A). A copy of the same notice was also sent to those persons on the Power Plant Siting General Notification list.

2.2 Environmental Assessment Requirement

In accordance with Minn. Rules 7849.6200 Subp.5, an environmental assessment (EA) prepared by the local unit of government with jurisdiction over the project must be completed. The EA contains information on the human and environmental impacts of the proposed project and addresses methods to mitigate such impacts.

When the EA is complete, Stearns County must publish a notice in the Environmental Quality Board (EQB) Monitor that the EA is available for review, how a copy of the document may be reviewed, that the public may comment on the document, and the procedure for submitting comments to the County. A final decision on the project cannot be made until at least ten days after the notice appears in the EQB Monitor.

2.3 Public Participation/Scoping of Environmental Assessment

GRE held a public information meeting (open house format) on March 24, 2009. To notify the public of the open house, surrounding landowners were sent a letter and a public notice was printed in the local newspaper (Appendix A). Twelve landowners attended the event. The primary concern was the placement of the large steel switch structure on the Xcel Energy 115 kV transmission line at the south end of the project.

The rules require that the public be afforded the opportunity to participate in developing the scope of the EA before it is prepared. A survey requesting comments on the project and input on the scope of the EA was sent by Stearns County to all landowners within ¼ mile of the proposed corridor on April 3, 2009. The survey, survey responses received, and Great River Energy replies are provided in Appendix B. The Conditional Use Permit (CUP) request process is also open to the public as part of the respective review by the Stearns County Planning Commission at its regularly scheduled meetings. Prior to the

public hearing, notices are sent out to landowners located within ¼ mile of the project corridor and public hearing notices are published in the Stearns County official newspaper.

2.4 Conditional Use Permit

Stearns County is the legal governing body for all activities that may require permitting in the area. Stearns County requires a CUP for this project. GRE submitted a CUP Application for the transmission lines (Phases 1 and 2) to Stearns County on April 9, 2009. After the EA is finalized, notice of the EA has been published in the EQB Monitor, and the comment period requirements have been met, Stearns County will hold a public hearing and make a decision on GRE's request for a CUP.

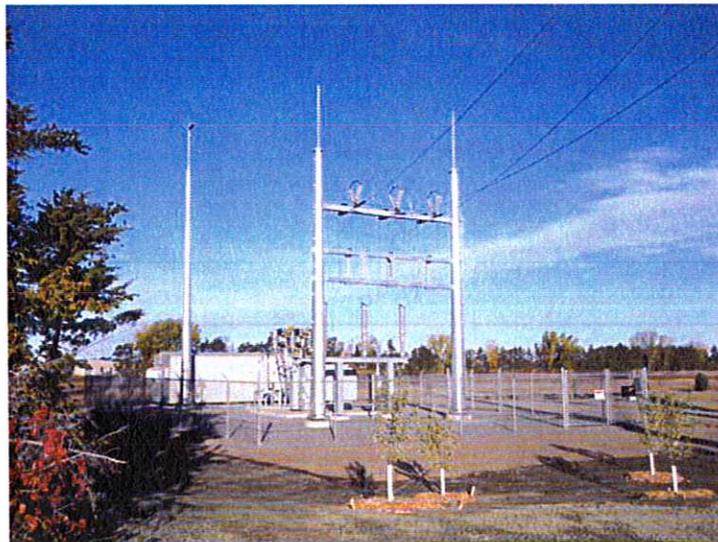
SEA will apply to the City of Sartell for a CUP for the Sartell Substation in first quarter 2010.

3.0 Engineering Design, Right-of-Way Acquisition, and Construction

3.1 Substation

Electric facilities in the Sartell Substation will include a 115/12.5 kV transformer. A typical 115 kV substation is shown in Figure 3-1 and the substation layout is provided in Figure 3-2.

Figure 3-1 Typical 115 kV Substation



Some equipment within the substation is filled with mineral oil for cooling. This equipment will be sitting on concrete pads with three inches of crushed rock covering the entire fenced-in area in the event of an equipment leak. Substation sites are inspected on a monthly basis to check for leaks.

The substation equipment will be enclosed in a 90' by 140' fenced area situated inside the 3-acre parcel. The fence will be designed to deter animals and to provide safety and security.

3.2 Transmission Line

The transmission line will be a single circuit design (Figure 3-3), consisting of three phase wires and a shield wire for lightning protection. The new 115 kV line will start at the new Sartell Substation, run southwest along CSAH 133, and terminate at the existing LeSauk Substation owned by SEA. The existing SEA three-phase distribution line along CSAH 133 will be buried.

The existing GRE 69 kV line to the south of the LeSauk Substation will also be upgraded to 115 kV and connect to the existing 115 kV Xcel Energy transmission line.

Figure 3-2

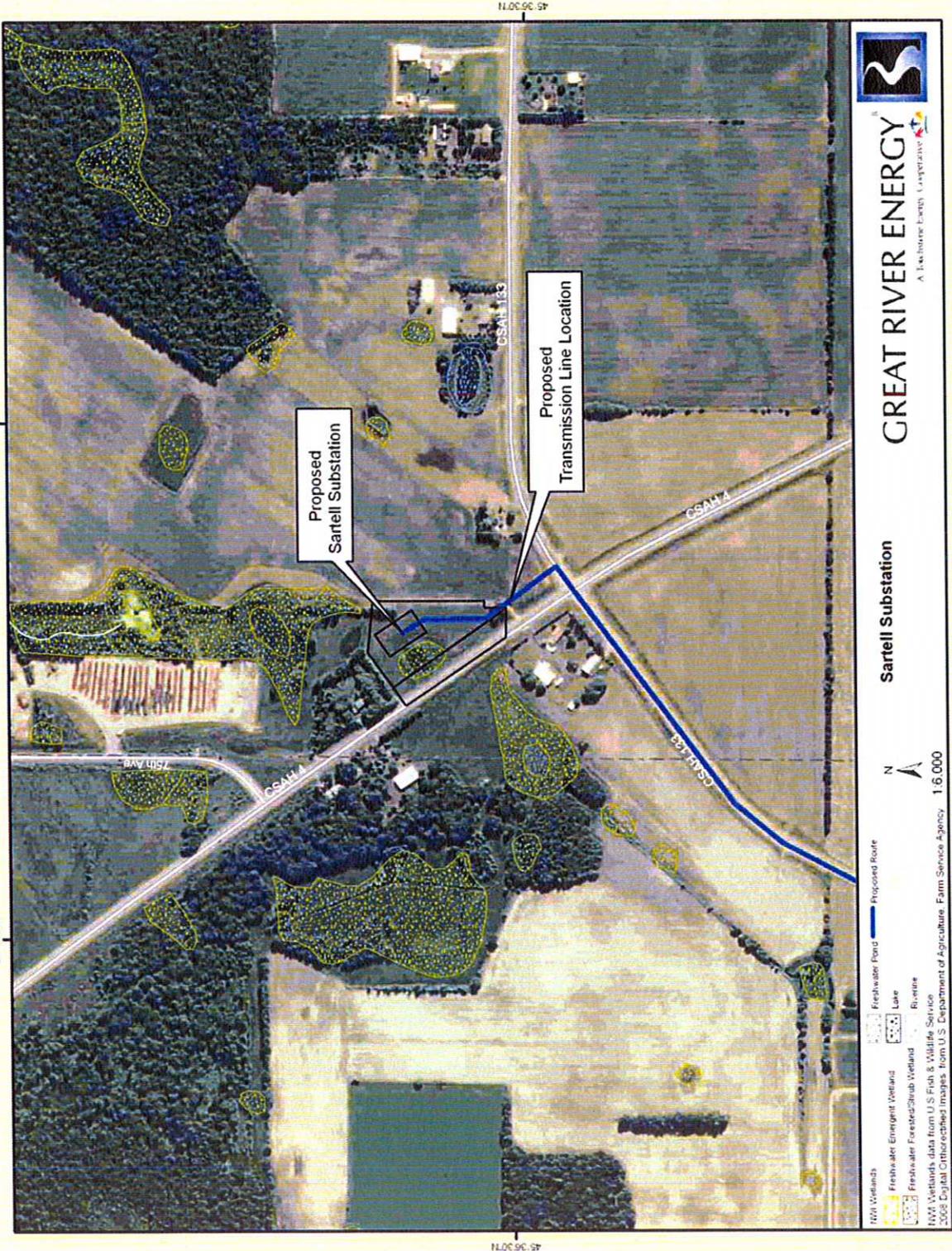
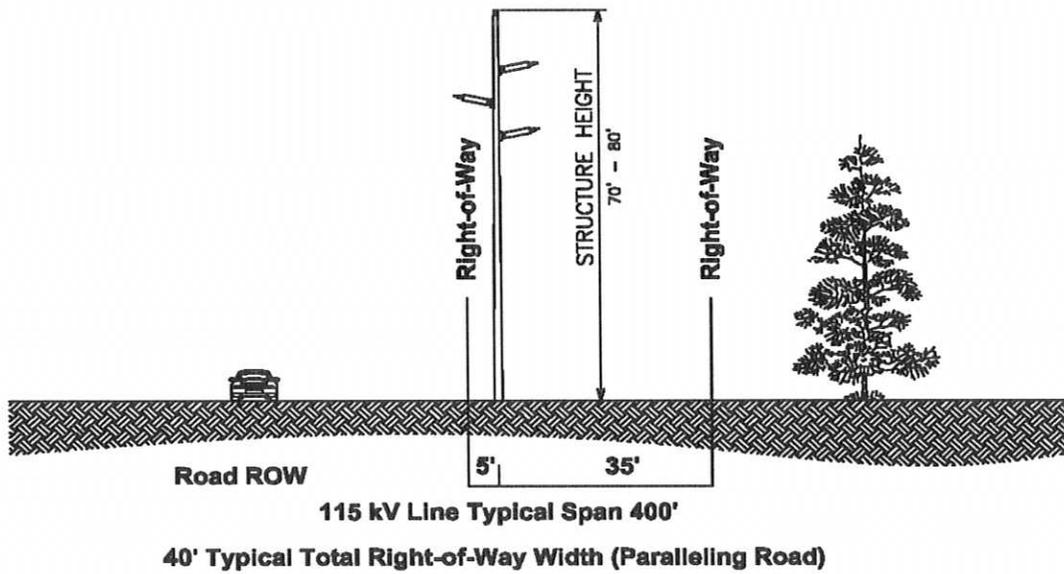


Figure 3-3

115 kV Horizontal Post Structure



The new and upgraded lines will be constructed with 795 ACSS conductor supported by single wood poles that will be 70-75 feet in height. The spacing between the new poles will be approximately 350 feet.

The line will be primarily self-supporting and guyed wood structures. In some cases engineered poles such as laminated wood or tubular steel may be used.

3.3 Right-of-Way Acquisition

After project approvals to construct the transmission line are secured, landowners will be contacted by representatives of GRE to begin direct negotiations to acquire easements and purchase any land rights necessary for transmission line construction. As the design of the line is developed, landowners will be contacted to discuss the project in detail and in preparation for any necessary surveys and soil investigations.

Once easements, permits and land rights have been acquired, and immediately prior to construction, individual property owners will be contacted to discuss the construction schedules, access to the site and vegetation clearing required for the project. The ROW would be cleared of the amount of vegetation necessary to construct, operate and maintain the proposed transmission line. Wood from the clearing operation will be offered to the landowner or removed from the site. Brush will be chipped and disposed of on the ROW. It is standard practice to remove any vegetation species that would be a danger to the line when at a mature height. Also, any vegetation that is in the way of construction equipment may have to be removed.

Some structure locations may require soil analysis to assist with the design of the line. Soil borings would be taken to determine the soil properties for engineering analysis. An independent geotechnical testing company would take and analyze these borings. Site access would be required and landowners would be contacted for permission.

In addition to the ROW required for adequate clearance of the proposed transmission line, temporary construction easements may be obtained from landowners for the duration of construction. These construction easements would need to be limited to special construction access needs or any additional staging or laydown areas required outside of the proposed transmission line ROW. Where possible, staging and laydown areas would be located within the ROW and limited to previously disturbed or developed areas. Upon completion of construction activities, landowners will be contacted to determine if any additional restoration due to construction damage is necessary.

3.4 Construction and Maintenance Procedures

Construction on Phase 1 is planned to begin in fall 2009, depending on when required approvals are obtained and easement acquisition is completed. The proposed 115 kV transmission line would be constructed at grade elevations; therefore, no pole locations would require grading unless it is necessary to provide a level area for construction access and activities. Construction would comply with the latest industry standards regarding clearance to ground, clearance to crossing utilities, clearance to buildings, ROW widths, erecting power poles, and stringing of transmission line conductors.

Typical pole structures would require a hole dug 10 to 15 feet deep and 3 to 4 feet in diameter for each pole. Pole structures in wet environments or angle structures may require additional foundation support, typically consisting of a concrete foundation or placement of the pole base inside a vertical galvanized steel culvert. Erosion control methods would be implemented to minimize runoff during construction. GRE or an approved GRE contractor would perform transmission line construction in compliance with local, state, National Electrical Safety Code, and industry standards.

Poles would be delivered to either the staked location or a project storage yard. If the poles were delivered to a staked site, they would be placed on the ROW out of the clear zone of any adjacent roadways or designated pathways. Insulators and other hardware would typically be attached while the pole was on the ground. The pole would then be lifted, placed and secured on the foundation by a bucket truck or crane.

Once the structures have been erected, conductors would be installed by establishing stringing setup areas within the ROW. The stringing setup areas would usually be established every two miles along the project route. Conductor stringing operations also require brief access to each structure to secure the conductor wire to the insulators or to install shield wire clamps once final sag is established. Temporary guard or clearance poles would be installed, as needed, over existing distribution or communication lines, streets, roads, highways, railways or other obstructions after any necessary notifications were made or permits obtained. This ensures that conductors would not obstruct traffic or contact existing energized conductors or other cables. In addition, the conductors would be protected from damage.

GRE would periodically use the transmission line ROW to perform inspections, maintain equipment, and repair any damage. GRE would also conduct regular route maintenance for weed control and removal of undesired vegetation that would interfere with the operation of the proposed transmission line.

During construction, limited ground disturbance at the structure sites may occur. Disturbed areas would be restored to their original condition to the maximum extent practicable as negotiated with the landowner. Post-construction reclamation activities include:

- removing and disposing of debris,
- removing all temporary facilities (including staging and laydown areas),
- employing appropriate erosion control measures,
- reseeding and mulching areas disturbed by construction activities with vegetation similar to that which was removed and,
- restoring the areas to their original condition to the extent possible.

In cases where soil compaction has occurred, the construction crews or a restoration contractor uses various methods to alleviate the compaction as negotiated with landowners.