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- **Minnesota Department of
Commerce**

Potato Lake Advisory Task Force Report

Potato Lake 115 kV Transmission Line Project

PUC Docket No. ET2/TL-10-86

June 2010

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Contents

Introduction	1
Methodology	1
Impacts and Issues to Evaluate	2
Identification and Review of Alternative Routes and Route Segments	2
Conclusions	7
Appendices	9

Introduction

On February 26, 2010, Great River Energy (applicant) filed a high-voltage transmission line route permit application with the Minnesota Public Utilities Commission (Commission) for the Potato Lake 115 kV transmission line project under the alternative permitting process. The application was accepted as complete by the Commission on April 16, 2010.

Great River Energy (GRE) proposes to construct a new 7.25-mile 115 kV single circuit overhead transmission line and a new 115 kV substation (Potato Lake Substation) near Park Rapids, Minnesota. The new 115 kV transmission facility line would initially be operated at 34.5 kV until conversion to 115 kV becomes necessary. The new transmission line would run between the existing Mantrap 34.5 kV line in Lake Emma Township and the newly proposed Potato Lake Substation to be located in Arago Township. As part of the project the new 115 kV transmission structures will be designed to accommodate approximately 2.25 miles of existing Itasca-Mantrap distribution lines and future distribution lines between the Potato Lake Substation and County State Aid Highway (CSAH) 18. (See Appendix A for a map of the applicant-proposed alternatives).

On April 19, 2010, the Commission authorized the Department of Commerce, Office of Energy Security (OES), to establish an advisory task force (ATF) to assist OES staff in determining the scope of the environmental assessment to be prepared for the proposed project. The Potato Lake ATF was charged with (1) identifying specific impacts and issues of local concern that may be included in the scoping decision document and evaluated in the environmental assessment, and (2) identifying potential alternative transmission line routes or route segments and alignments that may maximize positive impacts and minimize or avoid negative impacts of the project in the specific area of concern and may be included in the scoping decision document and evaluated in the environmental assessment (See Appendix B).

On April 21, 2010, the OES appointed eleven persons to the Potato Lake ATF (See Appendix C).

Methodology

The Potato Lake ATF met twice – May 4 and May 18, 2010. The task force, through a facilitated process, discussed the proposed project and the charge given to the task force. Task force meetings were open to the public, and additional people attended to listen to the discussion.

The first task of the ATF was to determine the impacts and issues that should be evaluated in the environmental assessment for the project. This task was conducted at the first meeting. Task force members, through small and large group discussions, identified general impacts and issues. Further, task force members prioritized the general impacts and issues. Members were asked to vote as to which impacts and issues were most important.

Task force members then took up the second part of their charge – identifying alternative routes for the transmission line. They broke into small “brainstorming” groups and identified alternative routes and route segments. The small groups then reported back to the entire task force.

At the second meeting, the task force reviewed the alternatives identified at the first meeting in context of the general impacts and issues and the more detailed considerations. The task force listed pros and cons of each alternative. Clarifications, corrections, and variations within a route were discussed.

The task force's work was captured in meeting notes recorded on flip charts by the meeting facilitator. Meeting notes and supporting materials for all meetings are available online: <http://energyfacilities.puc.state.mn.us/resource.html?Id=27692>

Impacts and Issues to Evaluate

Task force members identified impacts and issues by responding to the following question: “*What land use planning and other impacts and issues need to be considered in the evaluation of proposed transmission line routes and/or substation locations?*” The task force identified and prioritized seven impacts and issues to be evaluated in the environmental assessment (See Appendix D).

Top priority impacts and issues to consider were:

- Personal property values
- Waters and wetlands
- Aesthetics

Second priority impacts and issues to consider were:

- Human health impact
- Flora and fauna

Third priority impacts and issues to consider were:

- Future land use
- Current technology and resources

Identification and Review of Alternative Routes and Route Segments

The task force identified one alternative route and three alternative substation locations for consideration in the environmental assessment. (See Appendix E for maps of the specific ATF generated alternatives). Detailed information on the alternative routes and substation locations is available in Appendix F.

Task force members used their own unique knowledge of the area and other local documents in developing the alternative route and substation locations.

The task force reviewed the alternatives generated by the ATF and the applicants' proposed routes, and identified pros and cons for each. Additionally they discussed the pros and cons of each of the routes and substation locations. This exercise was not intended to be a detailed analysis of each route but rather to determine if a route should be evaluated in the environmental assessment. Pros and cons for each alternative (keyed to map names where appropriate), as well as task force discussion, are noted here:

Applicant preferred route

Pros

- Most cost effective route
- Shortest route
- Route is under 10 miles so permit (certificate of need) is not needed
- Route follows existing roadway corridors
- Is laid out in fairly straight lines
- The line will have post construction access

Cons

- Ugly – aesthetics, the route, lines are not pleasing to look at
- Detrimental impacts on environment and wildlife
- Route is too close to major rivers and lakes
- Detrimental impacts on water quality in the area
- Detrimental impacts on threatened species: bald eagle, swans, Blanding's turtles, mussels
- Negative impact on private property values
- Impact on resorts and restaurants along route; takes out entrance for three: Boulder Beach Resort, Northern Pine Lodge Family Resort, and Rapid River Logging Camp Restaurant and Gift Shop
- Negative visual impact of line and poles will impact tourism in area
- Human impact: electro-magnetic fields, chemicals from treated poles and keeping down plant growth in undercut areas
- Close proximity to private dwellings
- Planned housing development in the area
- The need to zigzag the line in the route to avoid each home and business
- Detrimental impact on private wells from chemicals
- Route will turn lakeshore property into non-conforming lots because of setback provisions
- Route crosses Potato River, the bridge, and Potato Lake Dam, aerial crossing
- Curves at corners of route will take more land; three ninety-degree corners proposed on the route

Applicant alternative route

Pros

- Missed some residences along 141 Avenue that preferred route impacts

Cons

- More right-of-way preparation involved than preferred route
- More wetlands' crossings than preferred route
- Negative impact on private property owners
- Detrimental impact on entrance to large resort
- Disproportionally impacts fewer property owners but in a bigger way
- Detrimental impact on wildlife
- Increases project cost by about \$40,000
- Negative impact on water wells in the area
- Close to Potato Lake

ATF alternative route

Pros

- Avoids proximity to major lakes
- Impacts less agricultural land
- Less environmental impact than applicant routes; not polluting major lakes and large number of water wells
- Mitigates impact on threatened species; large birds
- Fewer property owners impacted than with applicant routes
- Mainly (60 percent) county and state land impacted
- Provides for a fire break in area
- Route goes through undeveloped property
- Majority of forest clearing on portion of route (along County Highway 4) is already completed
- Best substation location off of U.S. 71 (marked as substation #3 on map) [Other substations identified for this route are on U.S. 71 – #1 and #2 on map]
- Fewer businesses impacted than with applicant routes
- The route has no transmission lines on U.S. 71
- Avoids screwing up gateway to Itasca Park – U.S. 71
- Transmission line route is off high traffic tourist path
- Avoids private airport at Island Lake
- Would not impact proposed bike trail
- Less impact on high value, lakeshore land

Cons

- Higher cost, more expensive to build than applicant routes
- Longer route than applicant routes
- Line is over 10 miles long so requires a certificate of need
- Opens up virgin lands, does not use existing corridors
- Ugly – aesthetics, the route, lines are not pleasing to look at
- Detrimental impacts on environment and wildlife
- Route is too close to major rivers and lakes
- Detrimental impacts on water quality in the area

- Detrimental impacts on threatened species: bald eagle, swans, Blanding's turtles, mussels
- Negative impact on private property values
- Impact on resorts and restaurants along route; takes out entrance for one
- Negative visual impact of line and poles will impact tourism in area
- Human impact: electro-magnetic fields, chemicals from treated poles and keeping down plant growth in undercut areas
- Close proximity to private dwellings
- Detrimental impact on private wells from chemicals

During the discussion, an ATF member mentioned an alternative route that would coincide with the ATF alternative route. The route noted would be from U.S. 71 and follow the ATF alternative route along township boundaries east to 280th Street. This route would end where County Road 4 intersects 280th Street. The ATF members briefly discussed pros and cons of this option.

Pros

- If route ends at intersection of 280th Street and County Highway 4, it would not be over 10 miles long and would not need a certificate of need
- Route does not go over existing homes
- Route impacts only smaller lakes

Cons

- Opens up virgin lands
- Does not connect to transmission line or substation at County Highway 4.

Additionally, during the discussion, a question was asked as to the location of the route along the township boundaries. The ATF discussed the route straddling the boundary or going north or south of the boundary. The ATF members determined that the route should go where there is the least impact on private land ownership.

Potato Lake substation site

Pros

- Infrastructure is already started
- Closest to Applicant Preferred Route (blue line) if that route is selected
- Intersects with distribution lines

Cons

- Places transmission lines on U.S. 71
- Structure is already started, loss of investment for Mantrap
- Power line into substation impacts threatened species: eagle, swans, etc.
- Near (1/4 mile) major recreational lake
- High traffic tourism area

If the ATF alternative route is selected and the Potato Lake substation is also selected, a transmission line will have to be routed from the west end-point of the ATF alternative route around U.S. 71 down to the Potato Lake substation. ATF members discussed the cons of the new connecting route.

Cons

- More property owners will be impacted
- Route will impact stretch on U.S. 71 to Inlet Road; not the right location to go to Pine Point
- Impacts a golf course
- Impacts private airport
- Impacts businesses
- Impacts two major lakes
- Impacts a cross-country ski trail
- Impact a bike trail
- Impacts Mississippi Headwater tourism and recreation area
- Impacts river crossing
- U.S. 71 goes in multiple directions in this area, and line will have to zigzag to follow or will have multiple crossings

Michelle Lommel, Great River Energy (GRE), noted that GRE would introduce the new connecting route (route down Highway 71 to the Potato Lake substation) into the record as a possible route alternative. ATF members noted that they did not support this connecting route; it is not an ATF-suggested alternative. If the ATF alternative route is chosen, the ATF wants the substation moved to an alternative location.

ATF alternative substation location(s)

The ATF identified three substation locations in close proximity to each other where the west end of their route crosses U.S. 71. Because of the close proximity to each other, the ATF reviewed the locations collectively, singling out pros and cons that were specific to each location.

Pros (for all three)

- Shortest distance from ATF alternative route (as opposed to Potato Lake substation)
- Least impact on U. S. 71
- More visually discreet
- Good location for future transmission lines to west
- Transmission line is away from major lake chain
- Mitigates impact to threatened species
- Locations not in a wetland area

Pros (for specific sites)

Site #2

- On County Road 41 – site of old abandoned gas station
- Clean-up site
- Available land near road

Site #3

- Location is away from U.S. 71
- Near intersection of existing pipeline; potential use of existing right-of-way
- Safety – from terrorist attacks

Cons (by site)

Site #1

- On U.S. 71
- Land needs to be acquired

Site #2

- On U.S. 71
- Land needs to be acquired

Site #3

- Water and wetlands close to site
- Land needs to be acquired

Conclusions

- 1. Study all of the alternative line route segments and substation locations identified by the task force.** A good amount of effort and thought went into the creation of the task force's alternative transmission line route segments. The task force recommends that all alternatives be carried forward in the environmental assessment process with the pros and cons identified by the task force.
- 2. Task force-generated alternatives need to be carried forward together.** The task force noted that the ATF route and substation locations identified above should be carried forward together, i.e., as a package deal. If the ATF alternative route is selected, an alternative substation location must be selected as well. If the ATF alternative route is selected along with the Potato Lake substation location, the ATF would remove support for their alternative route.
- 3. All impacts and issues identified by the task force are important.** The impacts and issues identified by the task force are all important and should be evaluated in the environmental assessment. The prioritization of impacts and issues performed by the task force may be helpful in guiding OES staff in the development of the environmental assessment, but is not intended to diminish the importance of all impacts and issues raised and discussed by the task force.

4. **Additional conclusions:** The ATF also noted they did not support burying the transmission line under the Potato River. Further, the ATF did not support earlier proposed routes along County Highway 40 and following a drainage ditch from the intersection of U.S. 71 and 220th Street to County Highway 18 to the east.

Appendices

A – Project overview map (PDF)

B – Advisory Task Force charge (PDF)

C – ATF members notice of appointment (PDF)

D – Impacts and Issues Table (Attached in e-mail)

E – Maps of Alternatives Identified by ATF

E.1 – Map of routes

E.2 – Photographic map of routes

F – Route Comparison Table (PDF)

Appendix A – Project overview map



GREAT RIVER ENERGY®
A Touchstone Energy® Cooperative

- Proposed Itasca-Mantrap (IM)
 - Distribution Substation (IM)
- Existing Itasca-Mantrap
 - Distribution Substation
- Proposed Great River Energy (GRE)
 - 115 kV Transmission Line Route
 - Alternate Route
- Existing Great River Energy
 - 34.5 kV Transmission Line
- Existing Minnesota Power (MP)
 - 34.5 kV Transmission Line
- Land Base Features
 - Road Centerline
 - Lakes and Rivers
 - PLS Section Lines

N

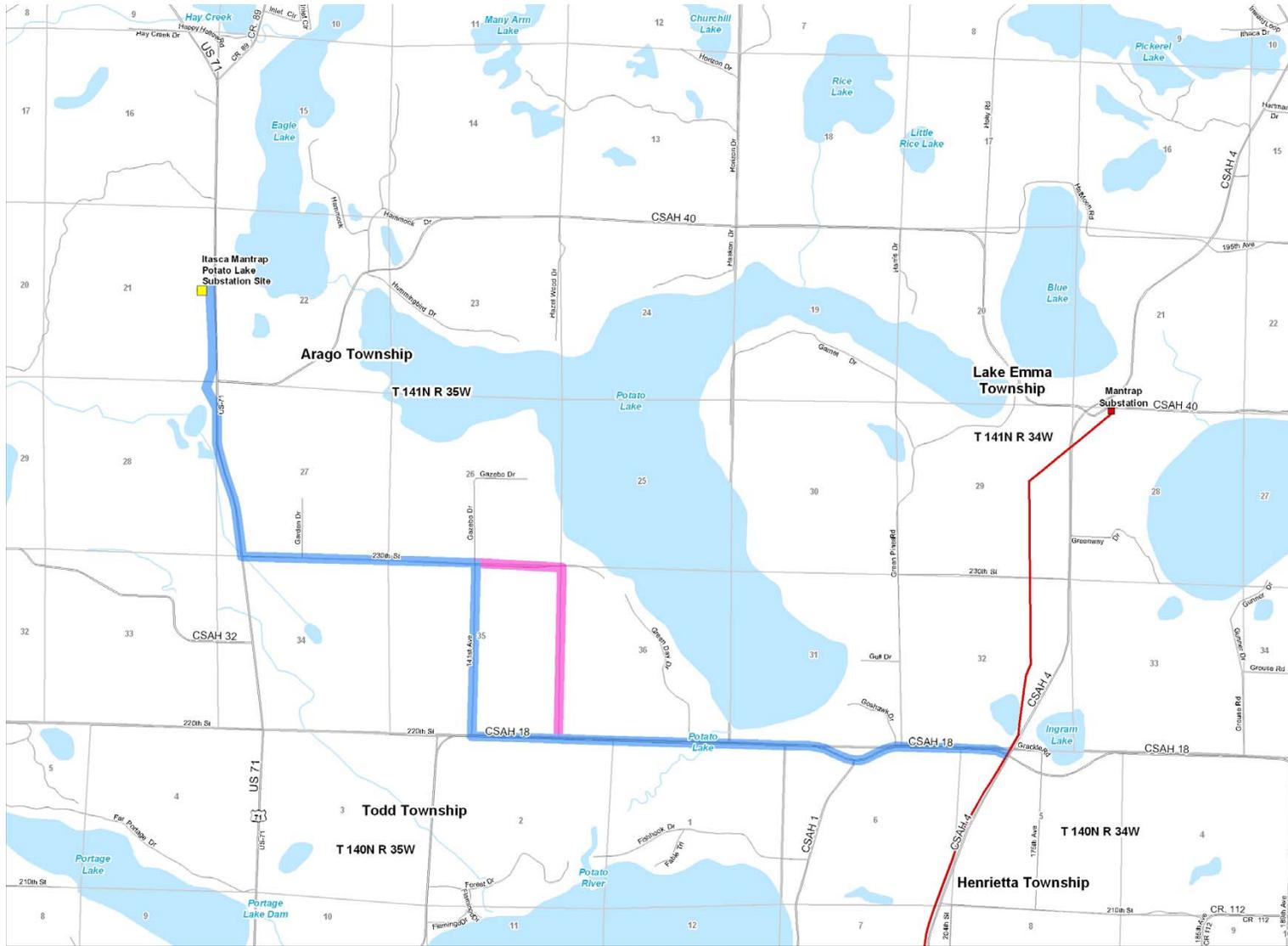
Updated: Feb 19, 2010

Data Sources Vary Between
MNDOT, MNDNR, MNGEO
and Great River Energy

Map Projection:
UTM, NAD83, Zone15, Meters

**Potato Lake
115 kV Transmission
Line & Substation
Project:**

**Proposed
Project**





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April 19, 2010

TO: William Glahn, Director, Office of Energy Security *WLG*
THROUGH: Marya White, Manager, Office of Energy Security
FROM: Scott Ek, State Permit Manager, Energy Facility Permitting
RE: Structure and Charge for the Potato Lake Advisory Task Force, Potato Lake 115 kV
Transmission Line Project, Docket No. ET2/TL-10-86

ACTION REQUIRED. The signature of the director on the attached advisory task force (ATF) structure and charge. Once signed Office of Energy Security, Energy Facility Permitting (EFP) staff will appoint ATF members and begin work on the proposed charge.

BACKGROUND. On February 26, 2010, Great River Energy (GRE) filed a route permit application under the alternative permitting process for a new 7.25-mile 115 kV transmission line and a newly proposed substation. The transmission project would be located north of the city of Park Rapids in Hubbard County, Minnesota. Specifically, the project would be located in sections of Arago, Lake Emma, Todd, and Henrietta townships. The project as described in GRE's route permit application would consist of the following:

- Construction of a new 115 kV Potato Lake substation that would initially be operated at 34.5 kV until conversion to 115 kV is necessary.
- Construction of approximately 7.25 miles of new overhead 115 kV transmission line between the new Potato Lake substation in section 21 of Arago Township and a tap point on GRE's existing Mantrap Sub Tap 34.5 kV line ("PM Line") in Lake Emma Township. The newly proposed transmission line would initially be operated at 34.5 kV until the surrounding transmission system is converted to 115 kV.
- Approximately 2.25 miles of existing 12.5 kV distribution line owned by Itasca-Mantrap Coop would be removed, upgraded and attached/underbuilt to the proposed 115 kV structures along U.S. Highway 71 between the new Potato Lake substation and 230th Street/Northern Pine Road.
- Installation/underbuild of new 12.5 kV distribution lines on the proposed 115 kV structures along 230th Street/Northern Pine Road and 141st Avenue up to the intersection with County Highway 18.

The Minnesota Public Utilities Commission (Commission) accepted the route permit application as complete on April 16, 2010. In its order, the Commission authorized EFP staff to establish the structure and charge for one ATF. The attached structure and charge was provided to and approved by the Commission during the application acceptance and in the final order. Minnesota Statute 216E.08, subdivision 1, authorizes the Commission to appoint an ATF to assist staff with identifying impacts, issues and alternatives to be evaluated in the EIS.



In the Matter of the Route Permit Application for the Potato Lake 115 kV Transmission Line and Substation in Park Rapids, Minnesota.

**POTATO LAKE 115 kV PROJECT
ADVISORY TASK FORCE
STRUCTURE AND CHARGE
DOCKET NO. ET2/TL-10-86**

The above entitled matter came before the director of the Department of Commerce Office of Energy Security (OES) for a decision on the appointment of an advisory task force (ATF) to advise the Minnesota Public Utilities Commission (Commission) on the route permit application by Great River Energy (applicant) for a proposed 115 kV transmission line project in Park Rapids, Minnesota.

WHEREAS, the applicant submitted a route permit application for the proposed Potato Lake 115 kV transmission line project on February 26, 2010.

WHEREAS, the Commission, under Minnesota Statute 216E.08, may establish an ATF to assist it in carrying out its duties. Under the statute the Commission shall provide guidance to the ATF in the form of a charge.

WHEREAS, an ATF shall be comprised of at least one representative from each of the following: regional development commissions, counties and municipal corporations, and one town board member from each county in which a route is proposed to be located. This statute further stipulates that no officer, agent, or employee of the applicant shall serve on the advisory task force.

WHEREAS, the ATF terminates upon completion of its charge or upon designation by the director of the OES of alternative sites or routes to be included in the environmental assessment, whichever occurs first.

WHEREAS, on April 16, 2010, the Commission authorized the OES to establish an ATF with the structure and charge herein noted.

THEREFORE, having reviewed this information, the OES makes the following determination with regard to the need for and charge to an ATF relating to this matter.

POTATO LAKE ADVISORY TASK FORCE AUTHORIZATION

As authorized by the Commission, the OES establishes an ATF to assist in identifying impacts and route alternatives to be evaluated in the environmental assessment to be prepared by OES Energy Facility Permitting (EFP) staff for the proposed Potato Lake 115 kV transmission line project. The Potato Lake ATF members will be solicited, as required by Minnesota Statute 216E.08, subdivision 1, from the following governmental units:

- Headwaters Regional Development Commission (Region 2)
- Hubbard County
- City of Park Rapids
- Arago Township
- Henrietta Township
- Lake Emma Township
- Todd Township
- Leech Lake Band of Ojibwe

In addition, the ATF will include no more than four private citizens, who live, work, or own property on or near the proposed project.

The ATF will be comprised of no more than 12 members total.

The OES charges the Potato Lake ATF as follows:

1. ATF members will assist the EFP staff in identifying specific impacts and issues of local concern that may be included in the scoping decision document and evaluated in the environmental assessment, particularly regarding potential conflicts with local planning and zoning.
2. ATF members will assist the EFP staff in identifying potential alternative transmission line routes or route segments and alignments that may maximize positive impacts and minimize or avoid negative impacts of the project in the specific area of concern and may be included in the scoping decision document and evaluated in the environmental assessment.

The following issues will not be addressed in the scope of environmental review:

- A no-build alternative.
- Issues related to project need, size, type, or timing.
- Routes segments or alternatives that would be unpractical or unreasonable, or would not meet the stated need of the proposed project.

ATF members are expected to participate with EFP staff in up to two meetings and to assist staff with the development of a summary of the task force's work including their preferences or recommendations, if any. Meetings will be facilitated by EFP staff or a facilitator engaged by EFP staff.

The ATF will expire upon completion of its charge or upon release of the environmental assessment scoping decision by the director of the OES, whichever occurs first.

EFP staff is directed to appoint, as appropriate, members of the ATF and to begin work on the above-noted charge.

Signed this 19th day of April, 2010

STATE OF MINNESOTA
DEPARTMENT OF COMMERCE
OFFICE OF ENERGY SECURITY


William Glahn, Director



STATE OF MINNESOTA
Office of Energy Security



April 21, 2010

**NOTICE OF APPOINTMENT FOR THE
POTATO LAKE ADVISORY TASK FORCE**

**In the Matter of the Route Permit Application for the Potato Lake 115 kV Transmission Line and
Substation in Park Rapids, Minnesota**

PUC Docket No. ET2/TL-10-86

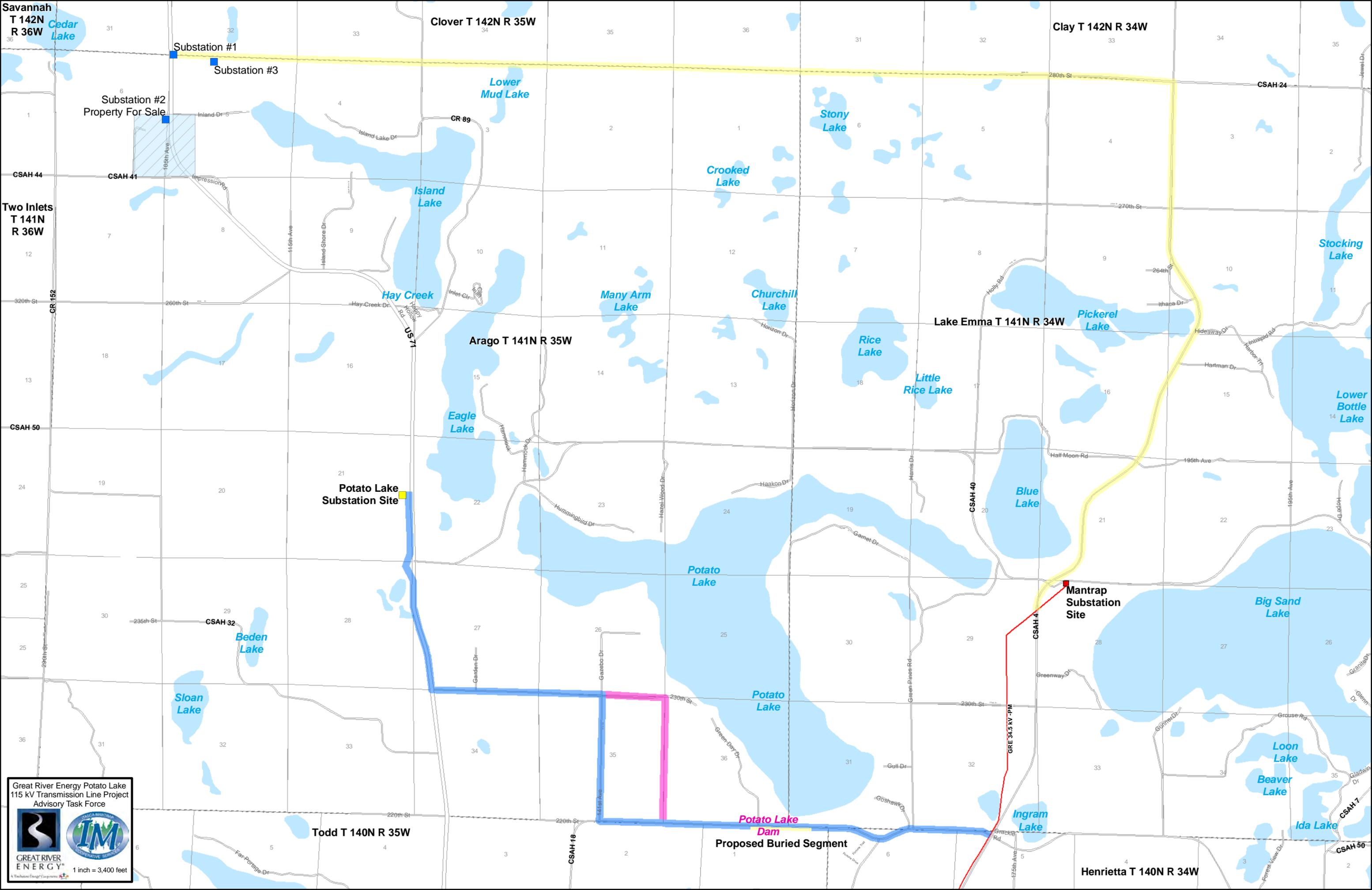
PLEASE TAKE NOTICE that the Minnesota Department of Commerce Office of Energy Security (OES) has appointed the following individuals to serve as members of the Potato Lake Advisory Task Force (ATF) for the proposed Potato Lake 115 kV transmission line project. Replacement appointments may be made, as necessary.

Potato Lake Advisory Task Force

Name	Affiliation
Jeff Adolphson	Lake Emma Township
Doc Carlson	Hubbard County Commissioner
Charlene Christenson	Arago Township
Ronald Jensen	Todd Township
Jed Nordin	Hubbard County Highway Department
Robert Ruhnke	Hubbard County Planning Commission
Gary Gauldin	Headwaters Regional Development Commission
Elizabeth Shaw	Private Citizen
John Firehammer	Private Citizen
Dean Cumber	Private Citizen
Mark Behrens	Private Citizen

The ATF will assist OES Energy Facility Permitting (EFP) staff in developing the scope of the environmental assessment for the proposed project.

Information about the proposed project can be found on the Minnesota Public Utilities Commission's website: <http://energyfacilities.puc.state.mn.us/Docket.html?Id=26124>. Questions about the ATF should be directed to Scott Ek (651-296-8813, scott.ek@state.mn.us) or Ray Kirsch (651-296-7588, raymond.kirsch@state.mn.us), Department of Commerce, Office of Energy Security, 85 7th Place East, Suite 500, St. Paul, MN 55101.



Great River Energy Potato Lake
115 kV Transmission Line Project
Advisory Task Force




GREAT RIVER ENERGY
1 inch = 3,400 feet

Potato Lake Dam
Proposed Buried Segment

GRE 34.5 KV - PM

Mantrap Substation Site

Potato Lake Substation Site

Substation #2
Property For Sale

Substation #1
Substation #3

Clover T 142N R 35W

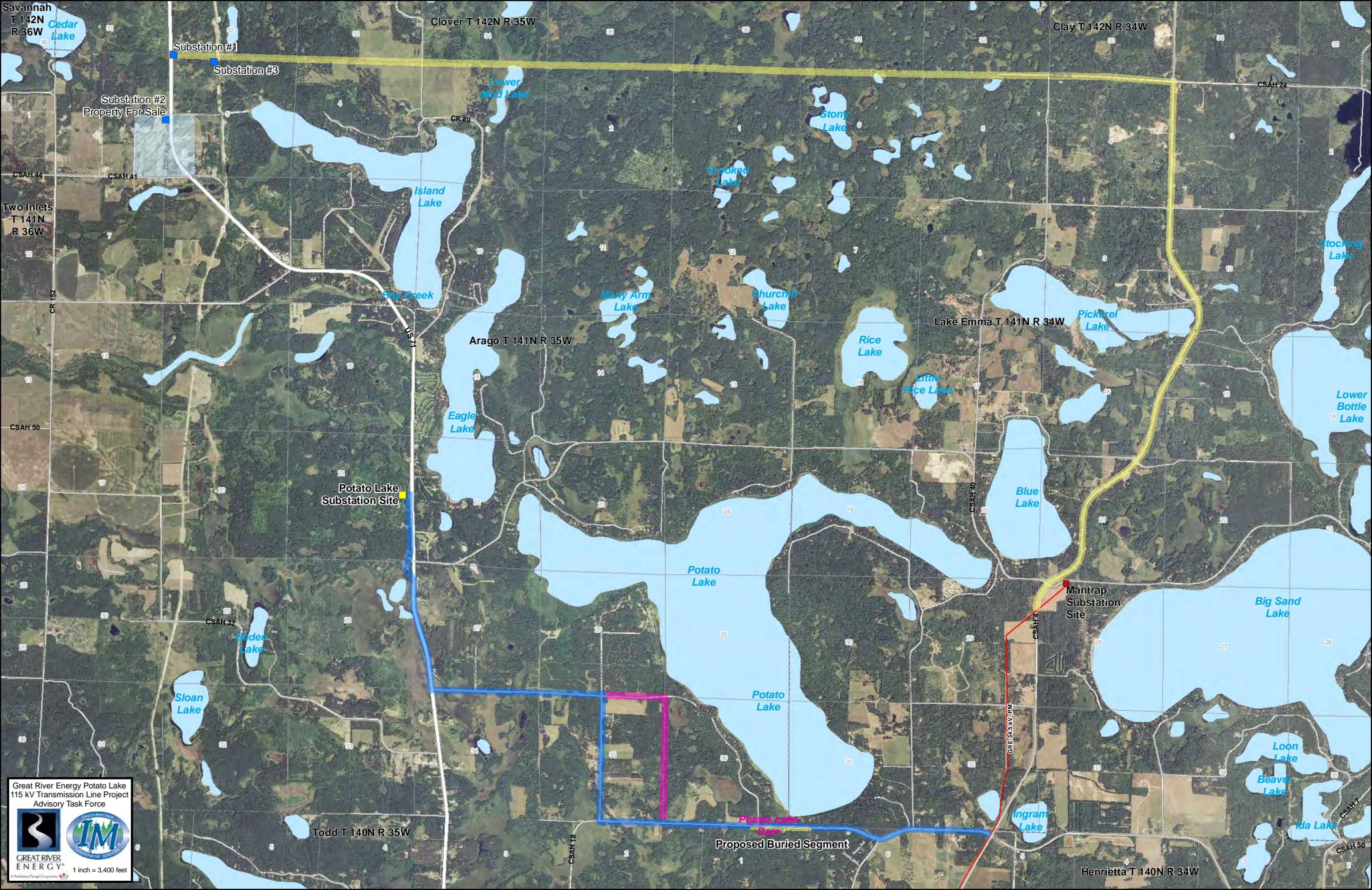
Clay T 142N R 34W

Arago T 141N R 35W

Lake Emma T 141N R 34W

Todd T 140N R 35W

Henrietta T 140N R 34W



Savannah
T 142N
R 36W

Clover T 142N R 35W

Clay T 142N R 34W

Substation #1

Substation #3

Substation #2
Property For Sale

Island Lake

Hay Creek

Arago T 141N R 35W

Eagle Lake

Potato Lake
Substation Site

Beden Lake

Sloan Lake

Todd T 140N R 35W

Potato Lake
Dam
Proposed Buried Segment

Mantrap
Substation Site

GRE 34.5KV-PM

Ingram Lake

Henrietta T 140N R 34W

Great River Energy Potato Lake
115 kV Transmission Line Project
Advisory Task Force

GREAT RIVER ENERGY
1 inch = 3,400 feet

Appendix F – Route comparison table

Route	Total Project Costs	Number of Houses within 100 Feet from Road Centerline	Number of Houses within 300 Feet from Road Centerline	Number of Houses within 500 Feet from Road Centerline	Hay, Pasture, Grassland Percentage	Cultivated Percentage	Number of Water Crossings	Total Forested Acres	Total Wetland Acres	Total Riparian Acres	Closest Mileage to a Lake	Miles of Existing ROW (Road ROW, Existing Distribution Lines, etc.)
Proposed Route												
(7.25 miles)	\$4,421,492	2	29	51	35.18%	1.11%	2	21 - 25	23.15	0.38	0.16	7.25
Alternate Route												
(7.25 miles)	\$4,461,492	2	20	39	27.58%	0.04%	2	30 - 34	24.93	0.38	0.16	6.25
Please note:												
<ul style="list-style-type: none"> • Some house counts were incorrect in the Route Permit Application (RPA) : <ul style="list-style-type: none"> • 500 feet - 50 instead of 51 for proposed route • 300 feet – 21 instead of 20 for alternate route • For both routes, the closest distance to the lake (Potato) was re-calculated and it is actually .08 miles. • Rare features were not added to the table because both routes have the same features. • The total cleared right of way acreage was not mentioned in the RPA – the acreages are 48.23 for proposed and 54.45 for the alternate (this does not include the road surfaces). 												
Route	Total Project Costs	Number of Houses within 100 Feet from Centerline	Number of Houses within 300 Feet from Centerline	Number of Houses within 500 Feet from Centerline	Hay, Pasture, Grassland Percentage	Cultivated Percentage	Number of Water Crossings	Total Forested Acres	Total Wetland Acres	Total Riparian Acres	Closest Mileage to a Lake	Miles of Existing ROW (Road ROW, Existing Distribution Lines, etc.)
ATF Route												
(13.2 miles)	\$10,703,890	3	31	42	16.98%	6.32%	3	90.57	18.19	11.99	0	7.23
ATF Route												
(17.3 miles)	\$13,772,748	3	57	104	18.22%	9.40%	5	103.62	20.24	13.53	0	11.37

NOTE: Of the two ATF Routes listed above, the 13.2-mile in length route is the alternative route that the ATF chose to move forward with and is depicted in the accompanying maps as a yellow line. The 17.3-mile route would have continued south down U.S. Highway 71 to the applicant's proposed substation location and was not recommended by the ATF.