

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION

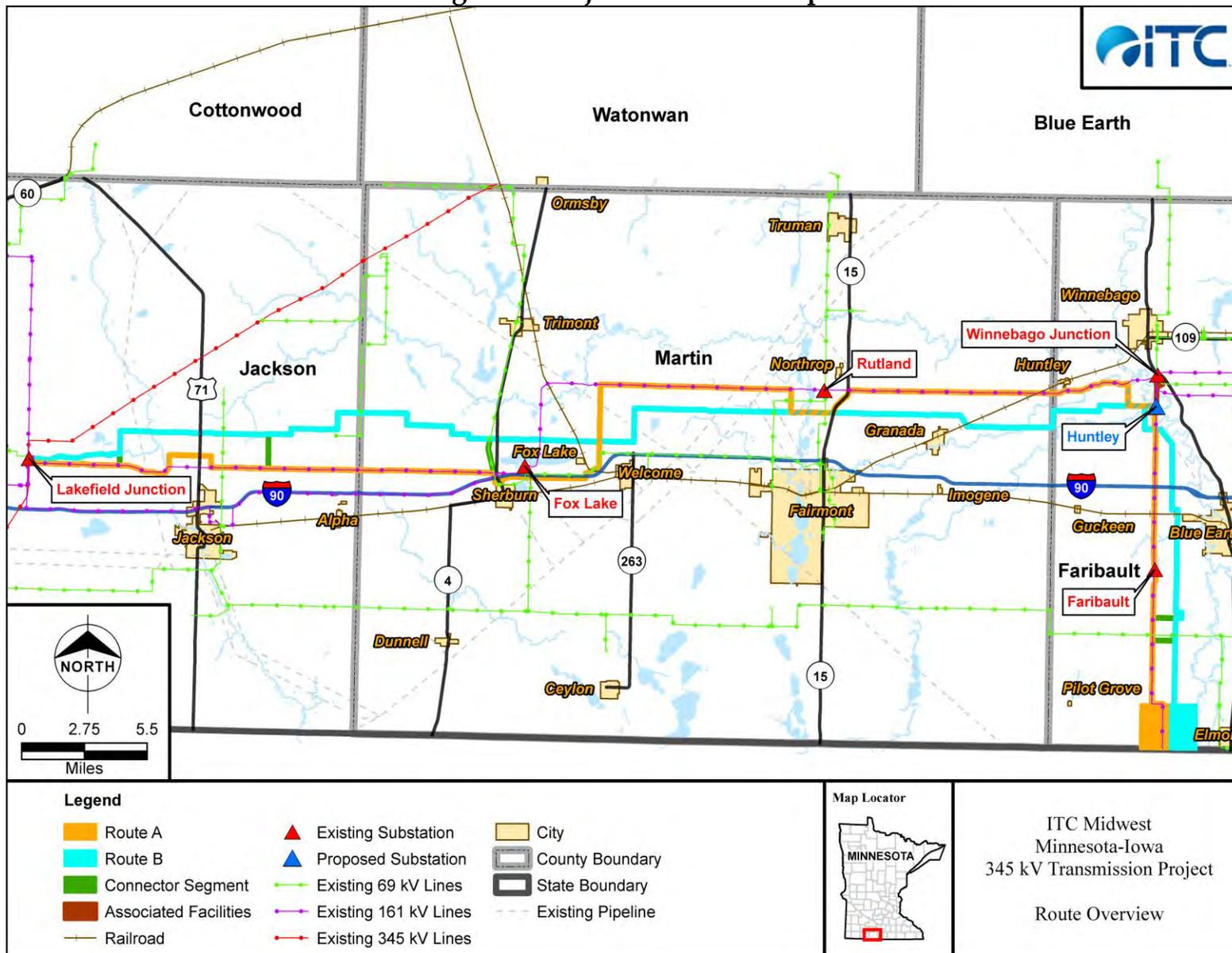
The Project is proposed to be constructed in southwestern Minnesota through Jackson, Martin, and Faribault counties. Route A is located in the townships of Belmont, Des Moines, Hunter, and Wisconsin, in Jackson County; Center Creek, Fox Lake, Fraser, Jay, Manyaska, and Rutland, in Martin County; and Jo Daviess, Pilot Grove, and Verona, in Faribault County. Route B is located in the townships of Belmont, Des Moines, Enterprise, and Hunter, in Jackson County; Center Creek, Elm Creek, Fox Lake, Fraser and Rutland, in Martin County; and Elmore, Jo Daviess, Pilot Grove, and Verona, in Faribault County. **Table 1** provides a summary of the township names and section numbers along each route. Only two short portions of Route A cross a municipal boundary (City of Sherburn-0.3 mile and City of Huntley-0.2 mile). No portion of Route B crosses a municipal boundary. **Figure 3** shows an overview of the Project and **Appendix C** provides additional county-level overview maps. **Appendix D** includes detailed aerial maps of the townships crossed by the proposed routes and connector segments described in this Application.

Table 1. Townships Along Routes

County	Route A*		Route B*	
	Township	Sections	Township	Sections
Jackson	Belmont	34, 35, 36	Belmont	25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36
	Des Moines	1, 2, 3, 4, 5, 6	Des Moines	5, 6
	Hunter	1, 2, 3	Enterprise	23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
	Wisconsin	1, 2, 3, 4, 5, 6	Hunter	1, 2, 3
Martin	Center Creek	13, 14, 15, 16, 17, 18	Center Creek	19, 20, 21, 22, 23, 24, 25, 26, 27, 28
	Fox Lake	13, 14, 23, 26, 35	Elm Creek	19, 20, 21, 25, 26, 27, 28, 29, 30, 35, 36
	Fraser	13, 14, 15, 16, 17, 18	Fox Lake	24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
	Jay	1, 2, 3, 4, 5, 6, 12	Fraser	19, 20, 21, 22, 23, 24, 30
	Manyaska	2, 3, 4, 5, 6, 7	Rutland	19, 20, 21, 22, 23, 24
	Rutland	13, 14, 15, 16, 17, 18, 19, 20, 21		
Faribault	Jo Daviess	2, 11, 14, 23, 26, 35	Elmore	30, 31
	Pilot Grove	2, 11, 14, 23, 24, 25, 26, 35, 36	Jo Daviess	1, 12, 13, 24, 25, 36
	Verona	9, 10, 11, 14, 15, 16, 17, 18, 22, 23, 26, 35	Pilot Grove	1, 12, 13, 24, 25, 36
			Verona	11, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 30, 36

*This table includes the Sections in Verona Township, Faribault County, where the associated facilities, common to both routes, are proposed to be located.

Figure 3. Project Overview Map



2.2 PROJECT PROPOSAL

The Project is designed to meet three needs: 1) increase transmission capacity to support additional generation, including generation to meet renewable energy standards throughout the region, 2) remove constraints which will enable more efficient and cost-effective delivery of energy, and 3) enhance regional reliability. The overall configuration for the Project is Lakefield Junction Substation – Huntley Substation – Minnesota/Iowa border and further south onto the Ledyard and Kossuth County substations in Iowa. The length of the Project, including associated facilities, in Minnesota will be approximately 75 miles. The length of the Iowa portion of the Minnesota – Iowa 345 kV Transmission Project is approximately 25 miles.

If Route A is selected, the majority of the 345 kV line will be co-located with an existing ITC Midwest 161 kV transmission line, with the exception of a few locations discussed further in **Section 3.1.1**. The existing 161 kV transmission line currently has terminations in Minnesota as follows: Lakefield Junction Substation – Fox Lake Substation – Rutland Substation – Winnebago Junction Substation – Faribault Substation. From the Faribault Substation, the line continues to the Iowa border and terminates at the Winnco Substation in Kossuth County, Iowa. This ITC Midwest 161 kV transmission line will be referred to in this Route Permit Application as the “Lakefield to Border 161 kV Transmission Line”. ITC Midwest proposes to construct the entire length of Route A to 345 kV/161 kV double-circuit standards, even where Route A is proposed to be co-located with a 69 kV transmission line or where no co-location is proposed.

If Route B is selected, the Project will be constructed on 345 kV/161 kV double-circuit capable poles with only the 345 kV circuit arms installed and conductors strung at the time of construction. The 161 kV arms would not be installed on these poles until conditions warrant and necessary regulatory approvals are obtained. Before the 161 kV circuit could be constructed, regulatory approvals would need to be obtained from the Commission. If Route B is selected, ITC Midwest’s existing Lakefield to Border 161 kV Transmission Line would remain in service in its current location. The existing Lakefield to Border 161 kV Transmission Line would remain in its current location and likely need to be rebuilt within the next 10 years (from Lakefield Junction – Fox Lake – Rutland – Huntley) to 20 years (from Huntley – Faribault – Winnco) if Route B is selected. Any rebuilding of the existing Lakefield to Border 161 kV Transmission Line would not be part of the Project if Route B is selected.

ITC Midwest proposes constructing Route B to 345 kV/161 kV double-circuit standards because, in ITC Midwest's review of the electrical system, if another transmission resource is needed in the area in the future, it will likely be a 161 kV resource need. Further, if a second 345 kV need were identified in this area of southern Minnesota, ITC Midwest would prefer to not install two 345 kV circuits on the same poles for operation and contingency reasons. Additional information on the ITC Midwest's reasons for proposing to construct the Project using a 345 kV/161 kV design is provided in the Certificate of Need application for the Minnesota - Iowa 345 kV Transmission Project (Docket No. ET6675/CN-12-1053).

The Project is made up of two segments, and associated facilities, that include:

1. **Lakefield Junction - Huntley:** The Lakefield Junction - Huntley segment of the Project runs, primarily, west to east. This segment will be constructed with 345 kV/161 kV double-circuit capable structures. If Route A is selected, the Project will primarily be co-located with the existing Lakefield to Border 161 kV Transmission Line. If Route B is selected, ITC Midwest proposes to follow primarily road rights-of-way and agricultural field lines and construct the segment with 345 kV/161 kV double-circuit capable structures with only the 345 kV arms installed and the 345 kV circuit strung at the time of construction. This segment is approximately 55 miles in length.
2. **Huntley - Iowa:** The Huntley - Iowa segment of the Project runs, primarily, north to south. This segment will be constructed using 345 kV/161 kV double-circuit capable structures. If Route A is selected, ITC Midwest proposes to primarily co-locate the Project along the Lakefield to Border 161 kV Transmission Line centerline. If Route B is selected, ITC Midwest proposes to follow primarily road rights-of-way and agricultural field lines and construct the segment with 345 kV/161 kV double-circuit capable structures with only the 345 kV arms installed and the 345 kV circuit strung at the time of construction. This segment is approximately 20 miles in length.
3. **Associated Facilities:** ITC Midwest proposes to expand its existing Lakefield Junction Substation east of Lakefield, Minnesota; remove its existing Winnebago Junction Substation south of Winnebago, Minnesota; construct a new Huntley Substation approximately one mile south of the existing Winnebago Junction Substation; and reconfigure the 69 kV and

161 kV transmission lines that currently terminate at the Winnebago Junction Substation so that they terminate at the new Huntley Substation. The four 161 kV transmission lines that ITC Midwest proposes to reconfigure are identified as follows:

- a. Rutland – Winnebago Junction;
- b. N.B.E.I. – Winnebago Junction (owned by Xcel Energy);
- c. Faribault – Winnebago Junction; and
- d. Freeborn – Winnebago Junction.

The three 69 kV transmission lines that ITC Midwest proposes to reconfigure and construct to 161 kV standards as part of the Project are identified as follows:

- a. Winnebago Junction – Winnebago Local;
- b. Blue Earth – Winnebago Junction; and
- c. Walters – Winnebago Junction.

More information on these associated facilities is available in **Section 2.4**.

2.3 ROUTE WIDTH

The PPSA, Minnesota Statutes Chapter 216E, directs the Commission to locate transmission lines in a way that “minimize[s] adverse human and environmental impact while ensuring continuing electric power system reliability and integrity and ensuring that electric energy needs are met and fulfilled in an orderly and timely fashion.” Minn. Stat. § 216E.02, subd. 1. The PPSA further authorizes the Commission to meet its routing responsibility by designating a “route” for a new transmission line when it issues a Route Permit. Minn. Stat. § 216E.02, subd. 2. A “route” may have “a variable width of up to 1.25 miles,” within which the right-of-way for the transmission facilities can be located. Minn. Stat. § 216E.01, subd. 8.

A route should be wide enough to provide flexibility for the permittee to work with landowners to address concerns and to address engineering issues that may arise after a Route Permit is issued. Once a route is established by the Commission, the permittee then does more detailed engineering and survey

work in addition to contacting landowners to gather additional detailed information about their property. Only after considering all these inputs does the permittee establish an exact centerline and pole placement.

Once the utility establishes a final alignment and structure placement, proposed construction drawings are provided to the Commission, in the format of a “Plan and Profile” compliance filing, so the Commission can confirm that the permittee’s plans are consistent with the Route Permit.

In recent dockets, the Commission has identified an “anticipated alignment” in final Route Permit decisions (an “anticipated alignment” was first included in the Bemidji - Grand Rapids 230 kV Transmission Line Project, ORDER GRANTING ROUTE PERMIT, Docket No. E017, E015, ET6/TL-07-1327 (Nov. 5, 2010)). The Commission, in identifying an “anticipated alignment” in recent Route Permit decisions, includes a condition similar to the following:

[T]his permit anticipates that the actual right-of-way will generally conform to the alignment shown in the attached maps, unless changes are requested by individual landowners, unforeseen conditions are encountered, or are otherwise provided for by this permit.

Given the Commission’s recent practice to identify an “anticipated alignment” in its Route Permit decisions, ITC Midwest developed what it currently believes to be an alignment for the Project for both Route A and Route B that minimizes the overall potential impacts to the factors identified in Minnesota Rule 7850.4100 based on review of electronically-available data and physical route review (the “application alignment”). The “application alignment” may require modifications after a Route Permit is issued due to limitations inherent in identifying an alignment absent detailed survey, site review, engineering work, and design. The “application alignment” developed for purposes of evaluating potential impacts of each route is available on the detailed maps in **Appendix D**. ITC Midwest has undertaken no detailed survey or engineering work related to the “application alignment” shown on the detailed maps at the time of this Application.

A final alignment will be developed after the Commission issues its Route Permit decision identifying an “anticipated alignment” and ITC Midwest has an opportunity to discuss that “anticipated alignment” with individual landowners and agencies with permitting responsibilities and perform detailed survey and

engineering work, site review, and design. The final alignment will be provided to the Commission through the Plan and Profile submission and review process discussed above. As part of that submission, ITC Midwest will inform the Commission as to where deviations in the final alignment from the anticipated alignment occur.

2.3.1 345 kV Route Width

For the Project, ITC Midwest proposes two routes, each approximately 1,000 feet wide, for the majority of their length. Existing transmission lines, roads, property boundaries, field lines, fence lines, and other routing opportunities are typically found in quarter-mile intervals in the land use settings in the Study Area. Human settlement in rural areas also tends to have a similar quarter-mile development pattern. ITC Midwest requests a route width wider than 1,000 feet in the following areas:

Route A

- In the area south of Interstate 90 near the City of Sherburne, ITC Midwest requests a route width of 1,800 feet near the interchange of Interstate 90 and State Highway 4 to provide flexibility in coordinating routing near the interchange consistent with Minnesota Department of Transportation (“MnDOT”) requirements.
- In the area from 30th Street in Pilot Grove Township south to the Iowa border, ITC Midwest requests a route width of 1.25 miles to provide flexibility in coordinating routing with the portion of the Minnesota – Iowa 345 kV Transmission Project to be constructed in Iowa.

Route B

- In the area from 30th Street in Pilot Grove Township south to the Iowa border, ITC Midwest requests a route width of 1.25 miles to provide flexibility in coordinating routing with the portion of the Minnesota – Iowa 345 kV Transmission Project to be constructed in Iowa.

2.3.2 Iowa Border

The Project is proposed to cross into Iowa near Elmore, Minnesota. A franchise from the IUB will be required before ITC Midwest can construct the Iowa portion of the Minnesota – Iowa 345 kV Transmission Project in Kossuth County, Iowa.

The Iowa portion of the Minnesota – Iowa 345 kV Transmission Project will include a 345 kV transmission line to a new Ledyard Substation near Ledyard, Iowa, to be constructed and owned by ITC Midwest, and on to a new Kossuth County substation near Burt, Iowa, to be constructed and owned by MidAmerican Energy. The Minnesota – Iowa 345 kV Transmission Project will extend into Iowa approximately 25 miles.

Because the Project crosses into another state, it is important to ITC Midwest that any route approved by the Commission be of sufficient width to allow the final alignment on the Minnesota side to line up with the final alignment on the Iowa side of the border. To this end, ITC Midwest is requesting a route width of 1.25 miles at the Iowa border for both Route A and Route B, and the company believes this is sufficient to meet this objective. ITC Midwest will continue to keep the Commission and the IUB on the status and development of routing before the other agency to ensure that the routes approved by the respective agencies in Minnesota and Iowa meet in the same location at the border between the states. *See* Minn. Stat. § 216E.02. ITC Midwest identified a notice corridor and proposed route in Iowa for the first segment of the Iowa portion of the Minnesota – Iowa 345 kV Transmission Project to the Ledyard Substation and mailed notices to landowners in Iowa in February 2013.

2.4 ASSOCIATED FACILITIES

The associated facilities for the Project include expansion of the existing Lakefield Junction Substation, removal of the existing Winnebago Junction Substation, construction of the new Huntley Substation, reconfiguration of four 161 kV transmission lines, and reconfiguration of three 69 kV transmission lines proposed to be constructed to 161 kV standards. These 161 kV and 69 kV transmission lines currently terminate at the to-be-removed Winnebago Junction Substation and are proposed to be reconfigured to terminate at the new Huntley Substation.

2.4.1 Lakefield Junction Substation (existing)

ITC Midwest owns the Lakefield Junction Substation. A general location plan for the existing footprint and proposed expansion of the Lakefield Junction Substation is available in **Appendix E**.

(a) *Equipment and Operation*

The Lakefield Junction Substation was constructed in the late 1960s. Currently, four 345 kV transmission lines terminate at the Lakefield Junction Substation: one 345 kV transmission line owned by ITC Midwest (Lakefield Junction–Raun), two 345 kV transmission lines owned by Xcel Energy (Lakefield Junction–Nobles and Lakefield Junction–Lakefield Generation), and one 345 kV transmission line owned by a neighboring wind farm that connects the collector substation for the Lakefield Wind Project OP Trust to the Lakefield Junction Substation (Hunter–Lakefield Junction). Additionally, there are four 161 kV transmission lines owned by ITC Midwest that terminate at the Lakefield Junction Substation. In 2011, ITC Midwest rebuilt the 345 kV portion of the substation to accommodate the nearby wind farm interconnection, including a three-bay breaker-and-a-half configuration, providing six breaker positions. The 161 kV and 69 kV equipment is positioned on the west side of the substation with the 345 kV equipment on the east side and the 345 kV/161 kV transformers are located between the two voltage bays.

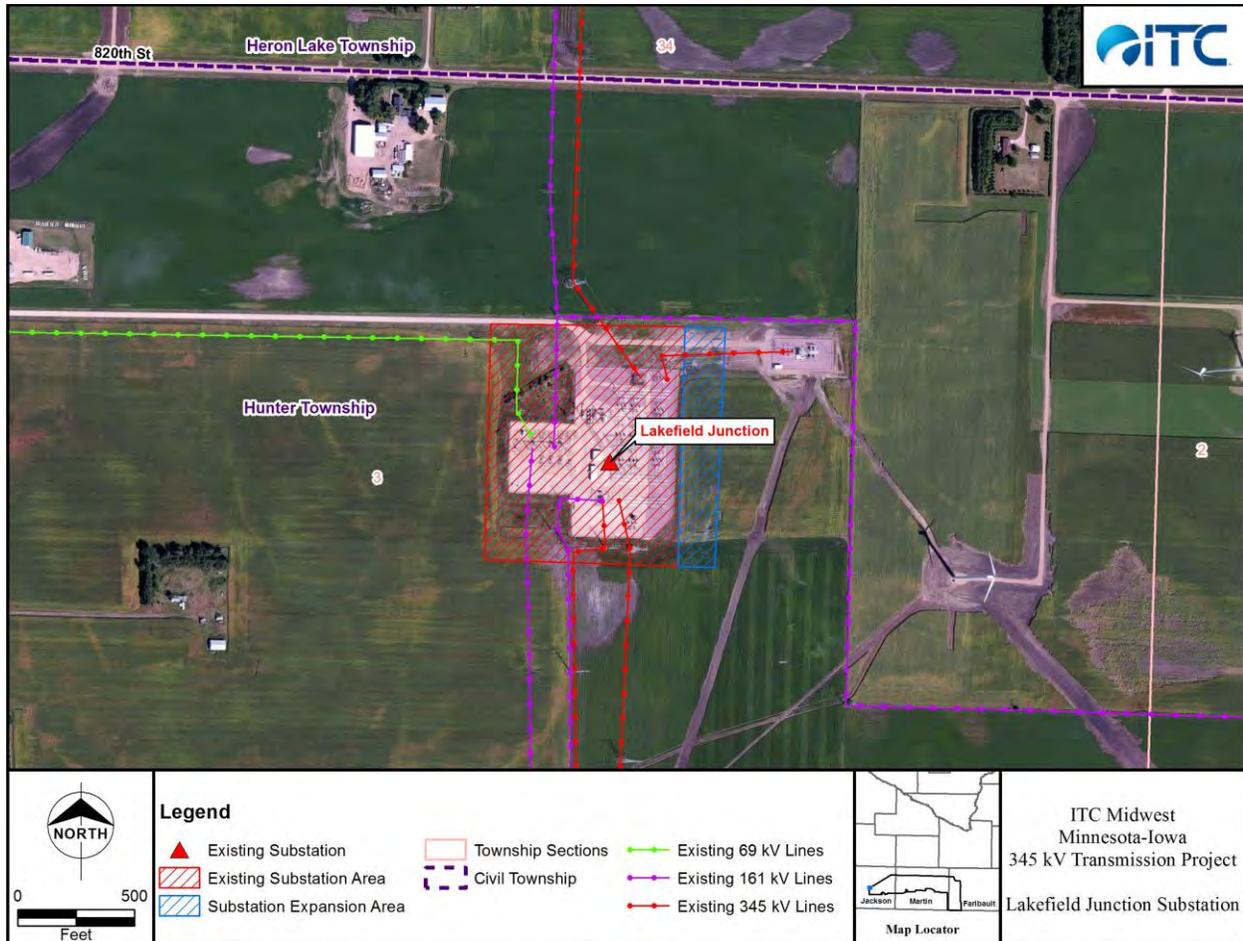
(b) *Substation Land Requirements*

ITC Midwest proposes to expand the Lakefield Junction Substation to the east as part of the Project. After in-depth investigations into the site, existing substation equipment, and transmission line infrastructure ITC Midwest determined that expansion in any other direction is not feasible. The Project is intended to enter the Lakefield Junction Substation from the east. The new 345 kV transmission equipment necessary for the Project is anticipated to include one additional 345 kV bay, using one position, and a future bay position to allow for three future connections. If the new 345 kV equipment is not located on the east side of the substation, the two 345/161 kV transformers and the entire existing 161 kV bay, along with two control buildings, would need to be reconfigured and relocated within the substation. This substantial work would require many extended transmission system outages and coordinating those outages with the overall system would be challenging and costly.

The proposed expansion to the east of the Lakefield Junction Substation will require, at a minimum, ITC Midwest to acquire an additional 160 feet of property for the length of the eastern side of the existing substation. Additionally, easement rights will need to be obtained over the property east of the proposed expansion to allow for interconnection and routing of the Project to the Lakefield Junction Substation. In total, ITC Midwest proposes to acquire approximately three acres of property east of the existing substation property to accommodate

the Project. ITC Midwest anticipates that grading will be necessary over the full substation area acquired but that the fenced area will be expanded by approximately 2.2 acres to accommodate the new 345 kV equipment. The current Lakefield Junction Substation property boundaries and area ITC Midwest proposes to acquire for expansion are identified in **Figure 4** and **Appendix F**.

Figure 4. Proposed Lakefield Junction Substation Expansion



2.4.2 Winnebago Junction Substation (existing)

ITC Midwest proposes to remove all existing equipment from the Winnebago Junction Substation and remove all foundations and fenced area as part of the Project. The substation is currently covered by an easement between ITC Midwest and Interstate Power and Light Company. ITC Midwest and Interstate Power and Light Company are in the process of transferring ownership of the Winnebago Junction Substation site to ITC Midwest. At the time of this Application, ITC Midwest intends to allow the Winnebago Junction Substation site return to a natural state in areas not crossed by transmission line rights-of-

way after the existing substation equipment is removed. One 161 kV transmission line (N.B.E.I.—Huntley) and two 69 kV transmission lines (Walters—Huntley and Huntley—Winnebago Local) will remain on the property after the Winnebago Junction Substation is removed.

(a) *Equipment and Operation*

ITC Midwest initially investigated the possibility of expanding the Winnebago Junction Substation site as part of the Project. ITC Midwest determined, however, that the property at this site is not sufficient in size to allow for the expansions necessary for the Project. Additionally, because of the site's proximity to the Blue Earth River, a heavily treed area, US Highway 169, and a conservation easement on an adjacent parcel, the ability to acquire additional usable land rights was limited. Therefore, ITC Midwest determined it was appropriate to investigate a new location for the 345 kV substation. ITC Midwest concluded that construction of a new substation just over one mile south of the Winnebago Junction Substation was the best option for the Project.

Further, the age of the equipment at the Winnebago Junction Substation was of concern. The Winnebago Junction Substation was constructed in the 1950s. The original substation equipment includes 69 kV and 161 kV breakers. Additionally, the control building onsite is over 60 years old and must be updated or replaced if the Winnebago Junction Substation were to continue operation. Before the Minnesota - Iowa 345 kV Transmission Project was approved by MISO, ITC Midwest planned to replace this equipment as it was approaching the end of its operational life. ITC Midwest put the replacement project on hold in light of this Project. ITC Midwest determined that it was more cost effective to construct a new substation with equipment to support the transmission infrastructure currently at the Winnebago Junction Substation and to support the proposed Project than upgrade the aged equipment at the Winnebago Junction Substation and constructing a new 345 kV/161 kV/69 kV substation to meet the Project needs.

(b) *Plans for Substation Property*

ITC Midwest will continue to own and operate transmission lines across this parcel. ITC Midwest proposes to remove all substation infrastructure at the Winnebago Junction Substation site. This includes the electrical equipment at the substation, foundations, gravel, fencing, and other materials that would no longer be necessary after the substation is removed from operation. At the time of this Application, ITC Midwest intends to allow the Winnebago Junction

Substation site to return to a natural state by reestablishing vegetation that is compliant with the remaining transmission line facilities after the current substation infrastructure is removed.

2.4.3 Huntley Substation (new)

ITC Midwest proposes to construct a new substation one mile south of the Winnebago Junction Substation. ITC Midwest owns the property where it proposes to construct the new Huntley Substation. A detailed location plan for the Huntley Substation has not yet been prepared and substation design engineers have not determined where the nine-acre substation would be located on the 40-acre parcel.

(a) *Equipment and Operation*

ITC Midwest proposes to install two 345 kV breaker-and-a-half bays with three 345 kV breakers, associated switches, steel, foundations, and deadend structures. A 345 kV/161 kV transformer will also be installed at the Huntley Substation, along with four 161 kV breaker-and-a-half bays with eleven 161 kV breakers, associated switches, steel, foundations, and dead end structures. Certain 69 kV equipment will also be installed, including two 161 kV/69 kV transformers, three 69 kV breakers, and associated switches, steel, foundations, and deadend structures. A control building and road access will also be constructed at the site.

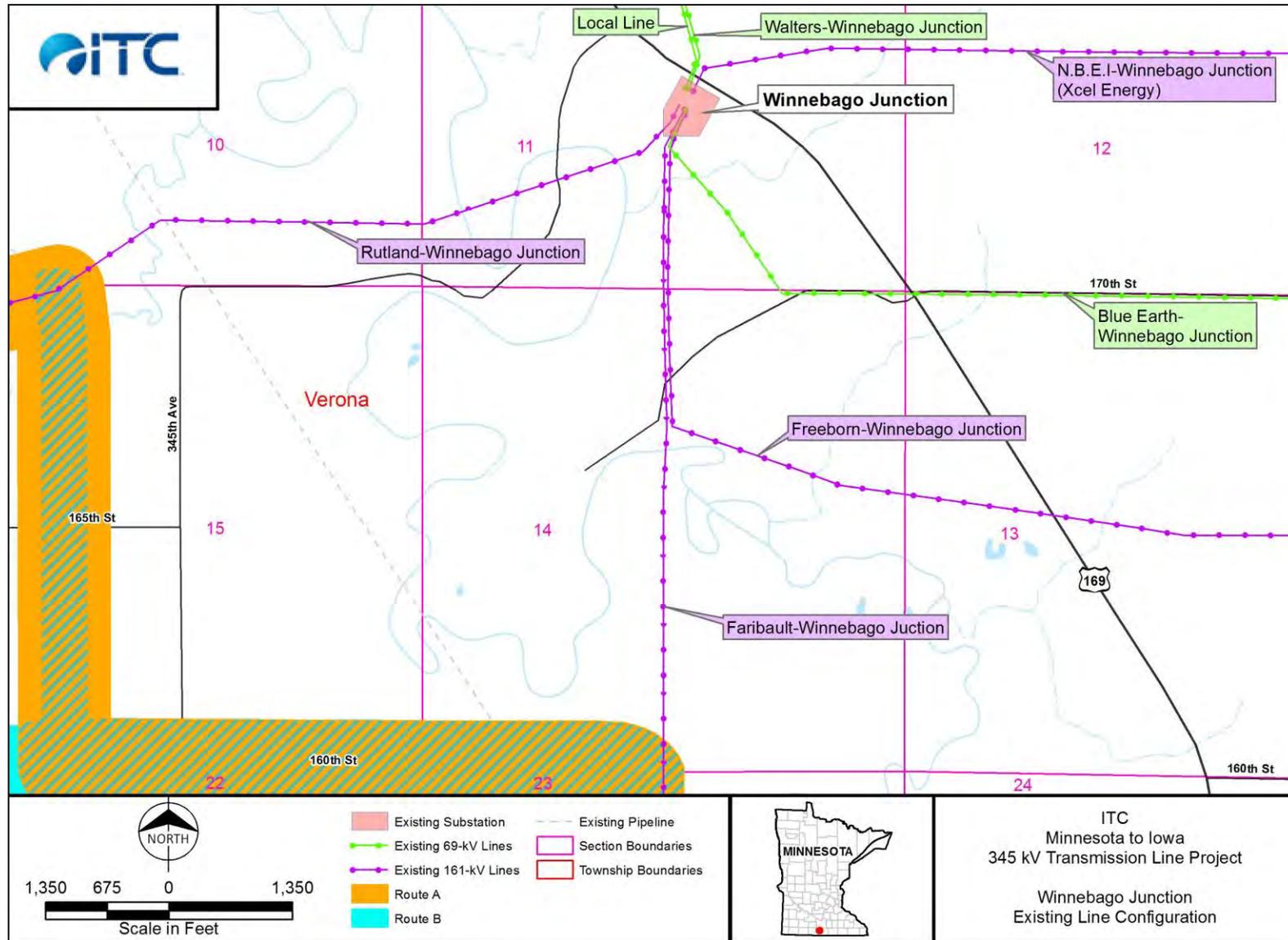
(b) *Substation Land Requirements*

ITC Midwest purchased 40 acres of land for the Huntley Substation in December 2012. ITC Midwest proposes to construct an approximately nine-acre fenced area for the Huntley Substation on this parcel. ITC Midwest intends to design and grade the Huntley Substation to provide sufficient space for two future 345 kV breaker-and-a-half bays and one additional 161 kV breaker-and-a-half bay. Additionally, this large site will allow ITC Midwest to maintain a substantial buffer between the substation fence and adjacent landowners.

2.4.4 161 kV Interconnections at Huntley Substation

There are four 161 kV and three 69 kV associated facilities that currently terminate at the Winnebago Junction Substation that will need to be reconfigured as part of the Project. The current configuration of these 161 kV and 69 kV associated facilities is shown in **Figure 5**.

Figure 5. Current Configuration of Associated Facilities Terminating at the Winnebago Junction Substation



For the 69 kV and 161 kV associated facilities, ITC Midwest proposes to primarily use single pole structures. ITC Midwest will use existing, but expanded, rights-of-way to the greatest extent feasible. The reconfigured transmission lines will either be single-circuit or double-circuit, whichever provides the most efficient use of rights-of-way. Specialty structures may be used where environmentally sensitive areas are encountered. These associated facilities will be constructed to maintain a minimum vertical clearance for the conductor of 25 feet.

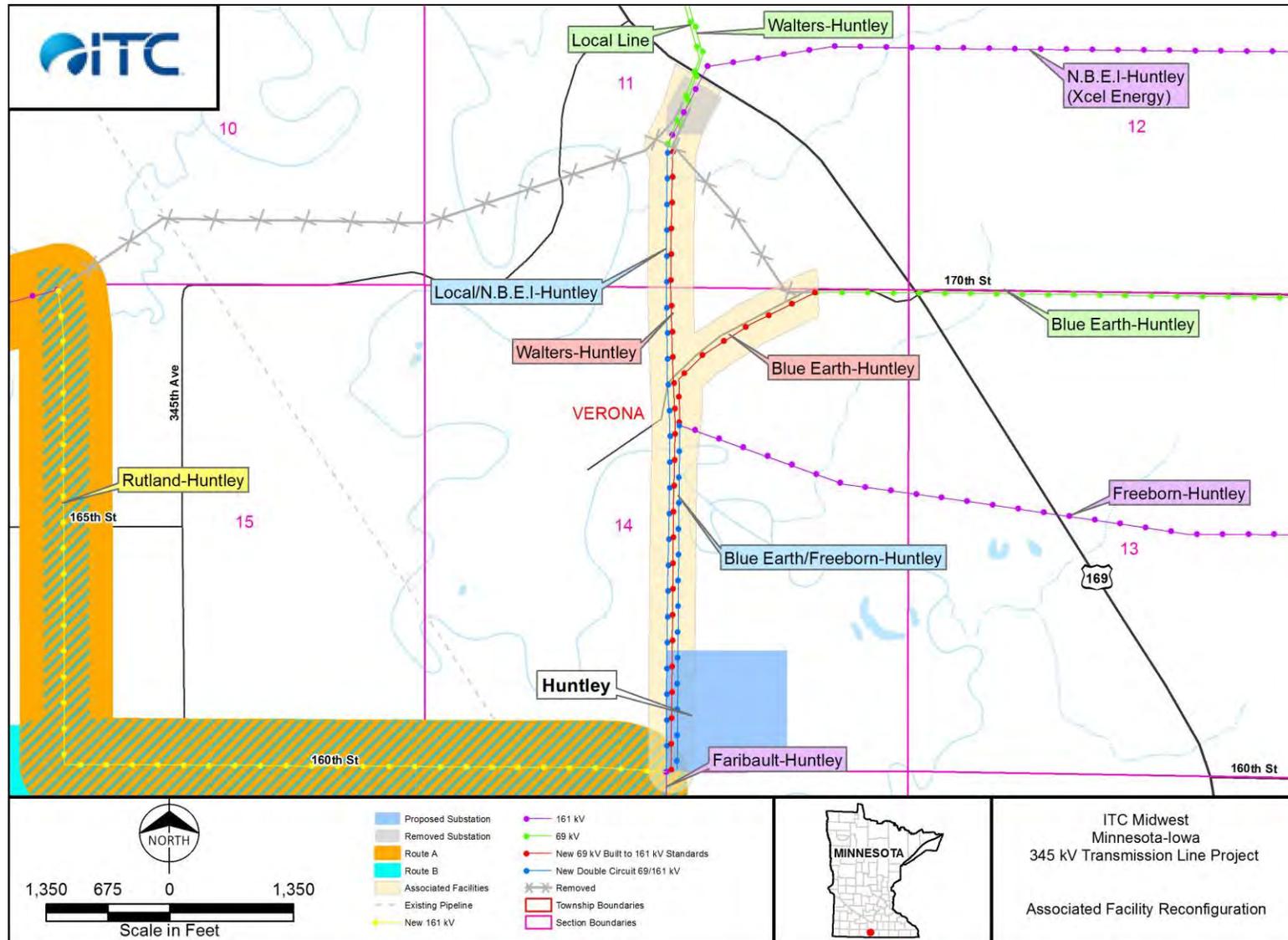
ITC Midwest proposes to co-locate two 69 kV transmission lines with two 161 kV transmission lines in the area between the Winnebago Junction and Huntley substation sites. At this time, ITC Midwest proposes to co-locate the 69 kV Winnebago Junction—Winnebago Local transmission line with the 161 kV N.B.E.I.—Winnebago Junction (“Local/N.B.E.I.”) transmission line and the 69 kV Blue Earth—Winnebago Junction transmission line with the 161 kV Freeborn—Winnebago Junction (“Blue Earth/Freeborn”) transmission line. These co-located lines would be constructed on primarily single-pole structures built to 161 kV/161 kV standards but operated at 161 kV/69 kV until conditions warrant.

There is one 69 kV transmission line (the Walters—Winnebago Junction line) and a portion of the Blue Earth—Winnebago Junction 69 kV transmission line that are not proposed to be co-located with a 161 kV transmission line. ITC Midwest, does however, propose to construct both of these lines, as part of the Project, to 161 kV standards to avoid future reconstruction and minimize impacts to the environment and to landowners. These lines would be operated at 69 kV until conditions warrant.

Portions of the rights-of-way currently occupied by the Rutland—Winnebago Junction and Blue Earth—Winnebago Junction lines that will no longer be needed after the Project is constructed will be abandoned. For the 161 kV associated facilities, ITC Midwest requests a 500-foot route width. For the associated facilities, a right-of-way of 150 feet is the minimum necessary for the safe operation of these facilities. A right-of-way 250 feet in width will be needed from the Huntley Substation north to 170th Street to allow parallel construction of 161 kV associated facilities. A right-of-way 200 feet in width will be needed north of this location to the Winnebago Junction Substation site to allow for three circuits (one 161 kV/161 kV transmission line and one 69 kV transmission line constructed to 161 standards) to be constructed in parallel. A right-of-way 150 feet in width will be needed along 170th Street for the 69 kV Blue Earth—Winnebago Junction line to be constructed to 161 kV standards. The proposed

routes for the 161 kV associated facilities are shown in **Figure 6** and in more detail in **Appendix F**.

Figure 6. Proposed 161 kV Associated Facility Relocations



2.5 PROJECT SCHEDULE

An expected permitting and construction schedule for the Project is provided in Table 2:

Table 2. Estimated Project Schedule

Activity	Estimated Activity Dates
Minnesota Certificate of Need Order	2 nd Quarter 2014
Minnesota Route Permit Order	2 nd Quarter 2014
Franchise from Iowa Utilities Board	3 rd Quarter 2015
Environmental Permits Received	3 rd Quarter 2015
Other Permits/ Approvals Received	3 rd Quarter 2015
Land Acquisition	3 rd Quarter 2014 to 2 nd Quarter 2015
Survey and Transmission Line Design	4 th Quarter 2014 to 4 th Quarter 2015
Right-of-Way Clearing to Begin	4 th Quarter 2015
Construction to Begin	1 st Quarter 2016
In-Service (Lakefield - Huntley)	1 st Quarter 2017
In-Service (Huntley - Iowa)	2 nd Quarter 2017

2.6 PROJECT COST ANALYSIS

The estimated costs prepared for the Project include costs to obtain environmental permits, obtain road sharing and crossing permits and licenses, complete survey work, complete line and substation design work, obtain materials, acquire property for substations and transmission line rights-of-way, complete construction of the Project, complete restoration of the rights-of-way, and obtain a Certificate of Need and Route Permit from the Commission. Project costs were developed with a +/- 30 percent variation as the final costs are highly dependent on costs of materials and labor associated with Project construction.

2.6.1 Project Costs

Cost estimates were developed on the two routes identified in this Application. Planning-level cost estimates are provided in Table 3.

Table 3. Estimated Project Costs

Project Facility	Route A (millions)	Route B (millions)
Lakefield - Iowa Border Transmission Line	\$164 ^a	\$152
Lakefield Junction Substation	\$6	\$6
Huntley Substation ^b	\$33	\$33
161 kV Associated Facilities	\$3	\$3
Total	\$206	\$194

^a The estimated cost for the Lakefield - Iowa Transmission Line includes the estimated cost to remove the existing Lakefield to Border 161 kV Transmission Line, where necessary.

^b The estimated cost for the Huntley Substation includes the estimated cost to remove the Winnebago Junction Substation infrastructure and the cost of construction of equipment to support the 345 kV, 161 kV, and 69 kV systems at the Huntley Substation.

The total cost of the Project² is estimated to be between \$194 million and \$206 million, +/- 30 percent. While both routes approximately the same length, the materials and labor costs for Route B are estimated to be lower than for Route A because only the 345 kV circuit installed as part of the Project. ITC Midwest estimates the cost to install the 161 kV circuit along Route B, considering only materials and labor, would be approximately \$28 million. Therefore, if Route B were also constructed initially as a 345 kV/161 kV line configuration, it would cost an estimated \$222 million.

2.6.2 Operations and Maintenance

The primary cost associated with the operation and maintenance of a transmission line is the cost of inspections, usually done semi-annually by helicopter with a forester, vegetation planner, and line inspector; annually by ground with a forester; and once every four years by ground with a line inspector. Annual operating and maintenance costs for transmission lines in Minnesota and the surrounding states vary depending upon the setting, the amount of vegetation management necessary, storm damage occurrences, structure types, materials used, and the transmission line's age. For operation and maintenance of 345 kV transmission lines, including vegetation removal and maintenance, tower and line maintenance, and the previously-mentioned

² The Project costs in this Application only include the Minnesota portion of the Minnesota - Iowa 345 kV Transmission Project

helicopter and ground patrols, ITC Midwest's recent experience with lines of varying ages has shown that annual costs are likely to be approximately \$2,000 per mile.

Substations also require a certain amount of maintenance to keep them functioning in accordance with accepted operating parameters, ITC Midwest procedures, North American Reliability Corporation ("NERC") reliability standard requirements, and the National Electric Safety Code ("NESC"). Transformers, circuit breakers, control buildings, batteries, relay equipment, and other substation equipment need to be serviced periodically to maintain operability. The fenced area must also be kept free of vegetation and proper drainage must be maintained.