

Appendix J
Summary Table, Alexandria to Sauk Centre area

This page intentionally left blank.

Table J-1. Summary Table, Alexandria to Sauk Centre Proposed Routes

Factor	Applicant Preferred Route	Route A
Effects on Human Settlement		
Socioeconomic Resources	The construction, operation and maintenance of the transmission lines are not anticipated to negatively impact socioeconomic resources in the Project area. Immediate short-term positive economic gains would likely result from activities associated with the construction of the proposed Project. Long-term beneficial impacts include incremental increases in revenues from utility property tax and landowners would receive compensation for the rights to build, operate and maintain the transmission facilities within the easements area.	
Land Use, Zoning, and Planning	Approximately 58% of the route is zoned agricultural use, 13% is zoned commercial/industrial, 16% is zoned residential, and 13% is zoned recreation/park.	Approximately 77% of the route is zoned agricultural, 2% is zoned commercial/industrial, 12% is zoned residential, 4% is zoned recreation/park, and 5% is zoned for special agricultural uses.
Displacement	No residences are located within 75 feet of the centerline alignment, and therefore, there are no residences within the ROW.	
	The alignment would be designed to avoid residential displacements.	
Property Values	Based on research conducted, it is not anticipated that the proposed transmission line routes evaluated would significantly affect the value of properties adjacent to the proposed transmission lines.	
Pipelines	The route would cross the Amoco, Williams Brothers, and Northern Natural Gas pipelines.	
Noise	Noise associated with the operation of the proposed 345 kV transmission line is not predicted to exceed the limits identified by the MPCA.	
Effects on Public Health and Safety		
EMF	The proposed HVTL would conform to all applicable local, state, and North American Electric Reliability Corporation (NERC) standards and National Electric Safety Code (NESC) standards regarding clearance to the ground, clearance to crossing utilities, clearance to buildings, strength of materials, and ROW widths. There are no anticipated impacts attributed to EMF from the Project. However, three primary methods to reduce EMF exposure for the Project include: avoiding residences to the greatest possible extent, compacting phases, and rearranging phase conductors to cancel EMF.	
Magnetic Fields	Predicted magnetic field levels are considerably less than the recommended exposure guidelines. Based on the proposed design and operation of the project, no impacts are anticipated.	
Stray Voltage	Poor grounding conditions, inadequate connections, lightning strikes, or undersized neutral conductors can be the cause for stray voltage. Therefore, impacts attributed to stray voltage are not anticipated.	
Effects on Recreation		

Factor	Applicant Preferred Route	Route A
Recreation Land	Several parks are located near the route. However, the ultimate location of the proposed transmission line is intended to be outside the designated recreation corridor. Depending on the alignment of the route, approximately 66 acres of recreation/open space/park land would be impacted. The route crosses three trails. No scenic byways are crossed.	Several parks are located near this route. However, the ultimate location of the proposed transmission line is intended to be outside the designated recreation corridor. The Lynx National golf course is located within the ROW, but no greens or tees would be impacted. Depending on the alignment of the route, approximately 41 acres of recreation/open space/park land would be impacted. The route crosses two trails and one scenic byway.
Aesthetics	Would likely affect visual quality within open landscapes, WMA, wayside rest areas, and campgrounds in proximity of the transmission line. There are approximately 41 homes within 500 feet of the alignment.	Would likely affect visual quality within open landscapes, WMA, wayside rest areas, and campgrounds in proximity of the transmission line. There are approximately 43 homes within 500 feet of the alignment.
Effects on Transportation		
Roadways	The route primarily follows I-94. Construction activities along this route have the potential to impact two future roadway projects.	Route A does not follow a particular roadway. Transportation related impacts associated with this route are similar to those impacts related to the Preferred Route. Construction activities along this route have the potential to impact two future roadway projects.
Airports	The route is within the FAA regulatory space associated with Chandler Field and Sauk Center Municipal Airport. Construction notice to FAA would be required. The route is not expected to impact any VORs.	Construction notice to FAA would be required. The route is not expected to impact any VORs.
Effects on Wireless Technologies		
Wireless Technologies	No widespread interference to radio, television, or cellular phones is anticipated.	
Effects on Archaeological and Historic Resources		
Archaeological & Historic Resources	There are no archaeological resources and two historic facilities resources located within the route area.	There are no archaeological resources or historic facilities resources located within the route area.
Effects on Land-based Economics		
Agriculture	Approximately 58% of the route is zoned for agricultural use, of which approximately 1,633 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 8,200 square feet. Three center-pivot irrigation systems are located within this route.	Approximately 77% of the route is zoned for agricultural use, of which 1,548 acres are considered prime farmland. Permanent impacts due to pole placement are 10,000 square feet. Eleven center-pivot irrigation systems area located within this route.
Forestry	Impacts approximately between 45 and 47 acres of wooded land.	
Tourism	No impacts to tourism are anticipated.	

Factor	Applicant Preferred Route	Route A
Mining	No aggregate sources have been identified with the ROW for either route.	
Effects on Water Resources		
Surface Waters	Crosses 17 small or unnamed streams and 6 PWI streams.	Crosses 32 small or unnamed streams and 6 PWI streams.
Groundwater Resources	All well locations within the routes would be avoided; therefore no impacts to groundwater resources are anticipated.	
Wetlands	ROW includes 64 acres of wetlands and crosses 91 wetlands. Up to 3 poles would be placed within these wetlands.	ROW includes 87 acres of wetlands and crosses approximately 119 wetlands. Approximately 15 poles would be placed within these wetlands.
Floodplains	ROW includes approximately 5 acres designated as 100-year floodplain.	ROW includes approximately 19 acres designated as 100-year floodplain.
Effects on the Natural Environment		
Flora	The majority of the Applicant Preferred Route occurs along existing rights-of-way and vegetation communities that occur in these areas are regularly disturbed. Impacts due to construction are not anticipated to substantially disrupt vegetative community quality or function. The route would permanently impact approximately 2,080 square feet of vegetation.	Route A does not follow major existing infrastructure and is generally along property lines or local roadways. It is expected that impacts to flora for the Applicant Preferred Route would be similar to or less than associated with Route A. The route would permanently impact approximately 2,571 square feet of vegetation.
Fauna	There is a potential for temporary displacement of wildlife during construction and for loss of small amounts of habitat. Because transmission line routing avoids direct impacts to lakes and rivers, impacts on fisheries will be small. Any impacts, temporary or permanent, are unlikely to affect population levels of are wildlife.	
Rare and Unique Natural Resources	Approximately 7 acres of USFWS easements would be impacted by the ROW. No other WPA, SNA, WMA, MCBS Sites of Biodiversity Significance, MCBS Railroad Prairies, BWSR RIM Easements, or Native Plant Communities classified land would be affected. One species listed as endangered, threatened, or special concern by the state of Minnesota has been documented within the Route but not the ROW.	Approximately 12 acres of a WMA is in the ROW, 3 acres of USFWS easements, and 10 acres of MCBS sites of Biodiversity Significance, and 5 acres of MCBS Native Plant Communities would be impacted by the ROW. No other WPA, SNA, MCBS Railroad Prairies, BWSR RIM Easements, or Native Plant Communities classified land would be affected. One species listed as endangered, threatened, or special concern by the state of Minnesota has been documented within the Route but not the ROW.
Air Quality	During construction there would be limited emissions due to exhaust from vehicles and other construction equipment and fugitive dust from ROW clearing. The magnitude of the construction emissions is influenced heavily by the specific construction activity occurring. Adverse impacts to the surrounding environment would be minimal because of the short and intermittent nature of the exhaust emission and dust-producing construction phases.	

Table J-2. Summary Table, Alexandria to Sauk Centre Options

Resource	Option 4		Option 5		Option 6		Option 7	
	Route A	Option 4	Applicant Preferred Route Segment	Option 5	Applicant Preferred Route Segment	Option 6	Route A	Option 7
Effects on Human Settlement								
Socioeconomic Resources	The construction, operation and maintenance of the transmission lines are not anticipated to negatively impact socioeconomic resources in the Project area. Immediate short-term positive economic gains would likely result from activities associated with the construction of the proposed Project. Long-term beneficial impacts include incremental increases in revenues from utility property tax and landowners would receive compensation for the rights to build, operate and maintain the transmission facilities within the easements area.							
Land Use, Zoning and Planning	Affects 59 acres of agricultural and 32 acres of residential zoned land. No other land uses are affected.	Affects 70 acres of agricultural zoned land. No other land uses are affected.	Affects 52 acres of agricultural and 3 acres of recreation zoned land. No other land uses are affected.	Affects 55 acres of agricultural and 5 acres of recreation zoned land. No other land uses are affected.	Affects 175 acres of agricultural, 9 acres of residential, 19 acres of commercial/industrial, and 9 acres of recreation zoned land. No other land uses are affected.	Affects 220 acres of agricultural, 8 acres of residential, 1 acre of commercial/industrial, and 1 acre of recreation zoned land. No other land uses are affected.	Affects 59 acres of agricultural zoned land. No other land uses are affected.	Affects 41 acres of agricultural zoned land. No other land uses are affected.
Displacement	No residences are located within 75 feet of the centerline alignment.	One residence is area located within 75 feet of the centerline alignment.	No residences are located within 75 feet of the centerline alignment.	No residences are located within 75 feet of the centerline alignment.	No residences are located within 75 feet of the centerline alignment.	No residences are located within 75 feet of the centerline alignment.	No residences are located within 75 feet of the centerline alignment.	No residences are located within 75 feet of the centerline alignment.
	The alignment would be designed to avoid residential displacements.							
Property Values	Based on research conducted, it is not anticipated that the proposed transmission line routes evaluated would significantly affect the value of properties adjacent to the proposed transmission lines.							
Pipelines	None of the options would be crossed by pipelines.				Options 6 and 7 would cross the Amoco Pipeline.			
Noise	Noise associated with the operation of the proposed 345 kV transmission line is not predicted to exceed the limits identified by the MPCA.							

Resource	Option 4		Option 5		Option 6		Option 7	
	Route A	Option 4	Applicant Preferred Route Segment	Option 5	Applicant Preferred Route Segment	Option 6	Route A	Option 7
Effects on Public Health and Safety								
EMF	<p>The proposed HVTL would conform to all applicable local, state, and North American Electric Reliability Corporation (NERC) standards and National Electric Safety Code (NESC) standards regarding clearance to the ground, clearance to crossing utilities, clearance to buildings, strength of materials, and ROW widths.</p> <p>There are no anticipated impacts attributed to EMF from the Project however; three primary methods to reduce EMF exposure for the Project include: avoiding residences to the greatest possible extent, compacting phases, and rearranging phase conductors to cancel EMF.</p>							
Magnetic Fields	Predicted magnetic field levels are considerably less than the recommended exposure guidelines. Based on the proposed design and operation of the project, no impacts are anticipated.							
Stray Voltage	Poor grounding conditions, inadequate connections, lightening strikes, or undersized neutral conductors can be the cause for stray voltage. Therefore, impacts attributed to stray voltage are not anticipated.							
Effects on Recreation								
Recreation Land	No recreation land is affected or trails crossed.	Affects 14 acres of recreation land. No trail crossings.	Affects 3 acres of recreation land and crosses one trail.	Affects 10 acres of recreation land and crosses one trail.	Affects 13 acres of recreation land. No trail crossings.	Affects 1 acre of recreation land. No trail crossings.	No recreation land is affected or trails crossed	
Aesthetics	There are approximately 5 homes within 500 feet of the alignment.	There are approximately 2 homes within 500 feet of the alignment.	There are approximately 3 homes within 500 feet of the alignment.	There are approximately 3 homes within 500 feet of the alignment.	There are approximately 37 homes within 500 feet of the alignment.	There are approximately 16 homes within 500 feet of the alignment.	There are approximately 4 homes within 500 feet of the alignment.	There are no homes located within 500 feet of the alignment.
	Would likely affect visual quality within open landscapes, WMA, wayside rest areas, and campgrounds are located in proximity of the transmission line.							
Effects on Transportation								

Resource	Option 4		Option 5		Option 6		Option 7	
	Route A	Option 4	Applicant Preferred Route Segment	Option 5	Applicant Preferred Route Segment	Option 6	Route A	Option 7
Roadways	No impacts to future roadway projects are expected from construction activities along the options.	No impacts to future roadway projects are expected from construction activities along the options.	No impacts to future roadway projects are expected from construction activities along the options.	No impacts to future roadway projects are expected from construction activities along the options.	Construction activities along this route have the potential to impact one future roadway project.	Construction activities along this route have the potential to impact one future roadway project.	No impacts to future roadway projects are expected from construction activities along the options.	No impacts to future roadway projects are expected from construction activities along the options.
Airports	Construction notice to FAA would be required. This route is not expected to impact any VORs.			This route is not expected to impact any VORs.		Construction notice to FAA would be required. This route is not expected to impact any VORs.		This route is not expected to impact any VORs.
Effects on Wireless Technologies								
Wireless technologies	No widespread interference to radio, television, or cellular phones is anticipated.							
Effects on Land-based Economics								

Resource	Option 4		Option 5		Option 6		Option 7	
	Route A	Option 4	Applicant Preferred Route Segment	Option 5	Applicant Preferred Route Segment	Option 6	Route A	Option 7
Agriculture	Approximately 64% of the route is zoned for agricultural use, of which approximately 40 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 1,159 square feet. Two center-pivot irrigation systems are located within this route.	Approximately 73% acres of the route is zoned for agricultural use, of which approximately 77 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 1,347 square feet. No center-pivot irrigation system is located within this route.	Approximately 93% of the route is zoned for agricultural use, of which 98 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 900 square feet. No center-pivot irrigation system is located within this route.	Approximately 99% of the route is zoned for agricultural use of which 53 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 900 square feet. No center-pivot irrigation system is located within this route.	Approximately 68% of the route is zoned for agricultural use of which 560 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 2,100 square feet. No center-pivot irrigation system is located within this route.	Approximately 99% of the route is zoned for agricultural use of which 656 acres are considered prime farmland. Permanent impacts due to pole placement are approximately 3,400 square feet. No center-pivot irrigation system is located within this route.	Permanent impacts due to pole placement are approximately 1,068 square feet. Six center-pivot irrigation systems are located within this route.	Permanent impacts due to pole placement are approximately 682 square feet. One center-pivot irrigation system is located within this route.
Forestry	Affects 18 acres of wooded land.	Affects approximately 8 acres of wooded land.	Affects between 2 and 3 acres of wooded land.	Affects approximately 1 acre of wooded land.	Affects approximately 21 acres of wooded land.	Affects approximately 19 acres of wooded land.	Affects approximately 4 acres of wooded land.	Affects approximately 2 acres of wooded land.
Tourism	No impacts to tourism are anticipated.							
Mining	No aggregate sources have been identified with the ROW for either route.							
Effects on Water Resources								

Resource	Option 4		Option 5		Option 6		Option 7	
	Route A	Option 4	Applicant Preferred Route Segment	Option 5	Applicant Preferred Route Segment	Option 6	Route A	Option 7
Surface Waters	Crosses 5 small or unnamed streams and 2 PWI streams.	Crosses 4 small or unnamed streams and 2 PWI streams.	Crosses 3 small or unnamed streams and 1 PWI stream.	Crosses 3 small or unnamed streams and 1 PWI stream.	Crosses 4 small or unnamed streams and 2 PWI streams.	Crosses 11 small or unnamed streams and 3 PWI streams.	Crosses 4 small or unnamed streams and 1 PWI stream.	Crosses 3 small or unnamed streams and 1 PWI stream.
Groundwater Resources	All well locations within the routes would be avoided; therefore, no impacts to groundwater resources are anticipated.							
Wetlands	ROW includes 22 acres of wetlands and crosses 17 wetlands. Eight poles would be placed within these wetlands.	ROW includes 15 acre of wetland and crosses 19 wetlands. Three poles would be placed within these wetlands.	ROW includes 5 acres of wetlands and crosses between 6 and 7. No poles would be placed in these wetlands.	ROW includes 5 acres of wetlands and 8 crossings. Two poles would be placed within these wetlands.	ROW includes 11 acres of wetlands and 19 crossings. No poles would be placed in these wetlands.	ROW includes 27 acres of wetlands and crosses 30 wetlands. Five poles would be placed in these wetlands.	ROW includes 2 acres of wetlands and 4 crossings. No poles would be placed in these wetlands.	ROW includes 6 acres of wetlands and crosses 7 wetlands. Two poles would be placed in these wetlands.
Floodplains	No land designated as 100-year floodplain is located within these route segments.		ROW includes 4 acres designated as 100-year floodplain.	ROW includes 4 acres designated as 100-year floodplain.	ROW includes approximately 1 acre designated as 100-year floodplain.	ROW includes 19 acres designated as 100-year floodplain	No land designated as 100-year floodplain is located within these route segments.	
Effects on the Natural Environment								

Resource	Option 4		Option 5		Option 6		Option 7	
	Route A	Option 4	Applicant Preferred Route Segment	Option 5	Applicant Preferred Route Segment	Option 6	Route A	Option 7
Flora	Would permanently impact approximately 652 square feet of vegetation.	Would permanently impact approximately 461square feet of vegetation.	Would permanently impact approximately 52 square feet of vegetation.	Would permanently impact approximately 64 square feet of vegetation.	Would permanently impact approximately 762 square feet of vegetation.	Would permanently impact approximately 944 square feet of vegetation.	Would permanently impact approximately 108 square feet of vegetation.	Would permanently impact approximately 135 square feet of vegetation.
Fauna	There is a potential for temporary displacement of wildlife during construction and for loss of small amounts of habitat. Because transmission line routing avoids direct impacts to lakes and rivers, impacts on fisheries will be small. Any impacts, temporary or permanent, are unlikely to affect population levels of wildlife.							
Rare and Unique Natural Resources	Impacts between 11 and 13 acres of USFWS wetland easements.	No impacts.	Impacts between 0 and 14 acres of USFS wetland easement.	Impacts 0.2 acre WMA land and 2 acres USFWS wetland easement.	Impacts 0.2 acres WMA land and 10 acres USFWS wetland easement.	No impacts.		
Air Quality	During construction there would be limited emissions due to exhaust from vehicles and other construction equipment and fugitive dust from ROW clearing. The magnitude of the construction emissions is influenced heavily by the specific construction activity occurring. Adverse impacts to the surrounding environment would be minimal because of the short and intermittent nature of the exhaust emission and dust-producing construction phases.							