

## 6.17 Pine Island

The proposed Pine Island facility has a capacity of 4.0 MW AC and is located in the northwestern portion of Pine Island in Goodhue County. The location is between 511<sup>th</sup> Street and County Highway 27, approximately one-half mile west of 3<sup>rd</sup> Avenue NW. Aurora anticipates that the facility will be accessed through a newly constructed access road off of 511<sup>th</sup> Street. Preliminary plans anticipate a development area of approximately 39.6 acres within the 45.9 acres of Aurora’s site control. Electricity from the facility would be delivered to Xcel Energy’s Pine Island Substation located approximately one-half mile east of the facility.

The facility is located within the Paleozoic Plateau Section of the Eastern Broadleaf Forest Province. Land cover within the preliminary development area (Table 33) is dominated by cultivated crops (97.5 percent). The proposed location avoids the developed areas of Pine Island located to the east and south, as well as grassland areas located to the west, but is otherwise similar to the agricultural land cover that is heavily represented in the study area surrounding the Pine Island Substation (Figure 72).

**Table 33: Pine Island - Land Cover**

Land Cover	Control Area		Development Area		Study Area	
	Acres	Percent	Acres	Percent	Acres	Percent
Open Water	--	--	--	--	20.2	0.2%
Developed, Open Space	0.3	0.7%	0.3	0.8%	806.1	6.4%
Developed, Low Intensity	--	--	--	--	711.3	5.7%
Developed, Medium Intensity	--	--	--	--	126.7	1.0%
Developed, High Intensity	--	--	--	--	39.4	0.3%
Barren Land	--	--	--	--	1.2	0.0%
Deciduous Forest	--	--	--	--	700.9	5.6%
Evergreen Forest	--	--	--	--	3.0	--
Mixed Forest	--	--	--	--	--	--
Shrub/Scrub	--	--	--	--	4.9	0.0%
Grassland Herbaceous	3.0	6.5%	0.7	1.7%	1,503.3	12.0%
Pasture/Hay	--	--	--	--	1,310.2	10.4%
Cultivated Crops	43.5	92.8%	41.2	97.5%	6,761.1	53.9%
Woody Wetlands	--	--	--	--	558.6	4.5%
Emergent Herbaceous Wetlands	--	--	--	--	5.50	--
<b>Totals</b>	<b>46.9</b>	<b>100.0%</b>	<b>42.2</b>	<b>100.0%</b>	<b>12,552.4</b>	<b>100.0%</b>

### **6.17.1 Effects on Human Settlement**

The location is on a cultivated parcel south of 511<sup>th</sup> Street in a rural area with scattered rural residences. The nearest home is located approximately 815 feet northwest of the preliminary development area. Construction of the facility will not result in displacement of any homes or businesses.

The location is currently zoned as Ag (Agriculture District) by the city of Pine Island, but the City's comprehensive plan designates the location as future low-density residential.<sup>159</sup> The City has expressed concern over the view of the proposed facility from nearby homes that are located on a higher elevation and on the proposed facility's impact on the cost and ability to extend utilizes to areas west of the site that may be developed.<sup>160</sup>

Pine Island is in the process of adopting ordinances for solar energy systems, including Solar Farms of the type proposed by Aurora. Under the proposed ordinance, Solar Farms would be allowed as an interim use in areas zoned as agricultural, but are prohibited within Shoreland Districts, wetlands and floodplains.<sup>161</sup>

The southern portion of the preliminary development area appears to be located very close to Pine Island's Shoreland Overlay District surrounding an unidentified PWI south of the facility.<sup>162</sup>

There are no recreational trails, state, county or local parks identified within one-half mile of the proposed facility. Construction and operation of the facility would not impact the use of nearby recreational resources.

No mitigation measures beyond those described in Section 5.2, are identified for the Pine Island facility.

### **6.17.2 Effects on Land Based Economies**

Based on the preliminary site design, the Pine Island facility would remove approximately 41 acres from agricultural use for at least 25 years. Aurora's Zumbrota facility is also located in Goodhue County. If both facilities were developed approximately 70 acres would be removed from agricultural production for at least 25 years.

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<sup>159</sup> City of Pine Island. *Pine Island Comprehensive Plan*. 2010, at Figure 3.  
[http://cc.pineislandmn.com/downloads/final\\_document\\_101410\\_2.pdf](http://cc.pineislandmn.com/downloads/final_document_101410_2.pdf)

<sup>160</sup> Pine Island Comments, September 26, 2014

<sup>161</sup> Pine Island, Proposed Solar Ordinance,  
[http://cc.pineislandmn.com/downloads/whole\\_agenda\\_1132015.pdf](http://cc.pineislandmn.com/downloads/whole_agenda_1132015.pdf)

<sup>162</sup> Pine Island Zoning Map,  
<http://cc.pineislandmn.com/downloads/officialzoningmapordinance1132ndseries10182011.pdf>

Approximately 18 acres (42 percent) of the developed area are considered to be prime farmland and 6 acres are considered to be prime farmland if drained (Table 13). Within the comparison area surrounding the Pine Island Substation, approximately 46 percent is considered to be prime farmland and 21 percent (50 percent) is considered to be prime farmland if drained. The prime farmland exclusion in Minnesota Rule 7850.4400, Subpart 4 does not apply to the Pine Island facility as it is within the municipal boundary of Pine Island.

The proposed project would not impact tourism, mining or mineral extraction activity, or forest resources of economic importance.

No mitigation measures beyond those described in Section 5.3 are identified for the Pine Island facility.

### **6.17.3 Effects on Archaeological and Historic Resources**

No archaeological sites were identified in a survey of the Pine Island facility. No mitigation measures beyond those described in Section 5.4, are identified for the Pine Island Facility.

### **6.17.4 Effects on Natural Environment**

There are no rivers, streams or lakes within the area of facility site control. The North Branch Middle Fork Zumbro River is located across 511<sup>th</sup> Street, approximately 0.1 mile north of the preliminary development area, and an unnamed tributary that flows into the North Branch Middle Fork Zumbro River is located immediately south of the facility (Figure 72). The southern portion of the preliminary development area appears to be located very close to the Shoreland Overlay District of the unnamed tributary. The facility's preliminary development area is located outside of the mapped 100-year Federal Emergency Management Administration (FEMA) floodplain area associated with the Zumbro River.<sup>163</sup> Field delineations performed in the summer of 2014 show approximately 0.7 acres of Type 2 wetlands (wet meadow) within the area of site control.<sup>164</sup>

The preliminary design for the facility does not anticipate any grading of the site during construction.<sup>165</sup>

DNR records show a karst feature located within one-half mile of the Pine Island facility.<sup>166</sup> No impacts are anticipated to the karst feature due to the distance from the facility.

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<sup>163</sup> Application, at p. 69

<sup>164</sup> Appendix C

<sup>165</sup> Application, at Appendix F

<sup>166</sup> Application, at p. 67

As discussed in Section 5.5.3, avoiding construction within the Shoreland Overlay district would minimize impacts to surface waters.

No conditions beyond those discussed in Section 5.5, are identified for the Pine Island facility.

### **6.17.5 Effects on Rare and Unique Natural Resources**

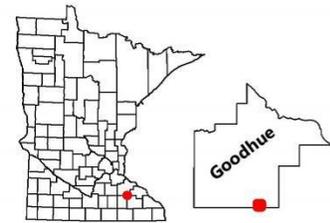
The facility is bounded to the south by the North Branch Middle Fork of the Zumbro River. The native plant community surrounding this branch is classified as a Minnesota Biological Survey native plant community “Elm-Ash-Basswood Terrace Forest.” A review of the NHIS database did not identify any documented instances of federally listed endangered or threatened species within the land control boundary of the Pine Island facility. The NHIS database review did show records for one state listed special concern species (Creek Heelsplitter (*Lamigona compressa*)) within the preliminary development area, and two threatened species ( *Ellipse* (*Venustaconcha*) and *Glade Mallow* (*ellipsiformis Naaea dioca*)) and one special concern species (American Brook Lamprey (*Lampetra appendix*)) within one mile of the area of site control for the facility.<sup>167</sup> The Creek Heelsplitter and *Ellipse* are both mussels and along with the American Brook Lamprey require aquatic habitat that is not present in the developed area, but may be present in the stream located along the southern boundary of the facility.

As discussed in Section 5.6, a field survey of the Pine Island facility would identify potentially impacted rare or unique natural resources. Avoidance of Elm-Ash-Basswood Terrace Forest plant community this area would minimize impacts to the sensitive natural resource.

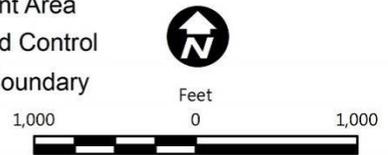
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<sup>167</sup> Application, at p. 81, Appendix I

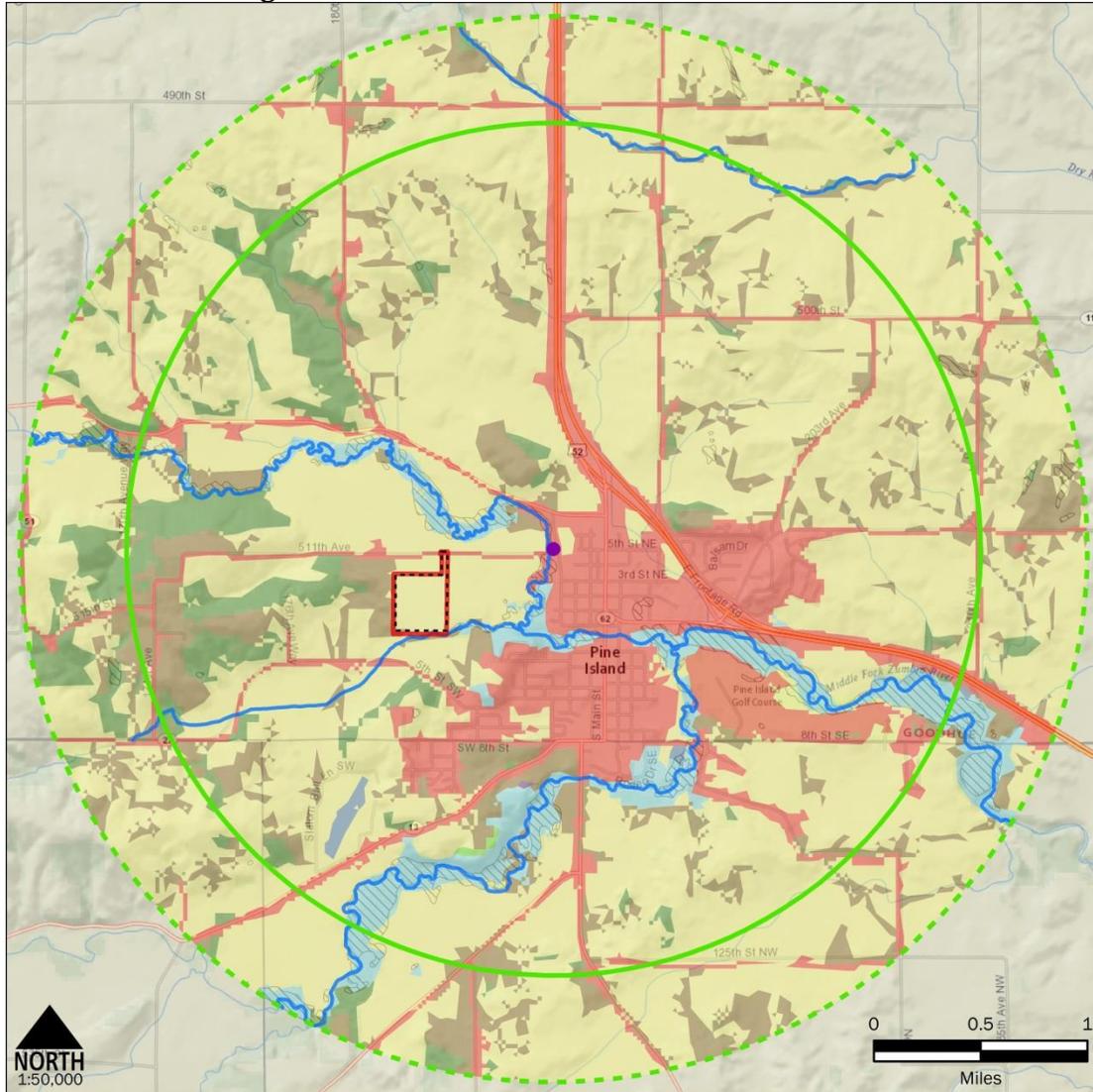
**Figure 71: Pine Island Project Detail**



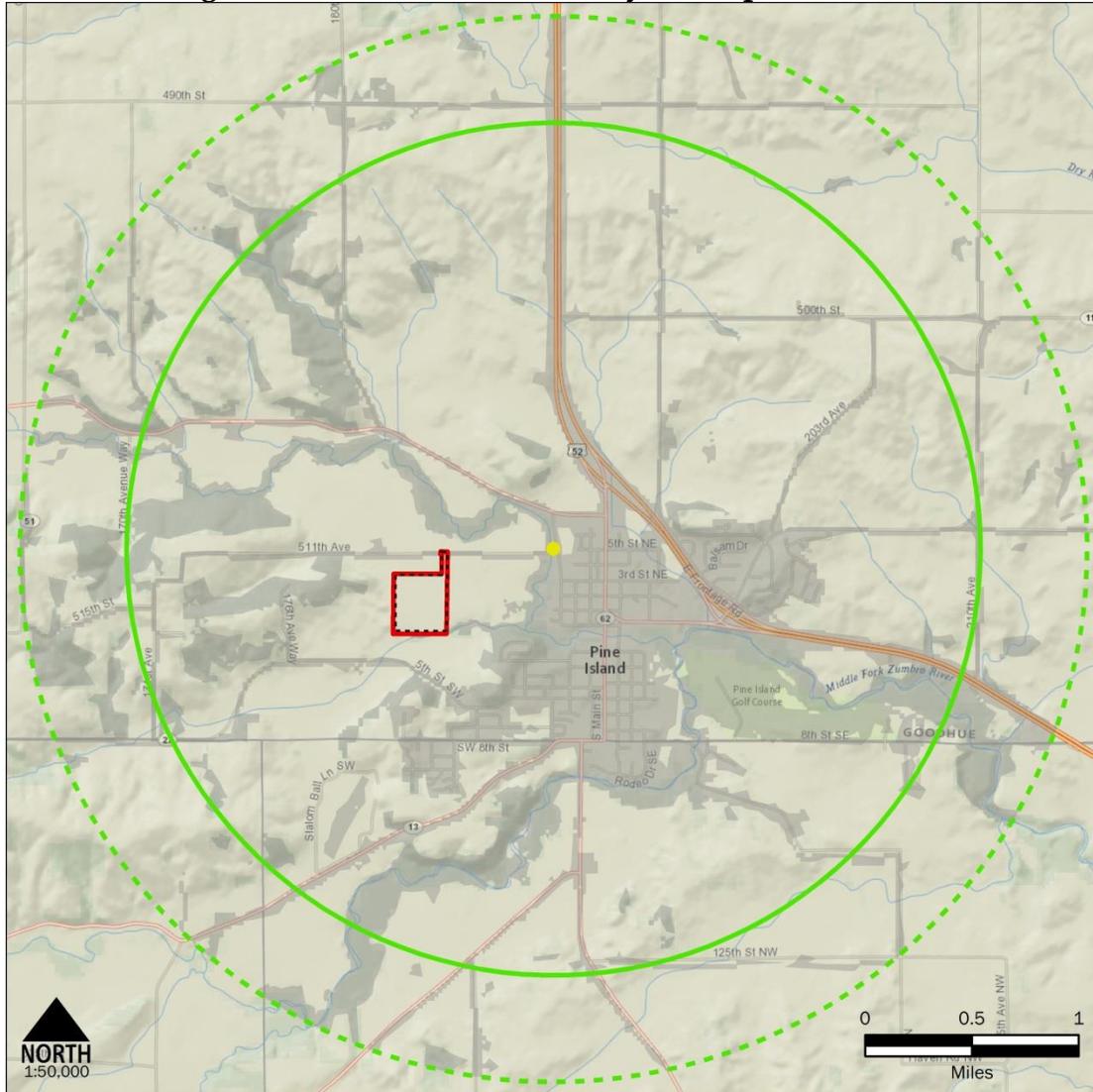
- Residence Location
- Proposed Inverter
- Proposed Arrays
- Proposed Road
- Preliminary Development Area
- Facility Land Control
- Municipal Boundary



**Figure 72: Pine Island Land Cover Overview**



**Figure 73: Pine Island Generally Incompatible Areas**



**Pine Island Facility  
 Generally Incompatible Areas**

-  Substation
-  Preliminary Development Area
-  Facility Control Area
-  2-mile Analysis Buffer
-  2.5-mile Analysis Buffer
-  Generally Incompatible Areas

“Generally Incompatible Areas” include: Minnesota Scientific and Natural Areas; Minnesota Wildlife Management Areas; US Fish and Wildlife Service Waterfowl Production Areas; the National Wetland Inventory; and areas classified as open water, developed, forest, and wetland in the National Land Cover Database.



**Figure 74: Pine Island Prime Farmland**

