Natural Resource Information Report

Compiled by

The Livingston County Soil and Water Conservation District

Project Information

Natural Resource Information File Number	**#032**
Date the SWCD Board Reviews Report	December 13, 2023
Name of Petitioner	Illinois Generation LLC, Heritage Prairie Wind
Size of Parcel	89 turbines
Current Zoning	Agriculture
Proposed Zoning	Special Use - Wind
Parcel Number(s)	
Contact Person	Allen Wynn

Copies of this report and notification of the proposed land use changes were provided to:	Yes	No
The Petitioner	X	
The Petitioners Legal Representation		X
Livingston County Zoning Board of Appeals	X	
Livingston County SWCD District Files	X	
Report Prepared By: *Rebecca Taylor* ***Position:*** *Resource Conservationist*		

Purpose and Intent of This Report

The purpose of this report is to inform officials of the local governing body and other decision-makers with natural resource information. This information may be useful when undertaking land use decisions concerning variations, amendments or relief of local zoning ordinances, proposed subdivision of vacant or agricultural lands and the subsequent development of these lands. This report is a requirement under Section 22.02a of the Illinois Soil and Water Conservation Districts Act.

The intent of this report is to present the most current natural resource information available in a readily understandable manner. It contains a description of the present site conditions, the present resources, and the potential impacts that the proposed change may have on the site and its resources. The natural resource information was gathered from standardized data, on-site investigations and information furnished by the petitioner. This report must be read in its entirety so that the relationship between the natural resource factors and the proposed land use change can be fully understood.

Due to the limitations of scale encountered with the various resource maps, the property boundaries depicted in the various exhibits in this report provide a generalized representation of the property location and may not precisely reflect the legal description of the PIQ (Parcel in Question).

This report, when used properly, will provide the basis for proper land use change decisions and development while protecting the natural resource base of the county. It should not be used in place of detailed environmental and/or engineering studies that are warranted under most circumstances, but in conjunction with those studies.

The conclusions of this report in no way indicate that a certain land use is not possible, but it should alert the reader to possible problems that may occur if the capabilities of the land are ignored. Any questions on the technical data supplied in this report, or if anyone feels that they would like to see more additional specific information to make the report more effective, please contact:

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Custom Soils Resource Report

Executive Summary

Natural Resource Information File Number	#032
Petitioners Name	Illinois Generation LLC, Heritage Prairie Wind
Contact Person	Allen Wynn
Unit of Government Responsible for Land Use Change	Livingston County Zoning Board of Appeals
Location of Parcel	Round Grove, Dwight, and Broughton Townships
Property Address, PIN Number	Multiple
Existing Land Use	Agriculture
Surrounding Land Use	Agriculture
Proposed Land Use	Special Use – Wind
Proposed Water Supply	N/A
Proposed Wastewater Treatment	N/A

Highlights of the Natural Resource Concerns

Land Evaluation and Site Assessment (LESA): LE 88 + SA 153 = 241. This is a high impact to agriculture.

Prime Farmland: Prime farmland soils are an important resource for Livingston County. Each soil type is assigned a rating, which is then used to determine the LESA score for the site. The soils in the project area are either prime farmland, prime farmland if drained, or farmland of statewide importance.

Sediment and Erosion Control: Development of this site should include a sedimentation and erosion control plan which is required by the Illinois EPA. The Livingston County Soil and Water Conservation District recommends the use of NRCS guidelines and the Illinois Urban Manual in selecting the proper Best Management Practices for each development site.

Aquifer Sensitivity: According to the Illinois State Geological Survey, there is a major sand and gravel aquifer located in the Southwest corner of the project area in Round Grove Township and the Southern part of the project area in Dwight Township. The potential for aquifer contamination would be high in these areas. The rest of the project area has no aquifer material within 50 feet of the surface area. The potential for aquifer contamination would be low in these areas.

Wetlands: The National Wetland Inventory ***does identify*** wetland areas in the project area. At least one wetland has construction planned to cross it. Other identified wetland areas are very close to construction. A wetland delineation should be completed by a certified delineations specialist to determine exact locations so they can be protected during development.

Floodplain: Some sites in the project area are in the floodplain. Because of the type of construction planned for these sites, it would probably be better if they were moved. If the sites are not moved, Best Management Practices should be utilized during development of these sites and special permitting may be required. More information can be found on the maps for each site.

Hydric Soils: Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil. The project area does have some hydric soils or soils that have hydric components included in them.

Ponding/Flooding Frequency: Some of the soils in this project are poorly drained or very poorly drained and will frequently flood or pond. The rating of “frequent” means that flooding or ponding occurs, on average, more than once in two years and the chance of flooding or ponding is more than 50% in any year. Planners need to take this into consideration as they develop the project area. More information can be found on the soil information sheets for each site.

Conservation Concepts for Development

- Encourage Common Open Space: (a common area without property lines and managed by professionals contracted by a homeowners association). Common areas may also protect rivers, lakes, streams, wetlands, wildlife, and water quality.
- Surface Ground Water Quality: Minimize impacts of runoff by using best management practices (BMPs) such as: buffers, vegetative swales (instead of curb and gutter), constructed wetlands and wetland bottom detention to improve the quality of runoff, and protect environmentally sensitive areas (wetlands, rivers, and streams).
- Groundwater Quantity: reducing impervious areas in groundwater recharge soils maximizes infiltration.
- Maintain existing vegetation throughout the development process: BMPs such as eliminating mass grading, protecting existing trees, wooded fence rows and odd areas, vegetated hillsides and wetlands.
- Permanently stabilize all cropland going to development: BMPs such as permanent or temporary vegetative cover. Using perennial grasses and legumes would provide a filter for erosion, wildlife habitat during development, and stabilize the highly erodible land from the erosive forces of rainfall.
- Permanently stabilize all stormwater and drainage: conveyance easements prior to their use.
- Plan for the establishment of native vegetation in all common areas, drainage areas and conservation areas: Utilize native vegetation that improves biological diversity for water quality and wildlife habitat, and prohibits the use of fertilizers, pesticides and mowing.
- Minimize disturbance of sensitive highly erodible soils: to preserve the hydrologic condition of the soil profile for improving permeability and infiltration that promotes groundwater recharge.
- Restore existing vegetation: to improve wildlife habitat, stormwater runoff, and water quality.
- Maintenance: Maintain all land for long-term benefits.
- Use buffers: for esthetics, water quality and natural resource protection.
- Eliminate stormwater detention drainage into agricultural drain tile.
- Erosion and Sediment Control Plan: highly erodible soils require a well-planned and implemented erosion and sediment control plan utilizing the above referenced BMPs.

Livingston County SWCD Land Use Opinion

Land Use Opinion: The Livingston County Soil and Water Conservation District (SWCD) has reviewed the natural resource information for a proposed wind farm in Round Grove, Dwight, and Broughton Townships in Livingston County.

The Livingston County SWCD has always been an advocate for preserving prime farmland whenever feasible. The project area does contain prime farmland soils based on the soil survey. Once these soils have been disturbed, it may be difficult to bring them back to the productive level they currently have.

A Land Evaluation and Site Assessment (LESA) was conducted for the project area. The land evaluation indicates that these are very productive soils. The site assessment portion of the evaluation looks at items such as roads and infrastructure, and the degree to which the affected local government can bear the additional costs the development may generate. A summary of the LESA score information indicates that this project area has a high impact on agriculture from the proposed development.

A soil erosion and sediment control plan needs to be in place. Sediment leaving the area can damage streams, ponds, and wetlands. Best Management Practices will need to be in place to protect the site and surrounding areas from erosion and sedimentation.

The Livingston County SWCD would recommend a sub-surface drainage tile investigation be completed before the project sites are disturbed. If drainage tile is damaged during the implementation of this project, it should be replaced or repaired according to the included specifications. The damage to drainage tile on these project sites could have an adverse effect on neighboring properties.

The Livingston County SWCD would like for the developer to have a comprehensive decommissioning plan in place to ensure that this property could again be productive after the project has ended. Finally, all buried utility lines need to be identified and avoided.

The information that is included in this Natural Resources Information Report is to assure the Land Developers take into full consideration the limitations of the land that they wish to develop. Guidelines and recommendations are also a part of this report and should be considered in the planning process. The Natural Resources Information Report is required by the Illinois Soil and Water Conservation District Act (Ill Complied Statutes, Ch. 70 Par 405/22.02a)

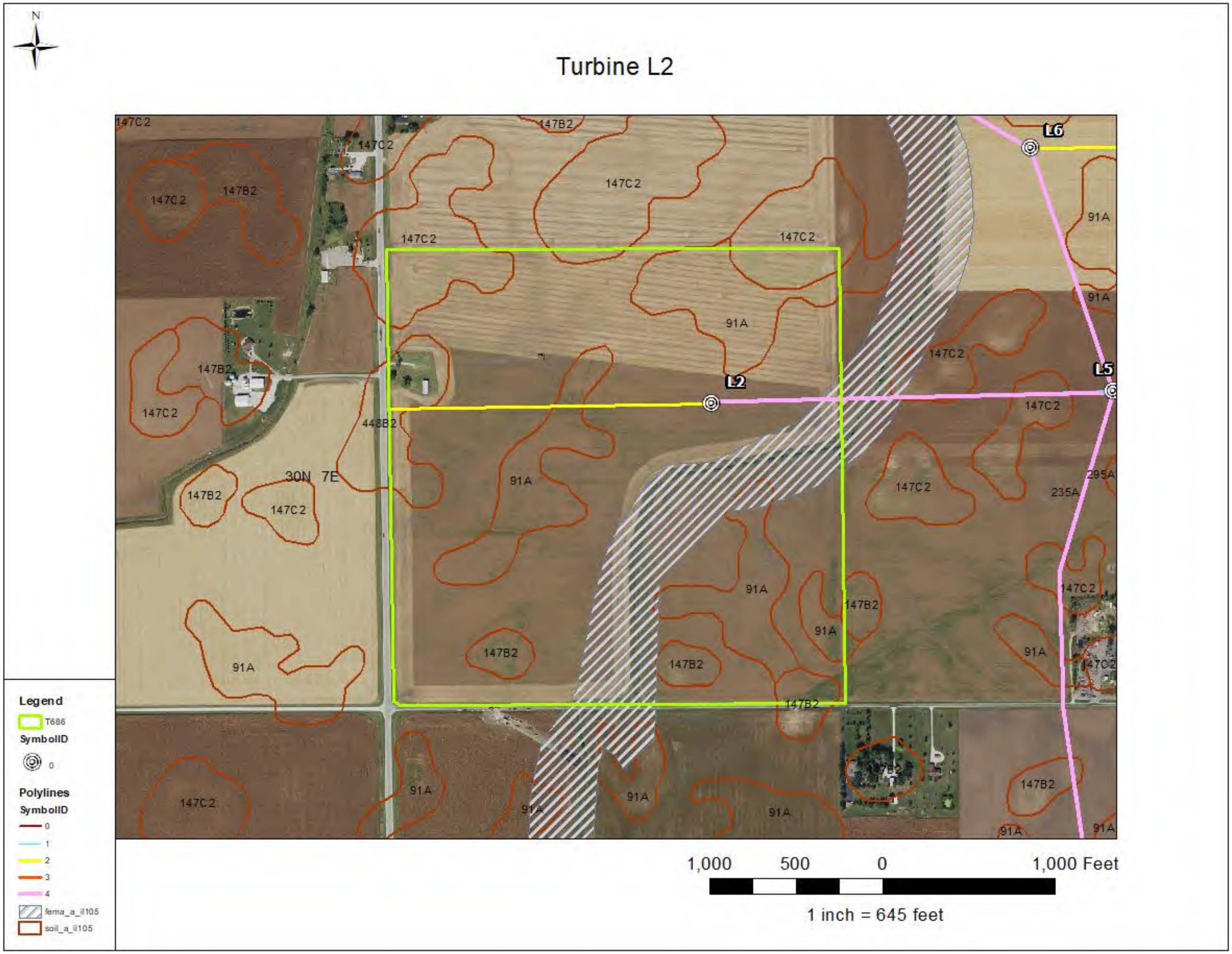
Lee Bunting
Livingston County SWCD Chairman

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L2

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
91A	Swygert silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 158 Soybeans - 52
147B2	Clarence silty clay loam, 2-4% slopes	Farmland of statewide importance	No	D	Somewhat poorly drained	NHEL	None	Corn - 130 Soybeans - 46
147C2	Clarence silty clay loam, 4-6% slopes	Farmland of statewide importance	No	D	Somewhat poorly drained	NHEL	None	Corn - 127 Soybeans - 45
235A	**Bryce silty clay, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 162** **Soybeans - 54**
448B2	Mona silt loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 152 Soybeans - 48

Notes: These soils can be wet and are prone to rutting. There are limitations on construction of roads and trenches, so caution should be exercised. The crane path and collection lines will pass through the 100-year floodplain and cross a waterbody with trees. Site is in the Gooseberry Creek Watershed.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Turbine L2
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1 inch = 645 feet

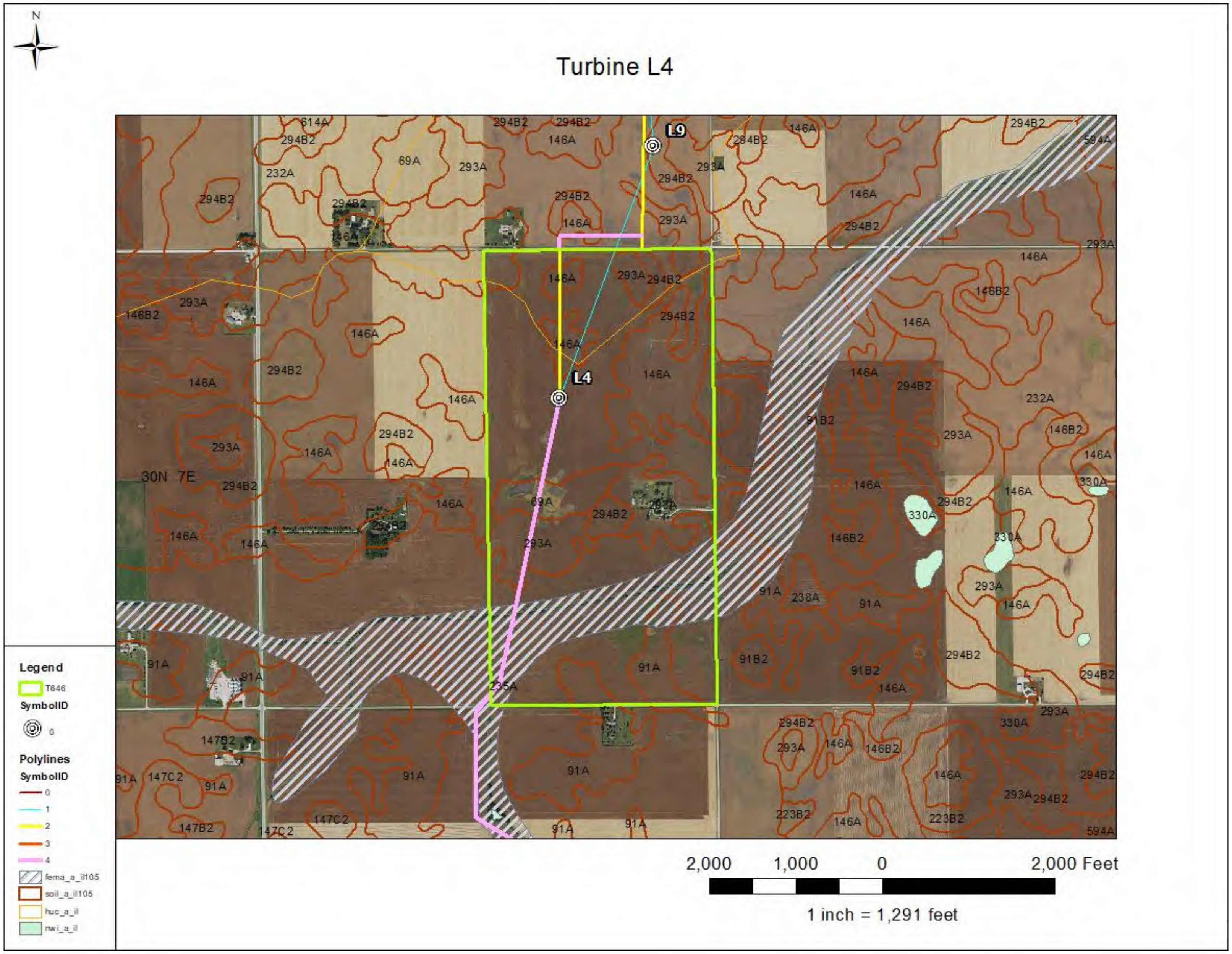
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L4

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
69A	Milford silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 171 Soybeans - 57
91A	Swygert silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 158 Soybeans - 52
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170 Soybeans - 56**
235A	Bryce silty clay 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 162 Soybeans - 54
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. The crane path and collection lines to the South will pass through the 100-year floodplain and cross a waterbody. Also, the crane path and collection lines to the South also go through an area that is prone to ponding. The turbine is located in the Gooseberry Creek watershed and the access road crosses into the Woods Run-Gooseberry Creek watershed.

Turbine L4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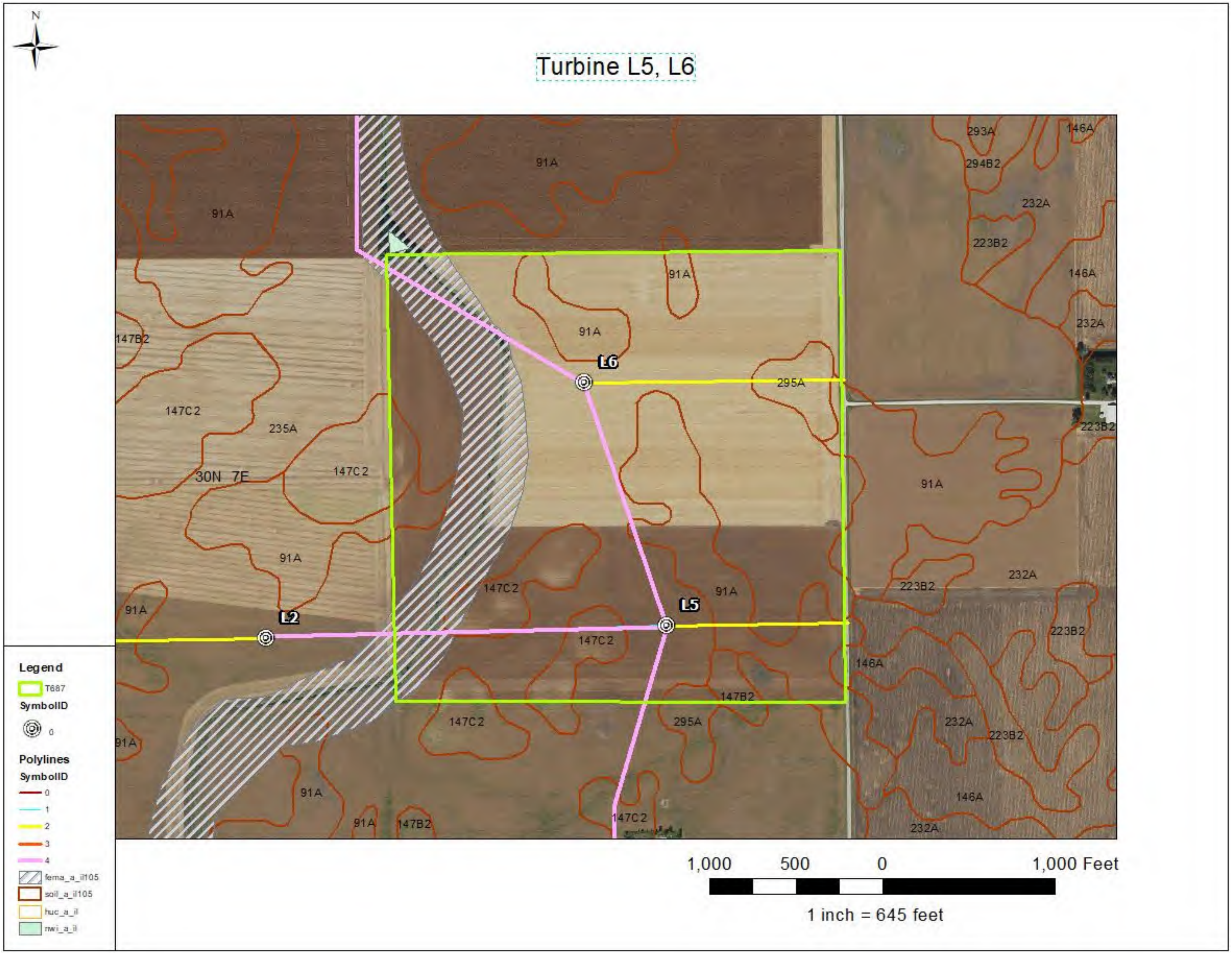
1 inch = 1,291 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L5, L6

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
91A	Swygert silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 158 Soybeans - 52
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
147B2	Clarence silty clay loam, 2-4% slopes	Farmland of statewide importance	No	D	Somewhat poorly drained	NHEL	None	Corn - 130 Soybeans - 46
147C2	Clarence silty clay loam, 4-6% slopes	Farmland of statewide importance	No	D	Somewhat poorly drained	NHEL	None	Corn - 127 Soybeans - 45
235A	**Bryce silty clay 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 162** **Soybeans - 54**
295A	Mokena silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 172 Soybeans - 54

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. The crane paths and the collection lines will cross the 100-year floodplain and a waterbody. The crane path and collection lines to the North will also pass close to a possible wetland, based on the National Wetland Inventory. Site is in the Gooseberry Creek watershed.


Turbine L5, L6
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293A
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huc_a_il
nwi_a_il
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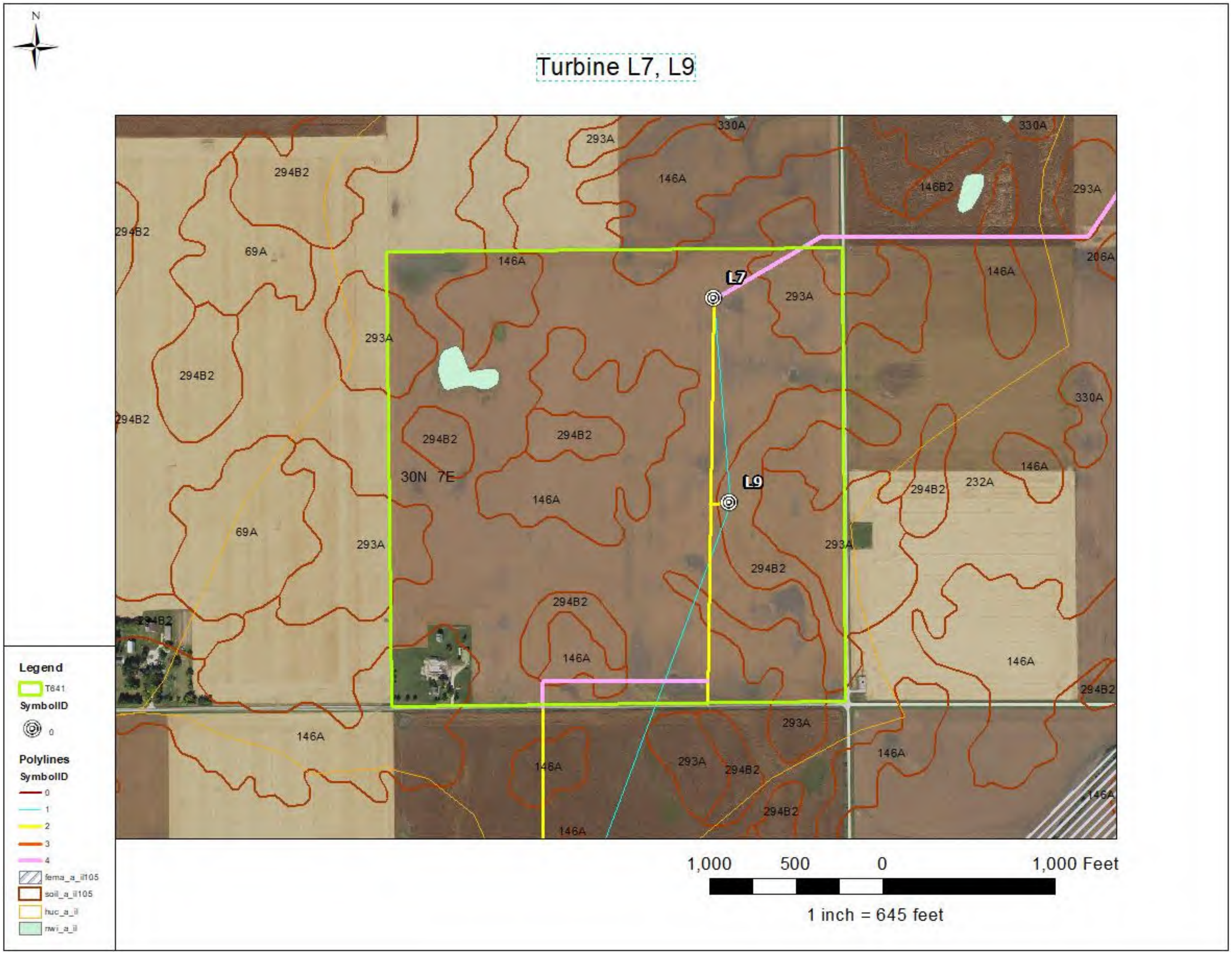
0
1,000 Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L7, L9

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170** **Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	**Symerton loam, 2-5% slopes, eroded**	**All areas are prime farmland**	**No**	**C**	**Moderately well drained**	**NHEL**	**None**	**Corn - 170** **Soybeans - 53**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution is advised. The crane paths, access roads, and collection lines all pass through areas prone to ponding. Site is in the Woods Run-Gooseberry Creek watershed.


Turbine L7, L9
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293A
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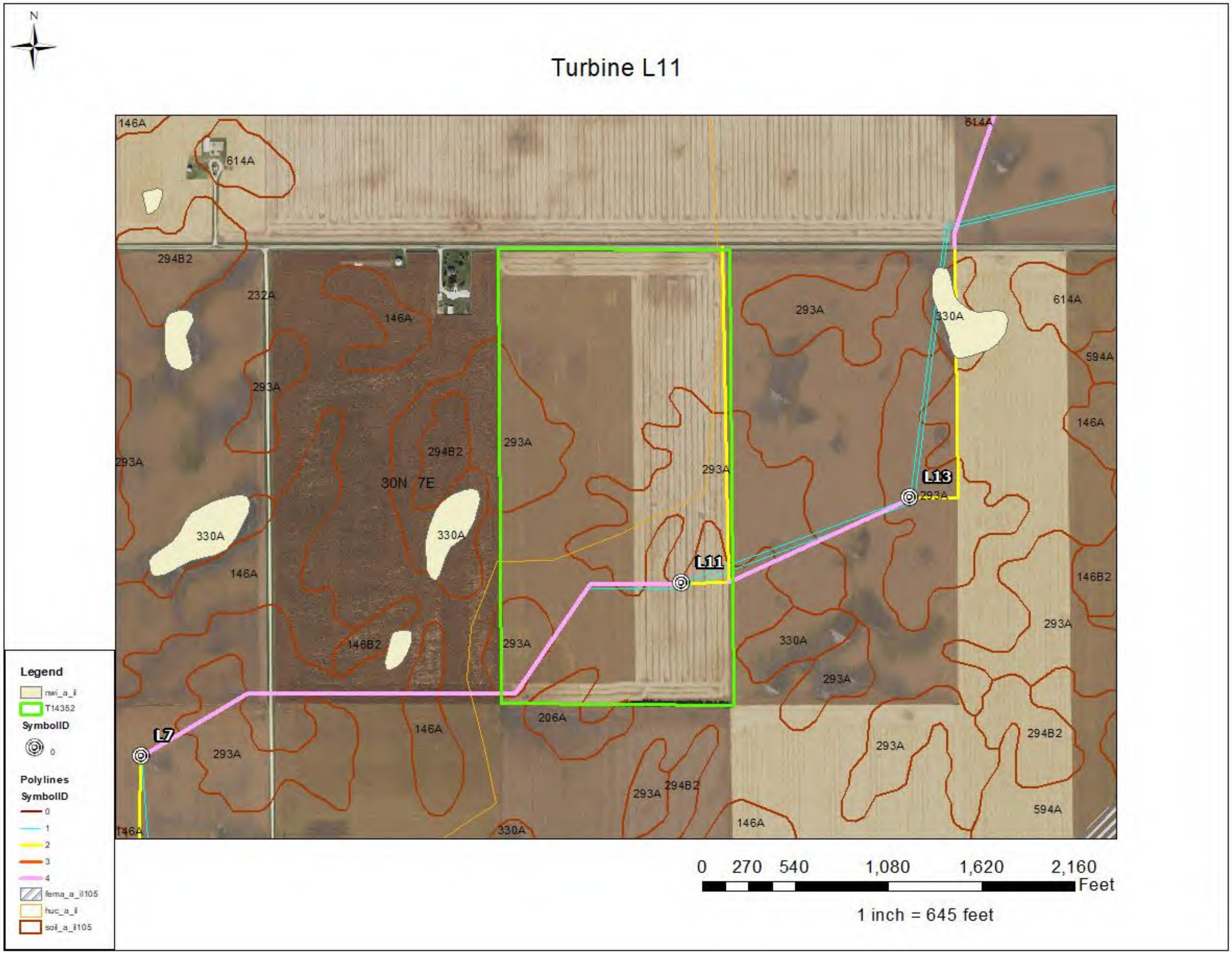
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L11

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
206A	Thorp silt loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 55
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170** **Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.


N
Turbine L11
146A
614A
294B2
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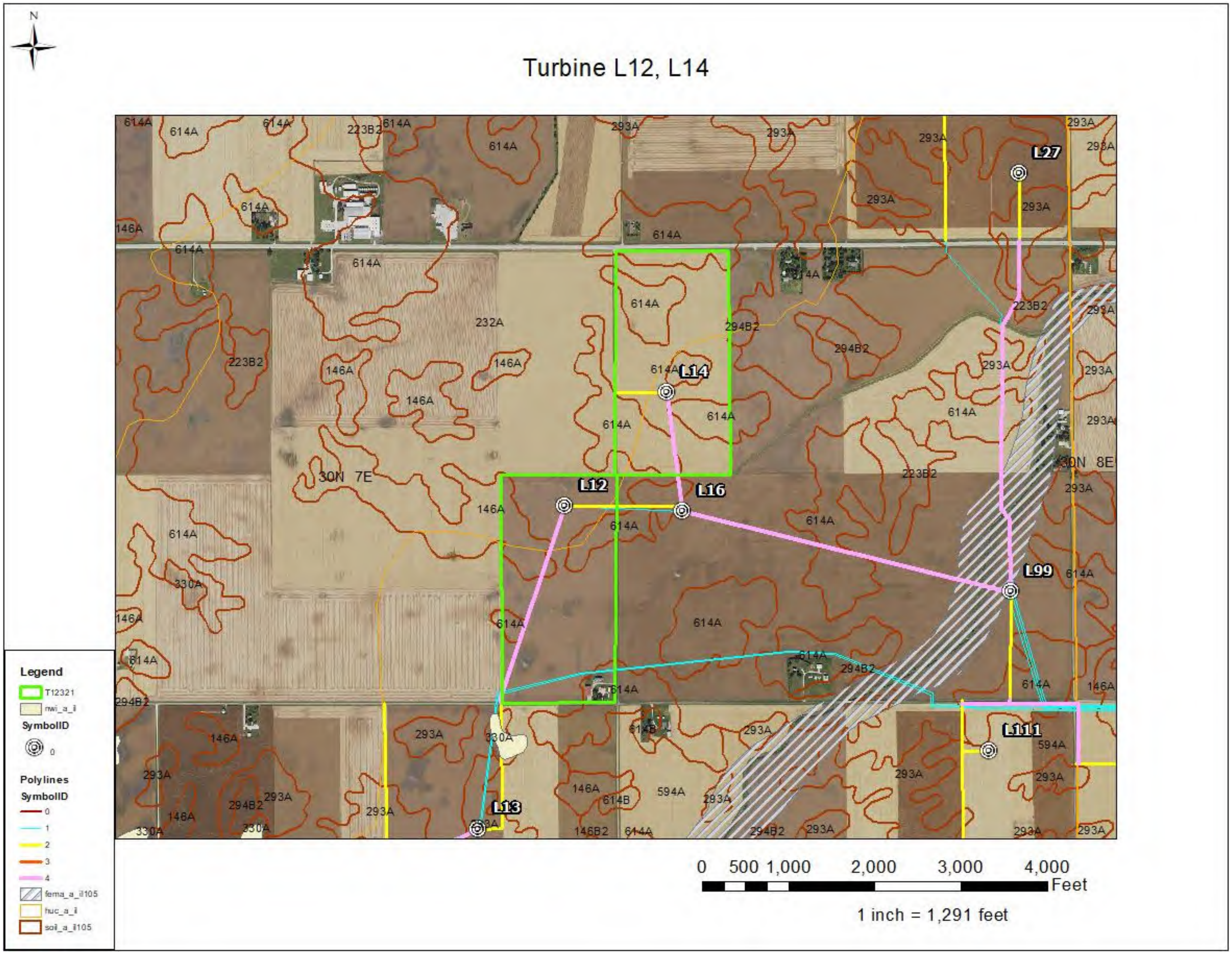
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L12, L14

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170** **Soybeans - 56**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Crane path from Turbine L12 will pass through areas that are prone to ponding. Sites are in the Woods Run-Gooseberry Creek and Gooseberry Creek watersheds.


N
Turbine L12, L14
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huc_a_il
soil_a_il105
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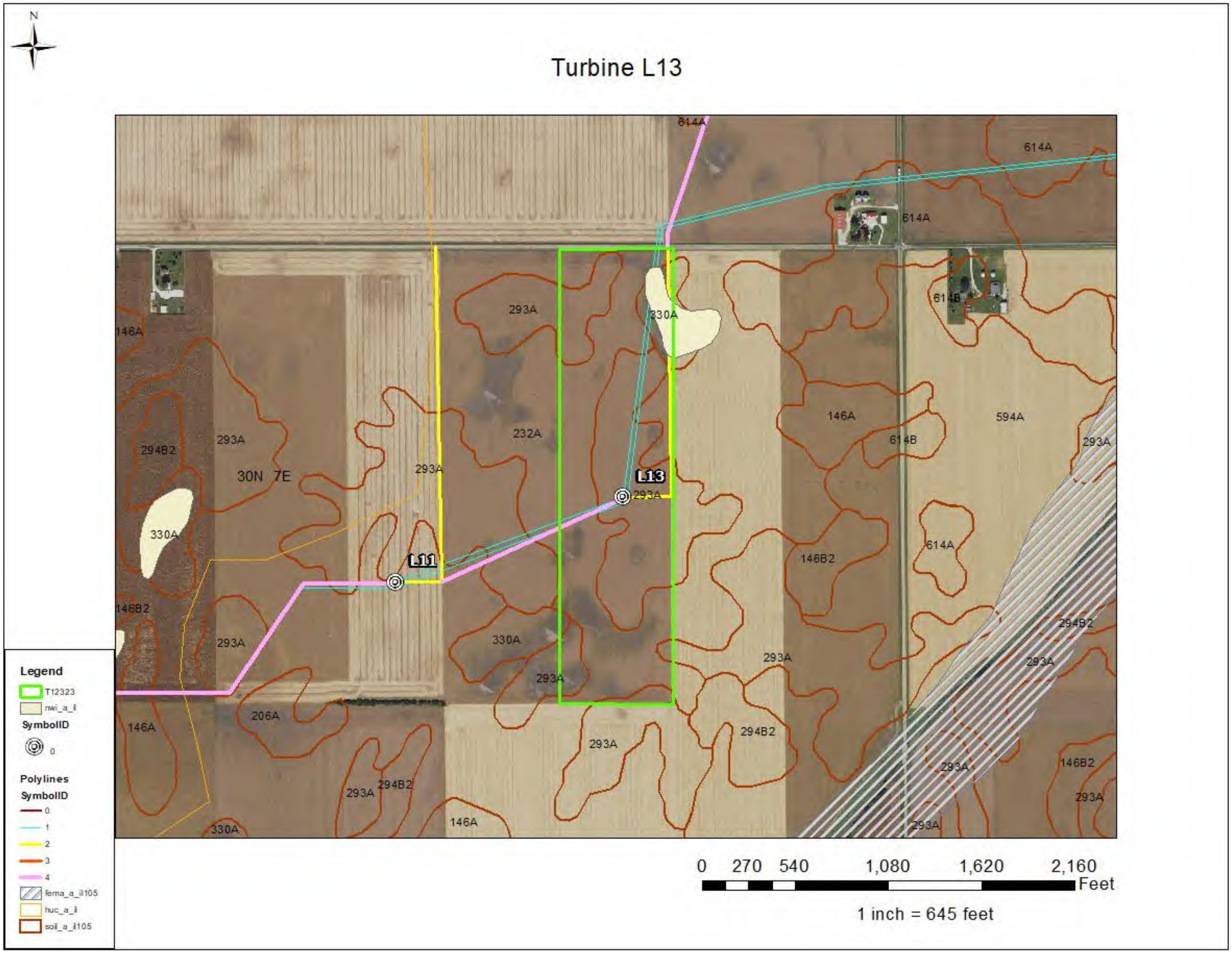
Feet
1 inch = 1,291 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L13

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
330A	Peotone silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Very poorly drained	NHEL	Frequent ponding	Corn - 164 Soybeans - 55

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. The access road and collection lines going North will pass through an identified wetland. These will need to be moved to not affect the wetland. The access road, crane path and collection lines also pass through areas prone to ponding. Site is in the Gooseberry Creek watershed.



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Turbine L13
614A
614B
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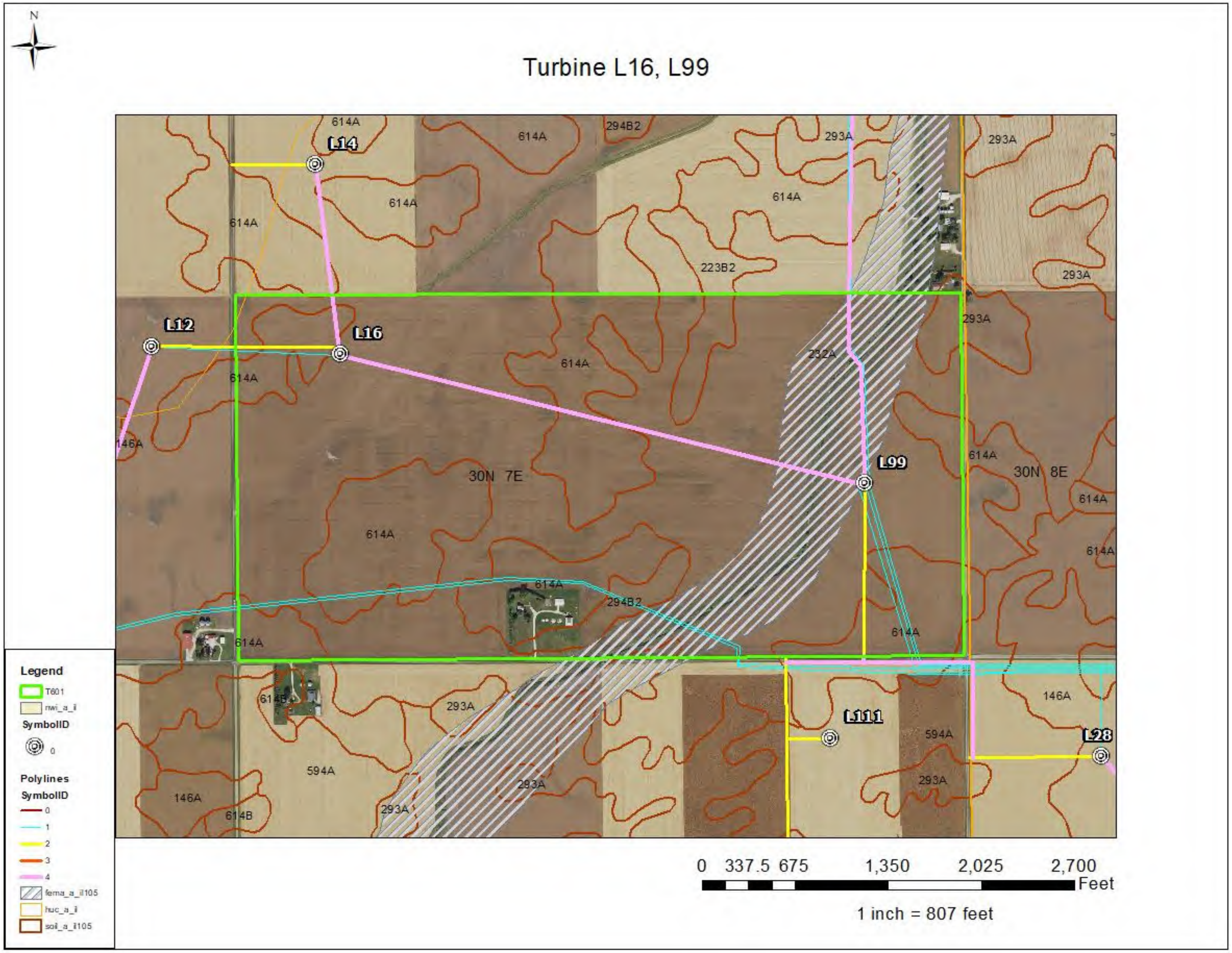
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L16, L99

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
223B2	Varna silt loam, 2-4% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 150 Soybeans - 48
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170 Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Turbine L99 is on the edge of the 100-year floodplain. The crane paths and collection lines cross the 100-year floodplain, which is along a waterbody that would also be crossed. One of the crane pats and collection lines also crosses an area of concentrated flow on the west side of the parcel. Sites are in the Gooseberry Creek watershed.


N
Turbine L16, L99
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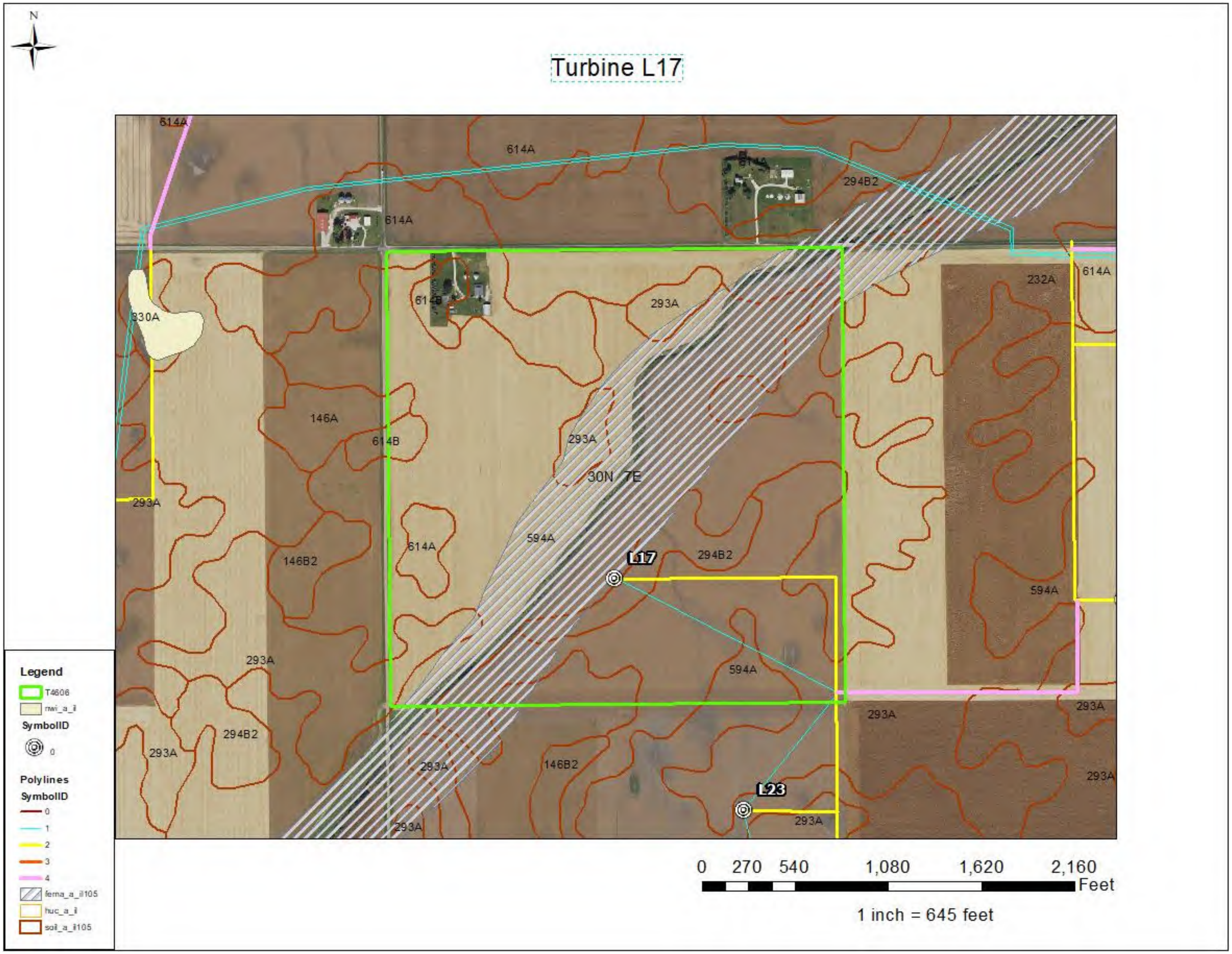
huc_a_il
soil_a_il105
0 337.5 675 1,350 2,025 2,700
Feet
1 inch = 807 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L17

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57
614B	Chenoa silty clay loam, 2-5% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 172 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. The turbine site is right on the edge of the 100-year floodplain. Collection lines will go through areas prone to ponding. Site is in the Gooseberry Creek watershed.



N
Turbine L17
614A
614A
614A
614A
294B2
232A
614A
614B
293A
330A
146A
614B
293A
30N 7E
293A
594A
614A
146B2
L17
294B2
594A
293A
594A
293A
293A
294B2
293A
293A
146B2
293A
293A
L23
293A
293A
Legend
T4606
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

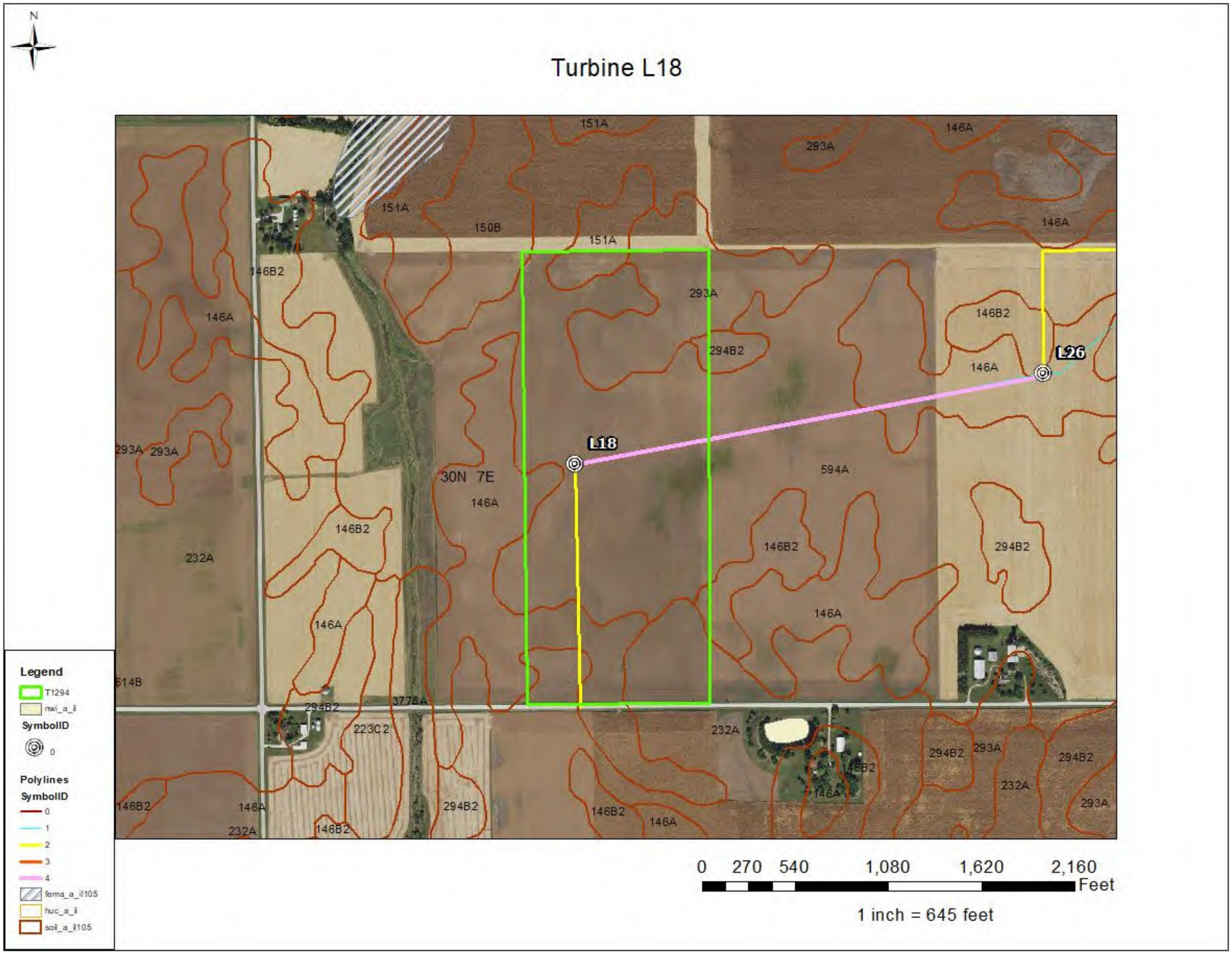
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L18

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
150B	Onarga fine sandy loam, 2-5% slopes	All areas are prime farmland	No	A	Well drained	NHEL	None	Corn - 147 Soybeans - 48
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. The crane path and collection lines will pass through areas that are prone to ponding. Site is in the Gooseberry Creek watershed.

Turbine L18

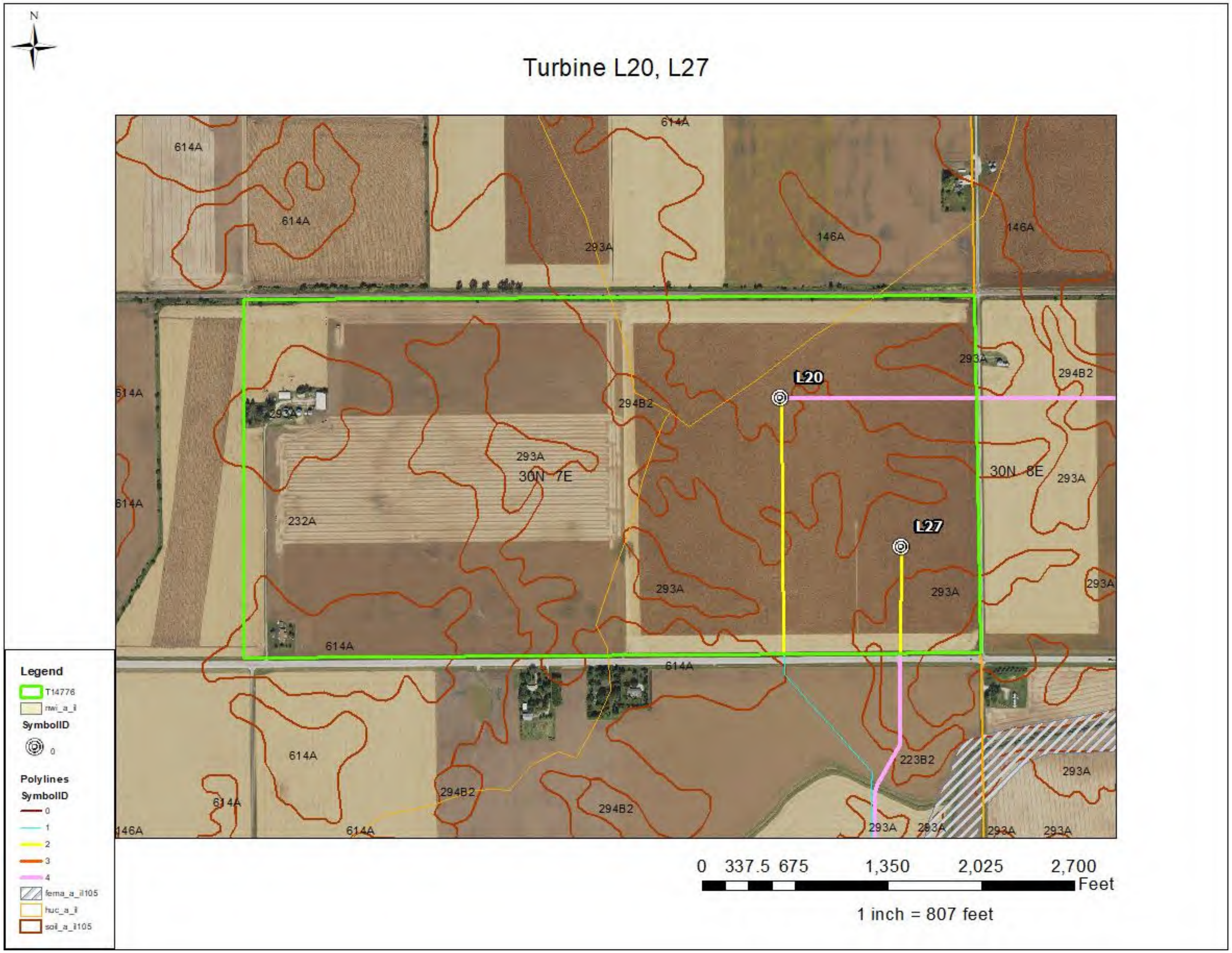

N
L18
L26
30N 7E
151A
150B
293A
146A
146B2
294B2
594A
232A
223C2
377A
614B
Legend
T1294
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0
270
540
1,080
1,620
2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L20, L27

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
223B2	Varna silt loam, 2-4% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 150 Soybeans - 48
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170** **Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Sites are in the Gooseberry Creek watershed.

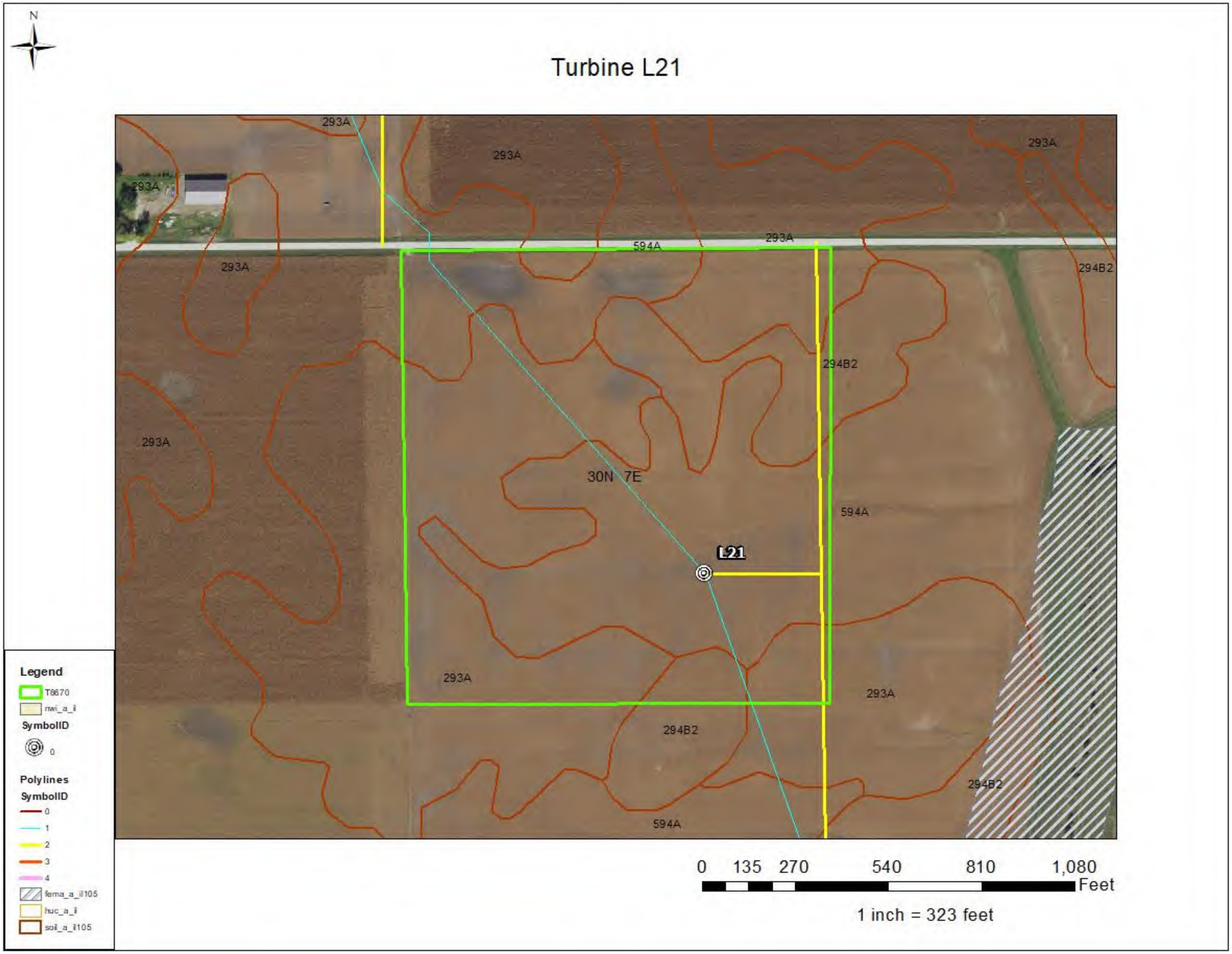

N
Turbine L20, L27
614A
146A
293A
294B2
232A
223B2
30N 7E
30N 8E
L20
L27
Legend
T14776
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 337.5 675 1,350 2,025 2,700
Feet
1 inch = 807 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L21

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are limitations on construction of roads and trenches, so caution should be exercised. The collection lines to the North will run through areas that are prone to ponding. Site is in the Gooseberry Creek watershed.

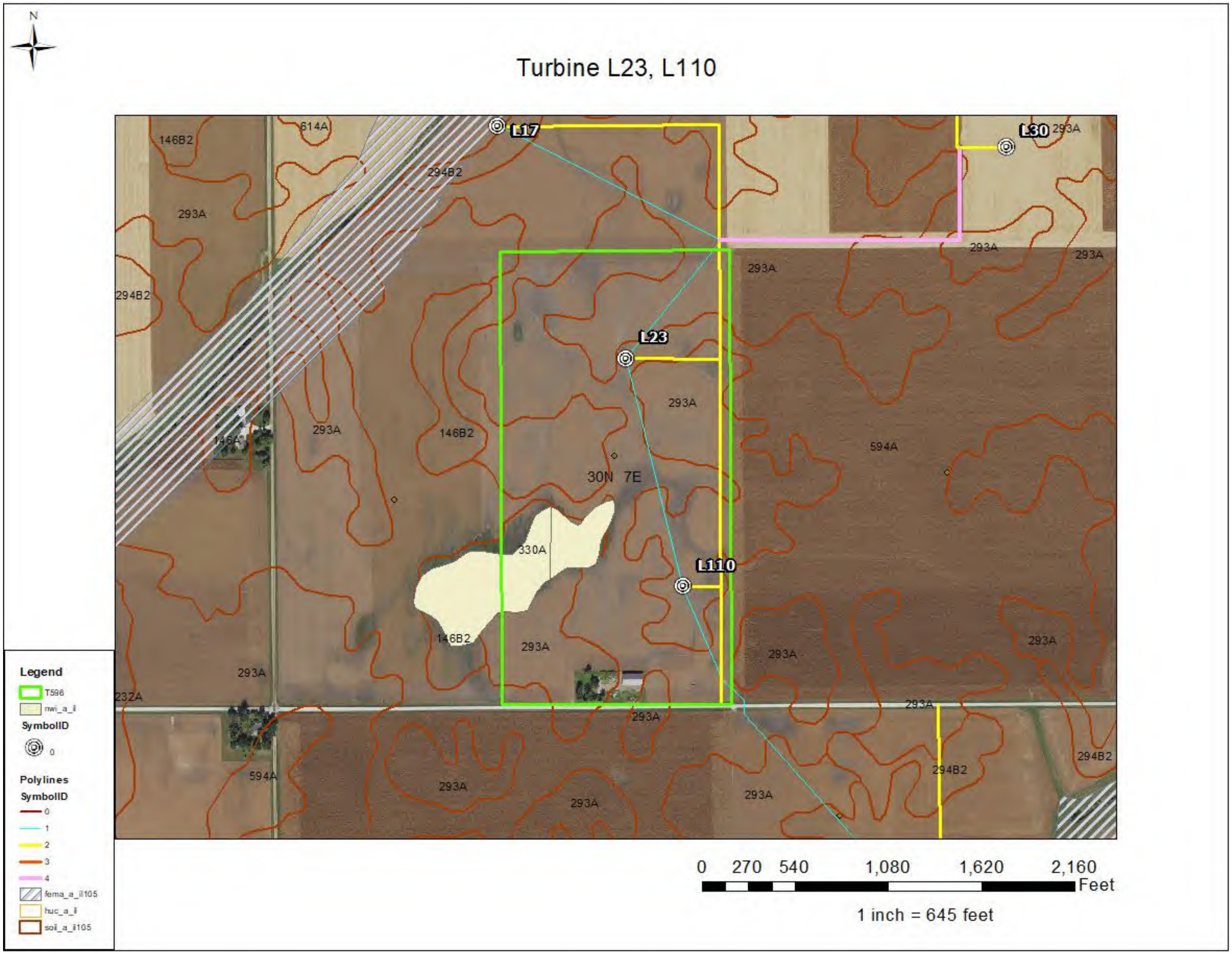

N
Turbine L21
293A
293A
293A
293A
594A
293A
293A
294B2
294B2
293A
30N 7E
594A
L21
293A
293A
294B2
294B2
594A
Legend
T8670
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 135 270 540 810 1,080
Feet
1 inch = 323 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L23, L110

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
330A	Peotone silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Very poorly drained	NHEL	Frequent ponding	Corn - 164 Soybeans - 55
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are limitations on construction of roads and trenches, so caution should be exercised. Access roads and collection lines run through areas that are prone to ponding. There is an identified wetland on the parcel about 275 feet from the proposed collection lines. Sites are in the Gooseberry Creek watershed.

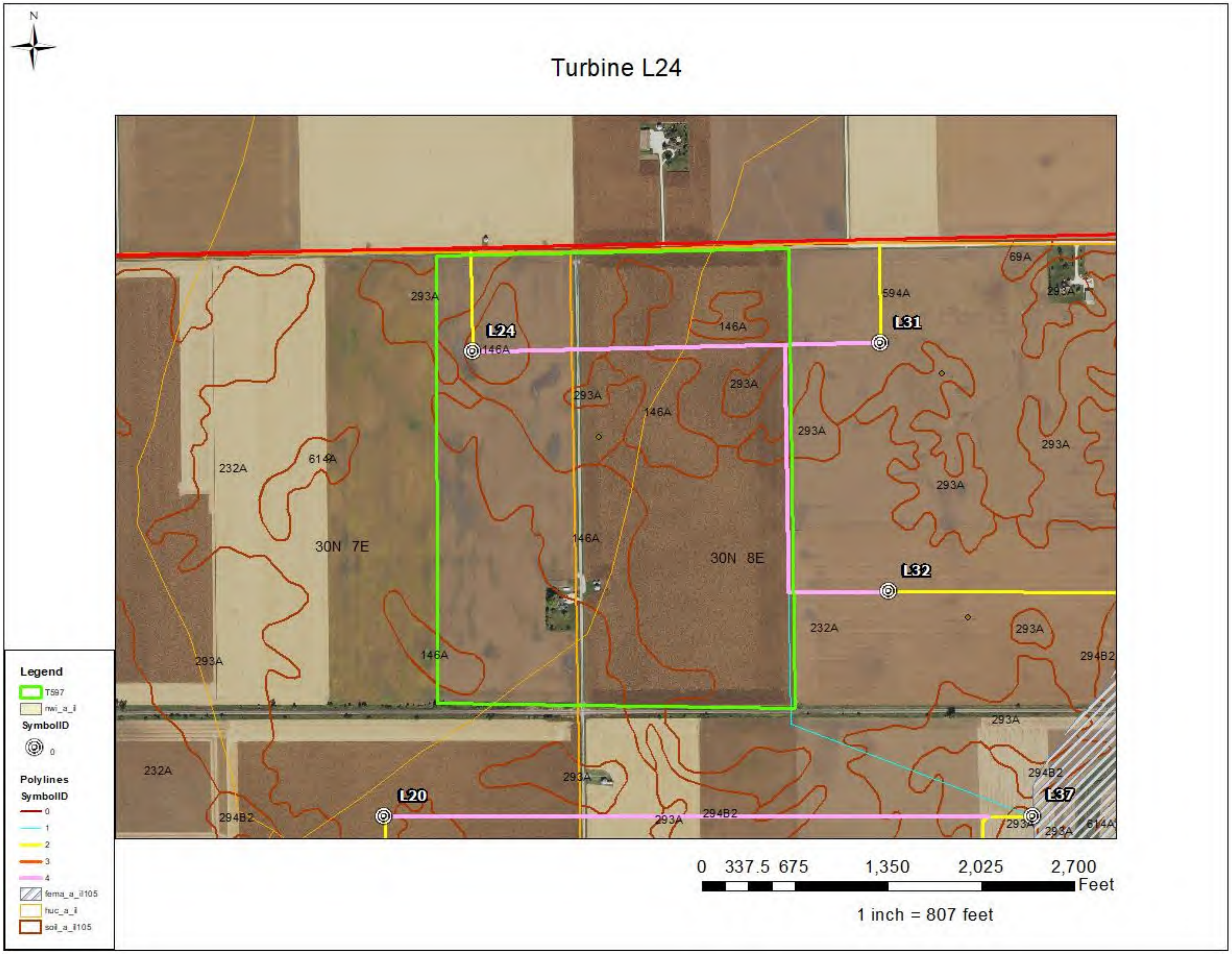

N
Turbine L23, L110
L17
L30
L23
L110
30N 7E
146B2
614A
294B2
293A
294B2
146A
146B2
330A
594A
232A
Legend
T596
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L24

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	**Elliott silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 168 Soybeans - 55**
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Turbine is sited in an area that is prone to ponding. Site is in the Jackson Creek-Mazon River and Gooseberry Creek watersheds.


N
Turbine L24
L24
L31
L32
L20
L37
30N 7E
30N 8E
293A
146A
69A
594A
232A
614A
294B2
Legend
T597
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 337.5 675 1,350 2,025 2,700
Feet
1 inch = 807 feet

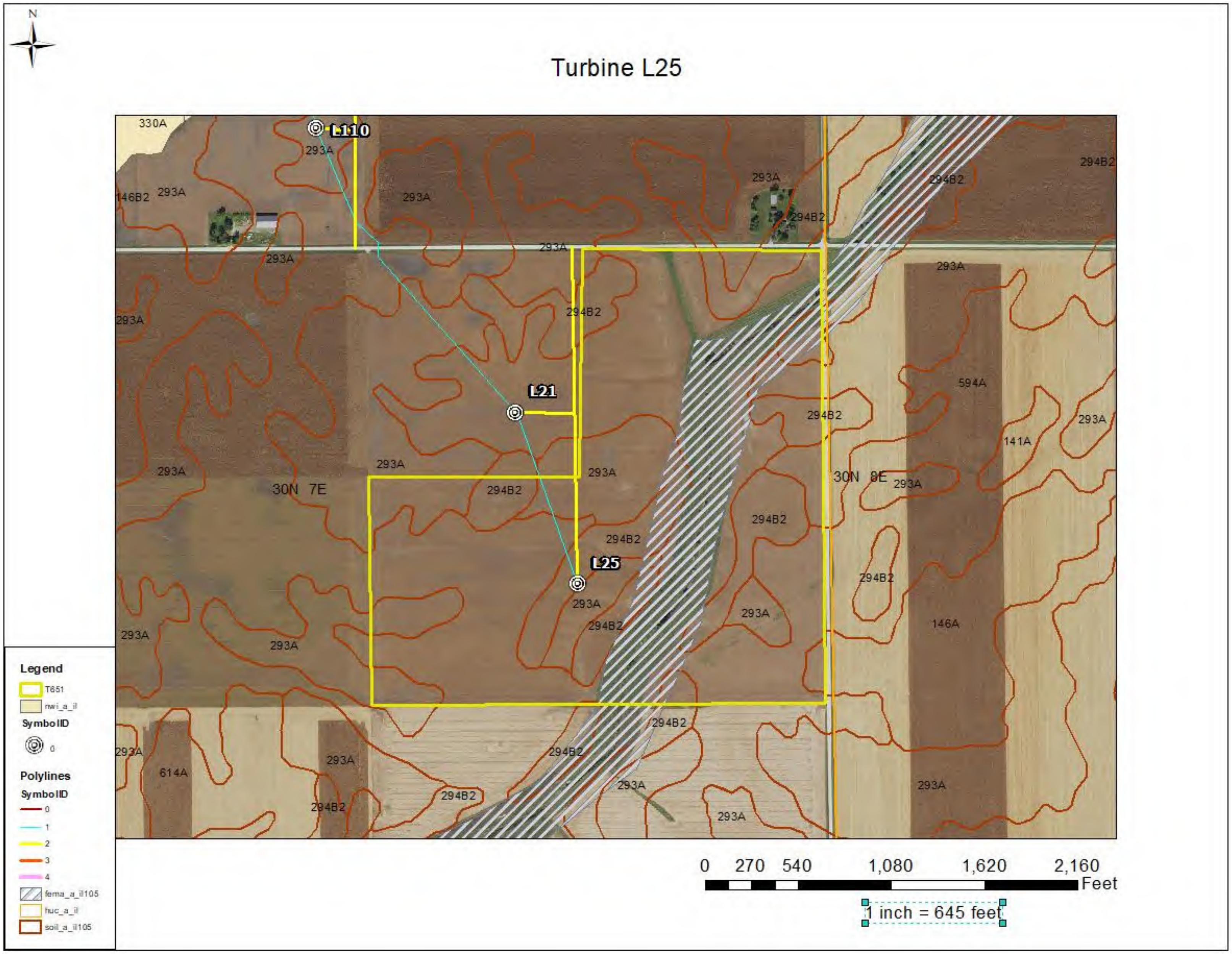
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L25

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	**Symerton loam, 2-5% slopes, eroded**	**All areas are prime farmland**	**No**	**C**	**Moderately well drained**	**NHEL**	**None**	**Corn - 170** **Soybeans - 53**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Access road does cross an area of concentrated flow. Site is in the Gooseberry Creek watershed.

Turbine L25

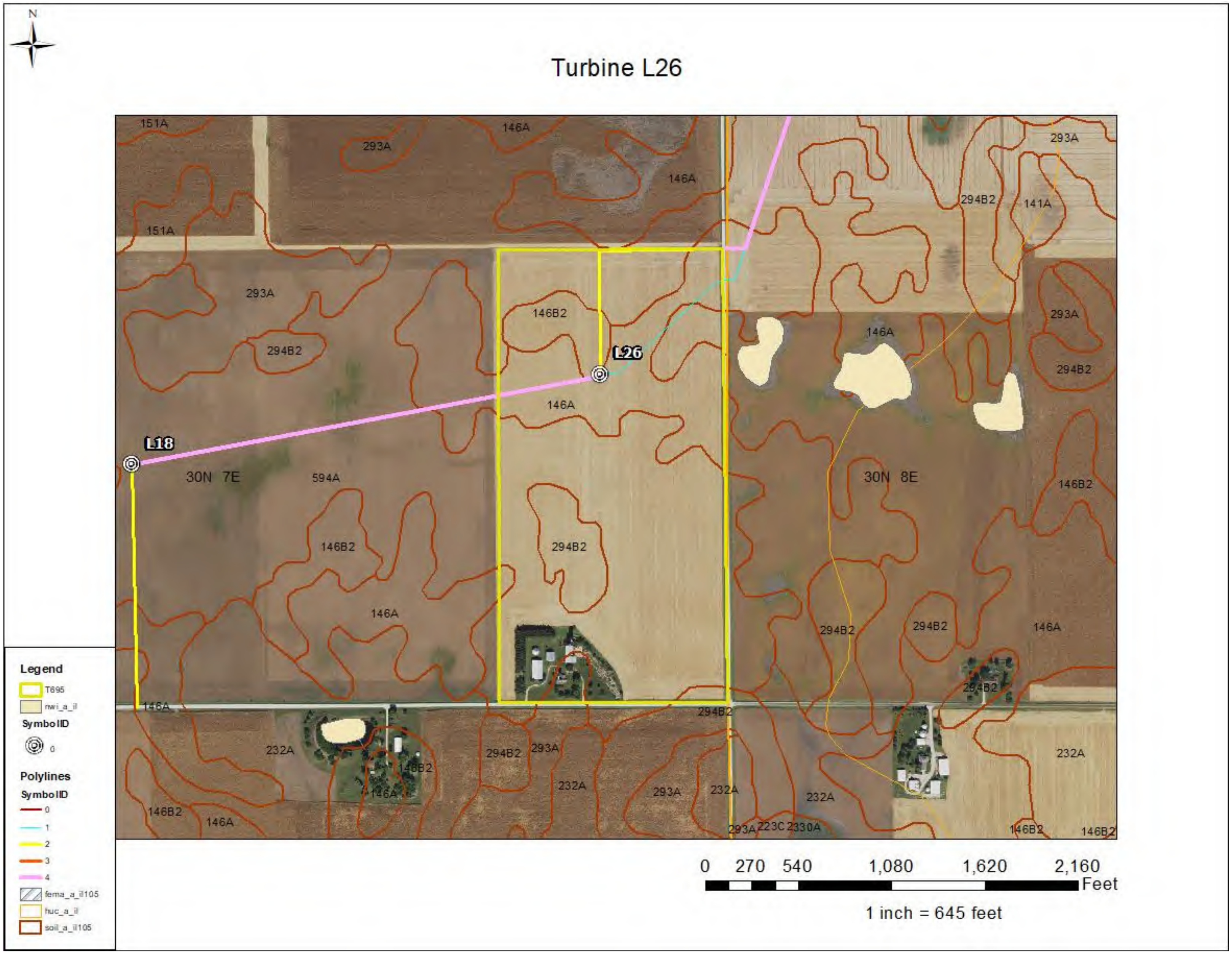

N
L110
L21
L25
30N 7E
30N 8E
330A
146B2
293A
294B2
594A
141A
146A
614A
Legend
T651
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L26

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	**Elliott silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 168 Soybeans - 55**
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.

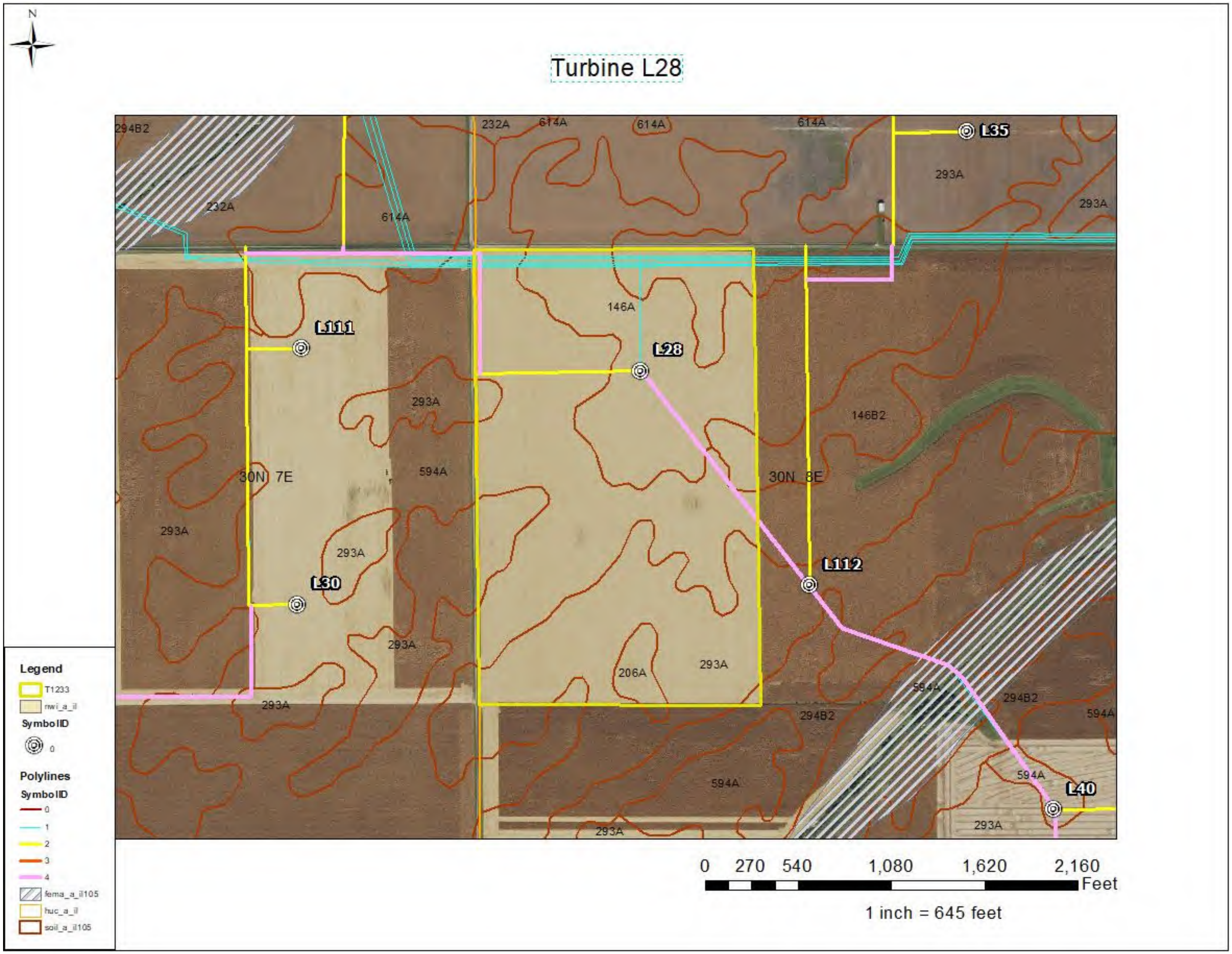

N
Turbine L26
L26
L18
30N 7E
30N 8E
151A
293A
146A
294B2
141A
146B2
594A
232A
223C
2330A
Legend
T695
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L28

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	**Elliott silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 168 Soybeans - 55**
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
206A	Thorp silt loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 55
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.


N
Turbine L28
294B2
232A
614A
232A
614A
614A
614A
L35
293A
293A
146A
L111
L28
293A
594A
146B2
30N 7E
30N 8E
293A
293A
L112
L30
293A
206A
293A
594A
294B2
293A
294B2
594A
594A
L40
293A
293A
Legend
T1233
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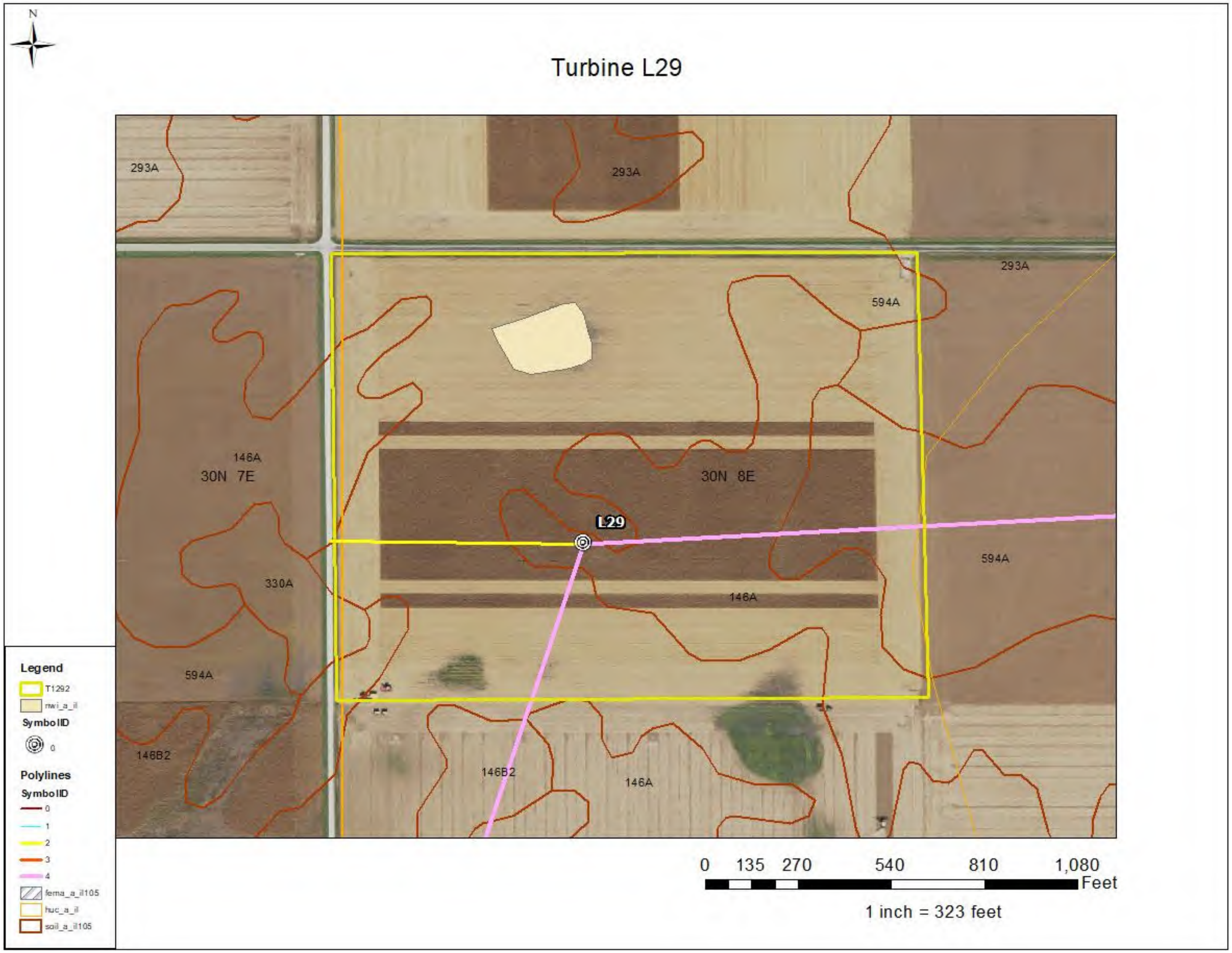
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L29

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	**Elliott silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 168 Soybeans - 55**
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
330A	Peotone silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Very poorly drained	NHEL	Frequent ponding	Corn - 164 Soybeans - 55
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.

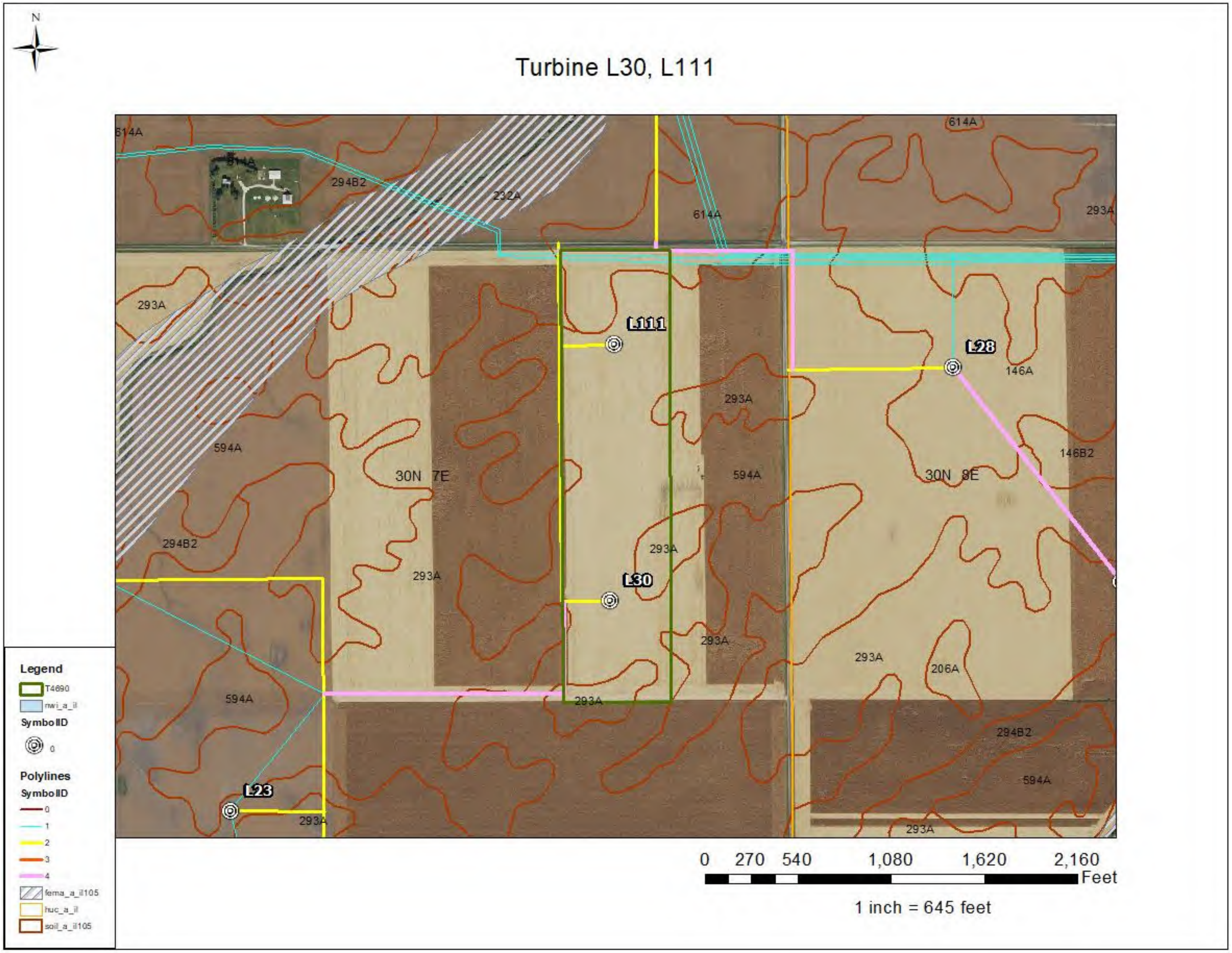

Turbine L29
N
293A
293A
293A
594A
146A
30N 7E
30N 8E
L29
594A
330A
146A
594A
146B2
146B2
146A
Legend
T1292
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 135 270 540 810 1,080
Feet
1 inch = 323 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L30, L111

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.



Turbine L30, L111
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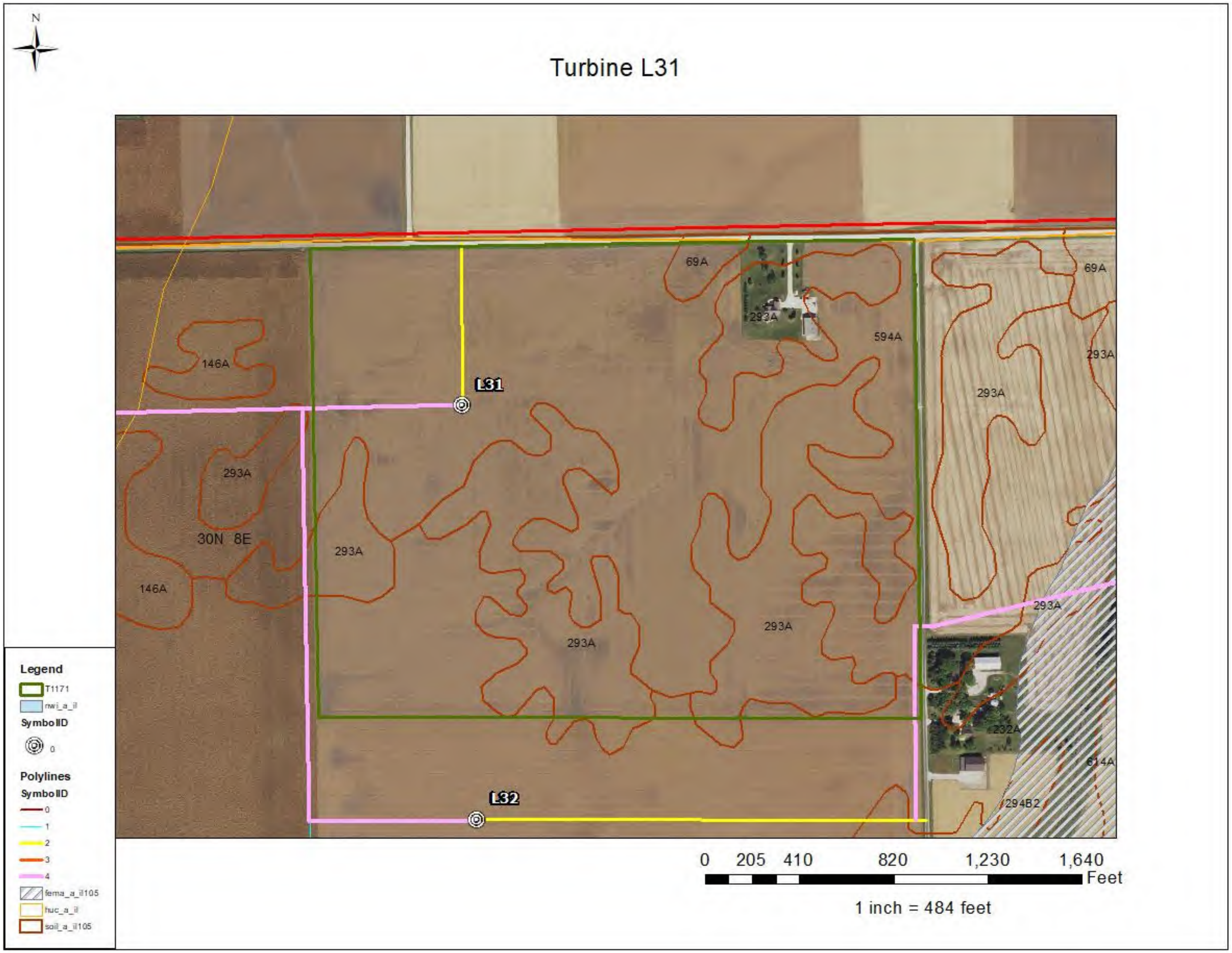
Legend
T4690
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
L111
L30
L28
L23
30N 7E
30N 8E
614A
294B2
232A
293A
594A
146A
146B2
206A
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L31

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
69A	Milford silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 171 Soybeans - 57
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.



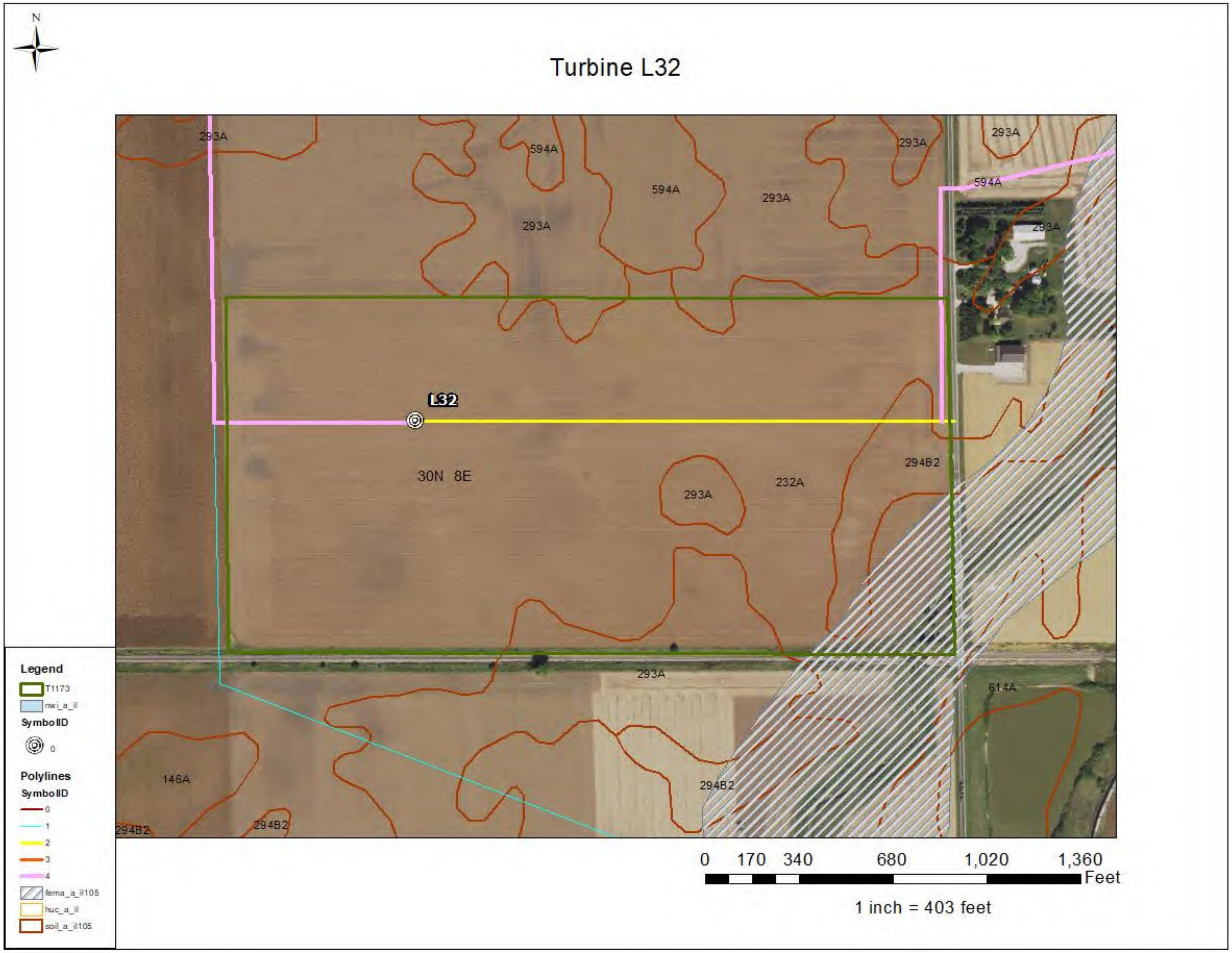
N
Turbine L31
69A
293A
594A
69A
293A
146A
L31
293A
293A
30N 8E
293A
146A
293A
293A
293A
232A
614A
L32
294B2
0 205 410 820 1,230 1,640
Feet
1 inch = 484 feet
Legend
T1171
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L32

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170 Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. There was an area of concentrated flow on the East side of the site that the proposed access road and collection lines will cross. Site is in the Gooseberry Creek watershed.



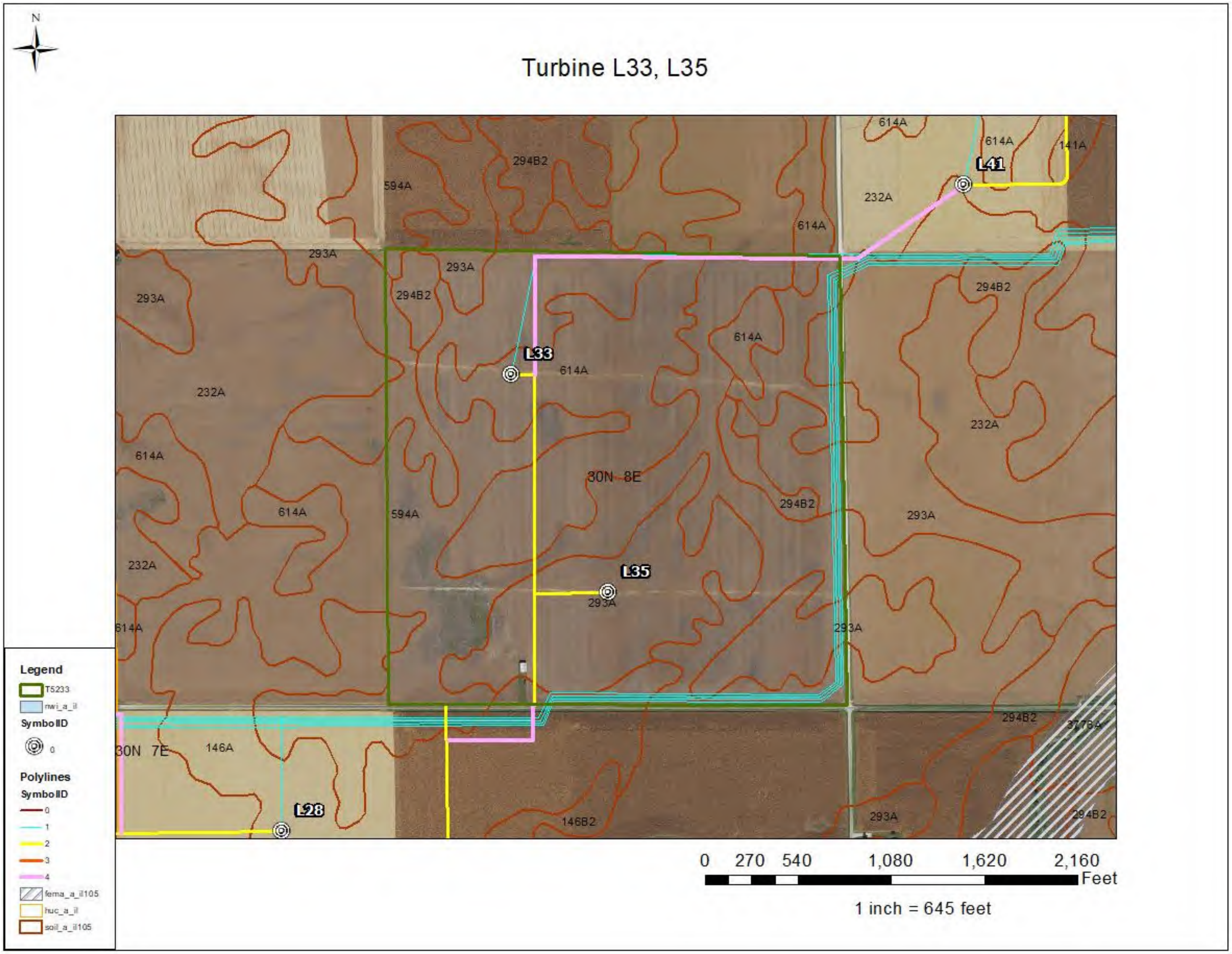
N
Turbine L32
293A
594A
594A
293A
293A
293A
293A
594A
293A
L32
30N 8E
293A
232A
294B2
293A
614A
146A
294B2
294B2
294B2
0 170 340 680 1,020 1,360
Feet
1 inch = 403 feet
Legend
T1173
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L33, L35

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	**Chenoa silty clay loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 174** **Soybeans - 57**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.

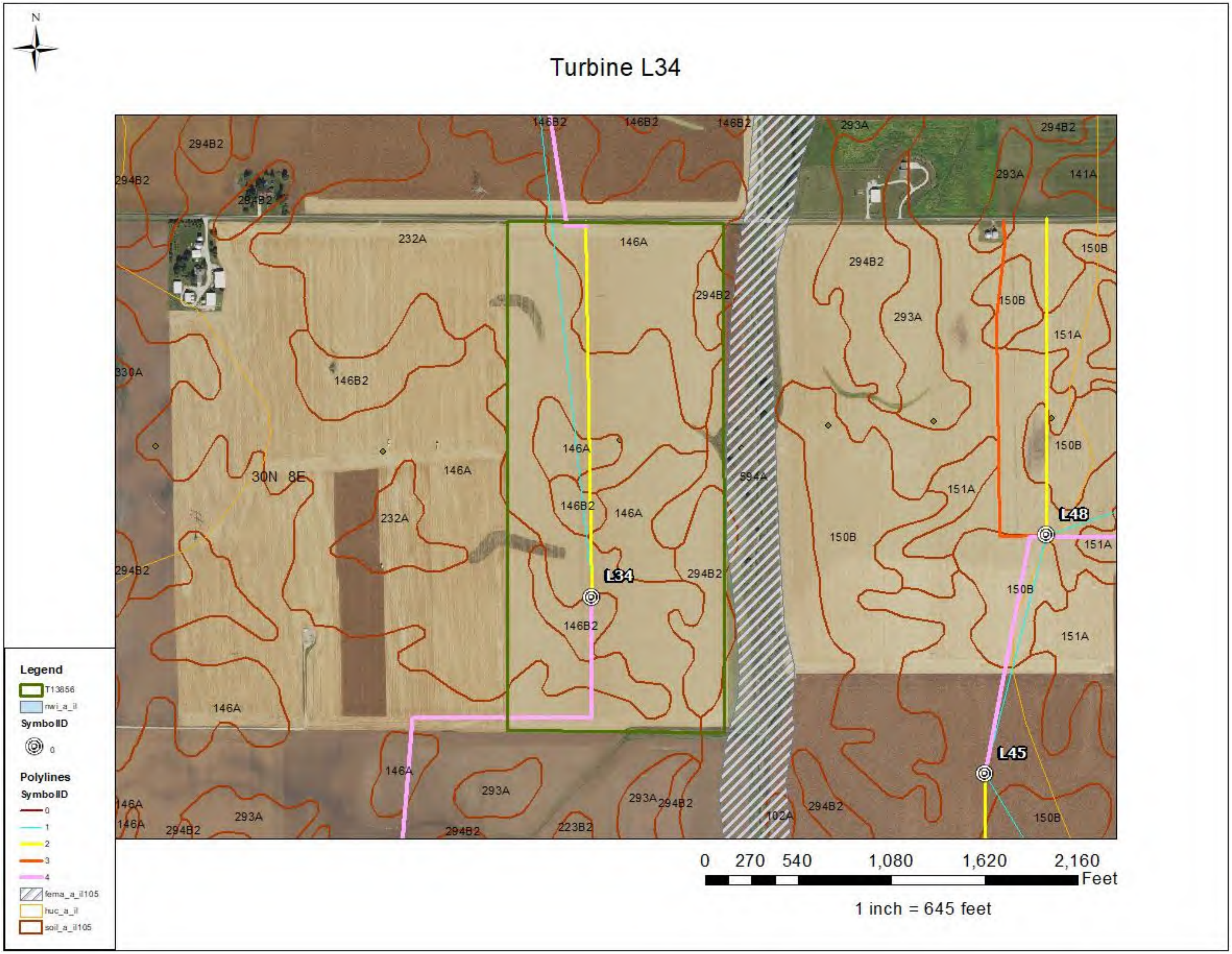

N
Turbine L33, L35
L41
L33
L35
L28
614A
141A
294B2
594A
232A
293A
30N 8E
30N 7E
146A
146B2
3278A
Legend
T5233
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L34

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	**Elliott silty clay loam, 2-4% slopes, eroded**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 160 Soybeans - 52**
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Town of Emington-Gooseberry Creek watershed.



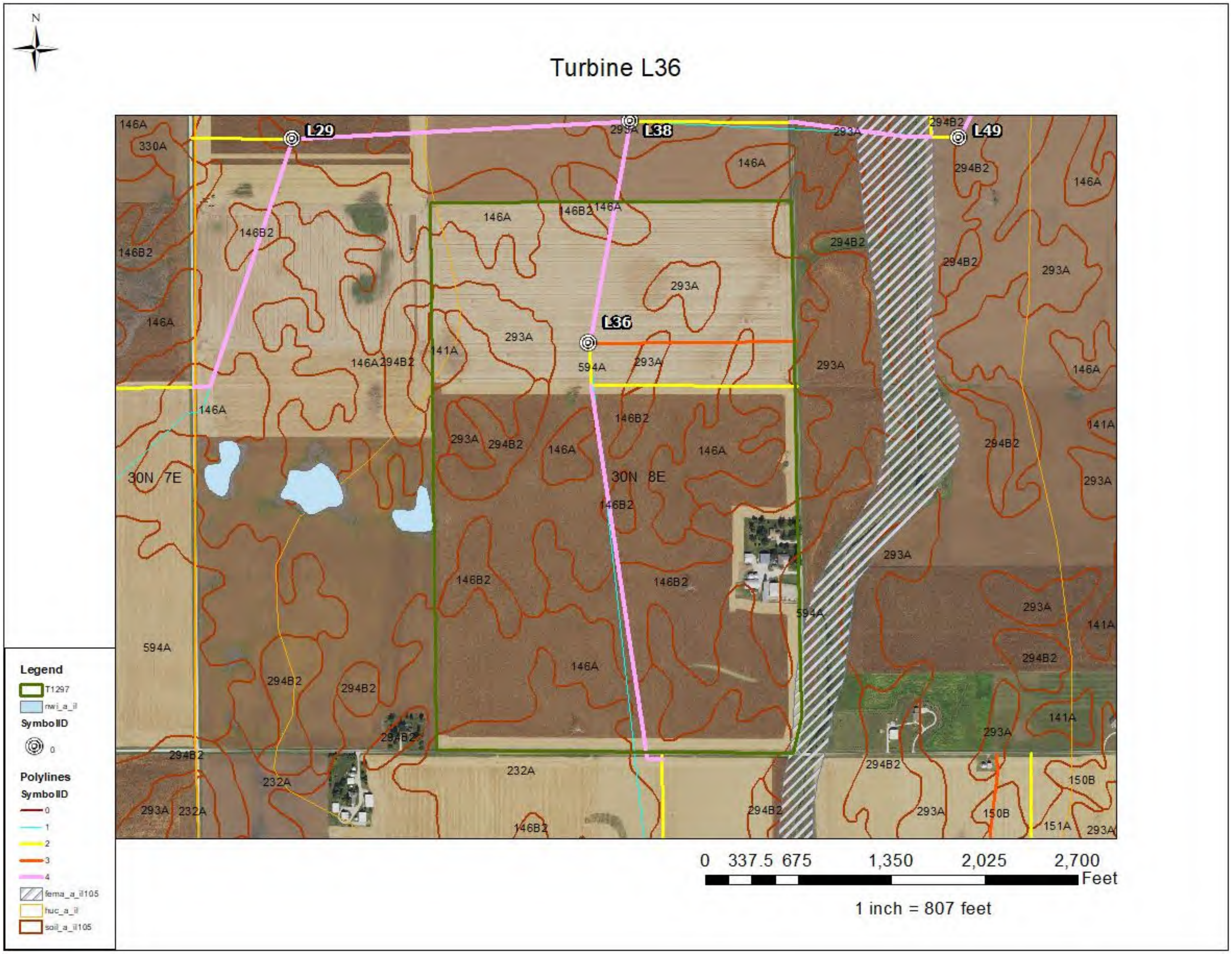
N
Turbine L34
146B2
294B2
293A
141A
232A
146A
150B
151A
146B2
330A
30N 8E
594A
L48
L34
L45
223B2
102A
Legend
T13856
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L36

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There is a low, concentrated flow area in the Northeast corner of the site that the access road will cross. Site is in the Town of Emington-Gooseberry Creek watershed.

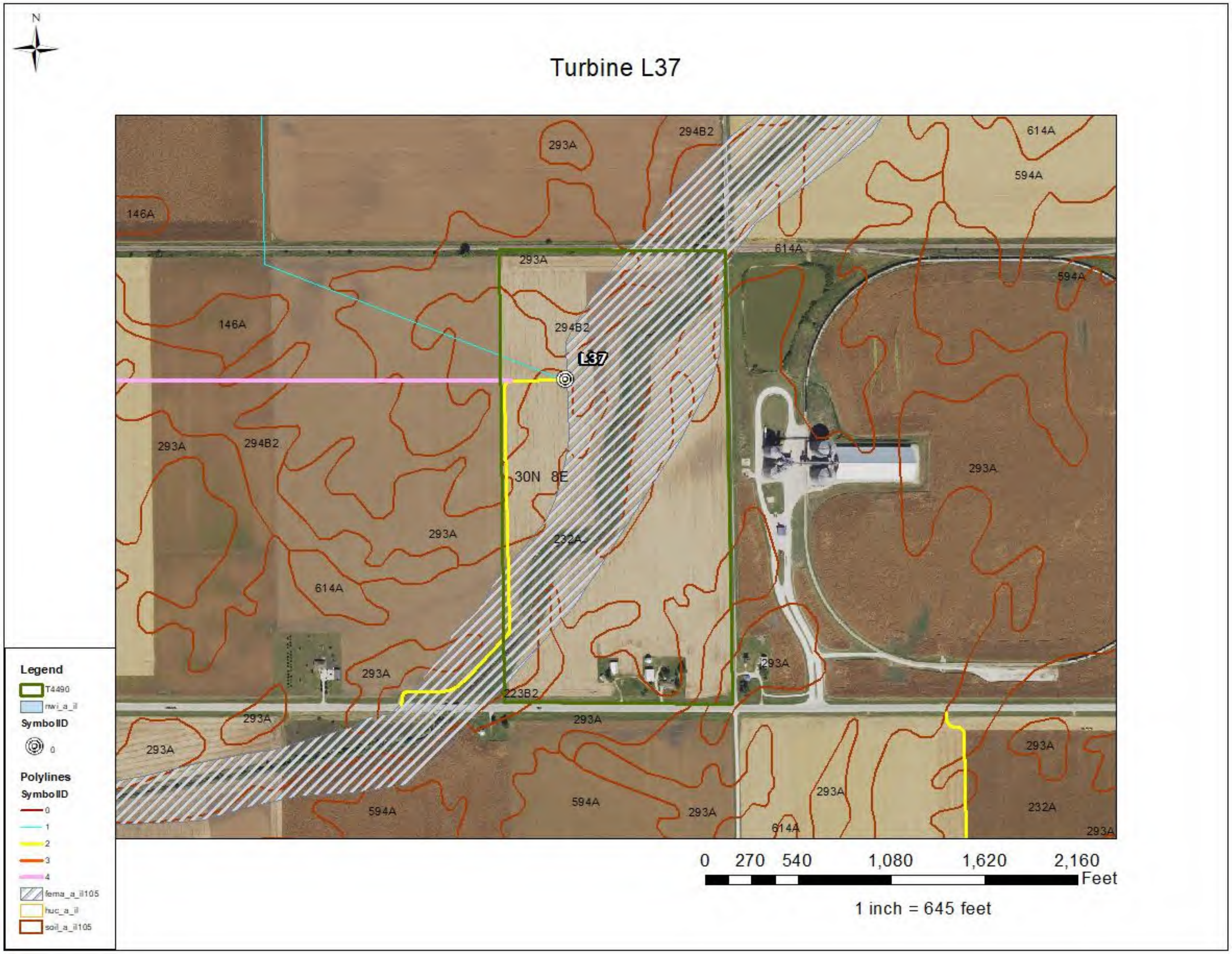

N
Turbine L36
L29
L38
L49
L36
30N 7E
30N 8E
Legend
T1297
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 337.5 675 1,350 2,025 2,700
Feet
1 inch = 807 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L37

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
223B2	Varna silt loam, 2-4% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 150 Soybeans - 48
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The turbine site is located on the edge of the 100-year floodplain and the access road is sited to be built through the 100-year floodplain. Would recommend moving the site of the turbine and the access road to avoid the floodplain. The access road will also be either in or right next to current CRP ground. Site is in the Gooseberry Creek watershed.



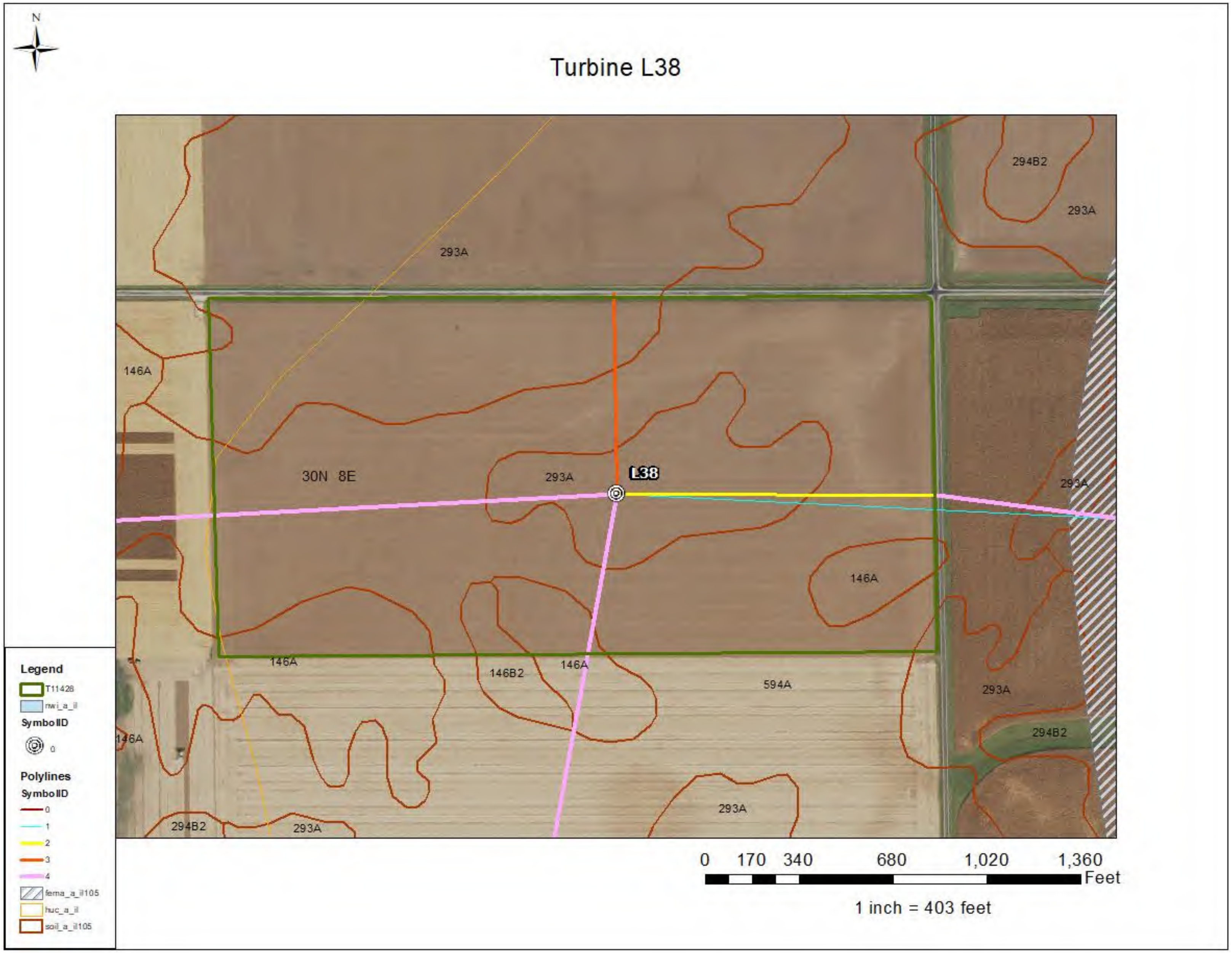
Turbine L37
N
294B2
293A
614A
594A
146A
614A
293A
594A
146A
294B2
L37
293A
294B2
30N 8E
293A
293A
232A
614A
293A
223B2
293A
293A
293A
293A
293A
293A
293A
594A
594A
293A
614A
232A
293A
Legend
T4490
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L38

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Town of Emington-Gooseberry Creek watershed.


N
Turbine L38
293A
294B2
293A
146A
30N 8E
293A
L38
293A
146A
146A
146B2
146A
594A
293A
294B2
146A
293A
294B2
293A
Legend
T11428
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 170 340 680 1,020 1,360
Feet
1 inch = 403 feet

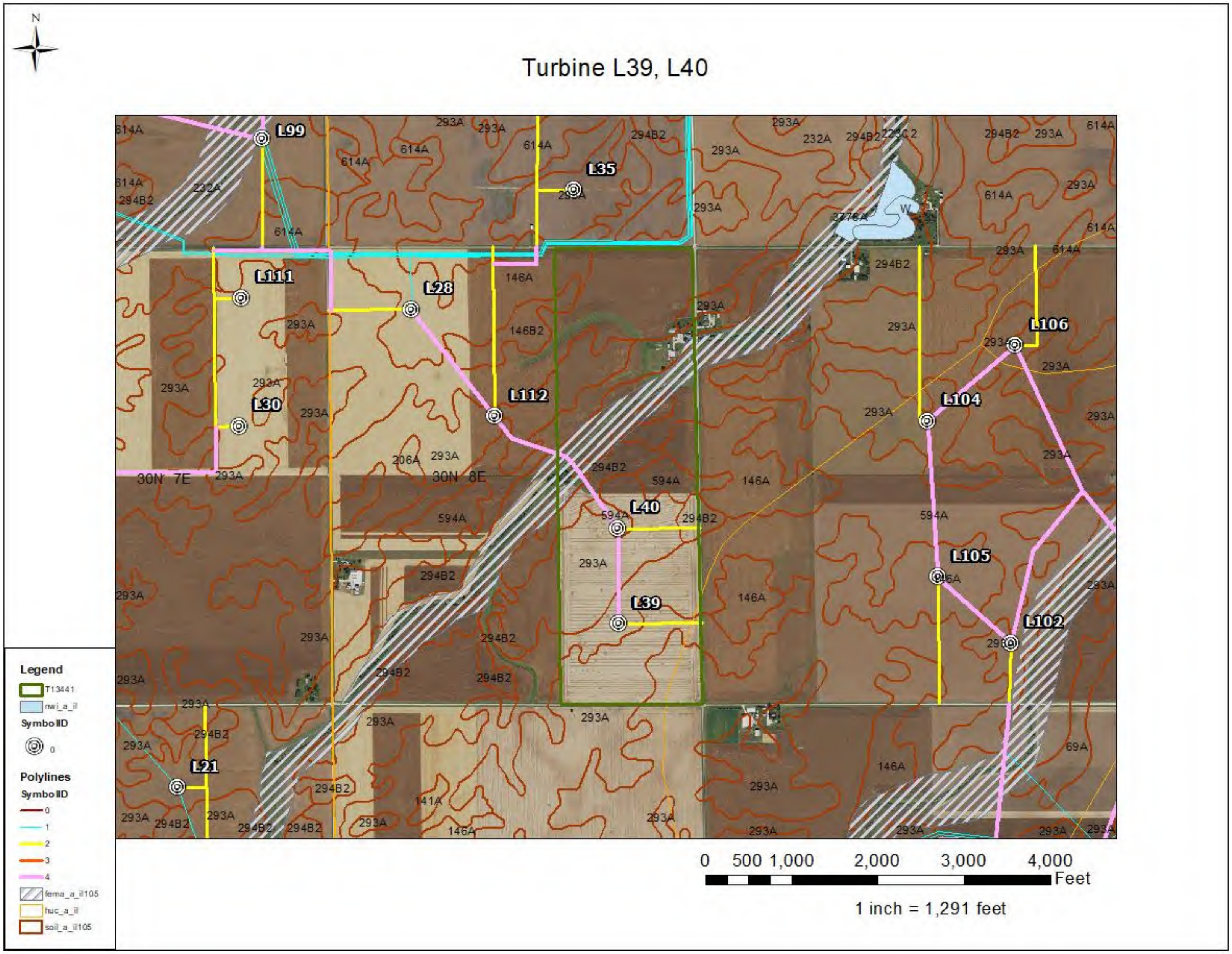
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L39, L40

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path and collection lines will cross the 100-year floodplain and Gooseberry Creek and should be moved. Site is in the Gooseberry Creek watershed.

Turbine L39, L40

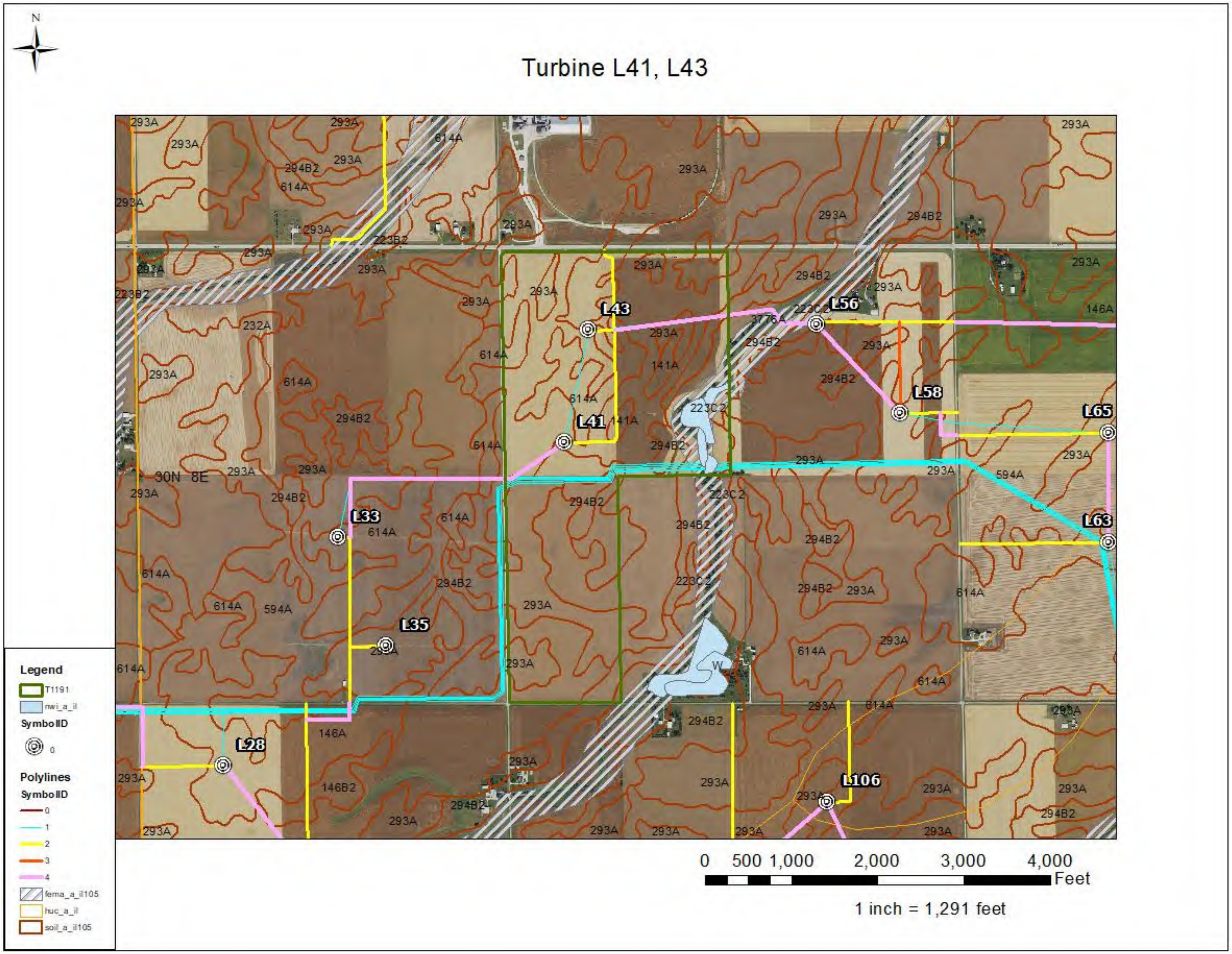


Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L41, L43

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
223C2	Varna silt loam, 4-6% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 149 Soybeans - 47
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170 Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57
3776A	Comfrey loam, 0-2% slopes, frequently flooded	Prime farmland if drained	Yes	B/D	Poorly drained	NHEL	Frequent ponding/ flooding	Corn - 166 Soybeans - 55

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Collection lines will cross the 100-year floodplain, Gooseberry Creek, and identified wetlands. These collection lines will need to be moved. Site is in the Gooseberry Creek watershed.

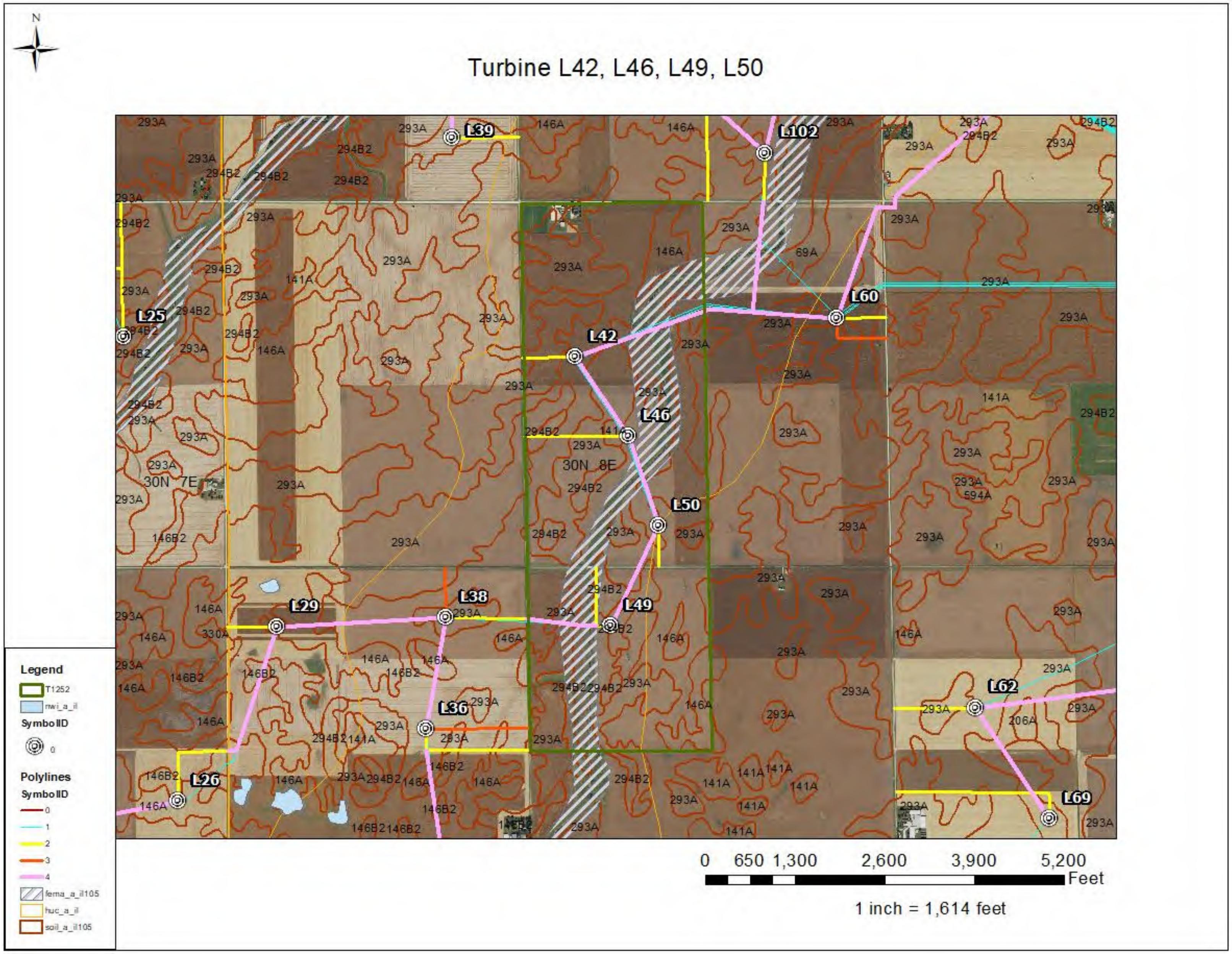

Turbine L41, L43
N
L41
L43
L56
L58
L65
L63
L33
L35
L28
L106
30N 8E
293A
294B2
614A
223C2
141A
594A
146A
146B2
232A
223B2
Legend
T1191
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 500 1,000 2,000 3,000 4,000
Feet
1 inch = 1,291 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L42, L46, L49, L50

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	**Symerton loam, 2-5% slopes, eroded**	**All areas are prime farmland**	**No**	**C**	**Moderately well drained**	**NHEL**	**None**	**Corn - 170 Soybeans - 53**
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Crane paths and collection lines cross the 100-year floodplain and Gooseberry Creek multiple times. Also, the access road for Turbine L49 is sited in the 100-year floodplain and right alongside Gooseberry Creek. All of these need to be moved. Site is in the Town of Emington-Gooseberry Creek watershed.

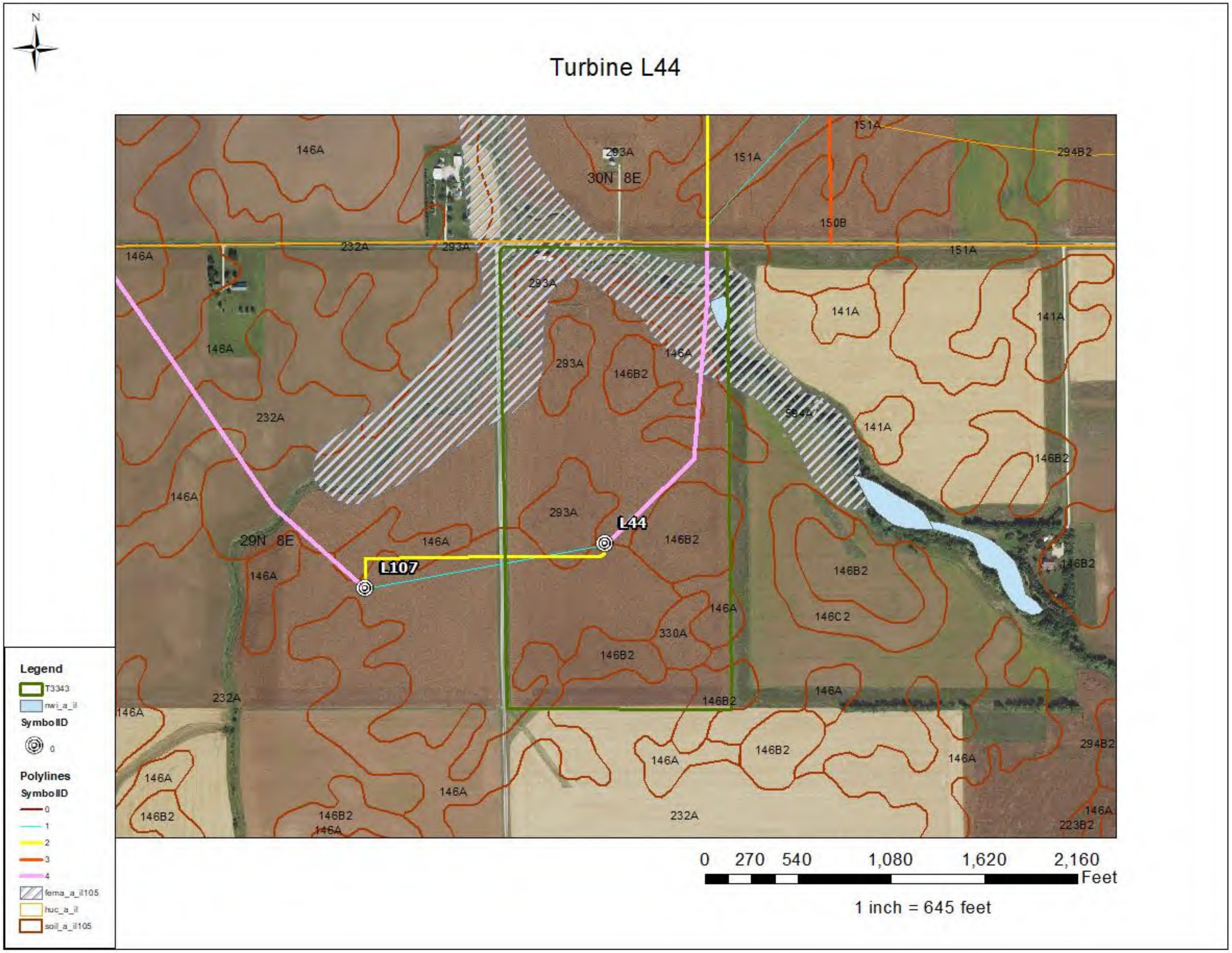

N
Turbine L42, L46, L49, L50
L39
L102
L25
L42
L60
L46
L50
L38
L29
L49
L36
L62
L26
L69
30N 7E
30N 8E
Legend
T1252
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 650 1,300 2,600 3,900 5,200
Feet
1 inch = 1,614 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L44

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170** **Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
330A	Peotone silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Very poorly drained	NHEL	Frequent ponding	Corn - 164 Soybeans - 55
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Crane path and collection lines will cross the 100-year floodplain, Gooseberry Creek, and CRP ground. They will also pass approximately 25 feet from an identified wetland. The crane path and collection lines need to be moved. Site is in the Town of Emington-Gooseberry Creek watershed.



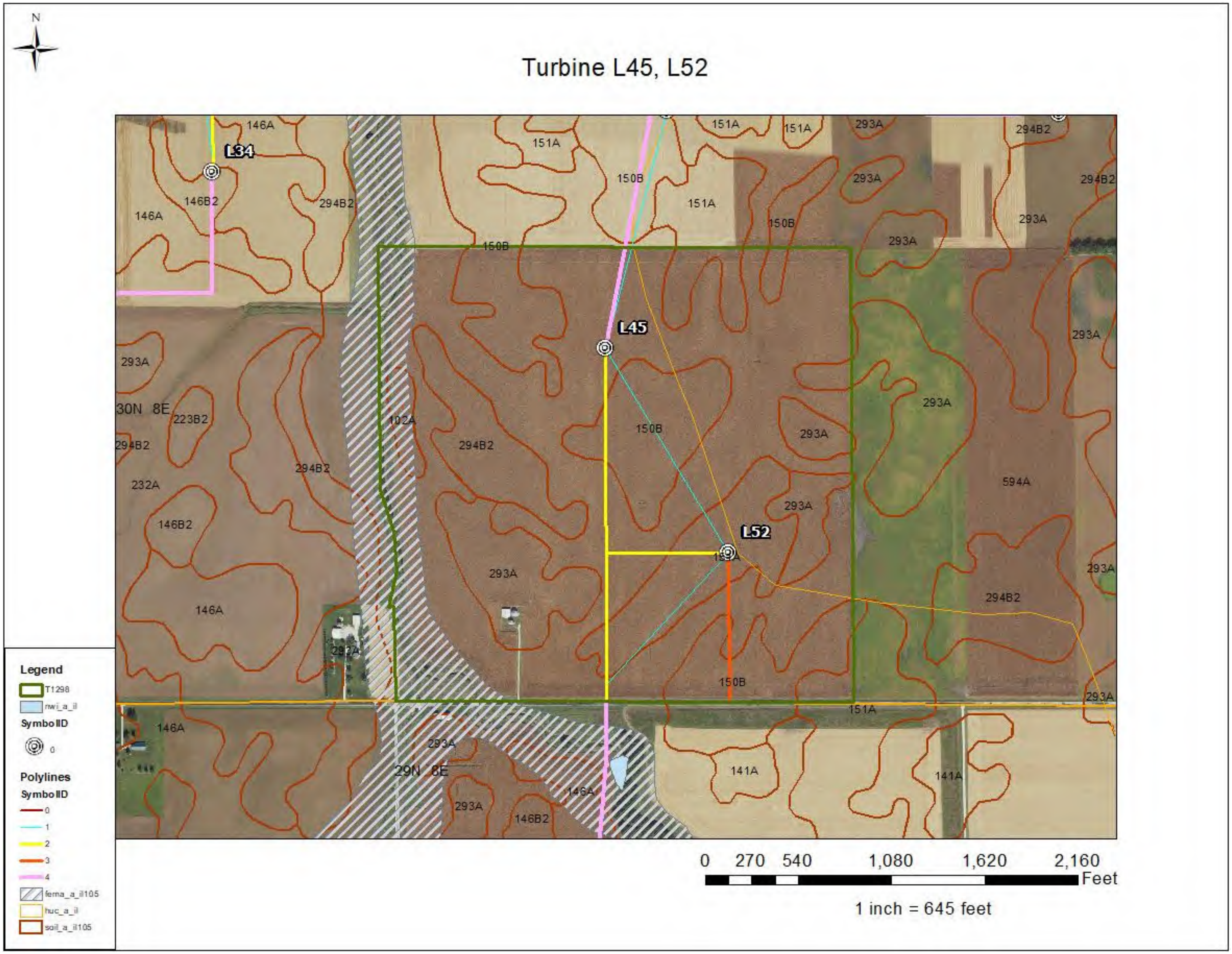
N
Turbine L44
30N 8E
29N 8E
L44
L107
146A
293A
151A
294B2
150B
232A
141A
146B2
594A
146C2
330A
223B2
Legend
T3343
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L45, L52

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
102A	La Hogue loam, 0-2% slopes	All areas are prime farmland	No	B/D	Somewhat poorly drained	NHEL	None	Corn - 162 Soybeans - 52
150B	Onarga fine sandy loam, 2-5% slopes	All areas are prime farmland	No	A	Well drained	NHEL	None	Corn - 147 Soybeans - 48
151A	**Ridgeville fine sandy loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**A/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 151** **Soybeans - 51**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Town of Emington-Gooseberry Creek watershed.

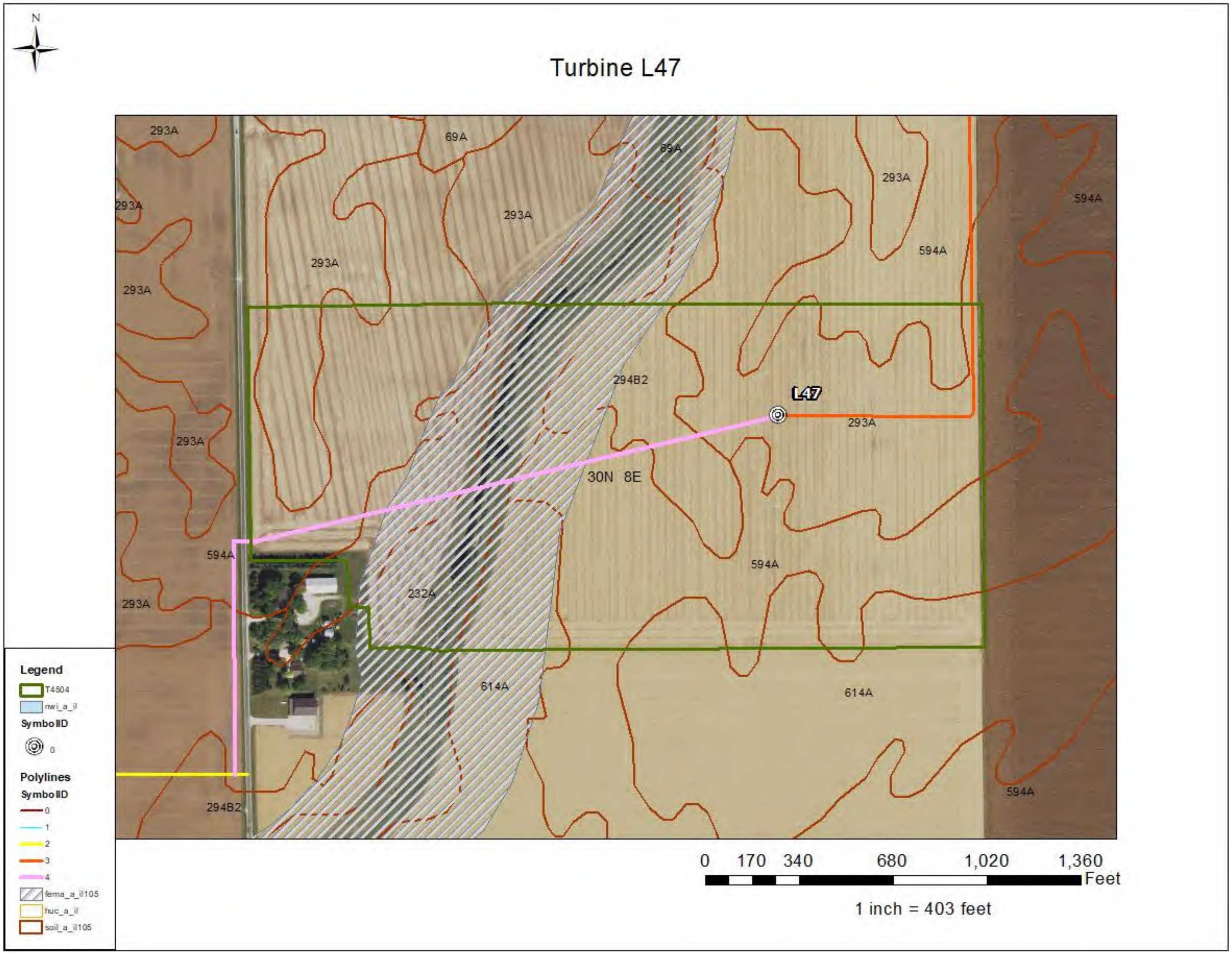

N
Turbine L45, L52
L34
L45
L52
146A
146B2
294B2
151A
150B
293A
102A
223B2
232A
30N 8E
29N 8E
594A
141A
Legend
T1298
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L47

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path and collection lines will cross the 100-year floodplain, small creek, and CRP. The creek also has trees growing alongside that are where the crane path and collection lines are sited. The crane path and collection lines will need to be moved. Site is in the Gooseberry Creek watershed.

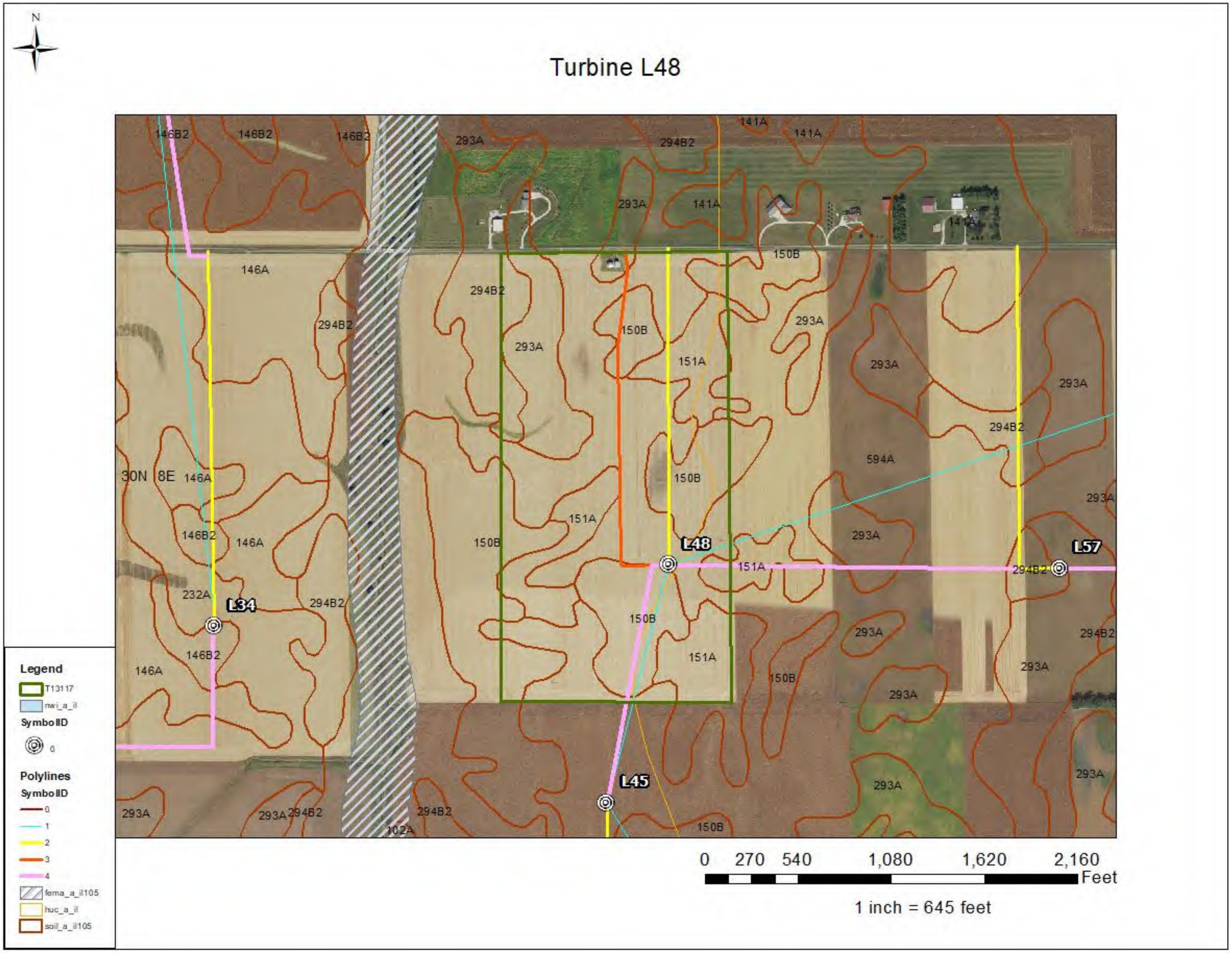

N
Turbine L47
293A
69A
69A
293A
293A
594A
293A
594A
293A
293A
293A
294B2
L47
293A
293A
30N 8E
594A
594A
232A
293A
614A
614A
594A
294B2
0 170 340 680 1,020 1,360
Feet
1 inch = 403 feet
Legend
T4504
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L48

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
150B	Onarga fine sandy loam, 2-5% slopes	All areas are prime farmland	No	A	Well drained	NHEL	None	Corn - 147 Soybeans - 48
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are limitations on construction of roads and trenches, so caution should be exercised. Site is in the Town of Emington-Gooseberry Creek and East Fork Mazon River watersheds.

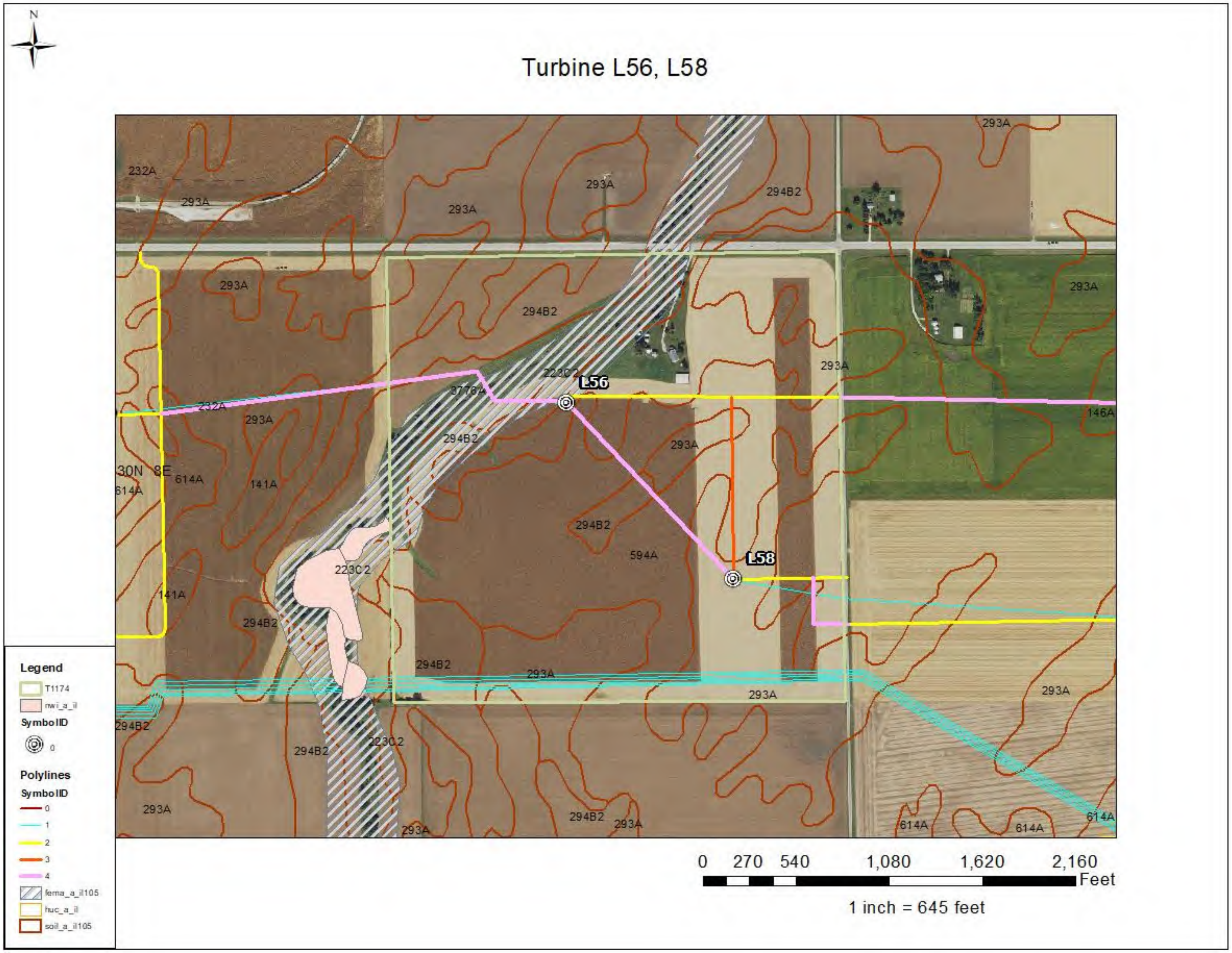

N
Turbine L48
L48
L34
L45
L57
30N 8E
Legend
T13117
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L56, L58

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
223C2	Varna silt loam, 4-6% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 149 Soybeans - 47
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
3776A	Comfrey loam, 0-2% slopes, frequently flooded	Prime farmland if drained	Yes	B/D	Poorly drained	NHEL	Frequent ponding/ flooding	Corn - 166 Soybeans - 55

Notes: These soils can be wet and are prone to rutting. There are severe limitations on construction of roads and trenches, so caution should be exercised. Turbine L56 is sited in the 100-year floodplain. Also, the crane path and collection lines that run West from Turbine L56 cross the 100-year floodplain, Gooseberry Creek, and CRP fields. This turbine and the crane path and collection lines need to be moved. Site is in the Gooseberry Creek watershed.



Turbine L56, L58
N
232A
293A
294B2
L56
L58
2230 2
3776A
146A
30N 8E
614A
141A
594A
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet
Legend
T1174
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

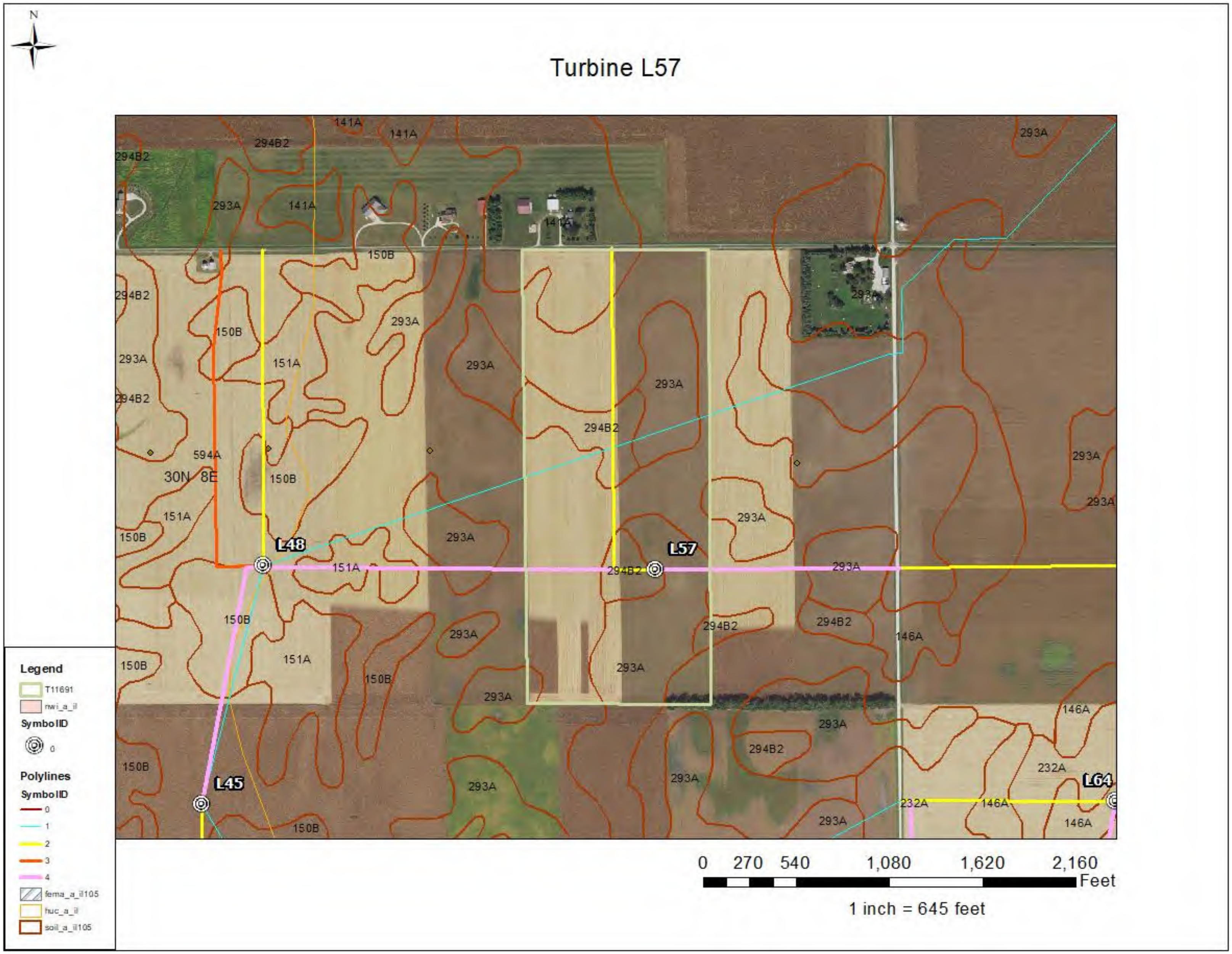
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L57

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	**Symerton loam, 2-5% slopes, eroded**	**All areas are prime farmland**	**No**	**C**	**Moderately well drained**	**NHEL**	**None**	**Corn - 170** **Soybeans - 53**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the East Fork Mazon River watershed.

Turbine L57

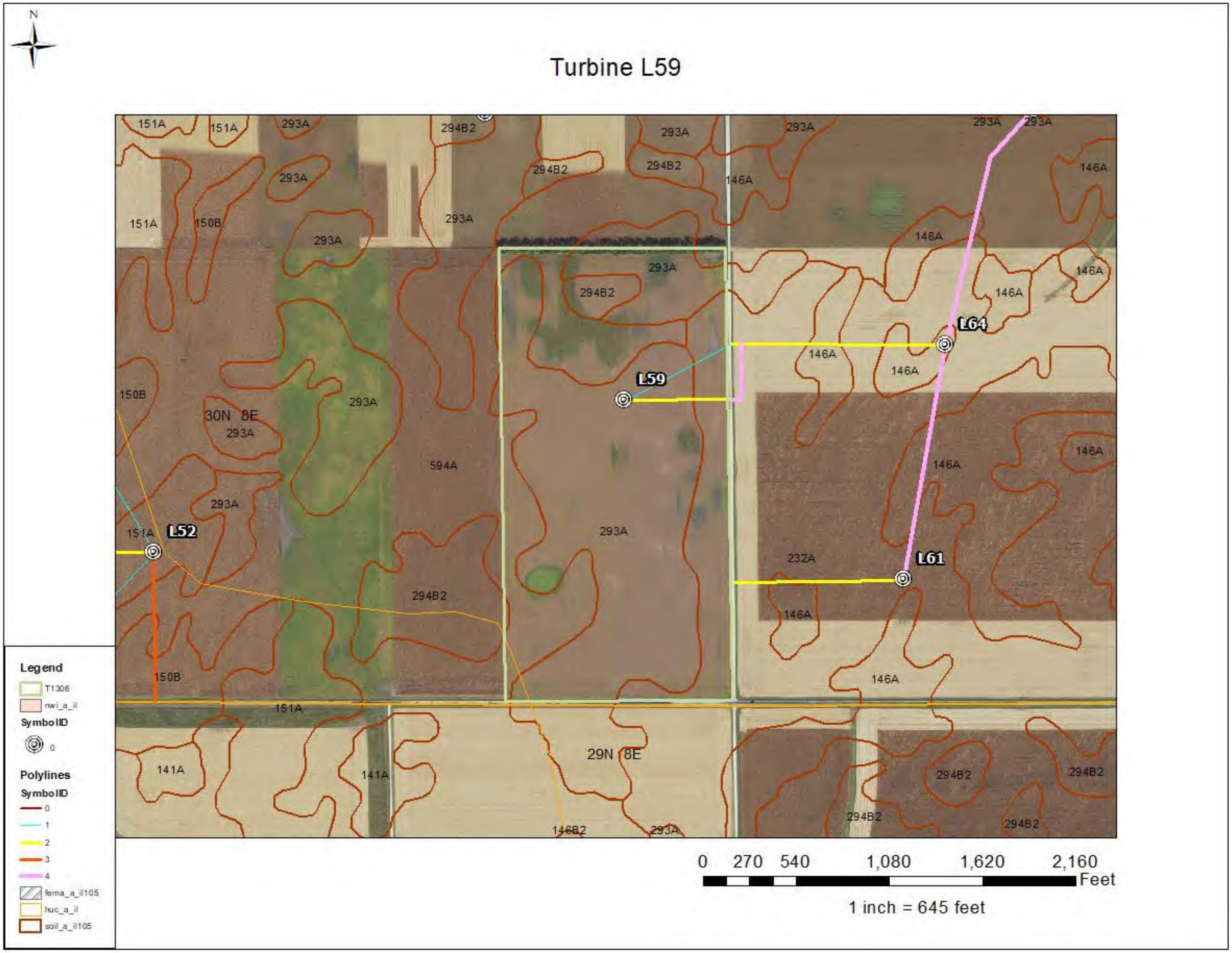

N
L48
L57
L45
L64
30N 8E
141A
294B2
293A
150B
151A
594A
146A
232A
Legend
T11691
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L59

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
232A	Ashkum silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 56
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are limitations on construction of roads and trenches, so caution should be exercised. The collection lines will run through a low, ponded area in the field. Site is in the East Fork Mazon River watershed.

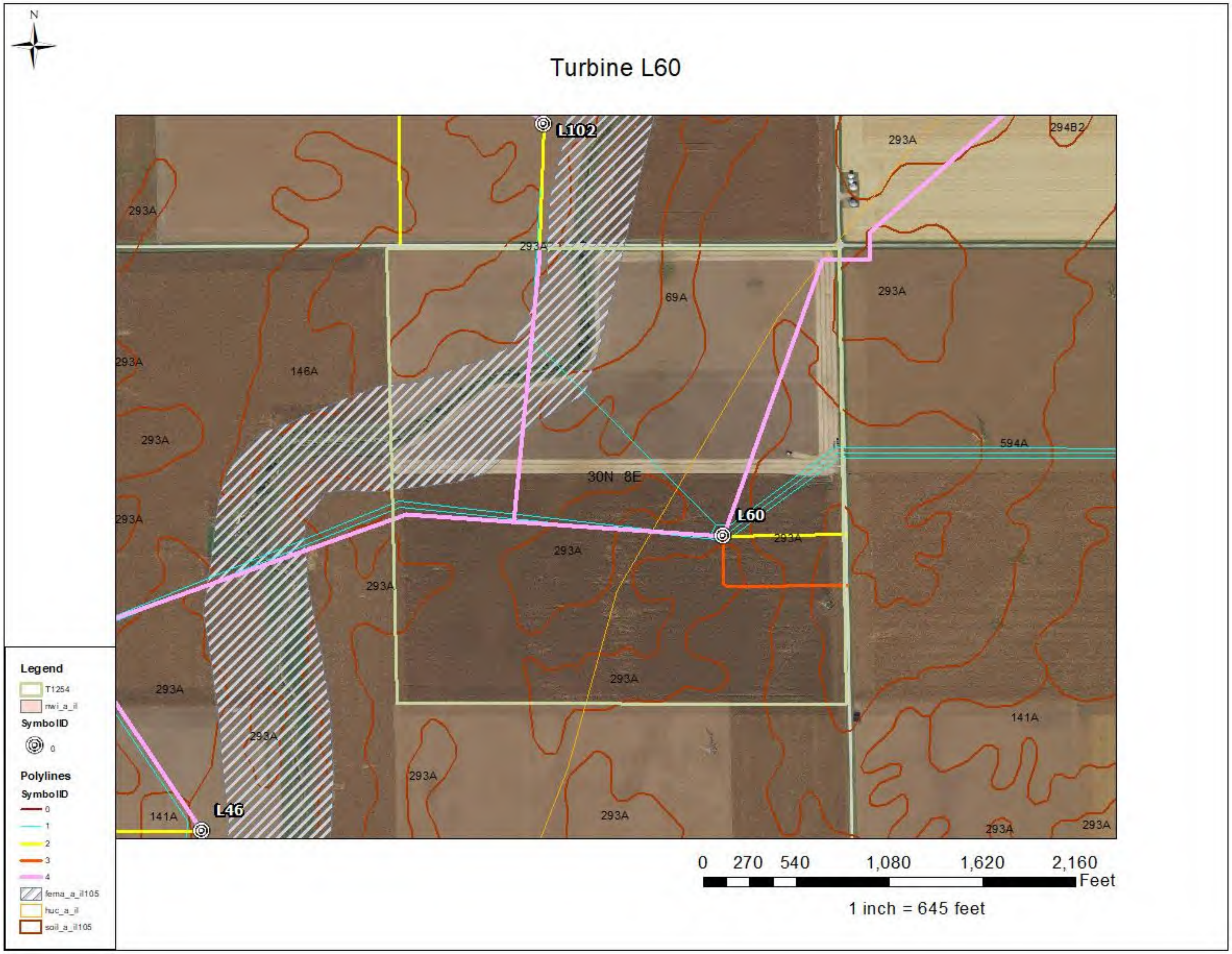

N
Turbine L59
151A
293A
294B2
146A
150B
L64
L59
30N 8E
594A
L52
232A
L61
Legend
T1306
nwi_a_il
SymbolID
0
Polylines
SymbolID
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
141A
29N 8E
146B2
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L60

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
69A	Milford silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 171 Soybeans - 57
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Collection lines and a crane path cross the 100-year floodplain and Gooseberry Creek. These need to be moved. Site is in the East Fork Mazon River and Town of Emington-Gooseberry Creek watersheds.



N
Turbine L60
L102
L60
L46
30N 8E
293A
294B2
69A
146A
594A
141A
Legend
T1254
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

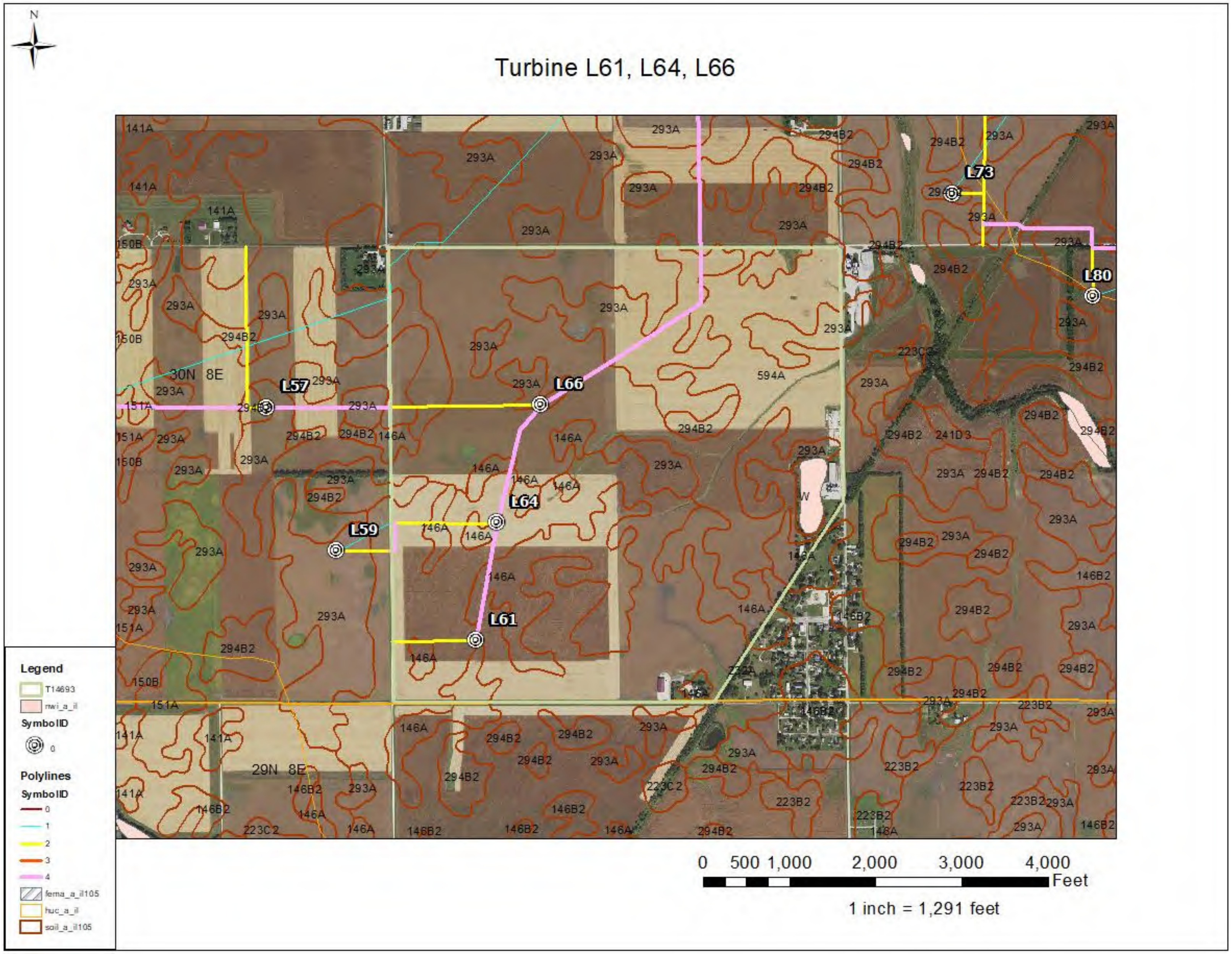
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L61, L64, L66

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	**Elliott silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 168 Soybeans - 55**
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170 Soybeans - 56**
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the East Fork Mazon River watershed.

Turbine L61, L64, L66

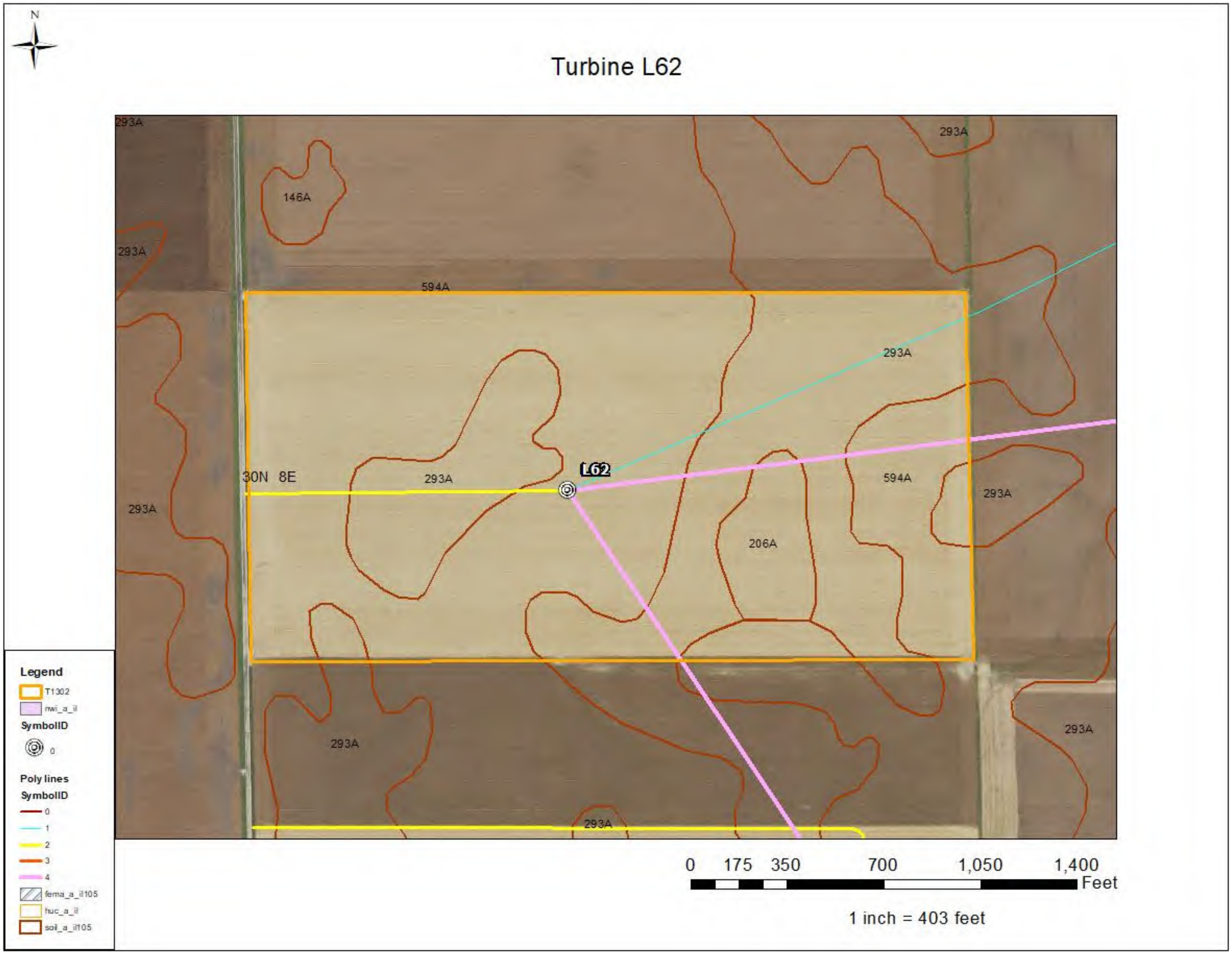


Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L62

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
206A	Thorp silt loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 170 Soybeans - 55
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the East Fork Mazon River watershed.

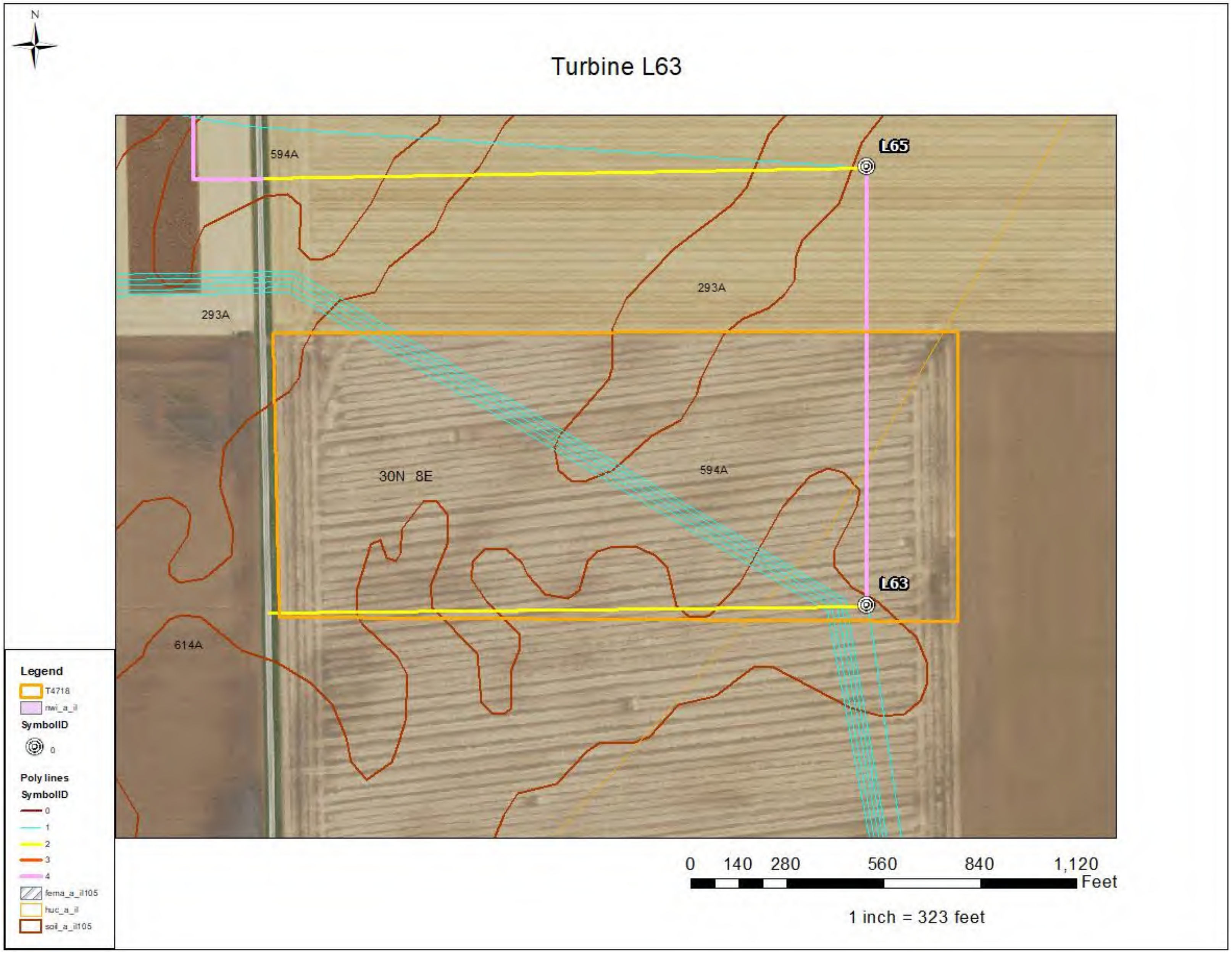

N
Turbine L62
293A
146A
594A
30N 8E
L62
206A
Legend
T1302
nwi_a_il
SymbolID
0
Poly lines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 175 350 700 1,050 1,400
Feet
1 inch = 403 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L63

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	**Chenoa silty clay loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 174 Soybeans - 57**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There is a noticeable low, wet area in the Northwest corner of the parcel that may affect the placement of the connection lines. Site is in the East Fork Mazon River and Gooseberry Creek watersheds.

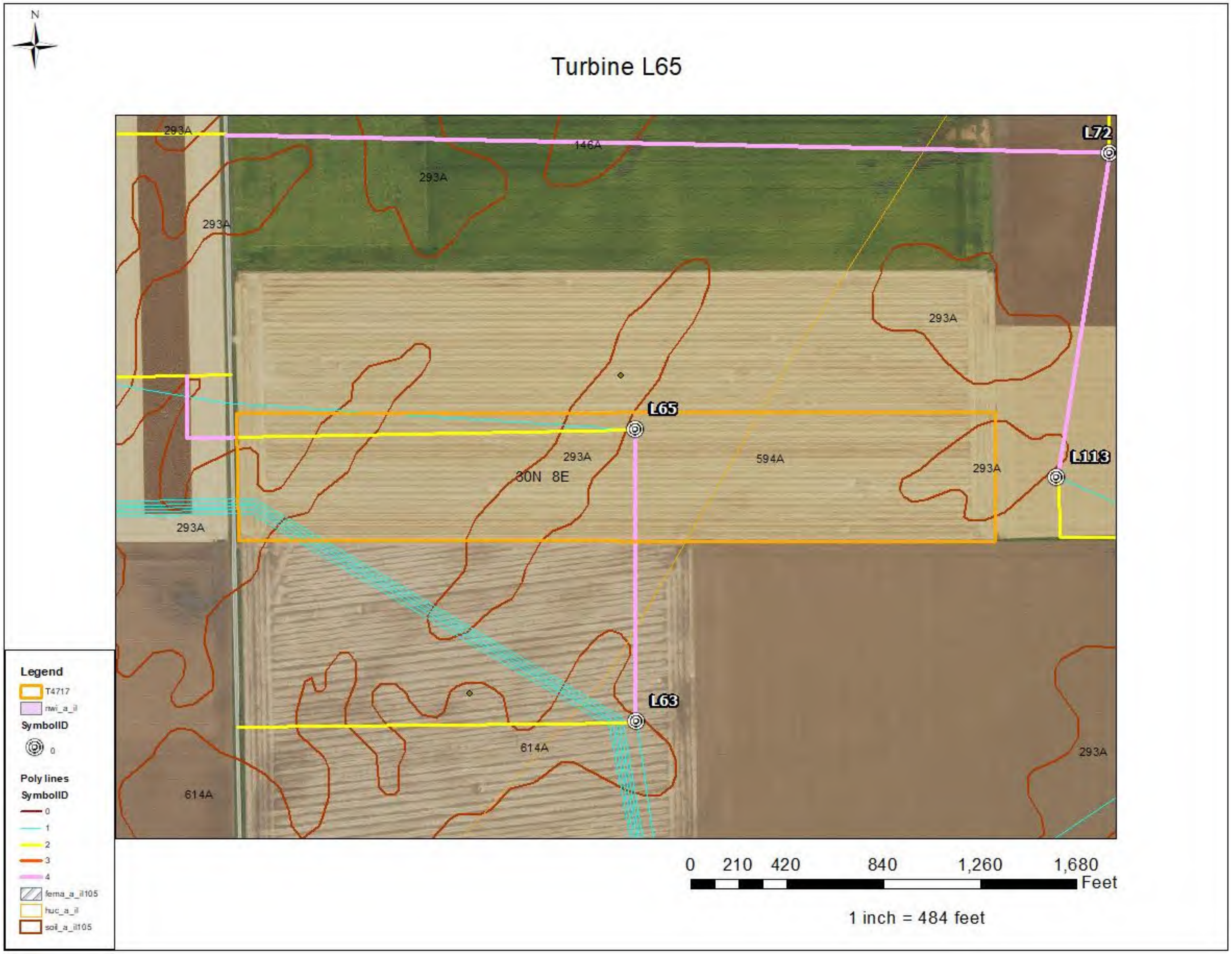

N
Turbine L63
L65
L63
594A
293A
293A
30N 8E
594A
614A
Legend
T4718
nwi_a_il
SymbolID
0
Poly lines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 140 280 560 840 1,120
Feet
1 inch = 323 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L65

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Gooseberry Creek watershed.

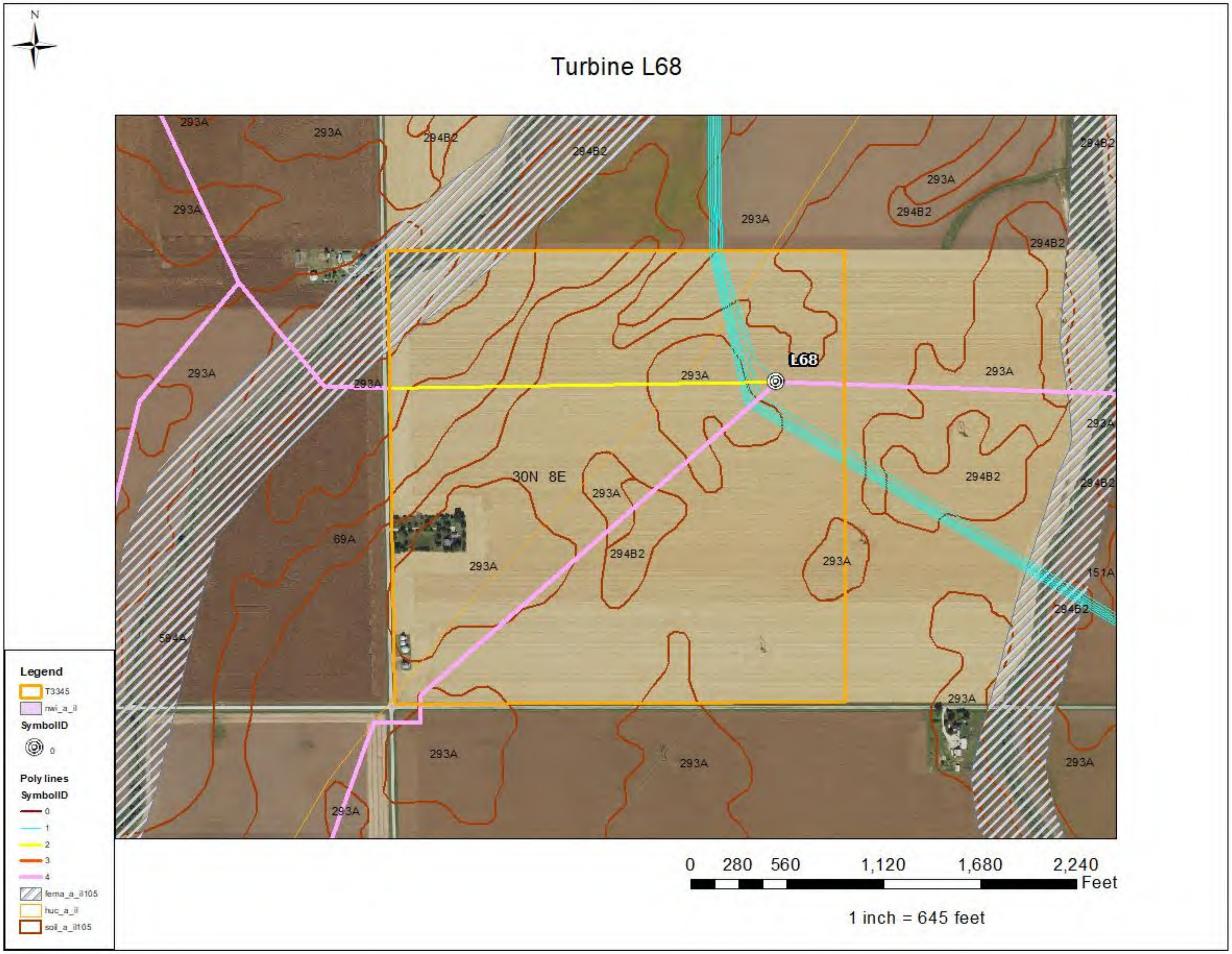

Turbine L65
N
293A
146A
293A
293A
L72
293A
L65
293A
594A
293A
L113
30N 8E
293A
L63
614A
293A
614A
Legend
T4717
nwi_a_il
SymbolID
0
Poly lines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 210 420 840 1,260 1,680
Feet
1 inch = 484 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L68

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
69A	Milford silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 171 Soybeans - 57
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane paths and collection lines will cross areas of concentrated flow throughout the field. Site is in the East Fork Mazon River and Town of Emington-Gooseberry Creek watersheds.


N
Turbine L68
293A
294B2
L68
30N 8E
69A
594A
151A
Legend
T3345
nwi_a_il
SymbolID
0
Poly lines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 280 560 1,120 1,680 2,240
Feet
1 inch = 645 feet

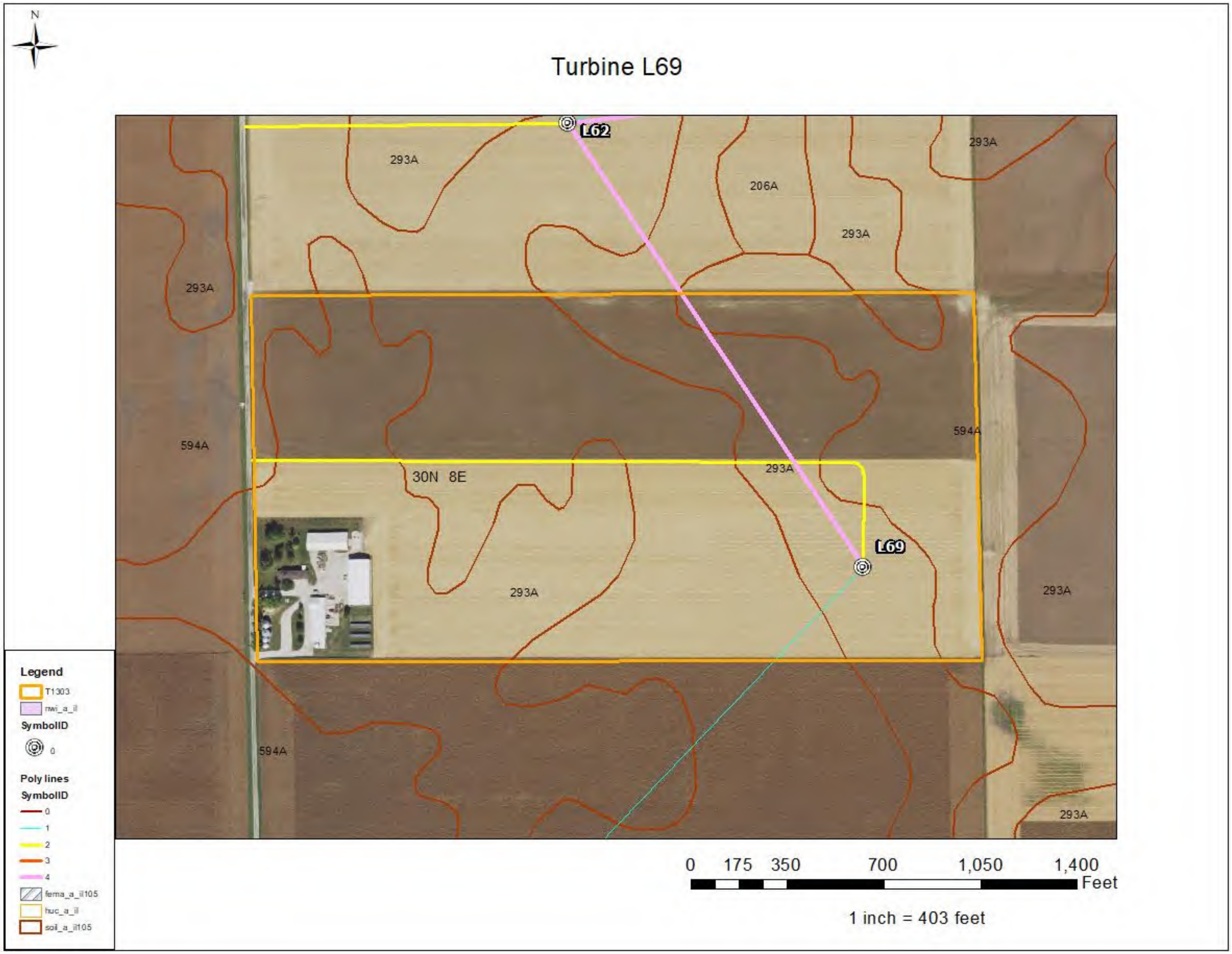
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L69

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the East Fork Mazon River watershed.

Turbine L69

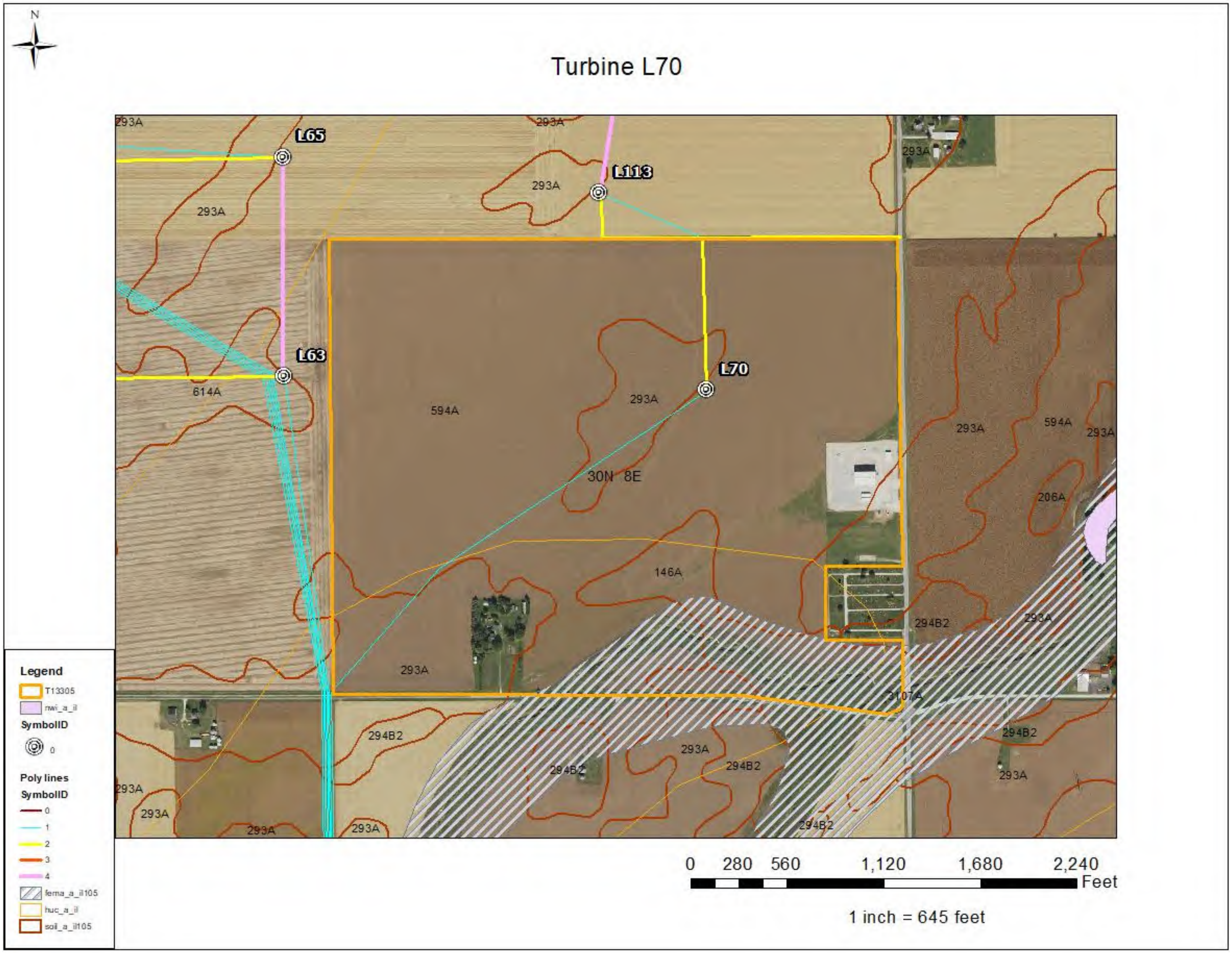

L62
293A
206A
293A
293A
293A
594A
594A
293A
30N 8E
L69
293A
293A
594A
293A
Legend
T1303
nwi_a_il
SymbolID
0
Poly lines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 175 350 700 1,050 1,400
Feet
1 inch = 403 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L70

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**
3107A	Sawmill silty clay loam, heavy till plain, 0-2% slopes, frequently flooded	Prime farmland if drained	Yes	B/D	Poorly drained	NHEL	Frequent ponding/ flooding	Corn - 170 Soybeans - 54

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The collection lines will cross and area of concentrated flow. Site is in the East Fork Mazon River and Town of Emington-Gooseberry Creek watersheds.


N
Turbine L70
L65
L113
L63
L70
293A
614A
594A
146A
206A
294B2
3107A
30N 8E
Legend
T13305
nwi_a_il
SymbolID
0
Poly lines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 280 560 1,120 1,680 2,240
Feet
1 inch = 645 feet

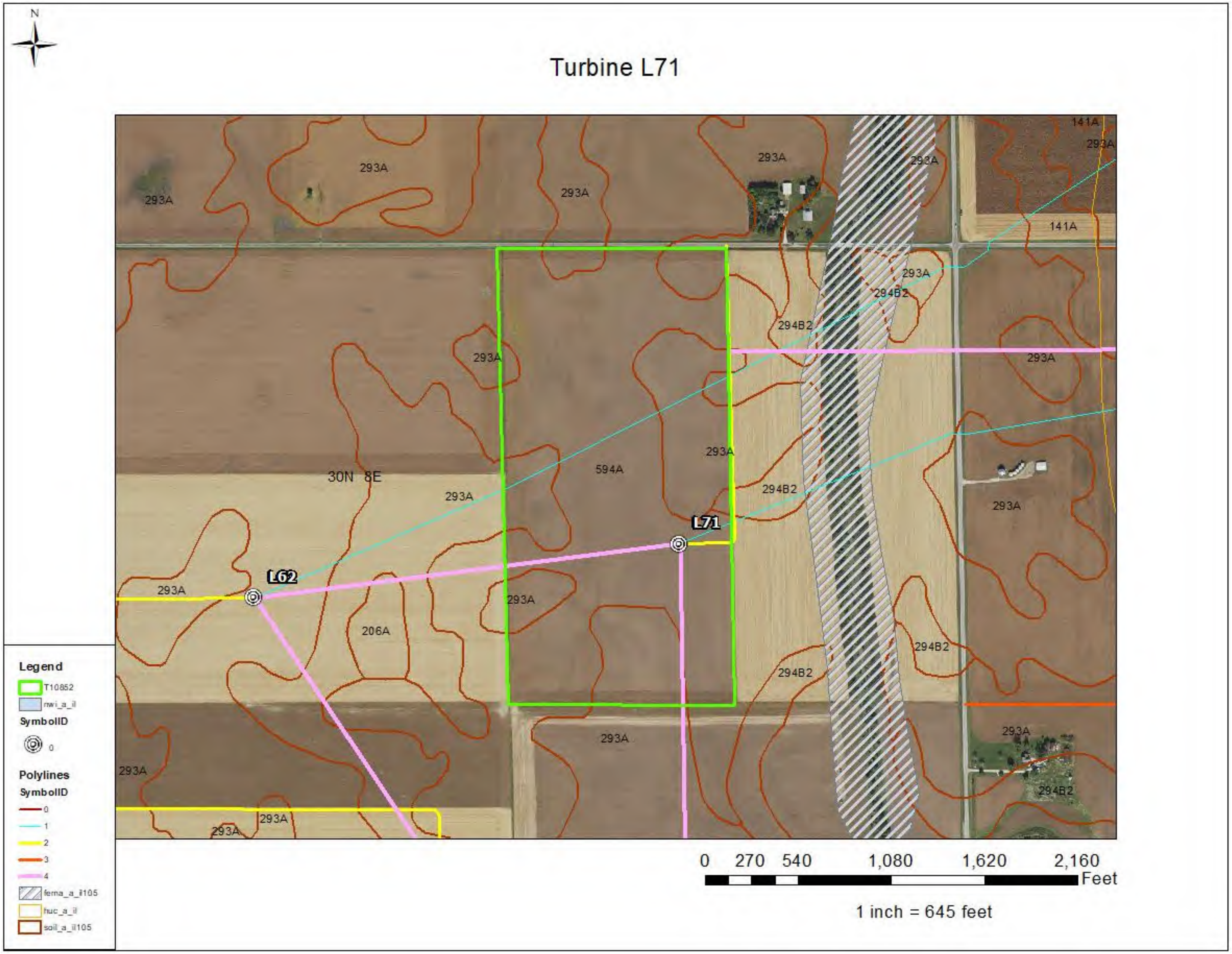
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L71

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There was evidence of trenching along the Northern property line, which the access road would currently cross. Site is in the East Fork Mazon River watershed.

Turbine L71

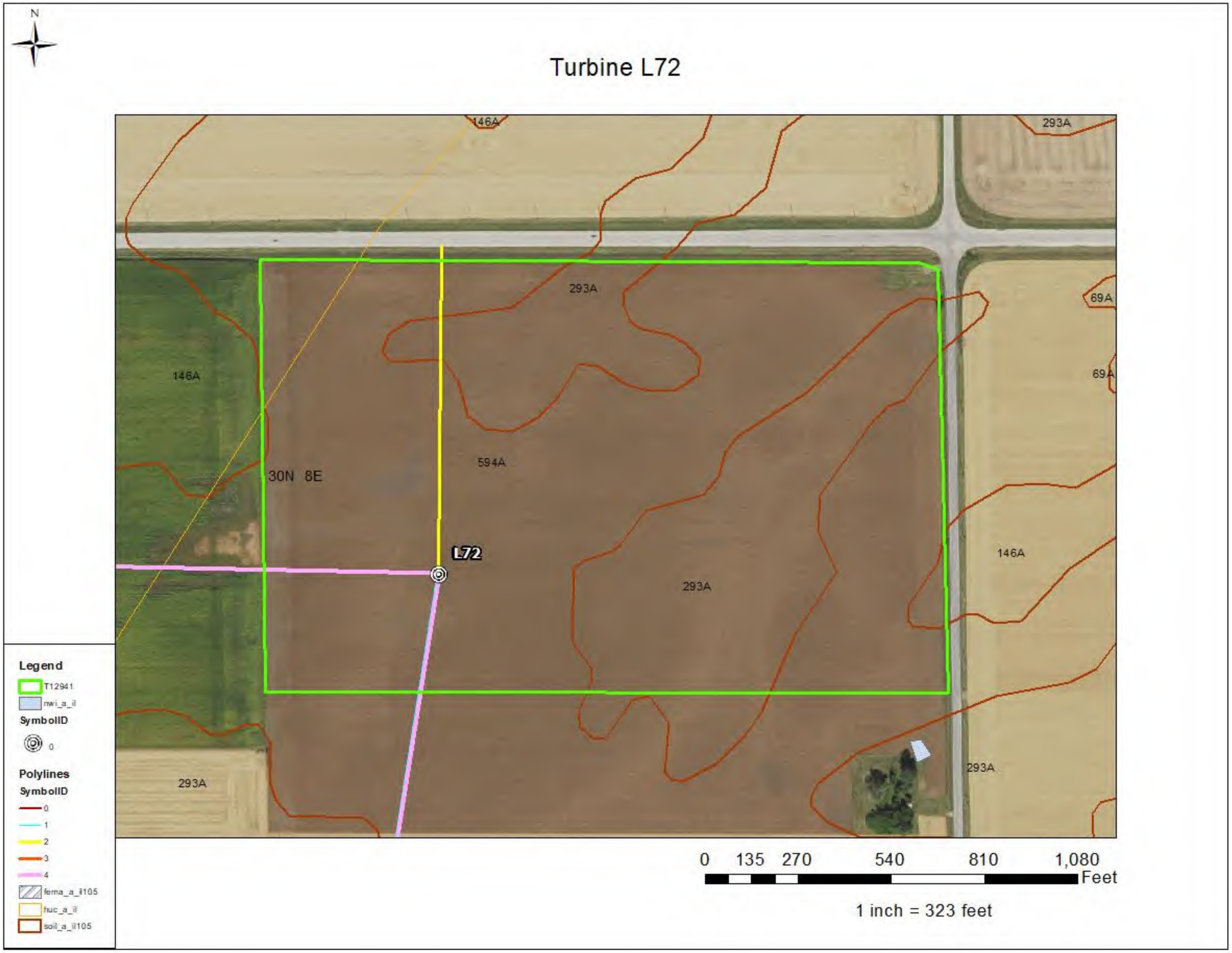

N
293A
594A
206A
294B2
141A
30N 8E
L71
L62
Legend
T10852
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L72

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There is s ponded area that the crane path to the west will cross. Site is in the East Fork Mazon River watershed.



N
Turbine L72
146A
293A
293A
69A
69A
146A
30N 8E
594A
L72
146A
293A
293A
293A
Legend
T12941
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 135 270 540 810 1,080
Feet
1 inch = 323 feet

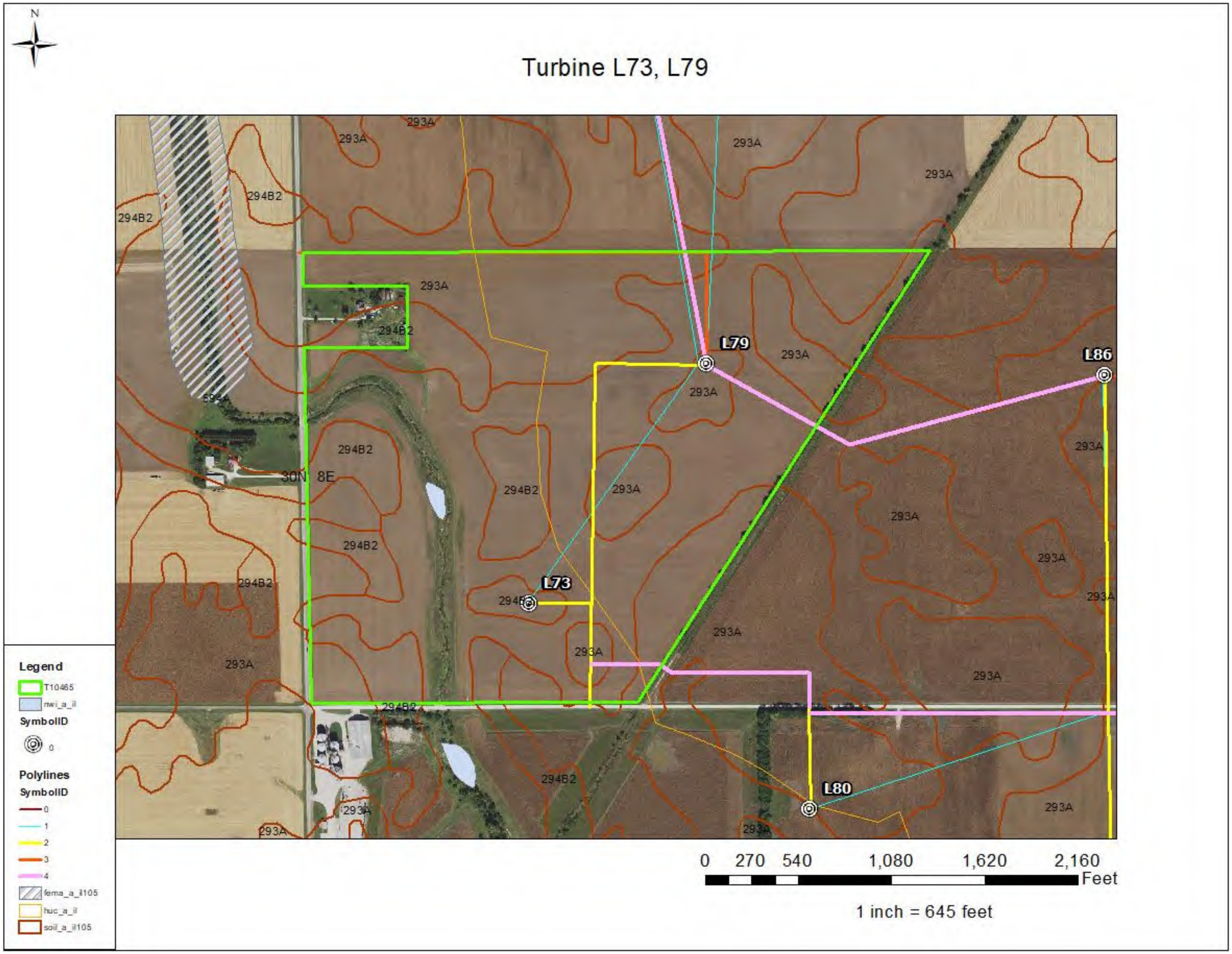
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L73, L79

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
294B2	**Symerton loam, 2-5% slopes, eroded**	**All areas are prime farmland**	**No**	**C**	**Moderately well drained**	**NHEL**	**None**	**Corn - 170 Soybeans - 53**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are limitations on the construction of roads and trenches, so caution should be exercised. Site is in the East Fork Mazon River and the Reddick Run watersheds.

Turbine L73, L79

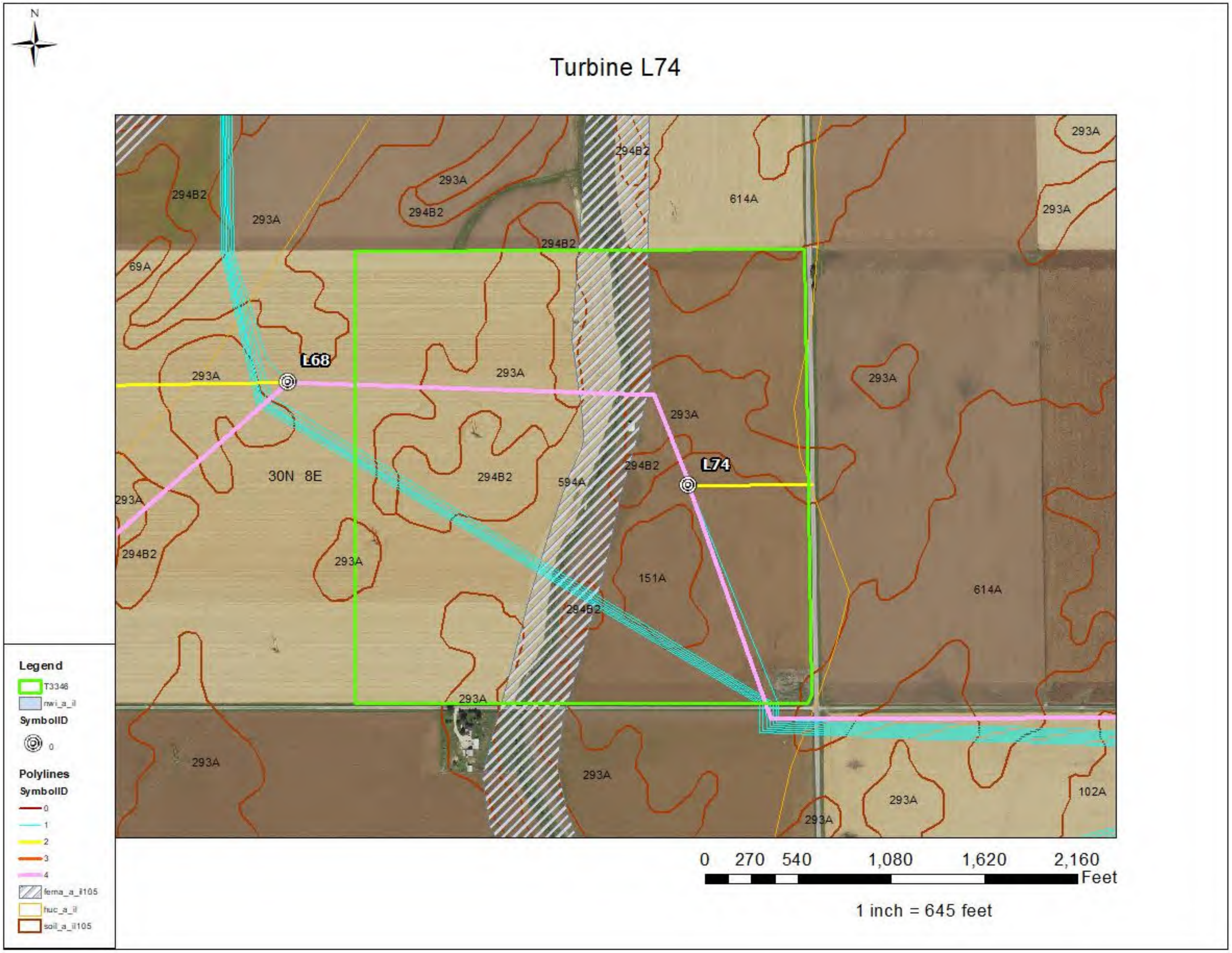


Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L74

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	**Name**	**Prime**	**Hydric**	**Hydrologic Group**	**Drainage**	**HEL**	**Flooding/ Ponding**	**Crop Productivity (Bu)**
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path and collection lines cross the 100-year floodplain and Broughton Creek. These need to be moved. Site is in the East Fork Mazon River watershed.



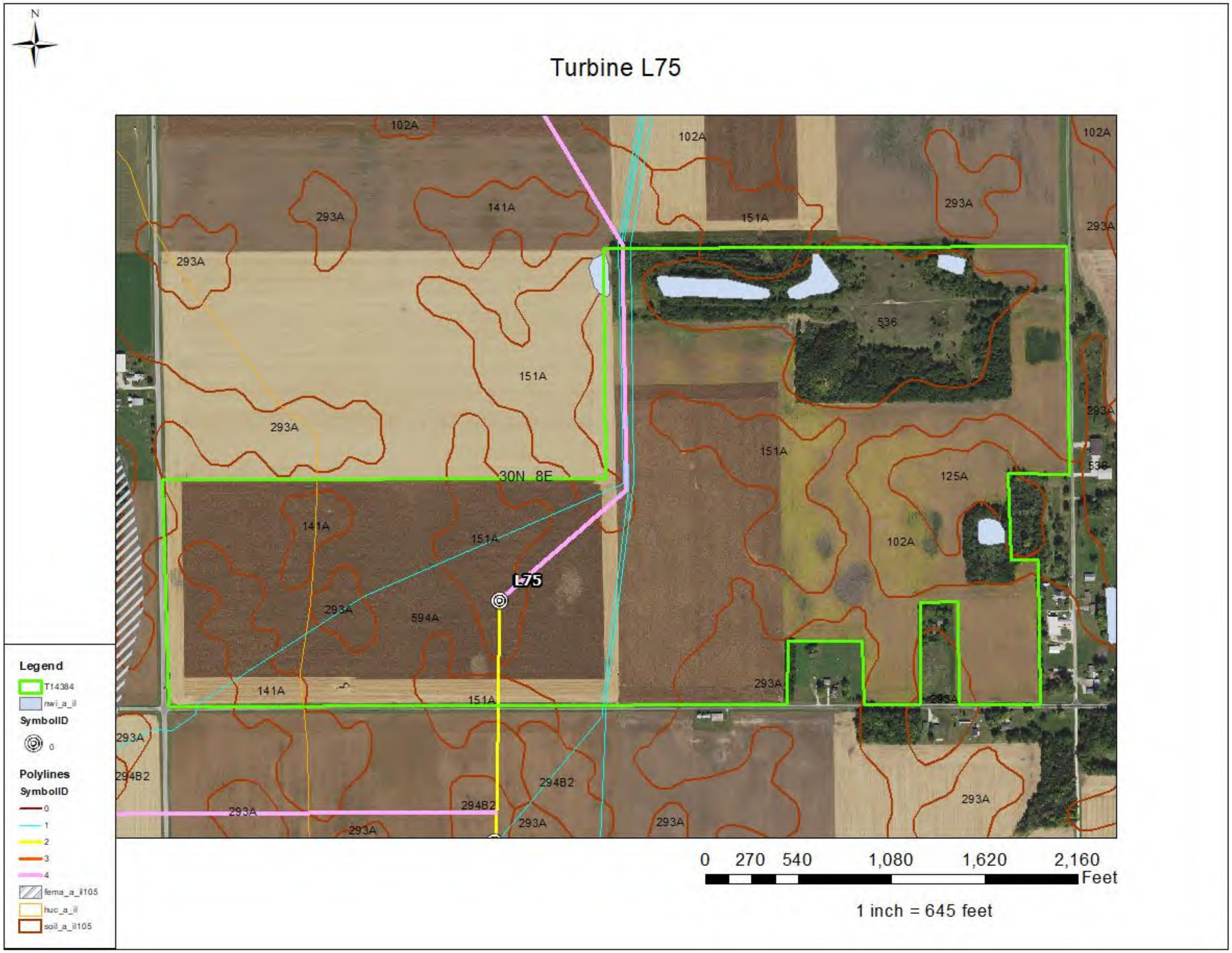
N
Turbine L74
L68
L74
30N 8E
293A
294B2
614A
69A
594A
151A
102A
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet
Legend
T3346
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L75

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
102A	La Hogue loam, 0-2% slopes	All areas are prime farmland	No	B/D	Somewhat poorly drained	NHEL	None	Corn - 162 Soybeans - 52
125A	Selma loam, 0-2% slopes	Prime farmland if drained	Yes	B/D	Poorly drained	NHEL	Frequent ponding	Corn - 176 Soybeans - 57
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
151A	**Ridgeville fine sandy loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**A/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 151** **Soybeans - 51**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
536	Dumps, mine	Not prime farmland	No	N/A	N/A	NHEL	N/A	N/A
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path and collection lines to the North will run approximately 70 feet from a possible identified wetland, so special considerations may be needed. This site is in the Reddick Run and the East Fork Mazon River watersheds.

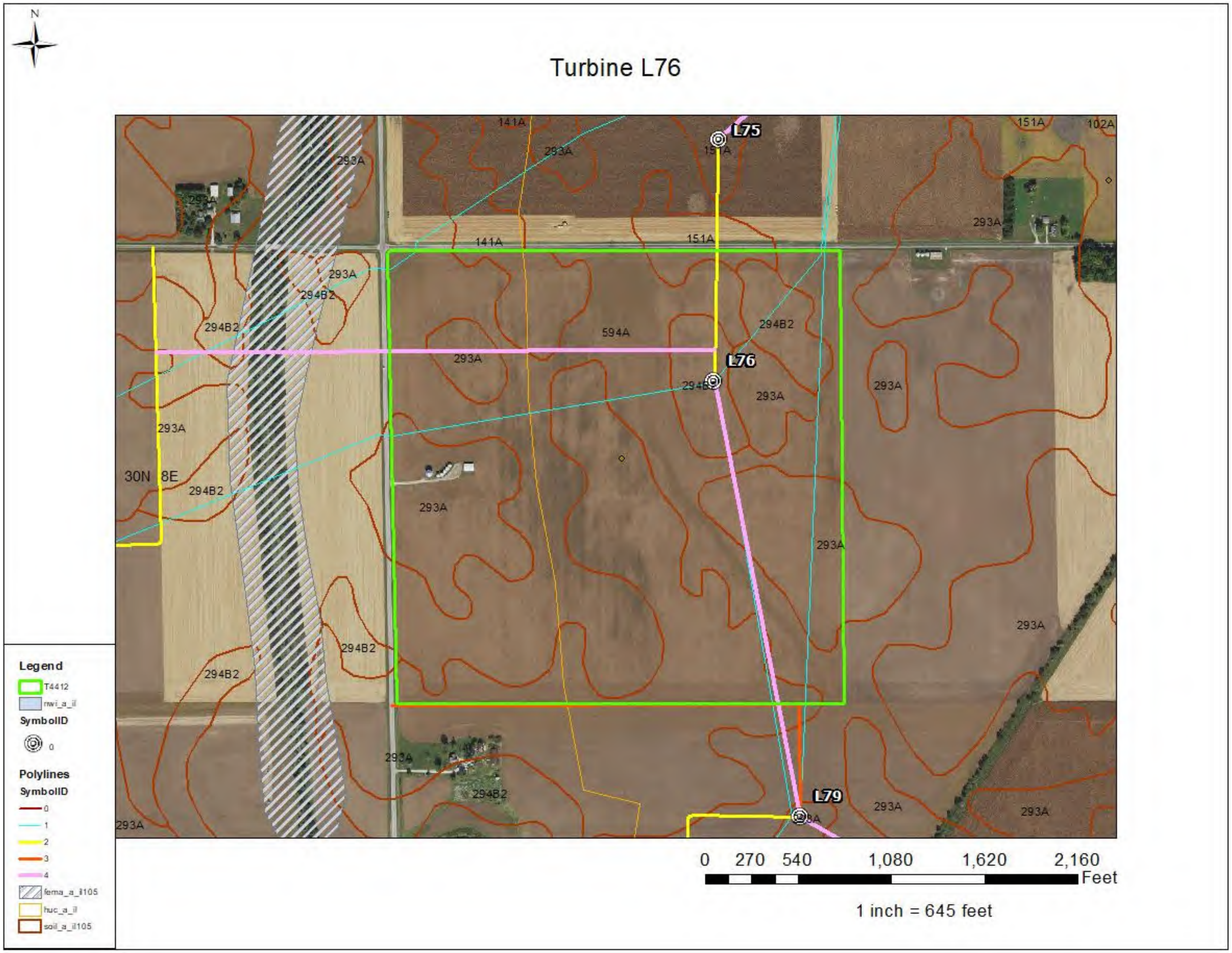

N
Turbine L75
102A
141A
151A
293A
536
125A
102A
594A
294B2
30N 8E
L75
Legend
T14384
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L76

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	**Symerton loam, 2-5% slopes, eroded**	**All areas are prime farmland**	**No**	**C**	**Moderately well drained**	**NHEL**	**None**	**Corn - 170 Soybeans - 53**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are limitations on the construction of roads and trenches, so caution should be exercised. The crane paths and collection lines pass over areas of concentrated flow. Site is in the Reddick Run and East Fork Mazon River watersheds.

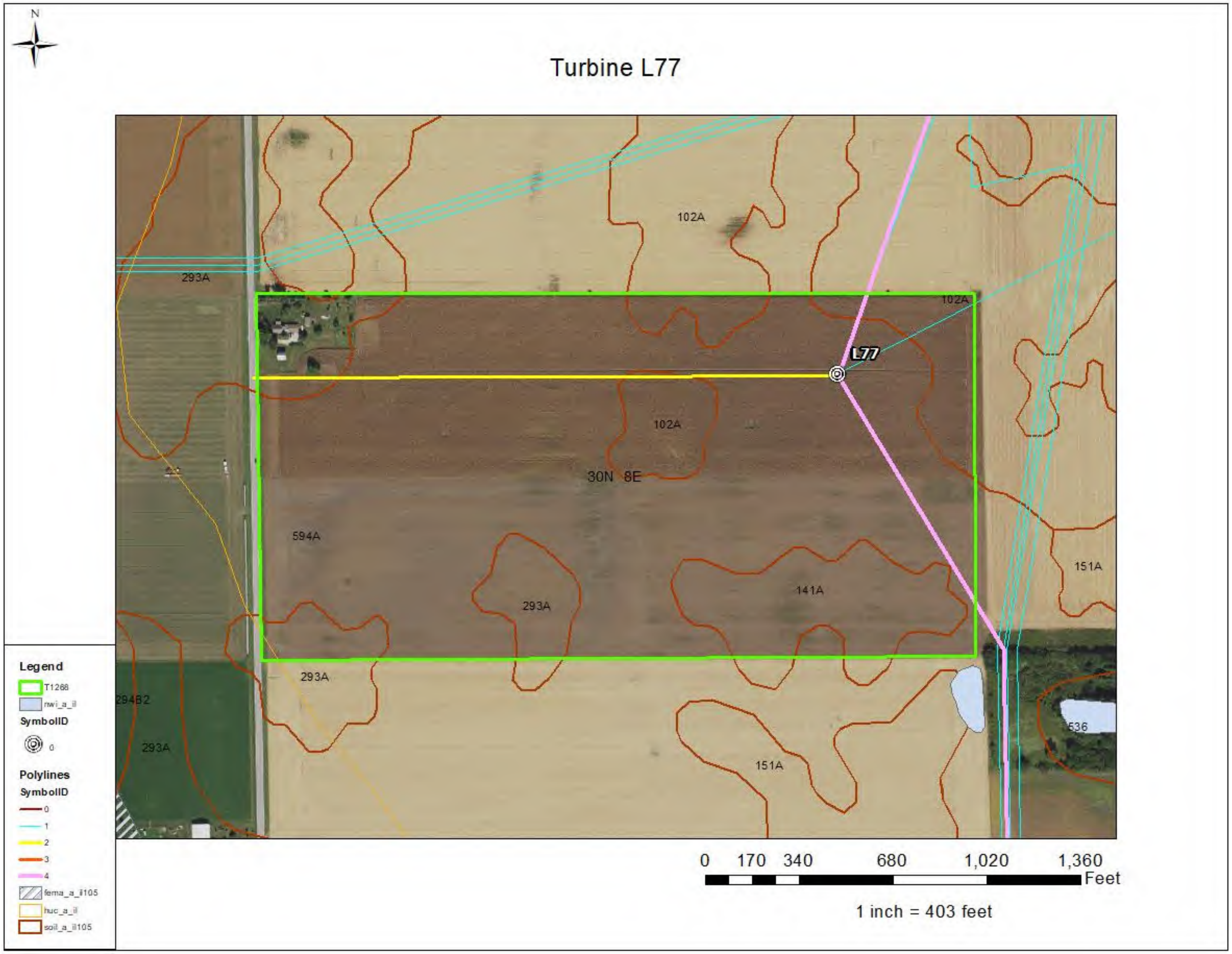

N
Turbine L76
L75
L76
L79
141A
293A
151A
102A
594A
294B2
30N 8E
Legend
T4412
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L77

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
102A	La Hogue loam, 0-2% slopes	All areas are prime farmland	No	B/D	Somewhat poorly drained	NHEL	None	Corn - 162 Soybeans - 52
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to flooding. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Reddick Run watershed.

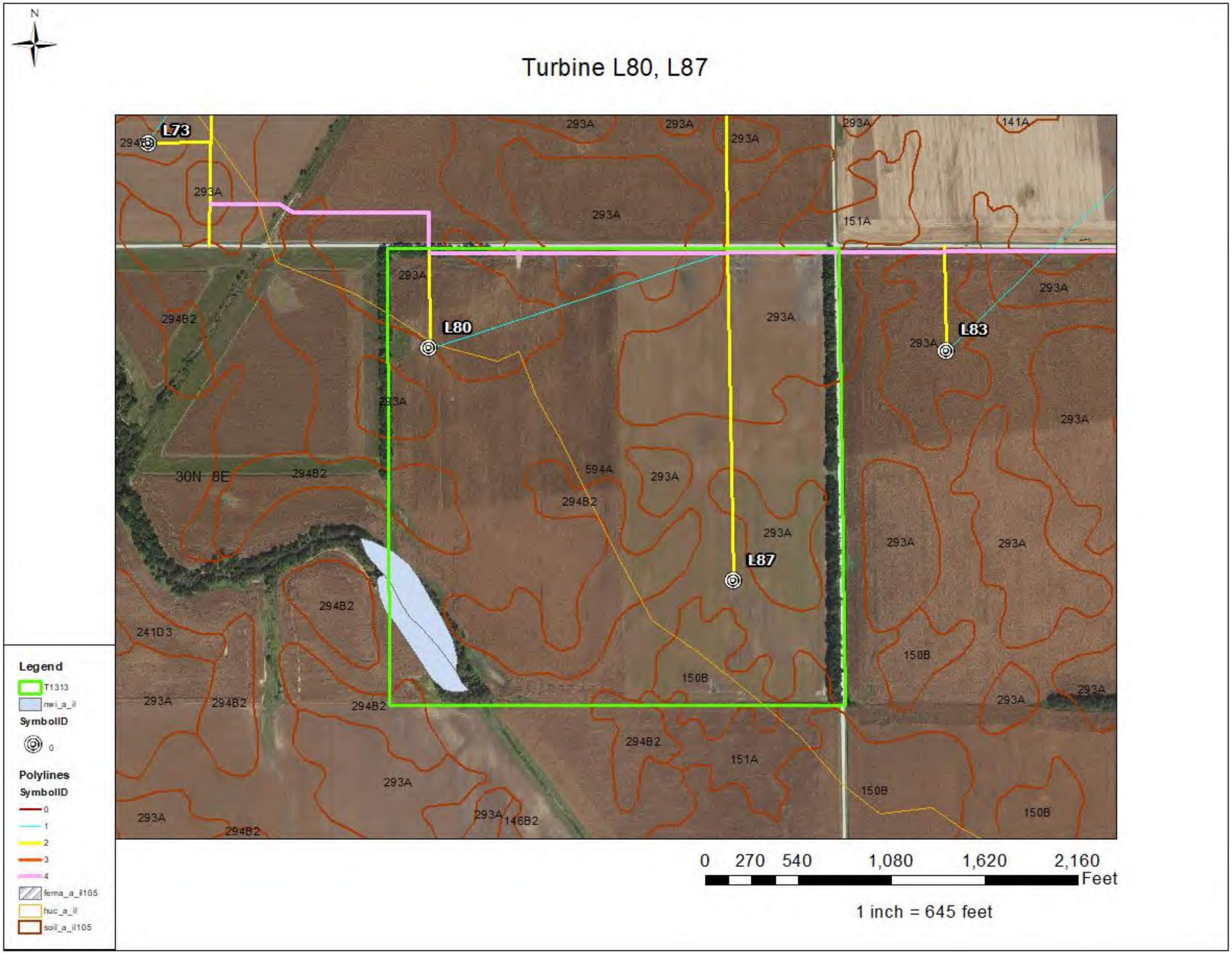

N
Turbine L77
102A
293A
102A
L77
102A
30N 8E
594A
151A
141A
293A
293A
294B2
293A
536
151A
Legend
T1268
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 170 340 680 1,020 1,360
Feet
1 inch = 403 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L80, L87

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
150B	Onarga fine sandy loam, 2-5% slopes	All areas are prime farmland	No	A	Well drained	NHEL	None	Corn - 147 Soybeans - 48
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**

Notes: These soils can be wet and are prone to flooding. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The access road for Turbine L80 is sited to go through a row of established trees. It would be advisable to move the access road to preserve the trees. Site is in the East Fork Mazon River and Reddick Run watersheds.

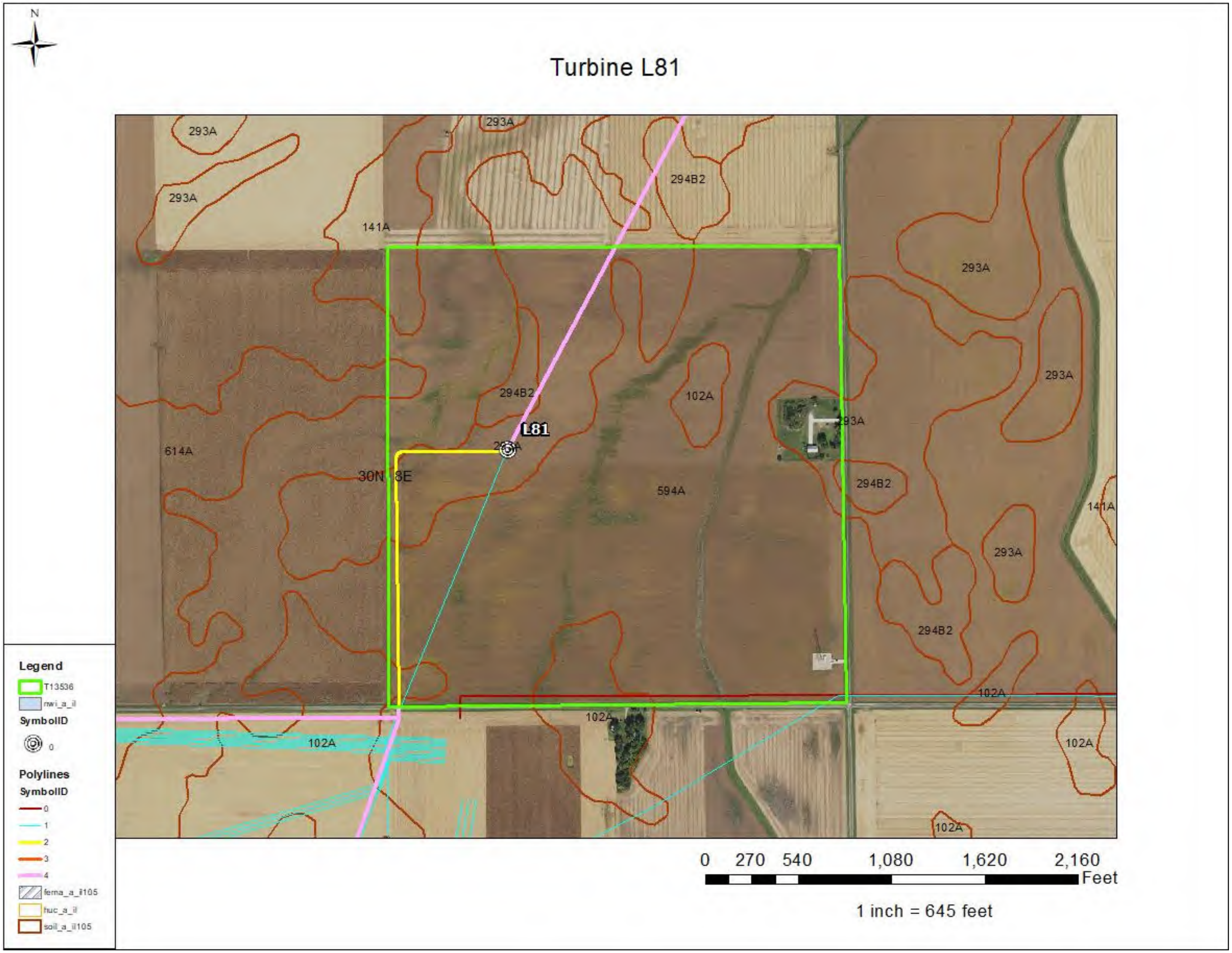

N
Turbine L80, L87
L73
L80
L83
L87
293A
294B2
594A
150B
151A
141A
241D3
146B2
30N 8E
0
270
540
1,080
1,620
2,160
Feet
1 inch = 645 feet
Legend
T1313
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L81

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
102A	La Hogue loam, 0-2% slopes	All areas are prime farmland	No	B/D	Somewhat poorly drained	NHEL	None	Corn - 162 Soybeans - 52
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There are numerous concentrated flow areas throughout the field that may affect construction. Site is in the Reddick Run watershed.

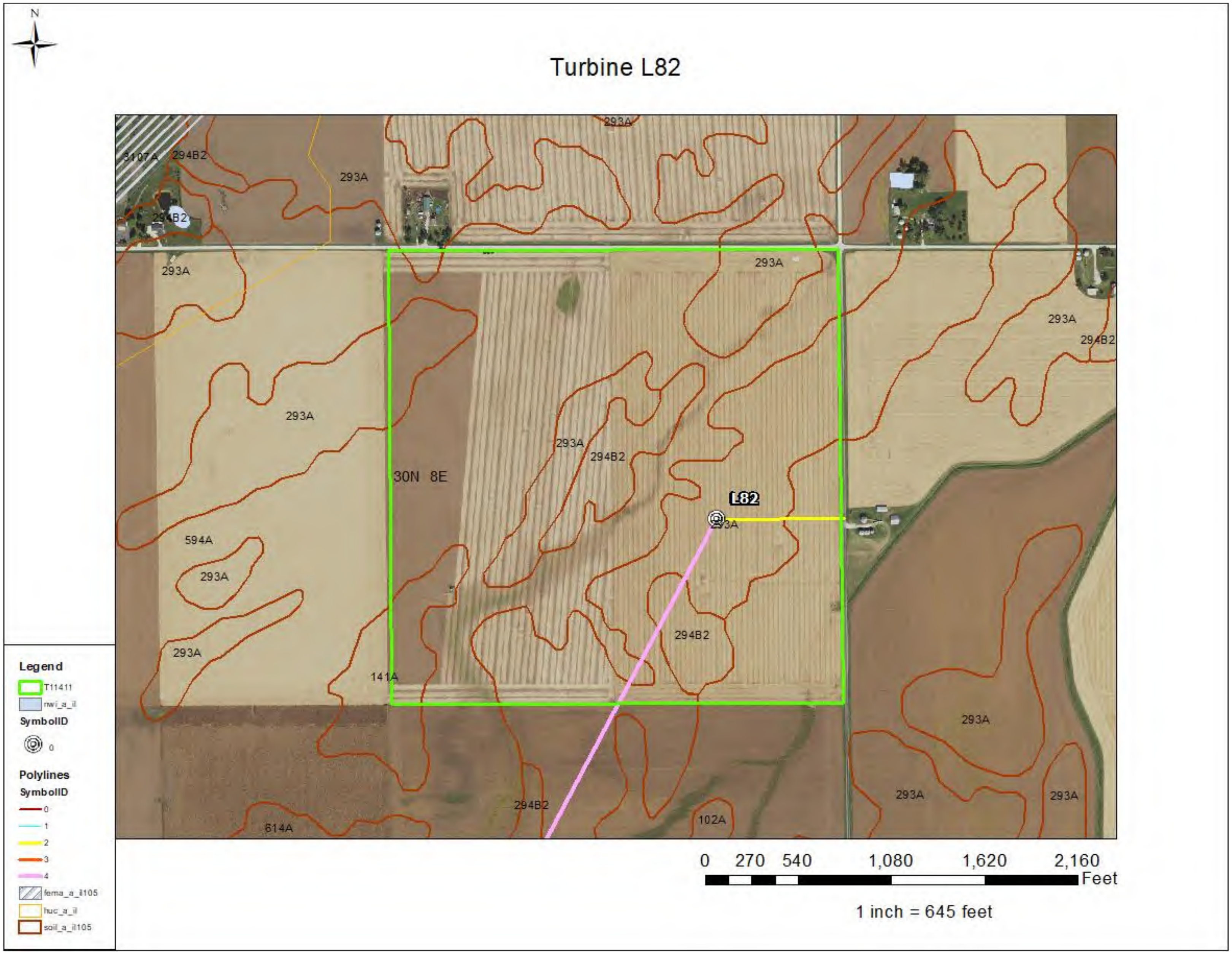

N
Turbine L81
293A
293A
293A
141A
294B2
293A
293A
294B2
102A
L81
293A
614A
30N 8E
594A
294B2
141A
293A
294B2
102A
102A
102A
102A
102A
Legend
T13536
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L82

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Reddick Run watershed.

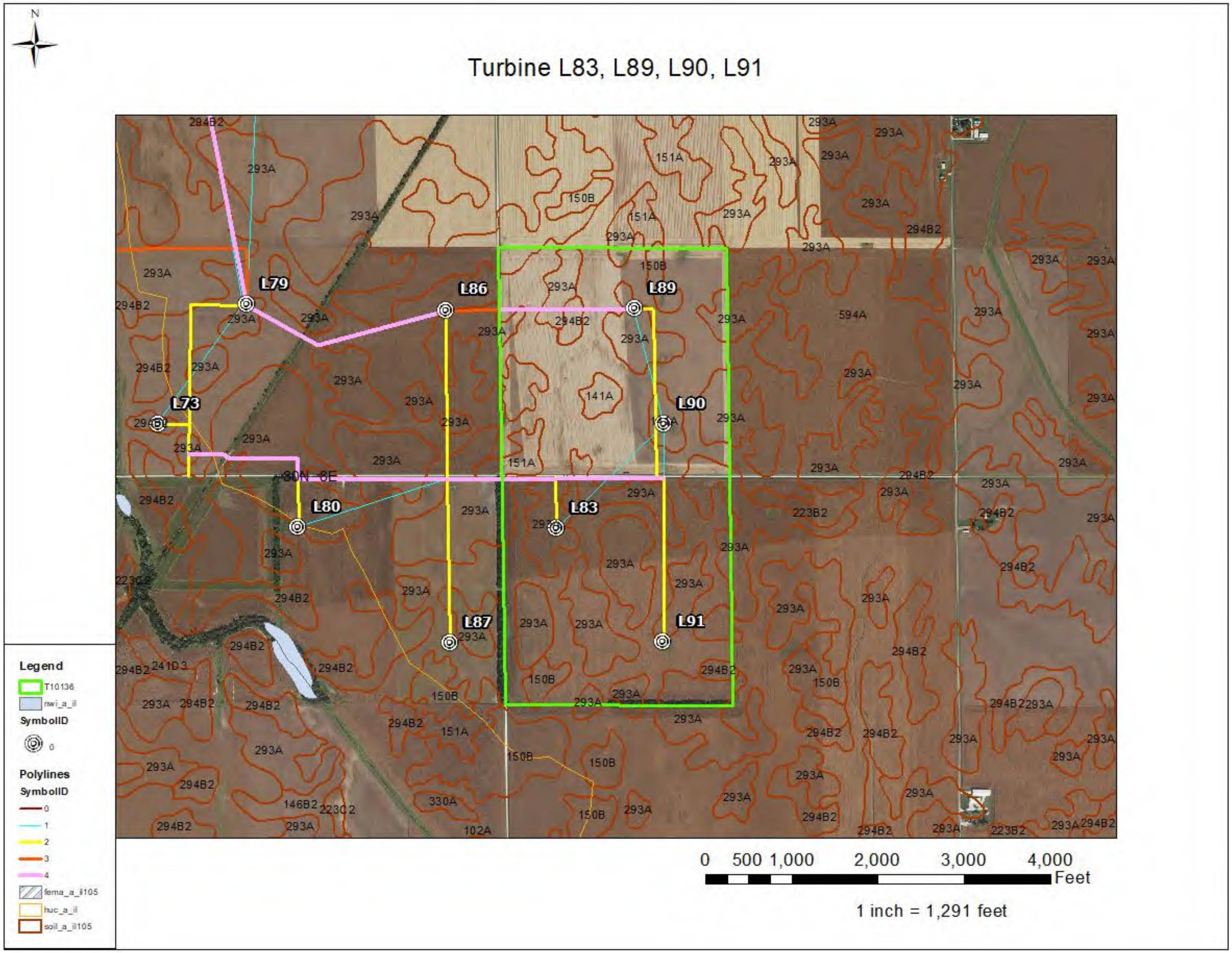

N
Turbine L82
293A
3107A
294B2
293A
294B2
293A
293A
293A
294B2
293A
293A
294B2
30N 8E
L82
293A
594A
293A
293A
141A
294B2
293A
293A
293A
294B2
614A
102A
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet
Legend
T11411
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L83, L89, L90, L91

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	**Wesley fine sandy loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 152 Soybeans - 49**
150B	Onarga fine sandy loam, 2-5% slopes	All areas are prime farmland	No	A	Well drained	NHEL	None	Corn - 147 Soybeans - 48
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There are low, ponded areas on both the North and South side of 2800 North Road that could affect access roads and crane paths. There are also low depressional areas very near to where Turbines L90 and L91 are sited. Site is in the Reddick Run watershed.

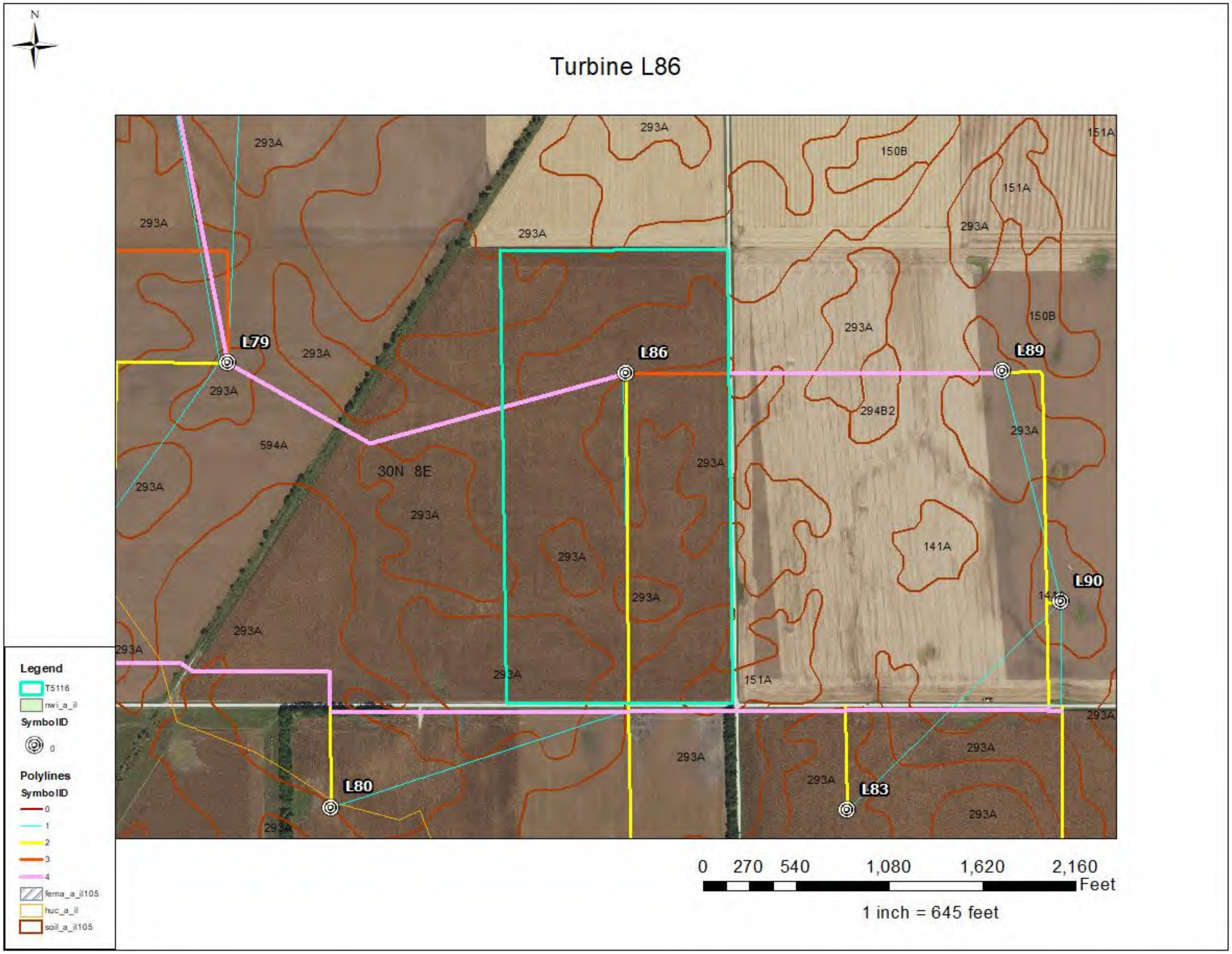

N
Turbine L83, L89, L90, L91
L79
L86
L89
L73
L90
L80
L83
L87
L91
80N 8E
Legend
T10136
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 500 1,000 2,000 3,000 4,000
Feet
1 inch = 1,291 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L86

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
151A	Ridgeville fine sandy loam, 0-2% slopes	All areas are prime farmland	No	A/D	Somewhat poorly drained	NHEL	None	Corn - 151 Soybeans - 51
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Reddick Run watershed.



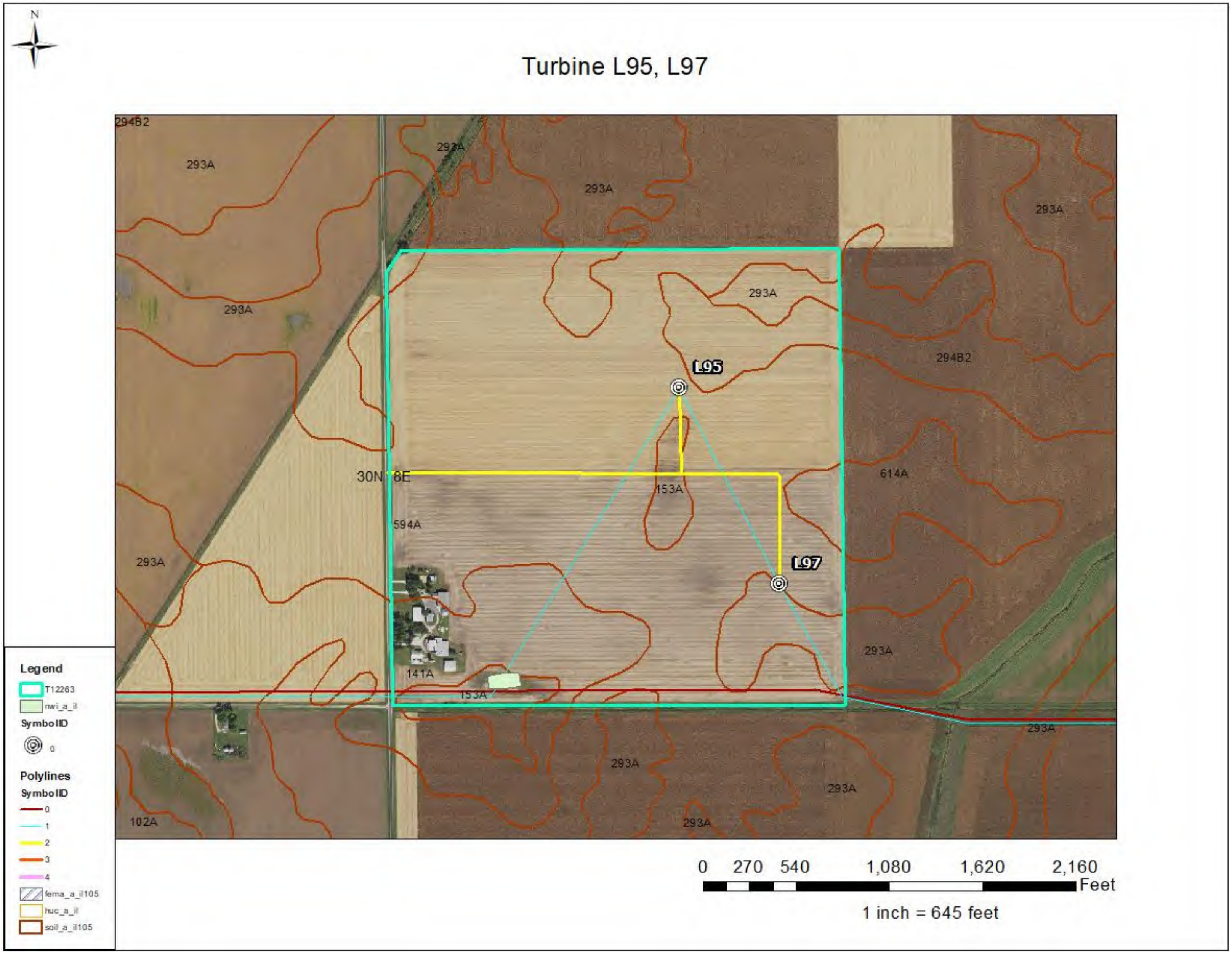
N
Turbine L86
293A
151A
150B
L79
L86
L89
L90
L80
L83
594A
30N 8E
294B2
141A
Legend
T5116
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L95, L97

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
141A	Wesley fine sandy loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 152 Soybeans - 49
153A	Pella silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 153 Soybeans - 60
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177 Soybeans - 56**
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. There is an identified wetland on the South side of the property that the collection lines and transmission lines will run through. These lines will need to be moved to not affect the wetland. The access road to Turbine L95 runs through an area that easily ponds and holds water. Site is in the Reddick Run watershed.

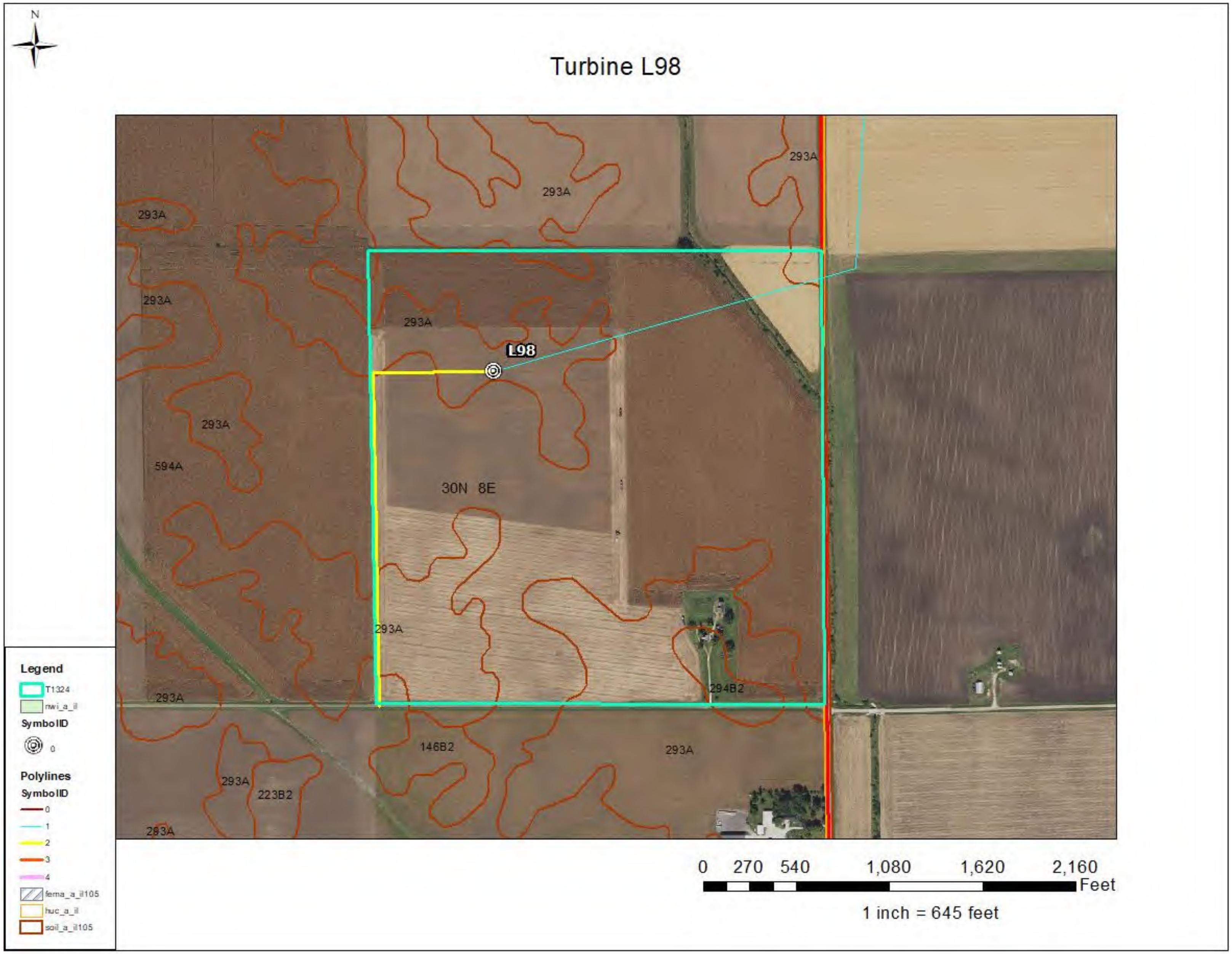

N
Turbine L95, L97
L95
L97
30N 8E
293A
294B2
614A
153A
594A
141A
102A
Legend
T12263
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L98

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Collection lines cross a ditch/stream and will need to be moved. Site is in the Reddick Run watershed.

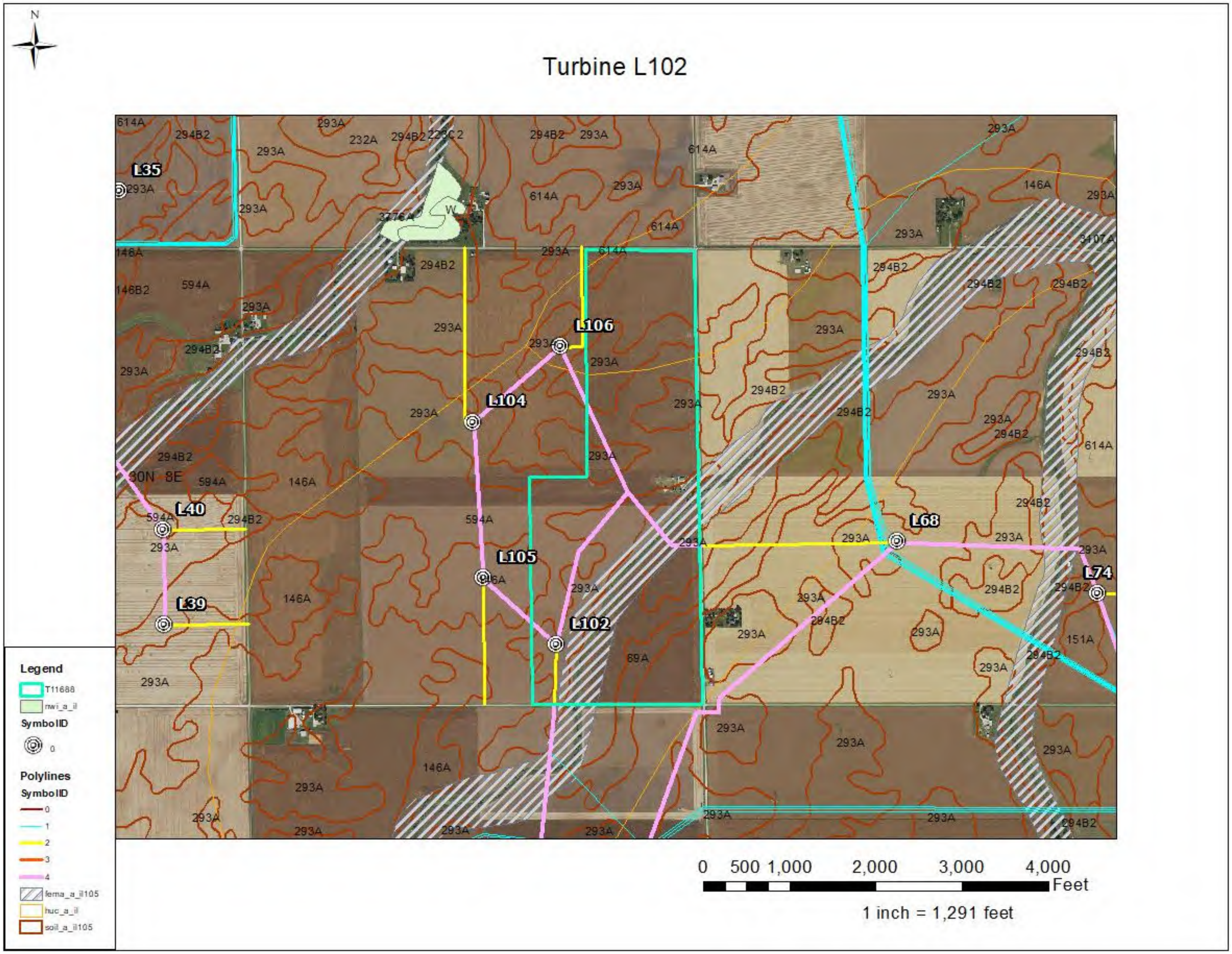

N
Turbine L98
293A
293A
293A
293A
293A
L98
293A
594A
30N 8E
293A
293A
294B2
146B2
293A
293A
223B2
283A
Legend
T1324
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L102

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
69A	Milford silty clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 171 Soybeans - 57
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path crosses the 100-year floodplain and Gooseberry Creek and needs to be moved. Site is in the Town of Emington-Gooseberry Creek watershed.

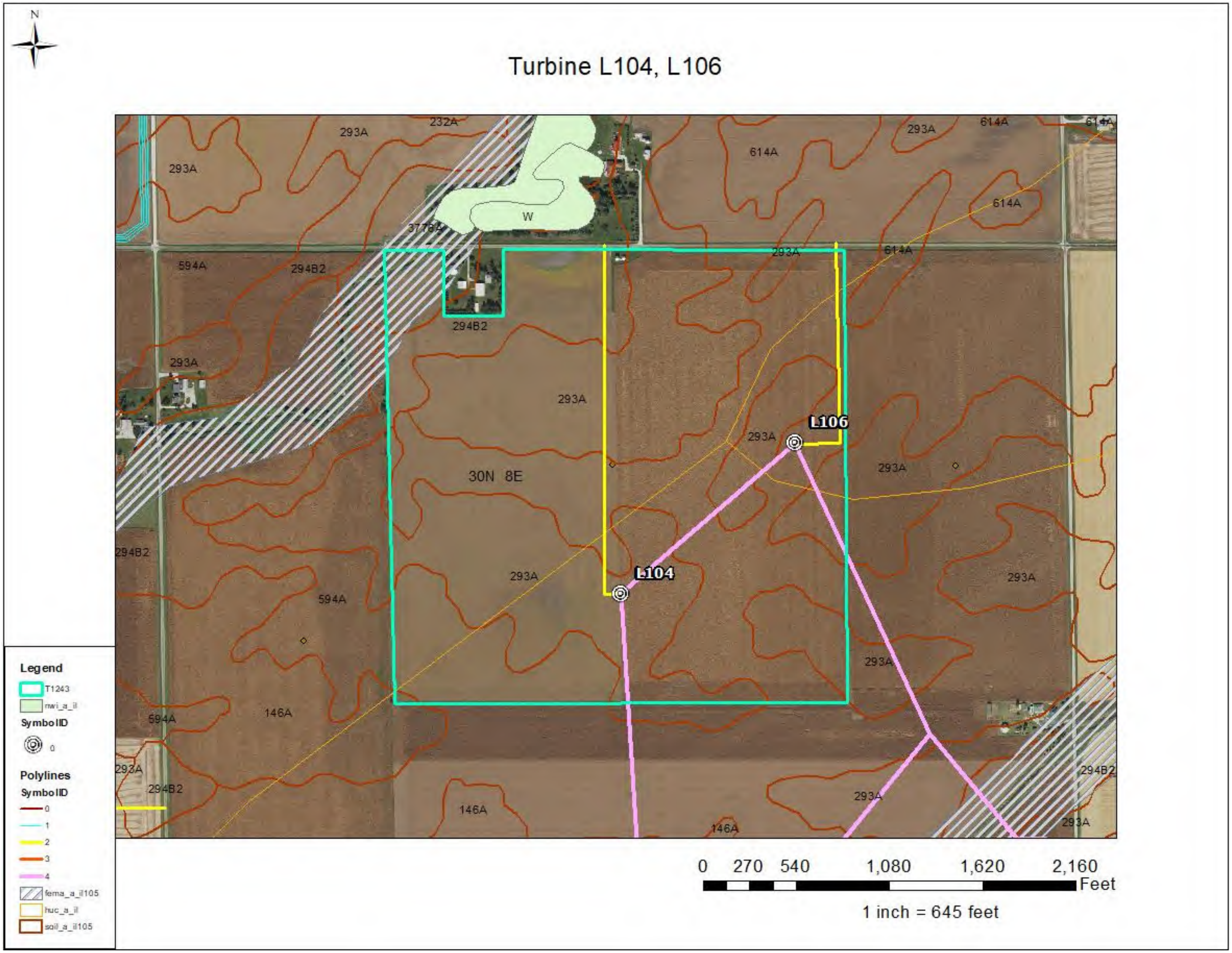

N
Turbine L102
L35
L106
L104
L40
L39
L105
L102
L68
L74
30N 8E
Legend
T11688
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 500 1,000 2,000 3,000 4,000
Feet
1 inch = 1,291 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L104, L106

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**
614A	Chenoa silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 174 Soybeans - 57
3776A	Comfrey loam, 0-2% slopes, frequently flooded	Prime farmland if drained	Yes	B/D	Poorly drained	NHEL	Frequent ponding/ flooding	Corn - 166 Soybeans - 55

Notes: These soils can be wet and are prone to rutting. There are limitations on the construction of roads and trenches, so caution should be exercised. Site is in the Town of Emington-Gooseberry Creek, East Fork Mazon River, and Gooseberry Creek watersheds.

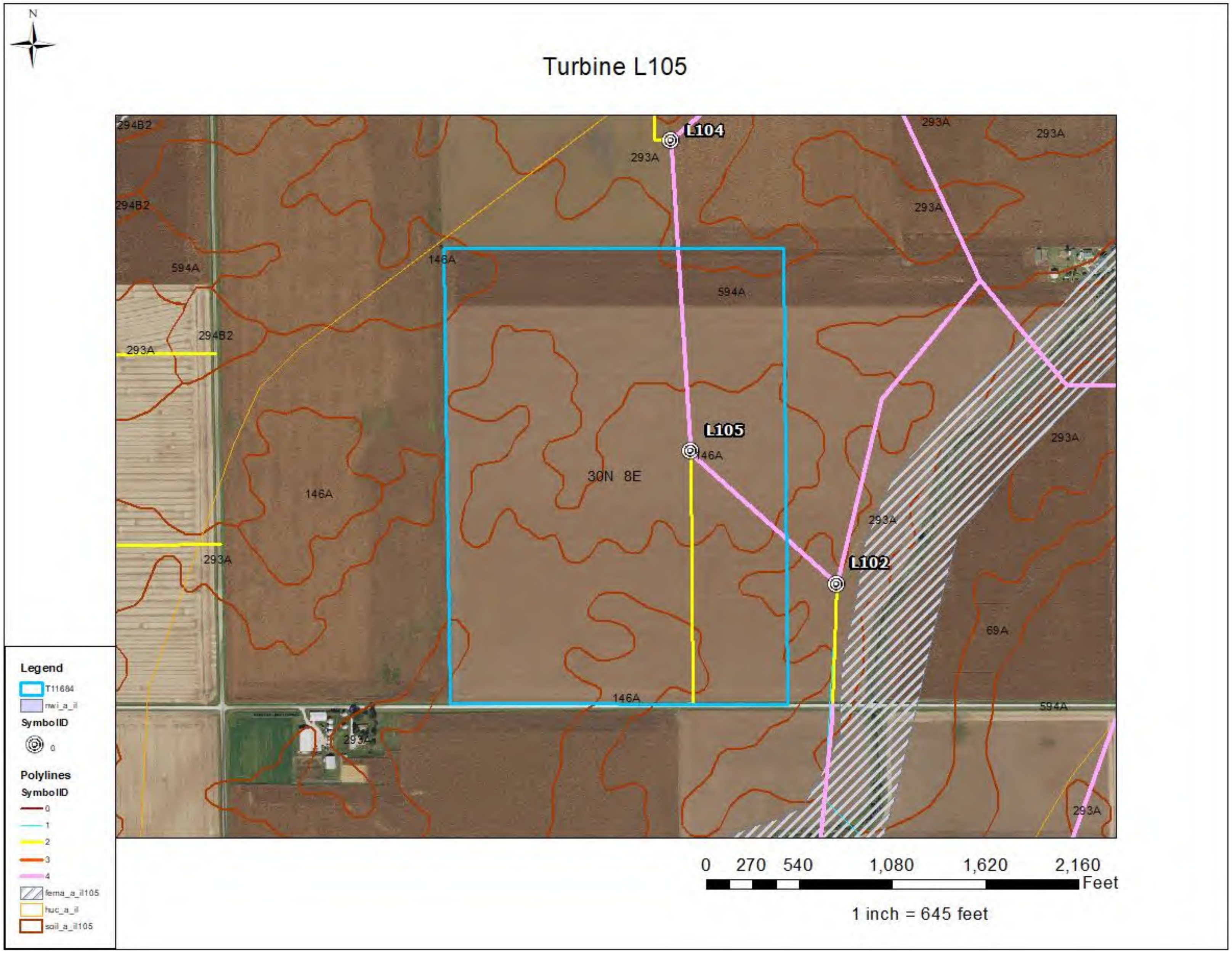

N
Turbine L104, L106
293A
232A
614A
W
377B
594A
294B2
30N 8E
L106
L104
146A
Legend
T1243
nwi_a_il
SymbolID
Polylines
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160 Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L105

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	**Elliott silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - 168 Soybeans - 55**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Based on aerial imagery, there is some type of utility line/pipeline that the crane path and collection lines will cross. Site is in the Town of Emington-Gooseberry Creek watershed.

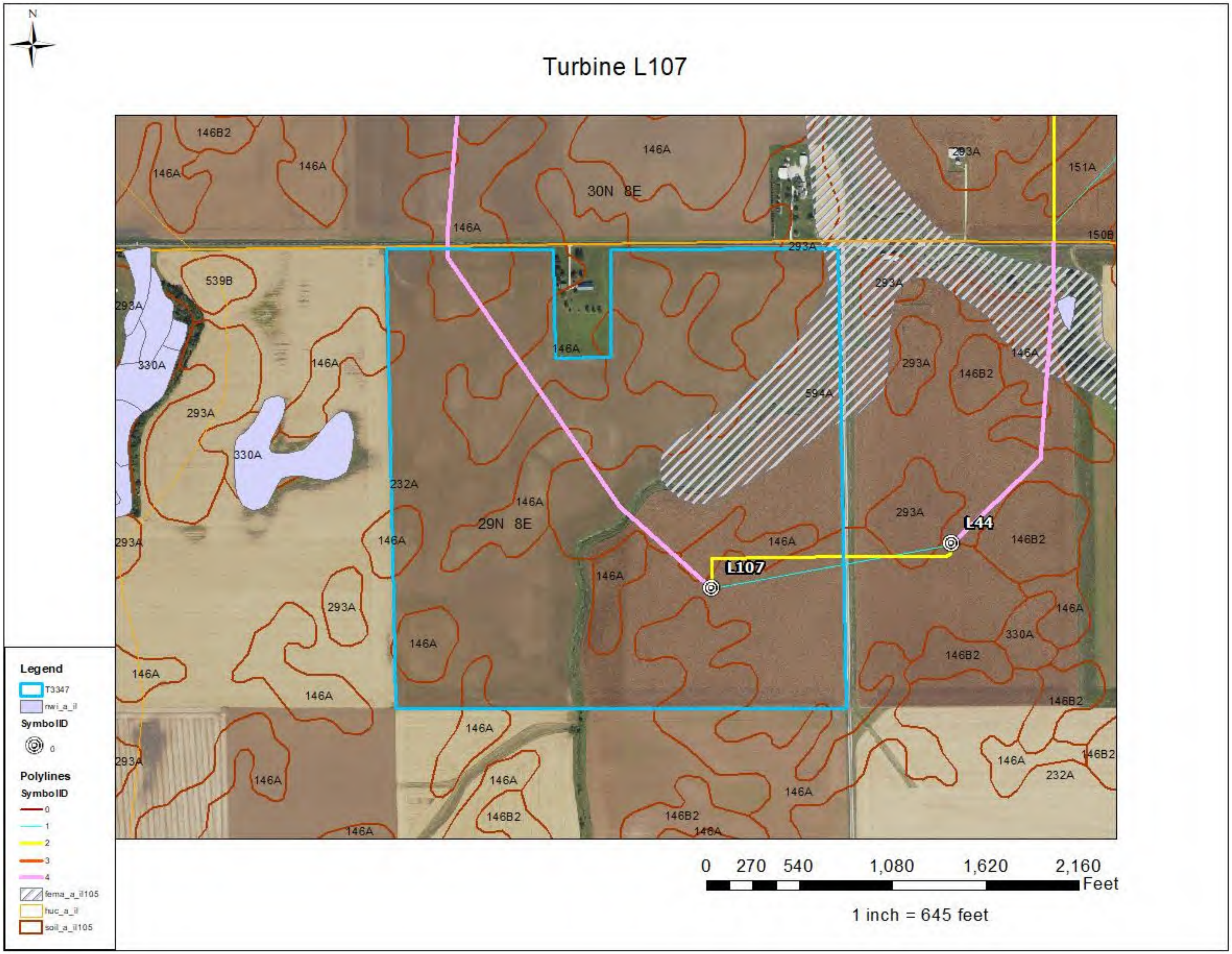

N
Turbine L105
L104
L105
L102
293A
294B2
594A
146A
30N 8E
69A
Legend
T11684
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L107

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
232A	**Ashkum silty clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 170 Soybeans - 56**
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path crosses a ditch/small stream and should either be moved or special construction design modifications will need to be made. Site is in the Town of Emington-Gooseberry Creek watershed.

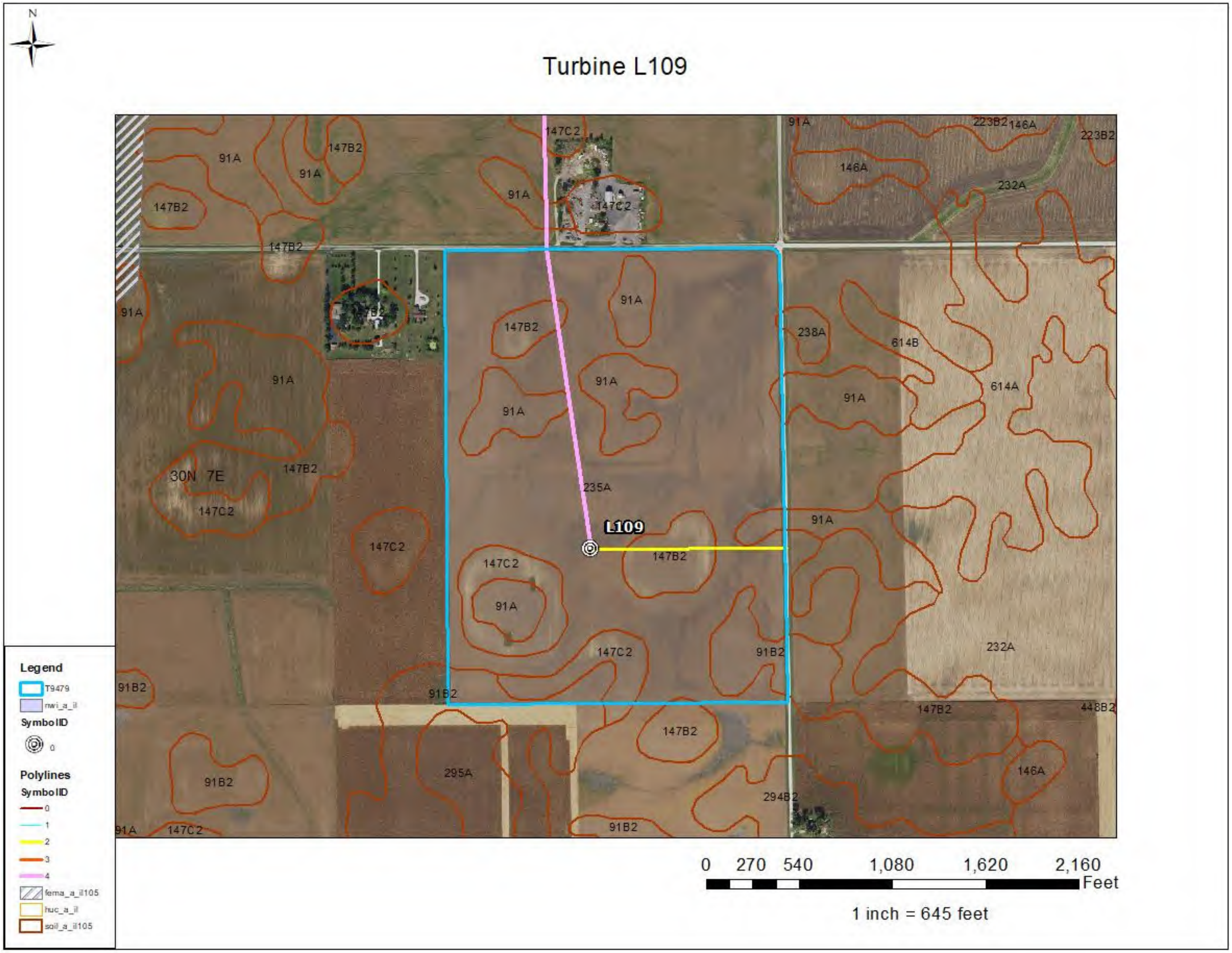

N
Turbine L107
146B2
146A
30N 8E
293A
151A
150B
539B
330A
594A
146B2
232A
29N 8E
L44
L107
146A
293A
330A
146B2
232A
Legend
T3347
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L109

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
91A	Swygert silty clay loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 158 Soybeans - 52
91B2	Swygert silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 147 Soybeans - 48
147B2	Clarence silty clay loam, 2-4% slopes	Farmland of statewide importance	No	D	Somewhat poorly drained	NHEL	None	Corn - 130 Soybeans - 46
147C2	Clarence silty clay loam, 4-6% slopes	Farmland of statewide importance	No	D	Somewhat poorly drained	NHEL	None	Corn - 127 Soybeans - 45
235A	**Bryce silty clay 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 162** **Soybeans - 54**
238A	Rantoul silty clay, 0-2% slopes	Farmland of statewide importance	Yes	D	Very poorly drained	NHEL	Frequent ponding	Corn - 144 Soybeans - 49

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The topography of the site is somewhat rolling. Site is in the Gooseberry Creek watershed.



N
Turbine L109
L109
30N 7E
91A
147B2
147C2
235A
238A
614B
614A
232A
146A
223B2
91B2
295A
294B2
448B2
Legend
T9479
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 270 540 1,080 1,620 2,160
Feet
1 inch = 645 feet

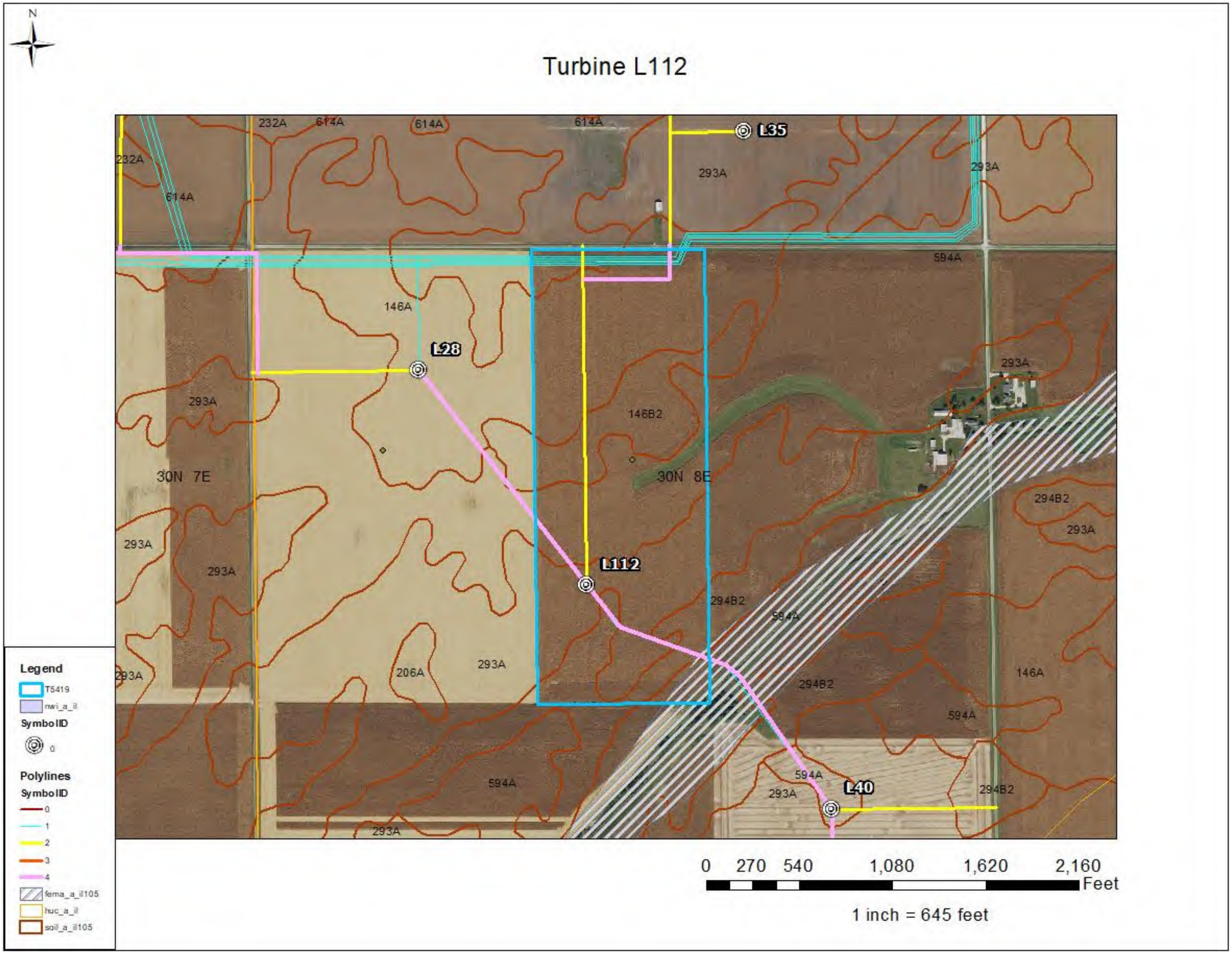
Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L112

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
146A	Elliott silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 168 Soybeans - 55
146B2	Elliott silty clay loam, 2-4% slopes, eroded	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - 160 Soybeans - 52
293A	**Andres silt loam, 0-2% slopes**	**All areas are prime farmland**	**No**	**C/D**	**Somewhat poorly drained**	**NHEL**	**None**	**Corn - N/A** **Soybeans - N/A**
294B2	Symerton loam, 2-5% slopes, eroded	All areas are prime farmland	No	C	Moderately well drained	NHEL	None	Corn - 170 Soybeans - 53
594A	Reddick clay loam, 0-2% slopes	Prime farmland if drained	Yes	C/D	Poorly drained	NHEL	Frequent ponding	Corn - 177 Soybeans - 56

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. The crane path and collection lines will cross the 100-year floodplain and Gooseberry Creek and needs to be moved. Site is in the Gooseberry Creek watershed.

Turbine L112

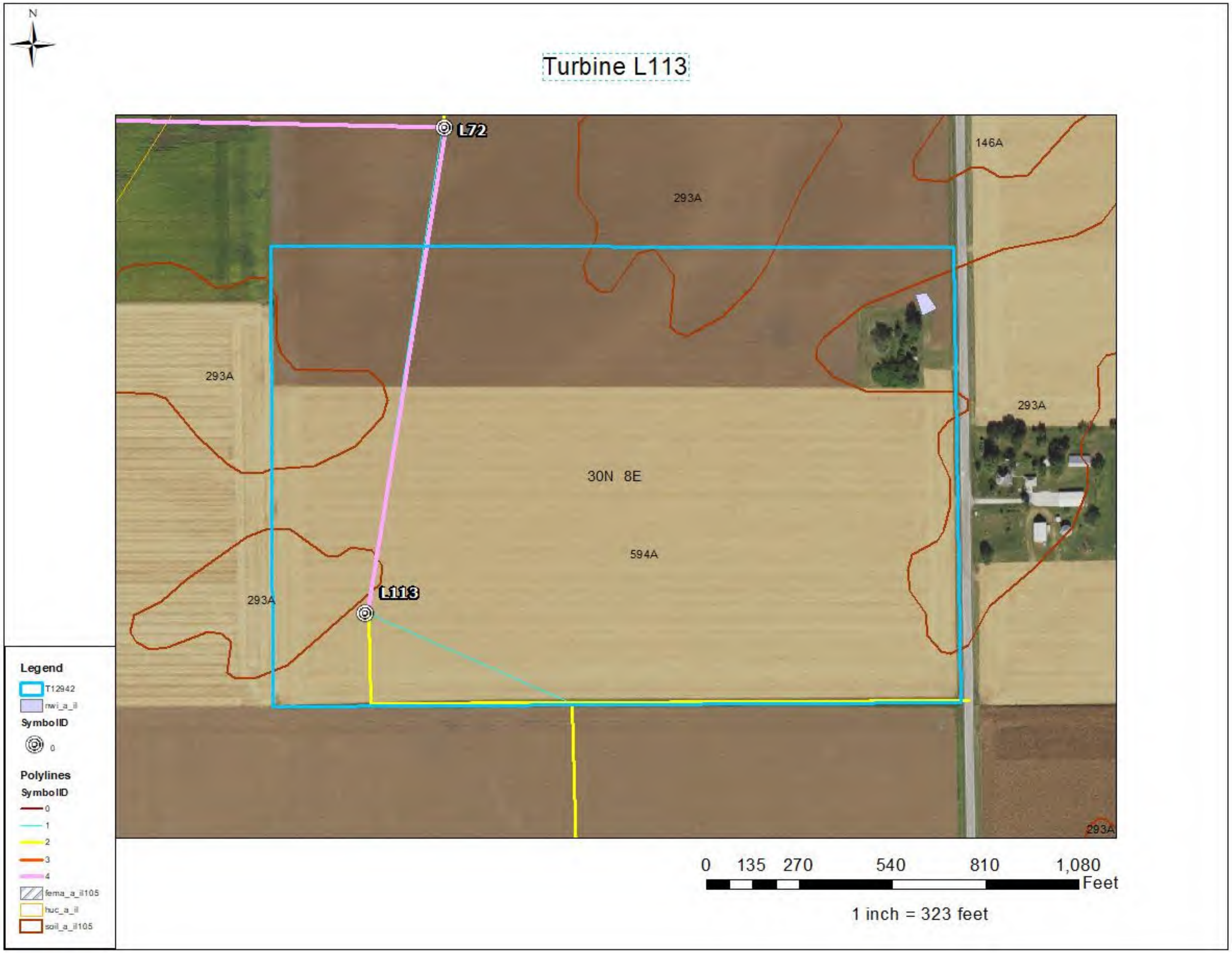


Heritage Prairie Wind Farm NRI Report
Site Summary
Turbine Number: L113

Soils Present in Turbine Site, Access Road, and Construction Areas:

Symbol	Name	Prime	Hydric	Hydrologic Group	Drainage	HEL	Flooding/ Ponding	Crop Productivity (Bu)
293A	Andres silt loam, 0-2% slopes	All areas are prime farmland	No	C/D	Somewhat poorly drained	NHEL	None	Corn - N/A Soybeans - N/A
594A	**Reddick clay loam, 0-2% slopes**	**Prime farmland if drained**	**Yes**	**C/D**	**Poorly drained**	**NHEL**	**Frequent ponding**	**Corn - 177** **Soybeans - 56**

Notes: These soils can be wet and are prone to rutting. There are severe limitations on the construction of roads and trenches, so caution should be exercised. Site is in the East Fork Mazon River watershed.


N
Turbine L113
L72
L113
146A
293A
293A
293A
293A
293A
30N 8E
594A
Legend
T12942
nwi_a_il
SymbolID
0
Polylines
SymbolID
0
1
2
3
4
fema_a_il105
huc_a_il
soil_a_il105
0 135 270 540 810 1,080
Feet
1 inch = 323 feet

Archaeological/Cultural Resources

Cultural resources are all the past activities and accomplishments of people. They include the following: building, objects made or used by people, and locations of human activity. The Soil and Water Conservation District most often encounters cultural resources as archaeological sites. These sites often extend below the soil surface and must be protected against disruption by development or other earth moving activity if possible. Cultural resources are non-renewable because there is no way to "grow" a site to replace a disrupted site.

Those sites deemed to be significant and eligible for listing on the National Register of Historical Places are referred to as "historic properties." These may be prehistoric (before written history) or from the historic period, which in Illinois is after 1673. Anything older than 50 years needs to be evaluated for historic significance.

Landowners with historical properties on their land have ownership of that historical property and may choose to collect or disturb a historical property on their own land. However, human remains, grave markers, burial mounds, and artifacts associated with graves and human remains over 100 years old are protected by state law, regardless of private or public property. If an earth moving activity disturbs human remains, the landowner must contact the county coroner within 48 hours.

Historic Preservation Legislation: The National Historic Preservation Act of 1966 (NHPA Section 106) requires all Federal Agencies' "undertakings" to "take into account" their effect on historic properties. As of January 1, 1990, the State Agency Historic Resources Preservation Act (Public Act 86-707) requires the same for all private or public undertakings involving state agencies. An "undertaking" is defined to cover a wide range of Federal or State permitting, funding, and licensing activities. It is the responsibility of Federal/State Agencies to ensure the protection of historic resources and the State Historic Preservation Office (SHPO) regulates this effort.

Due to the size of the planned project area and to the nature of this project being subject to compliance with State Historic Preservation Agency regulations, a cultural resources review was not conducted by our NRCS Archaeologist. The applicant should contact the Archaeology Section, Preservation Services Division, Illinois Historic Preservation Agency, for information about compliance with Federal and State regulations. www2.illinois.gov/dnrhistoric

Ecologically Sensitive Areas

What is biological diversity and why should it be conserved?

Biological diversity, or biodiversity, is the range of life on our planet. A more thorough definition is presented by botanist Peter H. Raven: “At the simplest level, biodiversity is the sum total of all the plants, animals, fungi and microorganisms in the world, or in a particular area; all of their individual variation; and all of the interactions between them. It is the set of living organisms that make up the fabric of the planet Earth and allow it to function as it does, by capturing energy from the sun and using it to drive all of life’s processes; by forming communities of organisms that have, through the several billion years of life’s history on Earth, altered the nature of the atmosphere, the soil and the water of our Planet; and by making possible the sustainability of our planet through their life activities now.” (Raven 1994)

It is not known how many species occur on our planet. Presently, about 1.4 million species have been named. It has been estimated that there are perhaps 9 million more that have not been identified. What is known is that they are vanishing at an unprecedented rate. Reliable estimates show extinction occurring at a rate several orders above “background” in some ecological systems. (Wilson 1992, Hoose 1981)

The reasons for protecting biological diversity are complex, but they fall into four major categories.

First, loss of diversity generally weakens entire natural systems. Healthy ecosystems tend to have many natural checks and balances. Every species plays a role in maintaining this system. When simplified by the loss of diversity, the system becomes more susceptible to natural and artificial perturbations. The chances of a system-wide collapse increase. In parts of the Midwestern United States, for example, it was only the remnant areas of natural prairies that kept soil intact during the dust bowl years of the 1930s. (Roush 1982).

Simplified ecosystems are almost always expensive to maintain. For example, when synthetic chemicals are relied upon to control pests, the target species are not the only ones affected. Their predators are almost always killed or driven away, exasperating the pest problem. In the meantime, people are unintentionally breeding pesticide-resistant pests. A process has begun where people become perpetual guardians of the affected area, which requires the expenditure of financial resources and human ingenuity to keep the system going.

A second reason for protecting biological diversity is that it represents one of our greatest untapped resources. Great benefits can be reaped from a single species. About 20 species provide 90% of the world’s food. Of these 20, just three, wheat, maize and rice, supply over one half of that food. American wheat farmers need new varieties every five to 15 years to compete with pests and diseases. Wild strains of wheat are critical genetic reservoirs for these new varieties.

Further, every species is a potential source of human medicine. In 1980, a published report identified the market value of prescription drugs from higher plants at over $3 billion. Organic alkaloids, a class of chemical compounds used in medicines, are found in an estimated 20% of plant species. Yet only 2% of plant species have been screened for these compounds. (Hoose 1981)

The third reason for protecting diversity is that humans benefit from natural areas and depend on healthy ecosystems. The natural world supplies our air, our water, our food and supports human economic activity. Further, humans are creatures that evolved in a diverse natural environment between forest and grasslands. People need to be reassured that such places remain. When people speak of "going to the country," they generally mean more than getting out of town. For reasons of their own sanity and well-being, they need a holistic, organic experience. Prolonged exposure to urban monotony produces neuroses, for which cultural and natural diversity cure.

Historically, the lack of attention to biological diversity, and the ecological processes it supports, has resulted in economic hardships for segments of the basin's human population.

The final reason for protecting biological diversity is that species and natural systems are intrinsically valuable. The above reasons have focused on the benefits of the natural world to humans. All things possess intrinsic value simply because they exist.

Biological Resources Concerning the Subject Parcel

As part of the Natural Resources Information Report, staff checks office maps to determine if any nature preserves are in the general vicinity of the parcel in question. If there is a nature preserve in the area, then that resource will be identified as part of the report. The SWCD recommends that every effort be made to protect that resource. Such efforts should include, but are not limited to erosion control, sediment control, stormwater management, and groundwater monitoring.

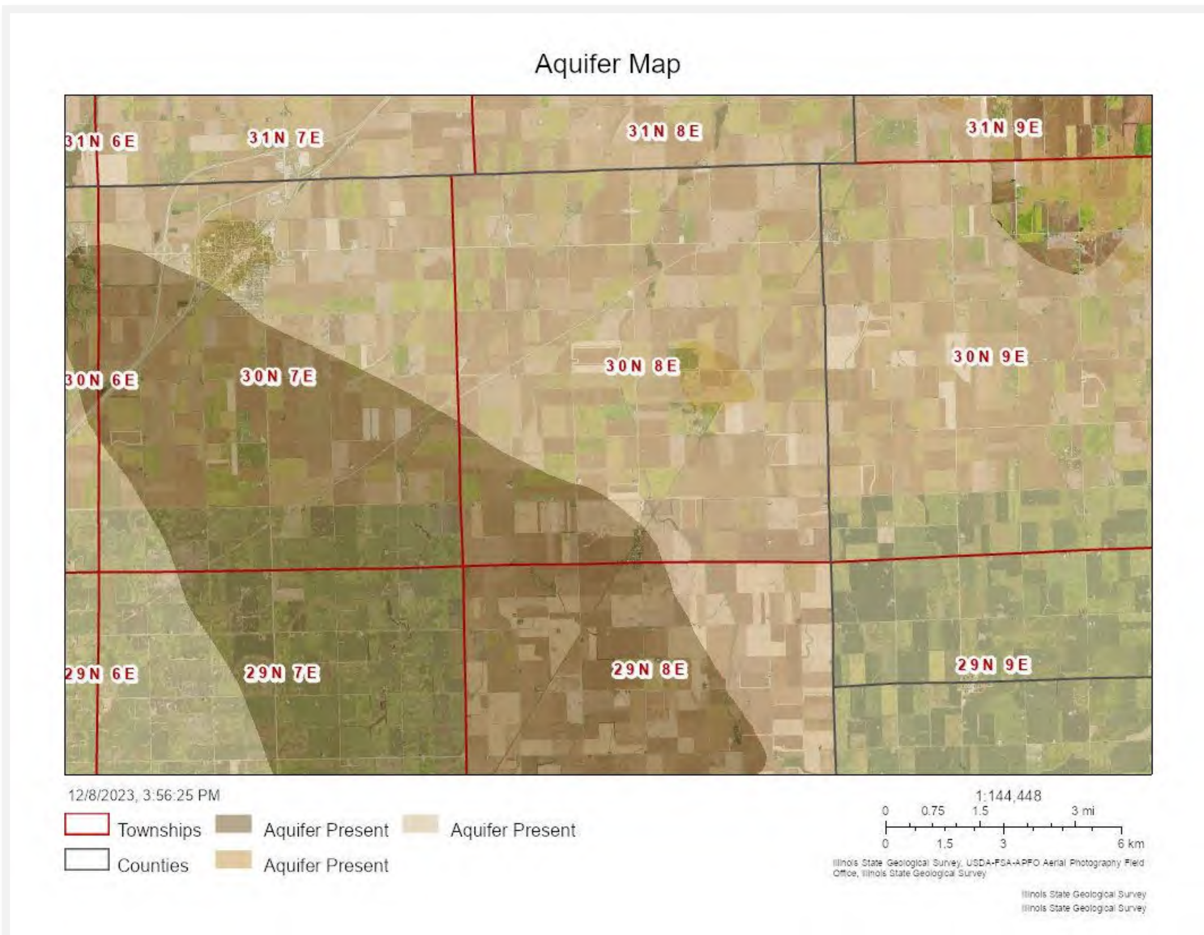
Office maps indicated that there are no ecologically sensitive areas in the general vicinity of the Parcel in Question (PIQ). It is recommended that an IDNR EcoCat Report be completed by the petitioner to make sure.

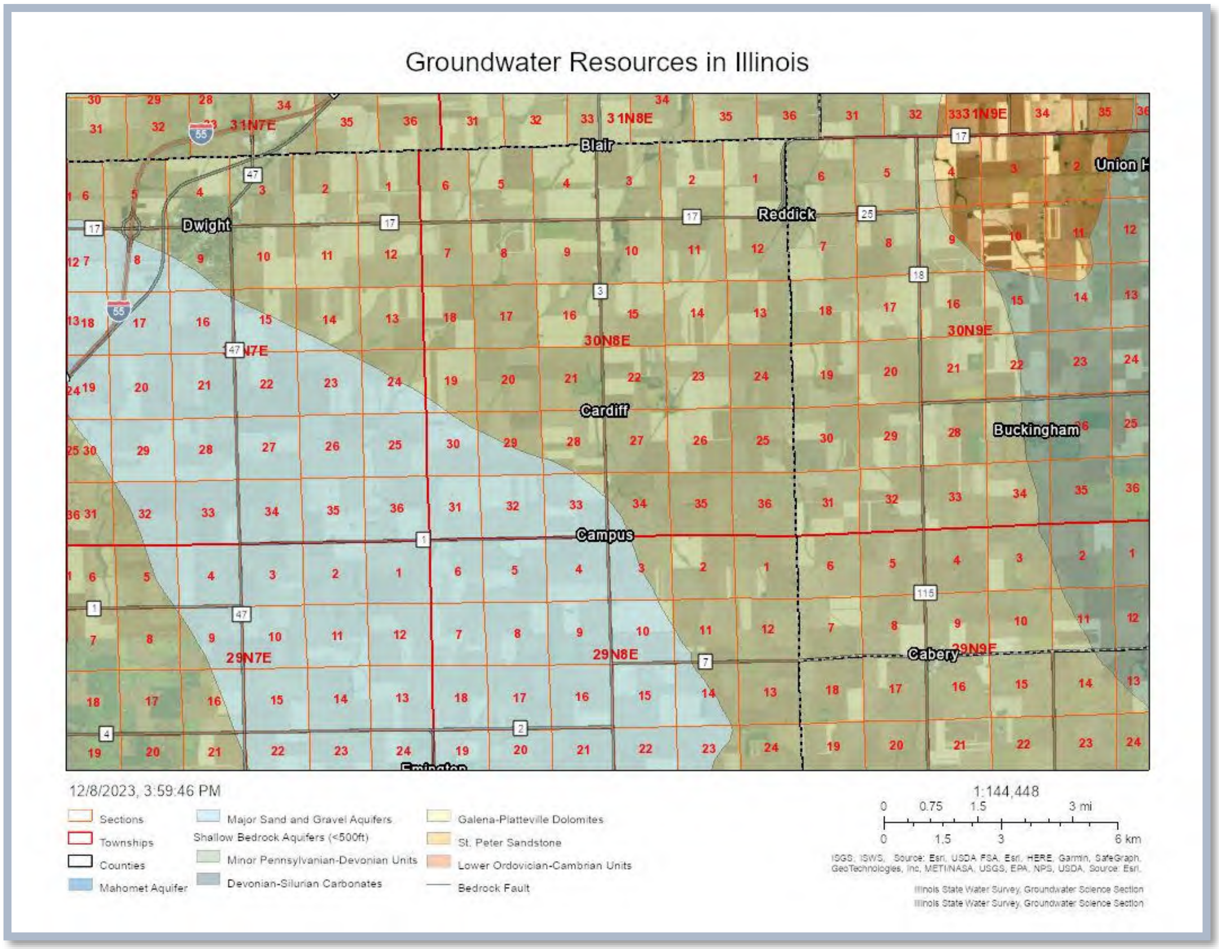
Geologic/Aquifer Information

Geology and the Proposed Land Use

Local geology plays an important role in determining the pollution potential. Groundwater pollution potential is an important element of the natural resource base. This information, when compared to soils information, gives a clearer picture of conditions on this parcel.

The potential for aquifer contamination is high in the Southwest part of Round Grove Township and the Southern part of Dwight Township in the project area. These areas are located in areas with major sand and gravel aquifers. The rest of the project area is in areas of low aquifer contamination potential.





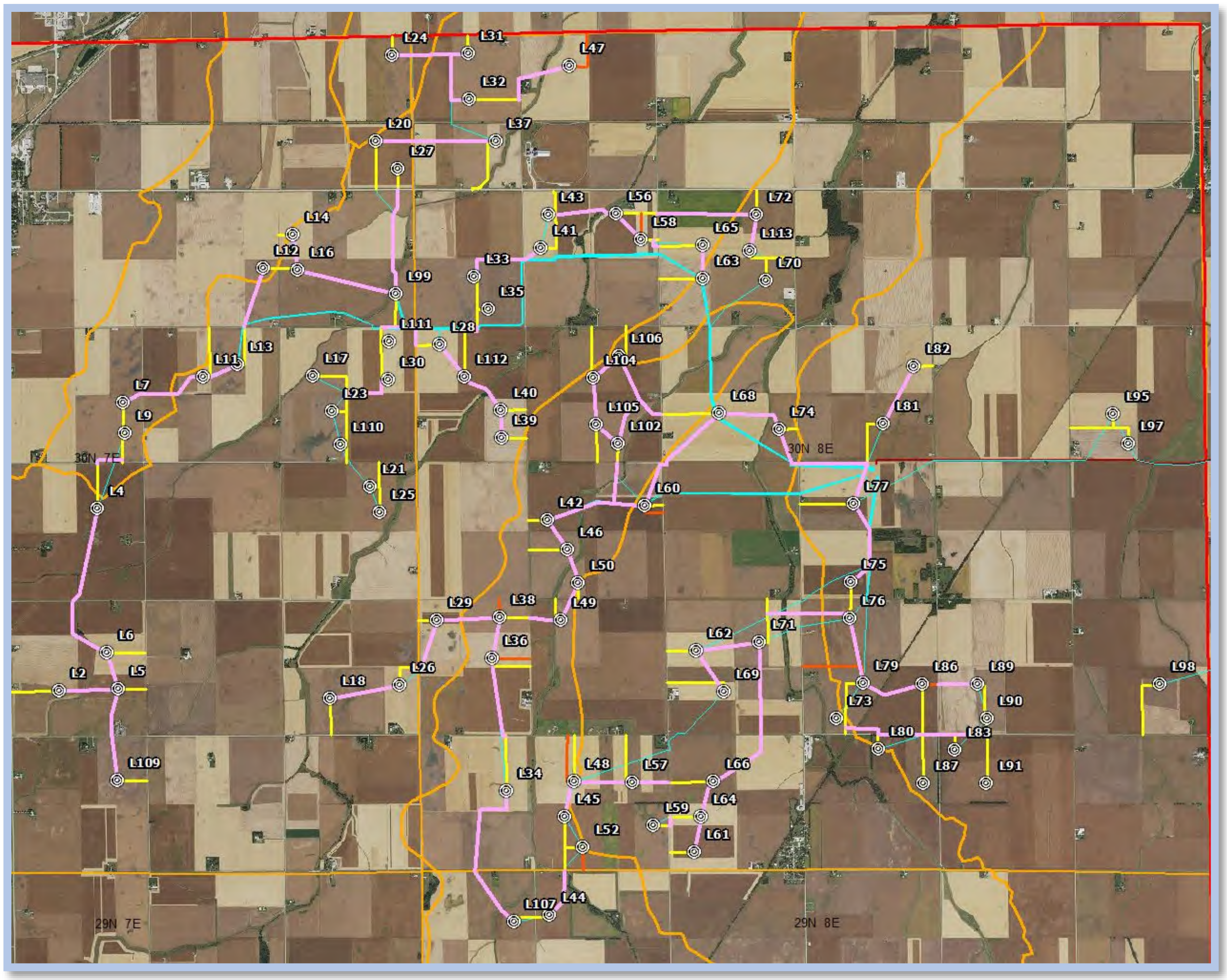
Groundwater Resources in Illinois
Dwight
Blair
Reddick
Cardiff
Campus
Buckingham
Cabery
31N7E
31N8E
31N9E
30N8E
30N9E
29N7E
29N8E
29N9E
12/8/2023, 3:59:46 PM
Sections
Townships
Counties
Mahomet Aquifer
Major Sand and Gravel Aquifers
Shallow Bedrock Aquifers (<500ft)
Minor Pennsylvanian-Devonian Units
Devonian-Silurian Carbonates
Galena-Platteville Dolomites
St. Peter Sandstone
Lower Ordovician-Cambrian Units
Bedrock Fault
1:144,448
0 0.75 1.5 3 mi
0 1.5 3 6 km
Illinois State Water Survey, Groundwater Science Section

Watershed Information

Watershed and Subwatershed Information

A watershed is the area of land that drains into a specific point including a stream, lake or other body of water. High points on the Earth's surface, such as hills and ridges, define watersheds. When rain falls in the watershed, it flows across the ground towards a stream of lake. Rainwater carries any pollutants it comes in contact with such as oils, pesticides, and soil. Everyone lives in a watershed. Their actions can impact natural resources and people living downstream. Residents can minimize this impact by being aware of their environment and implication of their activities, implementing practices recommended in watershed plans and educating others about their watershed. This project is in the Gooseberry Creek, Town of Emington-Gooseberry Creek, Reddick Run, East Fork Mazon River, Woods Run-Gooseberry Creek, Town of Dwight-Gooseberry Creek, and Jackson Creek-Mazon River watersheds of the Mazon River watershed.

It is recommended that developments incorporate the Best Management Practices to protect and enhance overall surface and groundwater quality, reduce existing flood damage, prevent flooding from worsening, improve aquatic and wildlife habitat, along with developing open space and recreational opportunities. More information can be found about the Best Management Practices by visiting the Livingston County Soil and Water Conservation District.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Topographic/FEMA Information

Due to the size and scope of the project, an overall topographic map was not generated. Individual topographic maps for each site will be available upon request.

Importance of Flood Information

A floodplain is defined as land adjoining a watercourse (riverine) or an inland depression (non-riverine) that is subject to periodic inundation by high water. Floodplains are important areas demanding protection since they have water storage and conveyance functions which affect upstream and downstream flows, water quality and quantity, and suitability of the land for human activity. Since floodplains play distinct and vital roles in the hydrologic cycle, development that interferes with their hydrologic and biologic functions should be carefully considered.

Flooding is both dangerous to people and destructive of their properties. The following maps, when combined with wetland and topographic information, can help developers and future homeowners to "sidestep" potential flooding or ponding problems.

FIRM is the acronym for the Flood Insurance Rate Map, produced by the Federal Emergency Management Agency. These maps define flood elevation adjacent to tributaries and major bodies of water, and superimpose that onto a simplified USGS topographic map. The scale of the FIRM maps is generally dependent of the size and density of parcels in that area. (This is to correctly determine that parcel location and flood plain location). The FIRM map has three (3) zones. A is the zone of 100 year flood, zone B is the 100 to 500 year flood, and zone C is outside the flood plain.

The Hydrologic Atlas (H.A.) Series of the Flood of Record Map is also used for the topographic information. This map is different from the FIRM map mainly because it will show isolated, or pocketed, flooded areas. Livingston County uses both of these maps in conjunction with each other for flooded area determinations. The Flood of Record maps show the areas of flood for various years. Both of these maps <u>stress</u> that the recurrence of flooding is merely statistical. That is to say a 100-year flood may occur twice in one year, or twice in one week, for that matter.

It should be noted that greater floods than those shown on the two maps are possible. The flood boundaries indicated provide a historic record only until the map publication date. Additionally, these flood boundaries are a function of the watershed conditions existing when the maps were produced. Cumulative changes in runoff characteristics caused by urbanization can result in an increase in flood height of future flood episodes.

Floodplains play a vital role in reducing the flood damage potential associated with an urbanizing area and, when left in an undisturbed state, also provide valuable wildlife habitat benefits. If it is the petitioner's intent to conduct floodplain filling or modification activities, the petitioner and the Unit of Government responsible need to consider the potentially adverse effects this type of action could have on adjacent properties. The change or loss of natural floodplain storage often increases the frequency and severity of flooding on adjacent property.

If the available maps indicate the presence of a floodplain on the PIQ, the petitioner should contact the IDOT-DWR and FEMA to delineate a floodplain elevation for the parcel. If a portion of the property is indeed floodplain, applicable state, county and local regulations will need to be reflected in the site plans.

<u>Another indication of flooding potential can be found in the soils information</u>. Hydric soils indicate the presence of drainageways, areas subject to ponding, or naturally occurring high water table. These need to be considered along with the floodplain information when developing the site plan and the stormwater management plan. <u>If the site does include these hydric soils and the development occurs, thus raising the concerns of the loss of water storage in these soils and the potential for increased flooding in the area</u>.

Soil Erosion and Sediment Control

Erosion is the wearing away of the soil by water, wind, and other forces. Soil erosion threatens the Nation's soil productivity and contributes the most pollutants in our waterways. Water causes about two thirds of erosion on agricultural land. Four properties, mainly, determine a soil's erodibility:

1. Texture 2. Slope 3. Structure 4. Organic Matter Content

Slope has the most influence on soil erosion potential when the site is under construction. Erosivity and runoff increase as slope grade increases. The runoff then exerts more force on the particles, breaking their bonds more readily and carrying them farther before deposition. The longer water flows along a slope before reaching a major waterway, the greater the potential for erosion.

Soil erosion during and after this proposed construction can be a primary non-point source of water pollution. Eroded soil during the construction phase can create unsafe conditions on roadways, decrease the storage capacity of lakes, clog streams and drainage channels, cause deterioration of aquatic habitats, and increase water treatment costs. Soil erosion also increases the risk of flooding by choking culverts, ditches, and storm sewers, and by reducing the capacity of natural and man-made detention facilities.

The general principles of erosion and sediment control measures include:

- Reducing or diverting flow from exposed areas, storing flows, or limiting runoff from exposed areas,
- Staging construction to keep disturbed areas to a minimum,
- Establishing or maintaining of temporary or permanent groundcover,
- Retaining sediment on site, and
- Properly installing, inspecting, and maintaining control measures.

<u>Erosion control practices are useful controls only if they are properly located, installed, inspected, and maintained</u>.

The SWCD recommends an erosion control plan for all building sites, especially if there is a wetland or stream nearby.

Wetland Information

Importance of Wetland Information

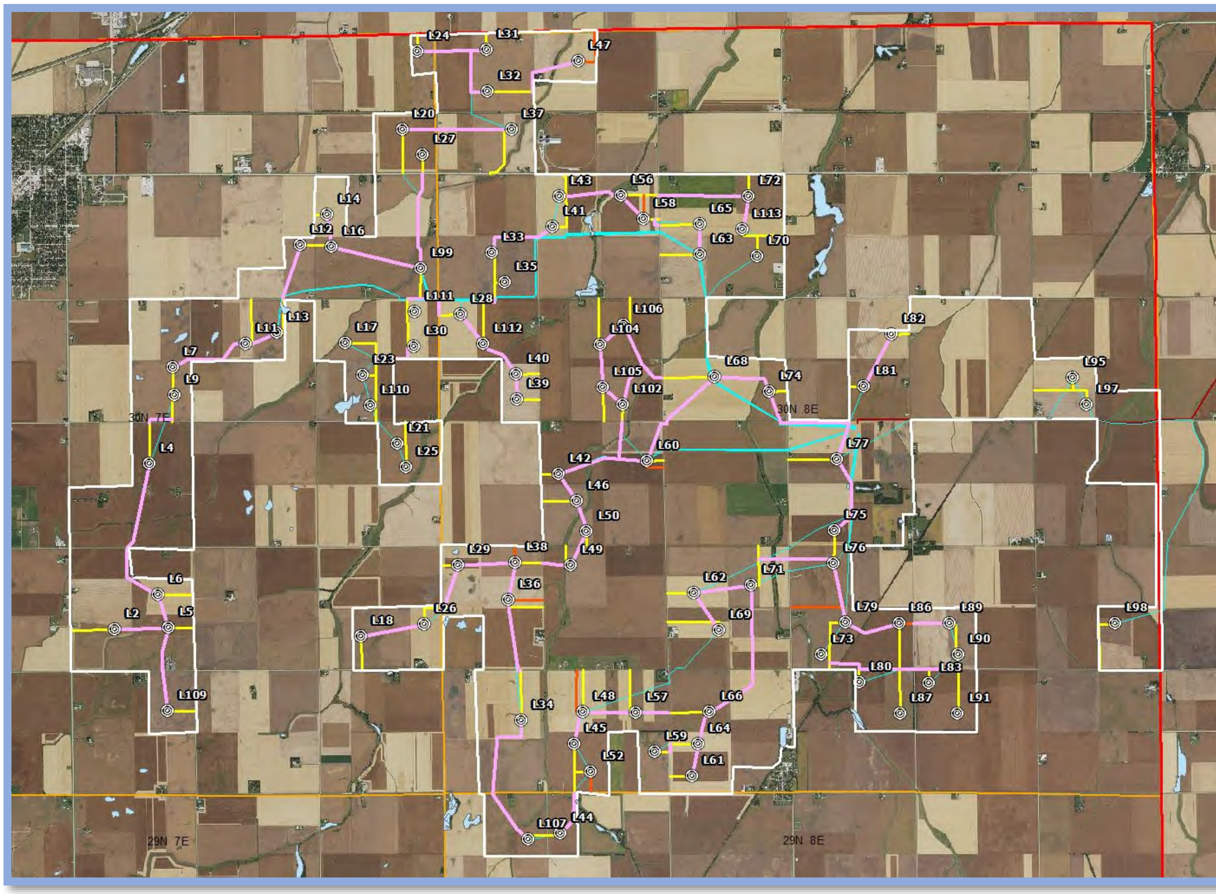
Wetlands function in many ways to provide numerous benefits to society. They control flooding by offering a slow release of excess water downstream or through the soil. They cleanse water by filtering out sediment and some pollutants, and can function as rechargers of our valuable groundwater. They also are essential breeding, rearing, and feeding grounds for many species of wildlife.

These benefits are particularly valuable in urbanizing areas as development activity typically adversely affects water quality, increases the volume of stormwater runoff, and increases the demand for groundwater. In an area where many individual homes rely on shallow groundwater wells for domestic water supplies, activities that threaten potential groundwater recharge areas are contrary to the public good. The conversion of wetlands, with their sediment trapping and nutrient absorbing vegetation, to biologically barren stormwater detention ponds can cause additional degradation of water quality in downstream or adjacent areas.

It has been estimated that over 95% of the wetlands that were historically present in Illinois have been destroyed while only recently has the true environmental significance of wetlands been fully recognized. America is losing 100,000 acres of wetland a year, and has saved 5 million acres total (since 1934). One acre of wetland can filter 7.3 million gallons of water a year. These are reasons why our wetlands are high quality and important.

This section contains the NRCS (Natural Resources Conservation Service) Wetlands Inventory, which is the most comprehensive inventory to date. The NRCS Wetlands Inventory is reproduced from an aerial photo at a scale of 1” equals 660 feet. The NRCS developed these maps in cooperation with U.S. EPA (Environmental Protection Agency) and the U.S. Fish and Wildlife Service, using the National Food Security Act Manual, 3rd Edition. The main purpose of these maps is to determine wetland areas on agricultural fields and areas that may be wetlands but are in a non-agricultural setting.

The NRCS Wetlands Inventory in no way gives an exact delineation of the wetlands, but merely an outline, or the determination that there is a wetland within the outline. For the final, most accurate wetland **determination** of a specific wetland, a wetland ***delineation*** must be certified by NRCS staff using the National Food Security Act Manual (on agricultural land). On urban land, a certified wetland delineator must perform the delineation using the ACOE 1987 Manual. *See the glossary section for the definitions of “delineation” and “determination.”*



There are identified wetlands in the project area. A certified wetland determination will need to be done.

PLEASE READ THE FOLLOWING IF YOU ARE PLANNING TO DO ANY WORK NEAR A STREAM (THIS INCLUDES SMALL UNNAMED STREAMS), LAKE, WETLAND OR FLOODWAY.

The laws of the United States and the State of Illinois assign certain agencies specific and different regulatory roles to protect the waters within the State's boundaries. These roles, when considered together, include protection of navigation channels and harbors, protection against flood way encroachments, maintenance and enhancement of water quality, protection of fish and wildlife habitat and recreational resources, and, in general, the protection of total public interest. Unregulated use of the waters within the State of Illinois could permanently destroy or alter the character of these valuable resources and adversely impact the public. Therefore, please contact the proper regulatory authorities when planning any work associated with Illinois waters so that proper consideration and approval can be obtained.

WHO MUST APPLY

Anyone proposing to dredge, fill, rip rap, or otherwise alter the banks or beds of, or construct, operate, or maintain any dock, pier, wharf, sluice, dam, piling, wall, fence, utility, flood plain or flood way subject to State or Federal regulatory jurisdiction should apply for agency approvals.

REGULATORY AGENCIES

- **Wetlands or U.S. Waters: U.S. Army Corps of Engineers,** Rock Island District, Clock Tower Building, P.O. Box 2004, Rock Island, IL 61204-2004. Phone (309) 794-5379.
- **Flood plains: Illinois Department of Natural Resources\Office of Water Resources,** Natural Resources Way, Springfield, IL 62702-1270.
- **Water Quality\Erosion Control: Illinois Environmental Protection Agency,** Division of Water Pollution Control, Permit Section, Watershed Unit, 2200 Churchill Road, Springfield, IL 62706. Phone (217) 782-0610.

COORDINATION

We recommend early coordination with the regulatory agencies BEFORE finalizing work plans. This allows the agencies to recommend measures to mitigate or compensate for adverse impacts. Also, the agency can make possible environmental enhancement provisions early in the project planning stages. This could reduce time required to process necessary approvals.

CAUTION: Contact with the United States Army Corps of Engineers is strongly advised before commencement of any work in or near a water of the United States. This could save considerable time and expense. Persons responsible for willful and direct violation of Section 10 of the River and Harbor Act of 1899 or Section 404 of the Federal Water Pollution Control Act are subject to fines ranging up to $27,500 per day of violation and imprisonment for up to one year or both.

Woodlands

There are no woodlands on the turbine sites; however, there are tree lines that access roads or connection lines will cross and there are wooded areas near some of the sites.

Native woodlands are no longer a common occurrence throughout much of Livingston County. Although forests originally covered nearly 40% of Illinois, today only about 12% of the state is forested, with most of this being secondary growth (Ill. Natural History Survey Reports, Nov/Dec 1993, no. 324). The composition of Illinois forests has changed markedly over the past three decades. 97% of the timberland is classified as hardwood forest. The forest acreage continues to increase from 4.2 million acres in 1985 to 4.3 million acres in 1998 (IL Forest Development Council News, IL DNR, Winter 2001/Volume 2, No. 1). Oak-hickory forests, which had made up half of the acreage, have declined by 14% and make up 2.1 million acres. This decline is largely a result of wildfire suppression that allows maples to take over. Thus, the acres of maple-beech forest have risen more than 40-fold from 1962 to 1985, to one quarter of the total forest area, 696 thousand acres. Dutch elm disease and the conversion of forested bottomlands to agriculture have resulted in huge declines in the elm-ash-cottonwood forests, 906 thousand acres, falling from one third – one sixth of the Illinois forest area. Elm accounts for the greatest number of individual trees – 412 million. Other species groups with more than 100 million trees include hickory, red oak, sugar/black maple, ash, hackberry, and black cherry.

Woodlands provide many benefits such as wildlife habitat, erosion control, air and water quality improvement, and aesthetic values. Forests are responsible for much of the biological diversity in the state. Many species are dependent upon forests for food and shelter, including threatened and endangered species.

One of the most serious problems facing Illinois forests is the invasion of exotic plants and animals. Some of the most damaging plants include European buckthorn, multiflora rose, honeysuckle, purple loosestrife, and garlic mustard.

Many trees, particularly hardwoods (especially oaks) are extremely sensitive to construction-induced disturbances. The area most susceptible to damage is within the "drip radius," the ground surface directly beneath the leafy canopy of the tree. Many trees have an extensive system of feeder roots, located within one foot of the surface, and supply the tree with the majority of its moisture and nutrient needs.

Construction activities can negatively impact trees in several different ways. Earth-moving activities that stockpile soil near trees can suffocate tree roots that, although buried, require oxygen. Vehicle traffic can compact the soil to a point where the roots no longer function effectively. Grading activities for road cuts and foundations can cause a localized drop in the water table, placing the trees under stress. The placement of pavement or stormwater management facilities near established trees can also radically change soil moisture. The removal of accumulated organic materials normally present on a woodland floor, and the subsequent establishment of turf lawns, can drastically affect the soil temperature and nutrient balance. Injury to the bark of a tree can increase the chance of the tree being subjected to a potentially harmful disease.

If existing trees are to be maintained in a healthy state, the appropriate planning is necessary. Someone with a working knowledge of forestry should assess existing trees to determine which trees should be protected. Some tree species are not considered desirable due to their aggressive growth, behavior, and limited value to local wildlife. Proper management of woodlands and open space includes the selective elimination of such trees and replacement by more desirable species. **Trees that are to be saved should be marked and protected with snow fencing or similar material, installed around the drip radius, to prevent root damage,** and vehicle traffic should be minimized around the drip line. Contractors should be informed of the intention to preserve trees and be expected to conduct their work accordingly.

Tree damage resulting from construction activities may not be apparent for a number of years. While it is recognized that some tree loss is unavoidable, this should be minimized to the extent possible. It is highly recommended that trees lost to development activity should be replaced by younger specimens of native trees now found on the PIQ.

Land Evaluation Site Assessment

The Livingston County Land Evaluation and Site Assessment System (LESA) is designed to evaluate the viability of a site for agricultural uses. Although the framework of the system was developed by the Natural Resources Conservation Service of the U.S. Department of Agriculture, the contents of the county's LESA System were prepared locally to utilize soil survey information and interpretations and to incorporate local values and objectives regarding the protection of agricultural land use and the coordination of growth, affecting land development.

The System consists of two parts, the Land Evaluation and the Site Assessment, with a maximum of 300 points. The Land Evaluation has a maximum of 100 points and is used to rate farmland for its agricultural productivity and its prime farmland category. The data for formulating the land evaluation is derived from the soil survey of Livingston County. Generally, the Land Evaluation arranges the County's soils by their relative values, represented by a score of 0 to 100, with 0 being the worst for agriculture and 100 the best. The Site Assessment considers important factors other than soils relative to a specific parcel, which determine viability for agricultural use. The maximum number of points for the Site Assessment is 200. If a parcel were to receive a total of 201 points or more for the completed evaluation, that would indicate that the site has a high rating for agriculture. In utilizing the LESA System, the higher the point value, the greater the productivity and the more viable the site for agricultural use.

The Livingston County LESA System is a valuable tool to guide land use decisions for the County. It does not take away the power of local officials to make land use decisions; rather, it assists them in making rational, consistent, and supportable land use decisions. Applications of the LESA System will generally fall under two types of requests involving conversion of land from agricultural use to non-agricultural use. The most frequent application of LESA will be when a request is made to rezone a tract of land from the County's agricultural districts to another zoning district, district, districts, or for special uses. The LESA System can also be used to review state and federal projects for compliance with the Illinois Farmland Preservation Act and the Federal Farmland Protection Policy Act and their impact on important farmland.

Livingston County Land Evaluation and Site Assessment System
Land Evaluation Worksheet

Project:	Heritage Prairie Wind
Site Location Twp/Sec:	Round Grove, Dwight, Broughton Townships
Date Evaluation Completed:	12/11/2023
Reviewer/Reviewers:	Rebecca Taylor

Soil	AG Group	Relative Value	Acres	Product (Relative Value X Acres)
69A	2	87	49.4	4297.8
91A	4	74	128.7	9523.8
91B2	4	69	8.5	586.5
102A	3	83	98.8	8200.4
125A	2	87	6.2	539.4
141A	4	70	185.4	12978
146A	3	83	825.4	68508.2
146B2	3	80	97.7	7816
147B2	7	63	21	1323
147C2	7	58	72.9	4228.2
150B	4	70	85.7	5999
151A	4	77	111.4	8577.8
153A	2	90	9.7	873
206A	4	74	6.9	510.6
223B2	4	77	18.5	1424.5
223C2	5	74	9.1	673.4
232A	2	87	2028	176436
235A	4	77	672.2	51759.4
238A	7	64	0.2	12.8
293A	2	93	3419.2	317985.6
294B2	3	83	606.3	50322.9
295A	3	80	6.6	528
330A	4	77	22.5	1732.5
448B2	4	70	5.7	399
536	8	0	29.9	0
594A	2	90	6365.9	572931
614A	3	83	379.4	31490.2
614B	3	83	3.7	307.1
3107A	5	77	8.4	646.8
3776A	7	58	60.2	3491.6

		Total	15343.5	1344102.5

Land Evaluation = Total Product/Total Acres

Land Evaluation = 87.60077557

Land Evaluation Subtotal **88**

Comments:

Specific Limitations:

LESA SUMMARY SHEET

Livingston County's Point System for Land Evaluation Site Assessment

Livingston County, IL	Max Points per Factor	Total	Comments
1. Percent of Area within one and one half mile radius…compatible to Agriculture	17	17	
2. Land in agriculture adjacent to site	13	13	
3. Percentage of site in agriculture	13	13	
4. Size of site	6	6	
5. Agricultural support system	6	6	
6. Impact of proposed conversion on retention of other farmland and agricultural infrastructure	8	4	
7. Compatibility with County Zoning Ordinance	20	20	
8. Soil limitation of site for proposed use	15	12	
9. Number of undeveloped and suitable alternative sites within one and one half mile radius of site	11	6	
10. Impact of flooding/drainage	10	5	Depending on placement of turbines and other infrastructure
11. Impact of proposed use on known/present unique historic/cultural and ecological features	5	0	
12. Is the site compatible with County comprehensive development plan	15	15	
13. Distance from city/village/corporate limits	13	8	
14. Availability of central sewer/water supply	11	11	
15. Transportation accessibility	10	2	
16. Environmental impact of proposed use	10	10	
17. Soil suitable for on-site waste water disposal	11	0	Site will not have septic or other wastewater disposal
18. Distance from fire protection service	6	5	Due to size of project area, many sites are more than 5 miles from a FPD
SITE ASSESSMENT TOTAL	200	153	
LAND EVALUATION TOTAL	100	88	
TOTAL POINTS	300	241	

201-300 High Impact to Agriculture
185-201 Medium Impact to Agriculture
0-185 Low Impact to Agriculture

Glossary

AGRICULTURAL PROTECTION AREAS (AG AREAS): Allowed by P.S. 81-1173. An AG AREA consists of a minimum of 350 acres of farmland, as contiguous and compact as possible. Petitioned by landowners, AG AREAS protect for a period of ten years initially, then reviewed every eight years thereafter. AG AREA establishment exempts landowners from local nuisance ordinances directed at farming operations, and designated land cannot receive special tax assessments on public improvements that do not benefit the land, e.g. water and sewer lines.

AGRICULTURE: The growing, harvesting and storing of crops including legumes, hay, grain, fruits and vegetables, and animals including dairying, poultry, swine, sheep, beef cattle, pony and horse production, fur farms, and fish and wildlife farms; farm buildings used for growing, harvesting and preparing crop products for market, or for use on the farm; roadside stands, farm buildings for storing and protecting farm machinery and equipment from the elements, for housing livestock or poultry and for preparing livestock or poultry products for market; farm dwellings occupied by farm owners, operators, tenants or seasonal or year-round hired farm workers.

B.G.: Below Grade. Under the surface of the Earth.

BEDROCK: Indicates depth at which bedrock occurs. Also lists hardness as rippable or hard.

FLOODING: Indicates frequency, duration, and period during year when floods are likely to occur.

HIGH LEVEL MANAGEMENT: The application of effective practices adapted to different crops, soils, and climatic conditions. Such practices include providing for adequate soil drainage, protection from flooding, erosion and runoff control, near optimum tillage, and planting the correct kind and amount of high quality seed. Weeds, diseases, and harmful insects are controlled. Favorable soil reactions and near optimum levels of available nitrogen, phosphorous, and potassium for individual crops are maintained. Efficient use is made of available crop residues, barnyard manure, and/or green manure crops. All operations, when combined efficiently and timely, can create favorable growing conditions and reduce harvesting losses – within limits imposed by weather.

HIGH WATER TABLE: A seasonal high water table is a zone of saturation at the highest average depth during the wettest part of the year. May be apparent, perched, or artesian kinds of water tables.

Water Table, Apparent – A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water Table, Artesian – A water table under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole.

Water Table, Perched – A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

DELINEATION: For wetlands – A series of orange flags placed on the ground by a certified professional that outlines the wetland boundary on a parcel.

DETERMINATION: A polygon drawn on a map using map information that gives an outline of a wetland.

HYDRIC SOIL: This type of soil is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Natural Resources Conservation Service 1987)

INTENSIVE SOIL MAPPING: Mapping done on a smaller more intensive scale than a modern soil survey to determine soil properties of a specific site, e.g. mapping for septic suitability.

LAND EVALUATION AND SITE ASSESSMENT (L.E.S.A.): LESA is a systematic approach for evaluating a parcel of land and to determine a numerical value for the parcel for farmland preservation purposes.

MODERN SOIL SURVEY: A soil survey is a field investigation of the soils of a specific area, supported by information from other sources. The kinds of soil in the survey area are identified and their extent shown on a map, and an accompanying report describes, defines, classifies, and interprets the soils. Interpretations predict the behavior of the soils under different uses and the soils' response to management. Predictions are made for areas of soil at specific places. Soils information collected in a soil survey is useful in developing land-use plans and alternatives involving soil management systems and in evaluating and predicting the effects of land use.

PALUSTRINE: Name given to inland fresh water wetlands.

PERMEABILITY: Values listed estimate the range (in rate and time) it takes for downward movement of water in the major soil layers when saturated, but allowed to drain freely. The estimates are based on soil texture, soil structure, available data on permeability and infiltration tests, and observation of water movement through soils or other geologic materials.

PIQ: Parcel in question.

POTENTIAL FROST ACTION: Damage that may occur to structures and roads due to ice lens formation causing upward and lateral soil movement. Based primarily on soil texture and wetness.

PRIME FARMLAND Prime farmland soils are lands that are best suited to food, feed, forage, fiber and oilseed crops. It may be cropland, pasture, woodland, or other land, but it is not urban and built up land or water areas. It either is used for food or fiber or is available for those uses. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil economically to produce a sustained high yield of crops. Prime farmland produces in highest yields with minimum inputs of energy and economic resources, and farming the land results in the least damage to the environment.

Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The level of acidity or alkalinity is acceptable. Prime farmland has few or no rocks and is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The slope ranges mainly from 0 to 5 percent. (Source: USDA Natural Resources Conservation Service)

PRODUCTIVITY INDEXES: Productivity indexes for grain crops express the estimated yields of the major grain crops grown in Illinois as a single percentage of the average yields obtained under basic management from several of the more productive soils in the state.

SEASONAL: When used in reference to wetlands, indicates that the area is flooded only during a portion of the year.

SHRINK-SWELL POTENTIAL: Indicates volume changes to be expected for the specific soil material with changes in moisture content.

SOIL MAPPING UNIT: A map unit is a collection of soil areas of miscellaneous areas delineated in mapping. A map unit is generally an aggregate of the delineations of many different bodies of a kind of soil or miscellaneous area but may consist of only one delineated body. Taxonomic class names and accompanying phase terms are used to name soil map units. They are described in terms of ranges of soil properties within the limits defined for taxa and in terms of ranges of taxadjuncts and inclusions.

SOIL SERIES: A group of soils, formed from a particular type of parent material, having horizons that, except for texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

SUBSIDENCE: Applies mainly to organic soils after drainage. Soil material subsides due to shrinkage and oxidation.

TERRAIN: The area or surface over which a particular rock or group of rocks is prevalent.

TOPSOIL: That portion of the soil profile where higher concentrations of organic material, fertility, bacterial activity and plant growth take place. Depths of topsoil vary between soil types.

WATERSHED: An area of land that drains to an associated water resource such as a wetland, river or lake. Depending on the size and topography, watersheds can contain numerous tributaries, such as streams and ditches, and ponding areas such as detention structures, natural ponds and wetlands.

WETLAND: An area that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

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Geologic Road Map of Illinois. Department of Natural Resources, Illinois State Geological Survey, Natural Resources Building, 615 East Peabody, Champaign, IL 61820-6964.

Appendix A: Wind Farm AIMA

AGRICULTURAL IMPACT MITIGATION AGREEMENT
between

and the
ILLINOIS DEPARTMENT OF AGRICULTURE
Pertaining to the Construction of a Commercial Wind Energy Facility
in
County, Illinois

The following standards and policies are required by the Illinois Department of Agriculture (IDOA) to help preserve the integrity of any agricultural land that is impacted by the Construction and Deconstruction of a wind energy facility in accordance with the Renewable Energy Facilities Agricultural Impact Mitigation Act (Act), Public Act 100-0598. They were developed with the cooperation of agricultural agencies, organizations, Landowners, Tenants, drainage contractors, and wind energy companies to comprise this Agricultural Impact Mitigation Agreement (AIMA). This AIMA is made and entered into between the Commercial Wind Energy Facility Owner and the IDOA.

, LLC, an limited liability company authorized to transact business in Illinois, hereafter referred to as "Commercial Wind Energy Facility Owner or Facility Owner", plans to develop an approximately MW Commercial Wind Energy Facility or "Facility" in County, which will consist of approximately turbines, access roads, an underground collection line, a switchyard, a substation, and an operation and maintenance building site.

If construction does not commence within four years after this AIMA has been fully executed, this AIMA will be revised, with the Facility Owner's input, to reflect the IDOA's most current Wind Farm Construction and Deconstruction Standards and Policies. This AIMA, and any updated AIMA, will be filed with the County Board by the Facility Owner.

This AIMA is applicable to Construction and Deconstruction activities occurring partially or wholly on privately owned agricultural land.

Conditions of the AIMA

The actions set forth in this AIMA shall be implemented in accordance with the conditions listed below:

A. All Construction or Deconstruction activities may be subject to County or other local requirements. However, the specifications outlined in this AIMA shall be the minimum standards applied to all Construction or Deconstruction activities.

B. Except for Section 21(B-F), all actions set forth in this AIMA are subject to modification through negotiation by Landowners and a representative of the Facility Owner, provided such changes are negotiated in advance of any respective Construction or Deconstruction activities.

C. The Facility Owner may negotiate with Landowners to carry out the mitigative actions that Landowners wish to perform themselves. In such instances, the Facility Owner will offer Landowners the area commercial rate for their machinery and labor costs.

D. All mitigative actions will extend to associated future Construction, maintenance, repairs, and Deconstruction of the Commercial Wind Energy Facility.

E. The Facility Owner will exercise Best Efforts to determine all Landowners and Tenants affected by the Construction and Deconstruction of a Facility. The Facility Owner shall keep the Landowners and Tenants informed of the project's status, meetings, and other factors that may have an impact upon their farming operations.

F. The Facility Owner agrees to include a statement of its adherence to this AIMA in any environmental assessment and/or environmental impact statement that may be prepared in connection with the Project.

G. Execution of this AIMA shall be made a condition of any Conditional/Special Use Permit. A copy of this AIMA shall be mailed to each Landowner. Within 30 days of execution of this AIMA, the Facility Owner shall provide postage and mailing labels to the IDOA for mailing to all Landowners. If the Facility Owner becomes aware that a Landowner was not included on the list of Landowners to which a copy of this AIMA was mailed, the Facility Owner shall notify the Department and provide postage and a mailing label as soon as possible.

In the case of a new Underlying Agreement with a Landowner, the Facility Owner shall incorporate this AIMA into such Underlying Agreement.

H. The Facility Owner will implement all mitigative actions to the extent that they do not conflict with the requirements of any applicable federal, state and local rules and regulations and other permits and approvals that are obtained by the Facility Owner for the Project.

I. If any mitigative action(s) is held to be unenforceable, no other provision shall be affected by that holding, and the remainder of the mitigative actions shall be interpreted as if they did not contain the unenforceable provision.

J. No later than 45 days prior to the Construction and/or Deconstruction of a Commercial Wind Energy Facility, the Facility Owner will provide the Landowner(s) with a toll-free number the Landowner can call to alert the Facility Owner should the Landowner(s) have questions or concerns with the work which is being done or has been carried out on his/her property.

K. If the Facility is sold or transferred, the Facility Owner assuming ownership of the facility shall provide notice of such sale or transfer within ninety (90) days to the County and to Landowners, and the existing Financial Assurance requirements, plus the other terms of this AIMA, shall apply to the new Facility Owner.

L. After construction, the Facility Owner will provide the IDOA with "as built" drawings (strip maps) showing the location of all tiles lines damaged in the construction of the Wind Farm. The drawings and GPS tile lines repair coordinates will be provided on a county-by-county basis for distribution by the IDOA to the respective local Soil and Water Conservation District (SWCD) for the purpose of assisting Landowners with future drainage needs.

M. In addition, after all construction is complete, all affected Landowners will receive a copy of the tile repairs location map with GPS coordinates identified as the electric cable crosses their property.

N. The Facility Owner shall comply with all local, state and federal laws and regulations, specifically including the worker protection standards to protect workers from pesticide exposure.

Definitions

Abandonment -	Occurs when Deconstruction has not been completed within 18 months after the wind energy facility reaches the end of its Useful Life.
Aboveground Cable -	Electrical power lines installed above grade to be utilized for conveyance of power from the Wind Turbine(s) to the Wind Facility substation.
Agricultural Impact Mitigation Agreement (AIMA) -	The Agreement between the Commercial Wind Energy Facility Owner and the Illinois Department of Agriculture described herein.
Agricultural Land -	Land used for Cropland, hayland, pasture land, managed woodlands, truck gardens, farmsteads, commercial ag-related facilities, feedlots, livestock confinement systems, land on which farm buildings are located, and land in government set-aside programs used for purposes as set forth above.
Best Efforts -	Diligent, good faith, and commercially reasonable efforts to achieve a given objective or obligation.
Commercial Operation Date -	The calendar date on which the Commercial Wind Energy Facility produces power for commercial sale, not including test power. Within ten (10) calendar days of the Commercial Operation Date, the Commercial Wind Energy Facility Owner shall notify the County and the Department of the Commercial Operation Date in writing.
Commercial Wind Energy Facility (Facility) -	A wind energy conversion facility of equal or greater than 500 kilowatts in total nameplate generating capacity. “Commercial Wind Energy Facility” includes a wind energy conversion facility seeking an extension of a permit to construct granted by a county or municipality before the effective date of this Act. “Commercial Wind Energy Facility” does not include a wind energy conversion facility: (1) that has submitted a complete permit application to a county or municipality and for which the hearing on the completed application has commenced on the date provided in the public hearing notice, which must be before the effective date of this Act; (2) for which a permit to construct has been issued before the effective date of this Act; or (3) that was constructed before the effective date of this Act.
Commercial Wind Energy Facility Owner (Facility Owner) -	A commercial enterprise that owns or operates a Wind Energy Facility of equal to or greater than 500 kilowatts in total nameplate capacity.
County -	The County where the Commercial Wind Energy Facility is located.

Construction - The installation, preparation for installation and/or repair of a Commercial Wind Energy Facility.

Cropland - Land used for growing row crops, small grains, or hay; includes land which was formerly used as cropland, but is currently in a government set-aside program and pastureland comprised of Prime Farmland.

Deconstruction - The removal of a Commercial Wind Energy Facility from the property of a Landowner and the restoration of that property as provided in the Agricultural Impact Mitigation Agreement. The terms “Deconstruction” and “Decommissioning” have the same meaning and, therefore, may be interchanged with each other.

Deconstruction Plan - A plan prepared by a Professional Engineer, at the Commercial Wind Energy Facility Owner expense, that includes:

(1) the estimated Deconstruction cost per turbine, in current dollars at the time of filing, for the Commercial Wind Energy Facility, taking into account, among other things:

- i the number of Wind Turbines and related Commercial Wind Energy Facilities involved,
- ii the original Construction costs of the Commercial Wind Energy Facilities,
- iii the size and capacity of the Wind Turbines,
- iv the salvage value of the Commercial Wind Energy Facilities,
- v the Construction method and techniques for the Wind Turbines and other Commercial Wind Energy Facilities, and

(2) a comprehensive detailed description of how the Commercial Wind Energy Facility Owner plans to pay for the Deconstruction of the Commercial Wind Energy Facility.

Department - The Illinois Department of Agriculture (IDOA).

Financial Assurance - A reclamation bond or other commercially available financial assurance that is acceptable to the County, with the County as primary beneficiary and the Landowners as secondary beneficiaries.

Landowner - Any person with an ownership interest in property that is used for agricultural purposes and that is party to an Underlying Agreement.

Prime Farmland - Agricultural Land comprised of soils that are defined by the USDA Natural Resources Conservation Service (NRCS) as being "prime" soils (generally considered the most productive soils with the least input of nutrients and management).

Professional Engineer -	An engineer licensed to practice engineering in the State of Illinois, and who is determined to be qualified to perform the work described herein by mutual agreement of the County and the Commercial Wind Energy Facility Owner.
Soil and Water Conservation District - (SWCD)	A local unit of government that provides technical and financial assistance to eligible landowners for the conservation of soil and water resources.
Tenant -	Any person lawfully residing or leasing/renting land that is subject to an Underlying Agreement.
Topsoil -	The uppermost layer of the soil that has the darkest color or the highest content of organic matter; more specifically, it is defined as the "A" horizon.
Underlying Agreement -	The written agreement with a Landowner(s) including, but not limited to, an easement, option, lease, or license under the terms of which another person has constructed, constructs, or intends to construct a Commercial Wind Energy Facility on the property of the Landowner.
Underground Cable -	Electrical power lines installed below grade to be utilized for conveyance of power from the Wind Turbine(s) to the Wind Facility substation.
USDA Natural Resources Conservation Service (NRCS) -	NRCS provides America’s farmers with financial and technical assistance to voluntarily put conservation on the ground, not only helping the environment but agricultural operations too.
Useful Life -	A Commercial Wind Energy Facility will be presumed to have no remaining Useful Life if: (1) no electricity is generated for a continuous period of twelve (12) months and (2) the Commercial Wind Energy Facility Owner fails, for a period of 6 consecutive months, to pay the Landowner amounts owed in accordance with the Underlying Agreement.
Wind Turbine -	A wind energy conversion unit equal to or greater than 500 kilowatts in total nameplate generating capacity.

Construction and Deconstruction Requirements

1. Support Structures

A. On Agricultural Land, only single pole support structures will be used for overland transmission not located adjacent to the Commercial Wind Energy Facility substation.

B. Where the electric line is adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures will be placed as close as reasonably practicable and allowable by the applicable County Engineer or other applicable authorities to the highway or railroad right-of-way. The only exceptions may be at jogs or weaves on the highway alignment or along highways or railroads where transmission and distribution lines are already present.

C. The highest priority will be given to locating the electric line parallel and adjacent to highway and/or railroad right-of-way. When this is not possible, Best Efforts will be expended to place all support poles in such a manner so as to minimize their placement on Cropland (i.e., longer than normal spans will be utilized when traversing Cropland).

2. Aboveground Facilities

Locations for Facilities shall be selected in a manner so as to be as unobtrusive as reasonably possible to ongoing agricultural activities occurring on the land that contains the facilities. The Facility Owner’s compliance with applicable local, county, state, and federal statutes, rules, regulations, and ordinances, and its securing any variations or waivers to such statutes, rules, regulations, and ordinances in accordance with applicable law, in selecting such locations shall constitute compliance with this provision.

3. Guy Wires and Anchors

A. Best Efforts will be made to place guy wires and their anchors out of cropland, pastureland and hayland, placing them instead along existing utilization lines and on land not used for row crops, pasture or hay. Where this is not feasible, Best Efforts will be made to minimize guy wire impact on Cropland.

B. All guy wires will be shielded with highly visible guards.

4. Underground Cabling Depth

A. Underground electrical cables will be buried with:

1. a minimum of 5 feet of top cover where it crosses Cropland.
2. a minimum of 5 feet of top cover where it crosses pasture land or other Agricultural Land comprised of soils that are classified by the USDA as being prime soils.
3. a minimum of 3 feet of top cover where it crosses pasture land and other Agricultural Land not comprised of prime soils.
4. a minimum of 3 feet of top cover where it crosses wooded/brushy land.

B. Notwithstanding the foregoing, in those areas where (i) rock in its natural formation and/or (ii) a continuous strata of gravel exceeding 200 feet in length are encountered, the minimum top cover will be 30 inches.

5. Topsoil Removal and Replacement

A. Any excavation shall be performed in a manner to preserve topsoil. Best Efforts will be made to store the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.

B. Best Efforts will be made to store all disturbed subsoil material near the excavation site and separate from the topsoil.

C. When backfilling an excavation site, the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.

D. Refer to Item No. 7.A. through 7.D for procedures pertaining to rock removal from the subsoil and topsoil.

E. Refer to Items No. 8.A. through 8.D. for procedures pertaining to the alleviation of compaction of the topsoil.

F. Best Efforts will be performed to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour (with an allowance for settling) will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance will the topsoil materials be used for any other purpose unless agreed to otherwise by the Landowner.

G. Excess subsoil material resulting from wind turbine foundation excavation shall be removed from Landowner’s property, unless otherwise agreed to by Landowner.

H. Topsoil stripping or separation is not required for the excavation of narrow trenches, those 24 inches wide or less.

6. Repair of Damaged Tile Lines

If underground drainage tile is damaged by Construction or Deconstruction, it will be repaired in a manner that assures the tile line's proper operation at the point of repair. The following shall apply to the tile line repair:

A. The Facility Owner will work with the Landowner to identify the tile lines traversing the property included within the Underlying Agreement which will be crossed or disturbed by the construction of the Facility. All tile lines identified in this manner will be shown on the Construction and Deconstruction Plans and staked or flagged in the locations where expected crossing or disturbance is anticipated prior to Construction or Deconstruction to alert Construction and Deconstruction crews to the possible need for tile line repairs.

B. Tile lines that are damaged, cut, or removed shall be staked or flagged with stakes or flags placed in such a manner they will remain visible until the permanent repairs are completed. In addition, the location of damaged drain tile lines will be recorded using Global Positioning Systems (GPS) technology.

C. If water is flowing through any damaged tile line, the Facility Owner shall utilize Best Efforts to immediately and temporarily repair the tile line until such time that the Facility Owner can make permanent repairs. If the tile lines are dry and water is not flowing, temporary repairs are not required if the permanent repairs can be made by the Facility Owner within 14 days (weather and soil conditions permitting) of the time damage occurred; however, the exposed tile lines will be screened or otherwise protected to prevent the entry of foreign materials or animals into the tile lines.

D. Where tile lines are severed by an excavation trench, repairs shall be made using the IDOA Drain Tile Repairs, Figures 1 and 2.

If there is any dispute between the Landowner and the Facility Owner on the method of permanent tile line repair, the appropriate Soil and Water Conservation District's opinion shall be considered by the Facility Owner and the Landowner.

E. To the extent practicable, there will be a minimum of one foot of separation between the tile line and the Underground Cable whether the Underground Cable passes over or under the tile line. If the tile line was damaged as part of the excavation for installation of the Underground Cable, the Underground Cable will be installed with a minimum one foot clearance below or over the tile line to be repaired or otherwise to the extent practicable.

F. The original tile line alignment and gradient shall be maintained. A laser transit shall be used to ensure the proper gradient is maintained. A laser operated tiling machine shall be used to install or replace tiling segments of 100 linear feet or more.

G. During Construction stage, all permanent tile line repairs must be made within fourteen (14) days of identification or notification of the damage, weather and soil conditions permitting. At other times, such repairs must be made at a time mutually agreed upon by the Facility Owner and the Landowner.

H. Following Construction and/or Deconstruction activities, the Facility Owner will utilize best practices to restore the drainage in the area to the condition it was before the commencement of the Construction/Deconstruction activities. If the Facility Owner cannot agree upon a reasonable method to complete this restoration, the Facility Owner may – but is not required to – implement the recommendations of the appropriate County SWCD and such implementation would resolve the dispute.

I. Following completion of the work, the Facility Owner will be responsible for correcting or paying for the correction of all tile line repairs that fail due to Construction and/or Deconstruction, provided any such failure was identified by Landowner within twenty-four (24) months after Construction or Deconstruction. The Facility Owner will not be responsible for tile line repairs that the Facility Owner pays the Landowner to perform. Facility Owner shall use Best Efforts to utilize a local drain tile repair company.

7. Rock Removal

The following rock removal procedures only pertain to rocks found in the uppermost 42 inches of soil, the common freeze zone in Illinois, which emerged on Landowner property as a result of Construction and/or Deconstruction.

A. Before replacing any Topsoil, Best Efforts will be taken to remove all rocks greater than 3 inches in any dimension from the surface of exposed subsoil which were brought to the site as a result of Construction and/or Deconstruction.

B. As topsoil is replaced, all rocks greater than 3 inches in any dimension will be removed from the topsoil which emerged at the site as a result of Construction and/or Deconstruction activities.

C. If trenching, blasting, or boring operations are required through rocky terrain, precautions will be taken to minimize the potential for oversized rocks to become interspersed with adjacent soil material.

D. Rocks and soil containing rocks removed from the subsoil areas, topsoil, or from any excavations, will be hauled off the Landowner's premises or disposed of on the Landowner's premises at a location that is mutually acceptable to the Landowner and the Facility Owner.

8. Compaction and Rutting

A. Unless the Landowner opts to do the restoration work, after the topsoil has been replaced, all areas that were traversed by vehicles and Construction and/or Deconstruction equipment will be ripped at least 18 inches deep, and all pasture and woodland will be ripped at least 12 inches deep to the extent practicable. The existence of tile lines or underground utilities may necessitate less depth. The disturbed area will then be disked. Decompaction shall be conducted according to the guidelines provided in Appendices A and B.

B. To the extent practicable, all ripping and disking will be done at a time when the soil is dry enough for normal tillage operations to occur on land adjacent to the right-of-way.

C. The Facility Owner will restore all rutted land to a condition as close as possible to its original condition.

D. If there is any dispute between the Landowner and the Facility Owner as to what areas need to be ripped/disked or the depth at which compacted areas should be ripped/disked, the appropriate County SWCD’s opinion shall be considered by the Facility Owner and the Landowner.

9. Construction During Wet Weather

Except as provided below, construction activities are not allowed on farmland where normal farming operations, such as plowing, disking, planting or harvesting, cannot take place due to excessively wet soils. Wet weather conditions are to be determined on a field by field basis and not for the project as a whole.

A. Construction activities on prepared surfaces, surfaces where topsoil and subsoil have been removed, heavily compacted in preparation, or otherwise stabilized (e.g. through cement mixing) may occur at the discretion of the Facility Owner in wet weather conditions.

B. Construction activities on unprepared surfaces will be done only when work will not result in rutting which results in a mixing of subsoil and topsoil. Determination as to the potential of subsoil and topsoil mixing will be in consultation with the underlying Landowner, or, if approved by the Landowner, his/her designated Tenant.

10. Land Leveling

A. Following the completion of Construction and/or Deconstruction of a Commercial Wind Energy Facility, the Facility Owner will utilize Best Efforts to restore the disturbed area to its original pre-construction elevation and contour should uneven settling occur or surface drainage problems develop as a result of said activity.

B. If, within twenty-four (24) months after Construction or Deconstruction, uneven settling occurs or surface drainage problems develop as a result of the Construction or Deconstruction of a Facility, the Facility Owner will provide such land leveling services within 45 days of a Landowner's written notice, weather and soil conditions permitting.

C. If there is any dispute between the Landowner and the Facility Owner as to what areas need additional land leveling beyond that which is done at the time of Construction, the Facility Owner may – but is not required to – implement the recommendations of the appropriate SWCD and such implementation will resolve the dispute.

11. Prevention of Soil Erosion

A. The Facility Owner will work with Landowners to prevent excessive erosion on land that has been disturbed by Construction or Deconstruction of a Commercial Wind Energy Facility. Consultation with the local SWCD by the Facility Owner will take place to determine the appropriate methods to be implemented to control erosion. This is not a requirement, however, if the land is bare Cropland that the Landowner intends to leave bare until the next crop is planted.

B. If the Landowner and Facility Owner cannot agree upon a reasonable method to control erosion on the Landowner's right-of-way, the Facility Owner may – but is not required to – implement the recommendations of the appropriate SWCD and such implementation will resolve the dispute.

12. Repair of Damaged Soil Conservation Practices

Consultation with the local SWCD by the Facility Owner will be carried out to determine if there are soil conservation practices (such as terraces, grassed waterways, etc.) that will be damaged by the Construction and/or Deconstruction of a Commercial Wind Energy Facility. Those conservation practices will be restored to their preconstruction condition as close as reasonably practicable in accordance with USDA Natural Resources Conservation Service technical standards. All repair costs shall be borne by the Facility Owner.

13. Damages to Private Property

The Facility Owner will reasonably compensate Landowners for damages caused by the Facility Owner. Damage to Cropland will be reimbursed to the Landowner as prescribed in the applicable Underlying Agreement.

14. Clearing of Trees and Brush

A. If trees are to be removed for the Construction or Deconstruction of a Commercial Wind Energy Facility, the Facility Owner will consult with the Landowner to determine if there are trees of commercial or other value to the Landowner.

B. If there are trees of commercial or other value to the Landowner, the Facility Owner will allow the Landowner the right to retain ownership of the trees to be removed with the disposition of the removed trees to be negotiated prior to the commencement of land clearing.

C. Unless otherwise restricted by federal, state or local regulations, the Facility Owner will follow the Landowner's desires regarding the removal and disposal of trees, brush, and stumps of no value to the Landowner by burning, burial, etc., or complete removal from any affected property.

15. Interference with Irrigation Systems

A. If the Construction or Deconstruction of a Commercial Wind Energy Facility interrupts an operational (or soon to be operational) spray irrigation system, the Facility Owner will establish with the Landowner an acceptable amount of time the irrigation system may be out of service.

B. If, as a result of Construction or Deconstruction of a Facility, an irrigation system interruption results in crop damages, the Landowner will be compensated for all such crop damages per the applicable Underlying Agreement.

C. If it is feasible and mutually acceptable to the Facility Owner and the Landowner, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which a Facility is also being Constructed or Deconstructed.

16. Access Roads

A. To the extent practicable, access roads will be designed to not impede surface drainage and will be built to minimize soil erosion on or near the access roads.

B. Access roads may be left intact through mutual agreement of the Landowner and the Facility Owner unless otherwise restricted by federal, state, or local regulations after the Useful Life.

C. If the access roads are removed, Best Efforts will be expended to assure that the land shall be restored to equivalent condition(s) as existed prior to their construction, or as otherwise agreed to by the Facility Owner and the Landowner. All access roads that are removed shall be ripped to a depth of 18 inches. All ripping will be done consistent with Items 8.A. through 8.D.

17. Weed Control

A. The Facility Owner will provide for weed control in a manner that prevents the spread of weeds onto agricultural land affected by Construction or Deconstruction. Spraying will be done by a pesticide applicator that is appropriately licensed for doing such work in the State of Illinois.

B. The Facility Owner will be responsible for reimbursing all reasonable costs incurred by owners of agricultural land affected by Construction or Deconstruction where it has been determined that weeds have spread from land impacted by the Facility. Reimbursement is contingent upon written notice to the Facility Owner and failure to respond within forty-five (45) days after notice is received.

18. Pumping of Water from Open Excavations

A. In the event it becomes necessary to pump water from open excavations, the Facility Owner will pump the water in a manner that will avoid damaging agricultural land affected by Construction or Deconstruction. Such damages include, but are not limited to: inundation of crops for more than 24 hours, deposition of sediment in ditches and other water courses, and the deposition of subsoil sediment and gravel in fields and pastures.

B. If it is impossible to avoid water-related damages as described in Item 18.A. above, the Facility Owner will compensate the Landowner for damages to crops as prescribed in the applicable Underlying Agreement.

C. All pumping of water shall comply with existing drainage laws, local ordinances relating to such activities and any other applicable laws, specifically including the Clean Water Act.

19. Advance Notice of Access to Private Property

A. The Facility Owner will provide the Landowner or Tenant with a minimum of 48 hours prior notice before accessing his/her property for the purpose of Construction or Deconstruction of a Commercial Wind Energy Facility.

B. Prior notice shall consist of either: (i) a personal contact, telephone contact or email contact, whereby the Landowner or tenant is informed of the Facility Owner's intent to access the land; or (ii) the Facility Owner mails or hand delivers to the Landowner or tenant's home a dated, written notice of the Facility Owner's intent. Such written or hand delivered notice shall include a toll-free number at which agents of the Facility Owner can be reached. The Landowner or tenant need not acknowledge receipt of the written notice before the Facility Owner can enter the Landowner's property.

20. Indemnification

The Commercial Wind Energy Facility Owner will indemnify all Landowners, their heirs, successors, legal representatives, and assigns from and against all claims, injuries, suits, damages, costs, losses, and reasonable expenses resulting from or arising out of Construction and/or Deconstruction, including damage to such Commercial Wind Energy Facility or any of its appurtenances, except where claims, injuries, suits, damages, costs, losses, and expenses are caused by the negligence or intentional acts, or willful omissions of such Landowners, and/or the Landowners heirs, successors, legal representatives, and assigns. In such circumstances, the Landowners, and the Landowners’ heirs, successors, legal representatives, and assigns will indemnify the Facility Owner, its heirs, successors, legal representatives, and assigns from and against said claims, injuries, suits, damages, costs, losses, and reasonable expenses including but not limited to attorneys’ fees and costs.

21. Deconstruction of Commercial Wind Energy Facilities and Financial Assurance

A. Deconstruction of a Facility shall include the removal/disposition of the following equipment/facilities utilized for operation of the Facility and located on Landowner property:

1. Wind Turbine towers and blades;

2. Wind Turbine generators;
3. Wind Turbine foundations (to depth of 5 feet);
4. Transformers;
5. Collection/interconnection substation (components, cable, and steel foundations), provided, however, that electrical collection cables at a depth of 5 feet or greater may be left in place;
6. Overhead collection system;
7. Operations/maintenance buildings, spare parts buildings and substation/ switching gear buildings unless otherwise agreed to by the Landowner;
8. Access Road(s) (unless Landowner requests in writing that the access road is to remain);
9. Operation/maintenance yard/staging area unless otherwise agreed to by the Landowner; and
10. Debris and litter generated by Deconstruction and Deconstruction crews.

B. The Facility Owner shall, at its expense, complete Deconstruction of a Commercial Wind Energy Facility within eighteen (18) months after the end of the Useful Life of the Facility.

C. During the County permit process, the Facility Owner shall file with the County, a Deconstruction Plan. A second Deconstruction Plan shall be filed with the County on or before the end of the tenth year of the Commercial Operation Date.

D. The Facility Owner shall provide the County with Financial Assurance to cover the estimated costs of Deconstruction of the Commercial Wind Energy Facility. Provision of this Financial Assurance shall be phased in over the first 11 years of the Project's operation as follows:

1. On or before the first anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover ten (10) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan provided during the county permit process.

2. On or before the sixth anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover fifty (50) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan provided during the county permit process.

3. On or before the eleventh anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover one hundred (100) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan provided during the tenth year of the Commercial Operation Date.

The Financial Assurance shall not release the surety from liability until the Financial Assurance is replaced. The salvage value of the Facility may only be used to reduce the estimated costs of Deconstruction in the Deconstruction Plan if the County agrees that all interests in the salvage value are subordinate or have been subordinated to that of the County if Abandonment occurs.

E. The County may – but is not required to – reevaluate the estimated costs of Deconstruction of any Commercial Wind Energy Facility after the tenth anniversary, and every five years thereafter, of the Commercial Operation Date which reevaluation must be performed by an independent third party Professional Engineer licensed in the State of Illinois. The County shall provide the Facility Owner with a copy of any reevaluation report. Based on any reevaluation, the County may require changes in the level of Financial Assurance used to calculate the phased coverages described in Section 21 D. required from the Facility Owner. The Facility Owner shall be responsible for the cost of any reevaluation by a third party Professional Engineer.

F. Upon Abandonment, the County may take all appropriate actions for Deconstruction, including drawing upon the Financial Assurance. In the event the County declines to take any action for Deconstruction, the Landowners may draw upon the Financial Assurance.

Concurrence of the Parties to this AIMA

The Illinois Department of Agriculture and , LLC concur that this AIMA is the complete AIMA governing the mitigation of agricultural impacts that may result from the construction of the wind farm project in County within the State of Illinois.

The effective date of this AIMA commences on the date of execution.

STATE OF ILLINOIS
DEPARTMENT OF AGRICULTURE

____
By Jerry Costello II, Director

____
By John Teefey, General Counsel

801 E. Sangamon Avenue, 62702
State Fairgrounds, POB 19281
Springfield IL 62794-9281

______________________, 2022

, LLC
a state name limited liability company

____
By , title

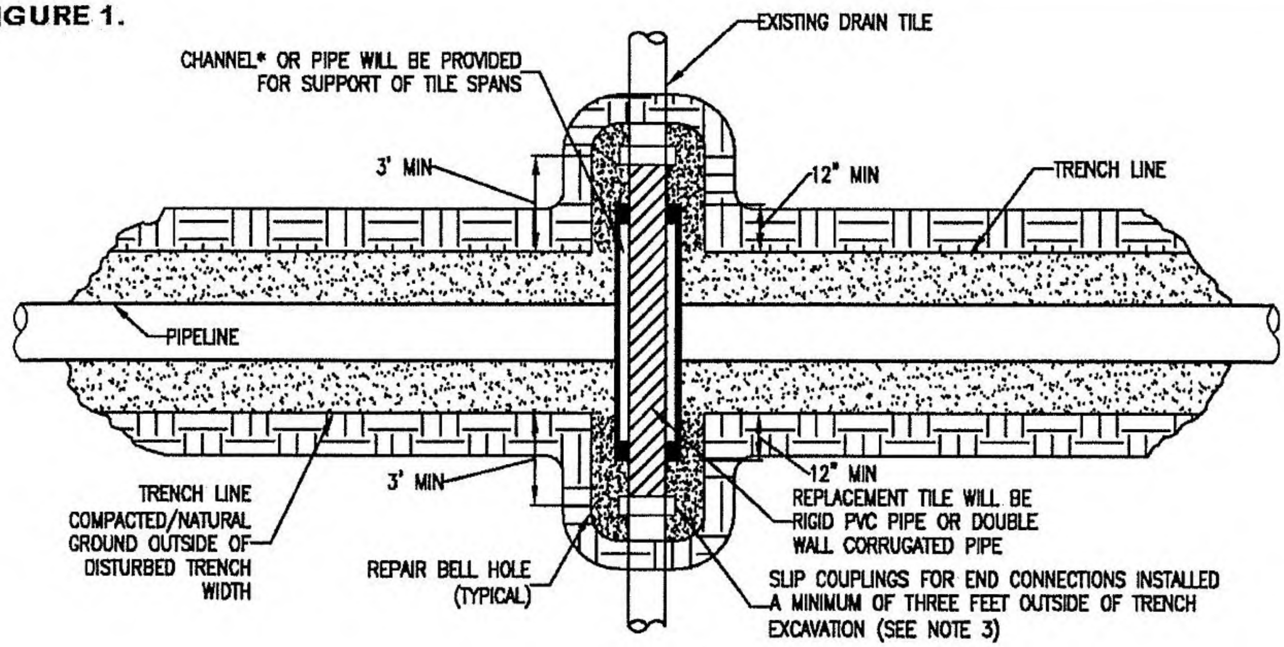
address

______________________, 2022

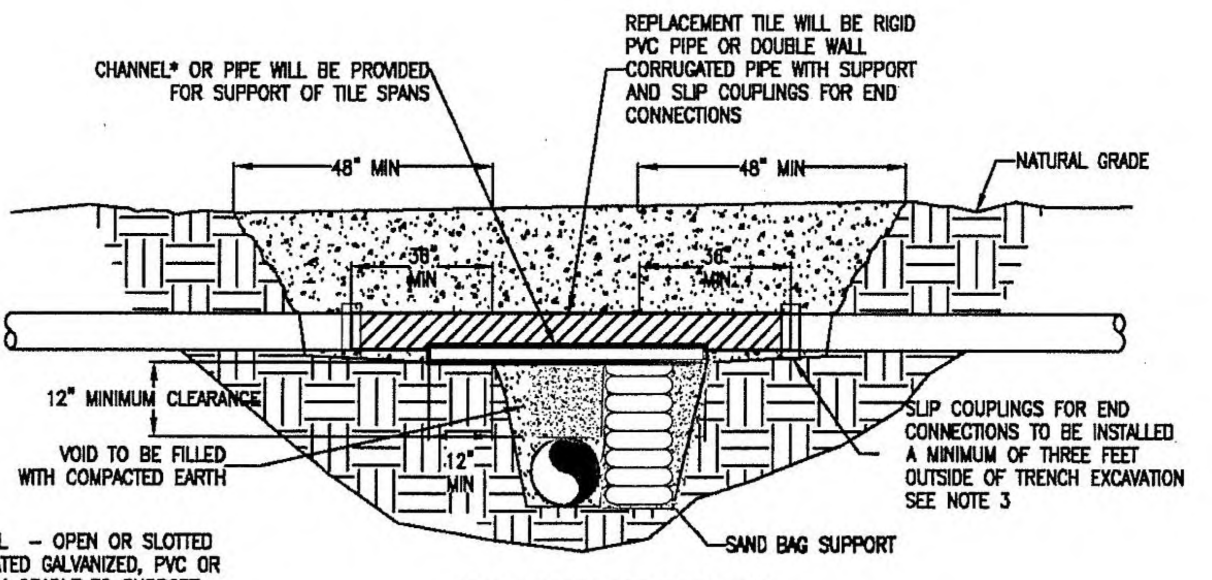
Wind Farm AIMA template - 81818

Appendix B: Construction Standards

FIGURE 1.



PLAN
N.T.S.



*CHANNEL – OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE TO SUPPORT DRAIN TILE.

CROSS SECTION
N.T.S.

NOTE:

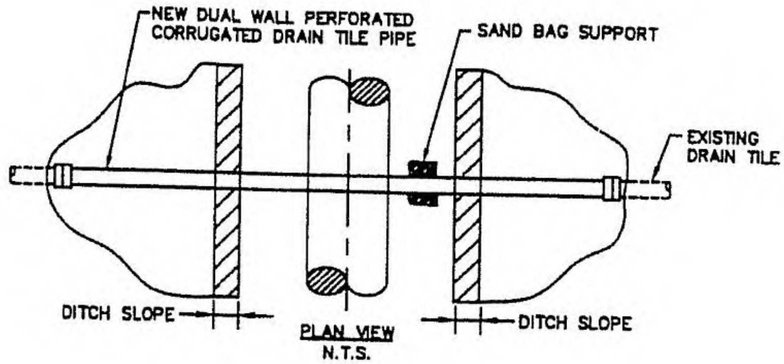
1. IMMEDIATELY REPAIR TILE IF WATER IS FLOWING THROUGH TILE AT TIME OF TRENCHING. IF NO WATER IS FLOWING AND TEMPORARY REPAIR IS DELAYED, OR NOT MADE BY THE END OF THE WORK DAY, A SCREEN OR APPROPRIATE 'NIGHT CAP' SHALL BE PLACED ON OPEN ENDS OF TILE TO PREVENT ENTRAPMENT OF ANIMALS ETC.

2. CHANNEL OR PIPE (OPEN OR SLOTTED) MADE OF CORRUGATED GALVANIZED PIPE, PVC OR ALUMINUM WILL BE USED FOR SUPPORT OF DRAIN TILE SPANS.

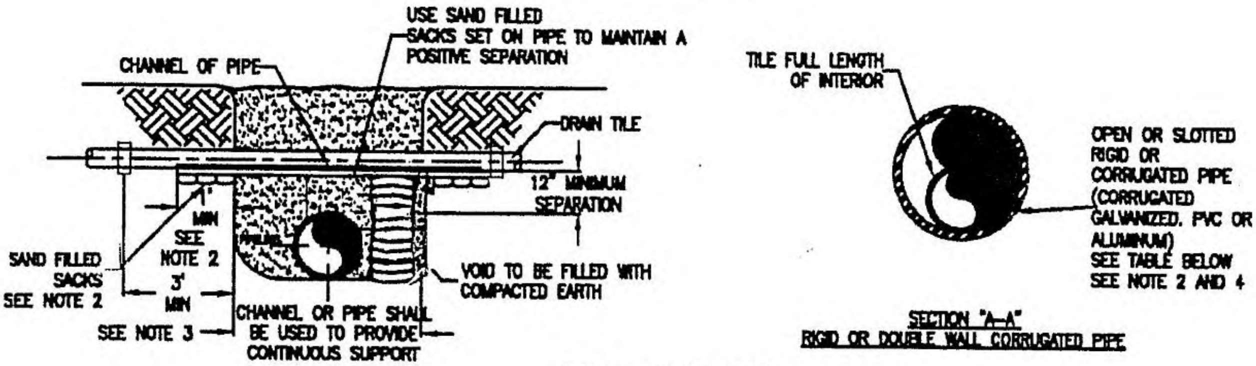
3. INDUSTRY STANDARDS SHALL BE FOLLOWED TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES.

TEMPORARY DRAIN TILE REPAIR

FIGURE 2.



PLAN VIEW



END VIEWS

MINIMUM SUPPORT TABLE			
TILE SIZE	CHANNEL SIZE	PIPE SIZE	
3"	4" @ 5.4 #/ft	4"	STD. WT.
4"-5"	5" @ 6.7 #/ft	6"	STD. WT.
8"-9"	7" @ 9.8 #/ft	9"-10"	STD. WT.
10"	10" @ 15.3 #/ft	12"	STD. WT.

NOTE:

1. TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.

2. 1'–0" MINIMUM LENGTH OF CHANNEL OR RIGID PIPE (OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE) SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAND BAGS TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES).

3. DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SLIP COUPLINGS.

4. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.

5. OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH TO THE CHANNEL/PIPE SECTIONS SHOWN AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE. SITE SPECIFIC ALTERNATE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THEN 10" DIAMETER, AND FOR "HEADER" SYSTEMS.

6. ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.

7. PRIOR TO REPAIRING TILE, CONTRACTOR SHALL PROBE LATERALLY INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITION.

PERMANENT DRAIN TILE REPAIR

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

ACCESS ROAD

CODE 560

(ft)

DEFINITION

An access road is an established route for equipment and vehicles.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- To provide a fixed route for vehicular travel for resource activities involving the management of conservation forestry operations, livestock, agriculture, wildlife habitat, and other conservation enterprises

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where access is needed from a private or public road or highway to a land use enterprise or conservation measure, or where access is needed in a planned land use area.

Access roads range from single-purpose, seasonal-use roads, designed for low speed and rough driving conditions, to all-purpose, all-weather roads. Single-purpose roads provide access to areas such as forest fire lines, forest management activities, remote recreation areas, or for maintenance of facilities.

This practice does not apply to temporary or infrequently used trails used for logging. Use NRCS Conservation Practice Standard (CPS) Forest Trails and Landings (Code 655) to meet this need. Trails and walkways used for animals, pedestrians, or off-road vehicles are addressed in NRCS CPS Trails and Walkways (Code 575).

CRITERIA

General Criteria Applicable to All Purposes

Design the access road to serve the enterprise or planned use with the expected vehicular or equipment traffic. Factors in the design include the type of vehicle or equipment and the speed, loads, soils, climate, turning radius, and other conditions under which vehicles and equipment are expected to operate.

Location
Locate the access road to serve the purpose intended, to facilitate the control and disposal of surface and subsurface water, to control or reduce erosion, and to make the best use of topographic features. Design the layout of the road to follow natural contours and slopes to minimize disturbance of drainage patterns. Locate the access road where it can be maintained and where water management problems are not created. To reduce potential pollution, position the road as far as possible from water bodies and watercourses. To the extent possible, do not impede overland flow.

Alignment
Adapt the gradient and horizontal alignment to the intensity of use, the mode of travel, the type of equipment and load weights, and the level of development.

Grades normally should not exceed 10 percent except for short lengths. A maximum grade of 15 percent should only be exceeded if necessary for special uses such as field access roads or fire protection roads.

Width
The minimum width of the roadbed for an all-purpose road is 14 feet for one-way traffic and 20 feet for two-way traffic. The roadbed width includes a tread-width of 10 feet for one-way traffic or 16 feet for two-way traffic and 2 feet of shoulder width on each side. Increase the two-way traffic width by a minimum of 4 feet for trailer traffic. Single-purpose roads will have a minimum width of 10 feet with greater widths at curves and turnouts. Use vegetation or other measures to protect the shoulders from erosion.

Use turnouts on single lane roads where vehicles travel in both directions on a limited basis. Design the turnout to accommodate the anticipated vehicle use.

Provide a turnaround at the end of dead end roads. Size the turnaround for the anticipated vehicle type that will be using the road.

Provide parking space as needed to keep vehicles from parking on the shoulder or other undesirable locations.

Side slopes
Design all cuts and fills to have stable slopes that are a minimum of 2 horizontal to 1 vertical. For short lengths, rock areas, or very steep hillsides, steeper slopes may be permitted if soil conditions warrant and special stabilization measures are installed. Where possible, design slopes to a minimum of 4 horizontal to 1 vertical to improve establishment and maintenance of turf.

Where possible, avoid areas with geological conditions and soils that are subject to slides. When the area cannot be avoided, treat the area to prevent slides.

Drainage
The type of drainage structures used will depend on the intended use and runoff conditions. Provide a culvert, bridge, ford, or surface cross drain for water management at every natural drainageway. The capacity and design of the drainage feature must be consistent with sound engineering principles and must be adequate for the class of vehicle, road type, land use in the watershed, and intensity of use.

When a culvert or bridge is installed in a drainageway, it must have a minimum capacity that is sufficient to convey the design storm runoff without causing erosion or road overtopping. Table 1 lists minimum design storm frequencies for various road types.

Table 1: Minimum design storm frequencies

Road Intensity and Usage	Storm Frequency
Intermittent; single-purpose or farm use	2 year - 24 Hour
Frequent; farm headquarters, livestock access, isolated recreation areas	10 year - 24 Hour
High intensity; residential or public access	25 year - 24 Hour

For public access roads, design storm frequencies must also meet local standards.

Use NRCS CPSs Stream Crossing (Code 578), or Aquatic Organism Passage (Code 396) when aquatic species are present, to design stream crossings.

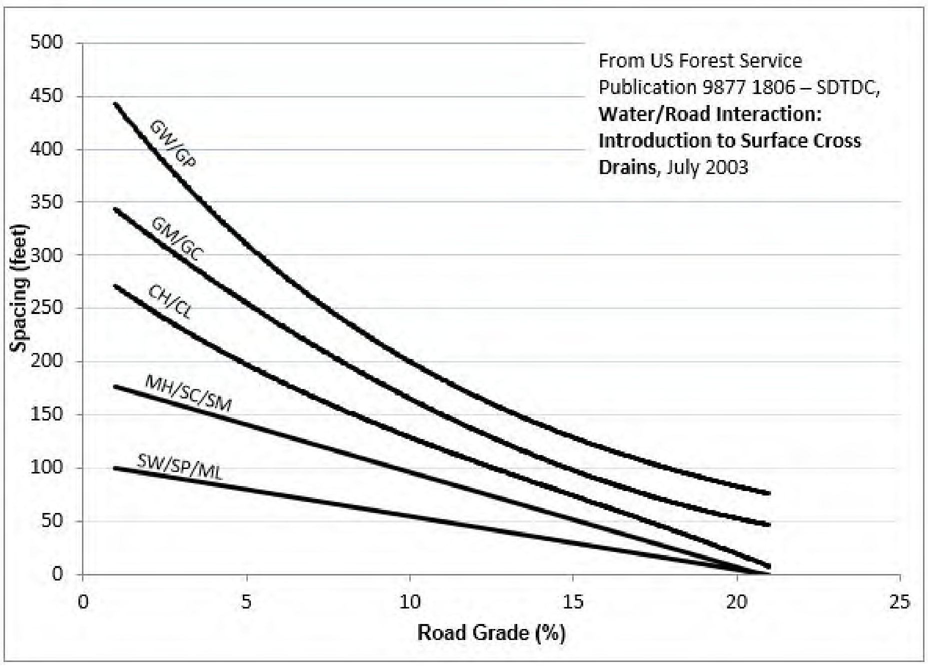
An erosion-resistant low point or overflow area may be constructed across the access road to supplement the culvert capacity on nonpublic-use roads.

Surface cross drains, such as broad-based or rolling dips, may be used to control and direct water flow off the road surface on low-intensity-use forest, ranch, or similar roads. Protect the outlets of drainage measures to limit erosion. On steep grades where water could run down the road, use a broad-based dip or other similar feature to divert runoff. The surface cross drain must be constructed of materials that are compatible with the use and maintenance of the road surface. The discharge area for a surface cross drain must be well-vegetated or have other erosion resistant materials (see fig. 1). Reduce separation distances as needed to account for local hydrologic conditions.

Design a minimum cross slope to direct precipitation off of the roadway. Cross slopes range from 1.5 to 2 percent for paved surfaces and 2 to 6 percent for unpaved surfaces.

Provide ditches, as needed, to move water away from the road. Maintain unobstructed flow into the ditches to prevent flows from causing roadside erosion. The capacity of a roadside ditch must be adequate to carry the drainage from the road surface. Design ditch channels to have stable grades and side slopes. Provide a stable outlet for the ditch. Protection may include riprap or other similar materials. Use NRCS CPSs Structure for Water Control (Code 587), Lined Waterway or Outlet (Code 468), or Grade Stabilization Structure (Code 410), if needed.

Figure 1. Recommended spacing of surface cross drains based on soil types



Surfacing
Install a wearing course or surface treatment on the access road if required by traffic needs, soil, climate, erosion control, particulate matter emission control, or other site condition. If none of these factors apply, no special treatment of the surface is required.

When a treatment is used, the type of treatment will depend on local conditions, available materials, and the existing road base. On roads made of soils with weak bearing capacity, such as silts, organics, and clays, or where it is necessary to separate the surfacing material from the foundation material, place a geotextile material specifically designed for road stabilization applications under the surface treatment. Use the criteria in NRCS CPS Heavy Use Area Protection (Code 561) to design the surface treatment. Do not use toxic and acid-forming materials to build the road.

Safety
Provide passing lanes, turnouts, guardrails, signs, and other facilities as needed for safe traffic flow. Design an intersection to a public highway to meet applicable Federal, State, and local criteria.

Erosion control
Use the criteria in NRCS CPS Critical Area Planting (Code 342) or the NRCS State-approved seeding specification to vegetate road banks and disturbed areas as soon as soil and climatic conditions are favorable. If permanent vegetation cannot be established in a timely manner, use appropriate temporary measures to control erosion. If the use of vegetation is precluded and protection against erosion is needed, use the criteria in NRCS CPS Mulching (Code 484) to provide surface protection.

During and after construction, use erosion and sediment control measures to minimize offsite damages.

CONSIDERATIONS

Consider visual resources and environmental values during planning and design of the road system.

Consider locating roads outside of the active floodplain to reduce bank erosion potential and the effects on stream hydrology.

Limiting the number of vehicles and vehicle speed will reduce the potential for generation of particulate matter and decrease safety and air quality concerns.

Consider using additional conservation practices such as NRCS CPS Windbreak/Shelterbelt Establishment (Code 380), to reduce the potential for generation and transport of particulate matter emissions.

During adverse weather, some roads may become unsafe or may be damaged by use. Consider restricting access to the road at that time.

When revegetation is needed, consider revegetating using species or diverse mixes that are native or adapted to the site and have multiple benefits. In addition, where appropriate, consider a diverse mixture of forbs and wildflowers to support pollinator and other wildlife habitat.

Consideration should be given to—

- Effects on downstream flows, wetlands, or aquifers that would affect other water uses or users.
- Effects on wildlife habitats that would be associated with the practice.
- Utilizing buffers where possible to protect surface water.
- Short-term and construction-related effects of this practice.

PLANS AND SPECIFICATIONS

Provide plans and specifications that describe the requirements for applying the practice to achieve its intended purpose. As a minimum, include—

- A plan view of the proposed road that shows water features, known utilities, and other features that affect the design.
- Road width and length with profile and typical cross section(s) including turnouts, parking, and turnarounds.
- Design road grades or maximum grades when applicable.
- Soils investigation. Include location of soil borings and plot of the soil/geologic boring showing the Unified Soil Classification System, as needed.
- Type and thickness of surface treatment including any subbase preparation.
- Grading plan.

- Cut and fill slopes where applicable.
- Planned drainage features.
- Location, size, type, length, and invert elevations of all required water control structures.
- Vegetative requirements that include vegetation materials to be used, establishment rates, and season of planting.
- Erosion and sediment control measures, as needed.
- Safety features.
- Construction and material specifications.

OPERATION AND MAINTENANCE

Prepare a written operation and maintenance plan for the access road. As a minimum, include the following activities:

- Inspect culverts, roadside ditches, water bars, and outlets after each major runoff event and restore flow capacity as needed. Ensure proper cross section is available and outlets are stable.
- Maintain vegetated areas in adequate cover to meet the intended purpose(s).
- Fill low areas in travel treads and regrade, as needed, to maintain road cross section. Repair or replace surfacing materials as needed.
- Selection of chemical treatment(s) for surface treatment or snow/ice removal, as needed. Select the chemicals used for surface treatment or snow and ice removal to minimize adverse effects on stabilizing vegetation.
- Selection of dust control measures, as needed.

REFERENCES

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American Association of State Highway and Transportation Officials. 2001. Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400). Washington, D.C.

Swift, L.W., Jr. 1988. Forest Access Roads: Design, Maintenance, and Soil Loss. *In*: W.T. Swank and D.A. Crossley, Jr. (ed.) Ecological Studies, Vol. 66: Forest Hydrology and Ecology at Coweeta. New York: Springer-Verlag: 313-324.

USDA Forest Service. 2003. Water/Road Interaction: Introduction to Surface Cross Drains, Publication 9877 1806 – SDTDC. Washington, D.C.

Weaver, W.E., E.M. Weppner, and D.K. Hagans. 2015. Handbook for Forest, Ranch & Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining and Closing Wildland Roads (Rev. 1st ed). Mendocino County Resource Conservation District. Ukiah, CA. https://www.pacificwatershed.com/sites/default/files/RoadsEnglishBOOKapril2015b.pdf

Appendix A.

Guidelines for Conducting Proper and Successful Decompaction

1. Decompaction is required when all three conditions apply.
   A. the area has been trafficked or traversed by vehicles or construction equipment, and
   B. the soil penetrometer readings are 300 psi or greater, and
   C. The soil strength (psi) in the right-of-way area is greater than that of the non-trafficked area.

2. An Environmental and/or Agricultural Inspector (AI), with experience and training in the proper identification of compacted soil and operation methods of deep decompaction tools is required to observe the daily operation of the ripper/subsoiler to ensure the conditions are appropriate for decompaction efforts and that the proper equipment is utilized and that equipment is set-up and operated correctly.

3. To achieve the most effective shatter of the compacted soil the following guidelines have been established:
   A. Conduct ripping when the soil is dry. Follow the “Soil Plasticity Test Procedures” detailed in Appendix B to determine if soil conditions are adequately dry to conduct decompaction efforts.
   B. Deep ripping shall be conducted using a ripper or subsoiling tool with a shank length of no less than 18 inches and a shank spacing of approximately the same measurement as the shank length.
   C. Use a ripper with a knife length of no less than 2 inches more than the desired depth of decompaction.
   D. To best promote revegetation and restore crop production, a total depth of 30 or more inches of soil (topsoil plus subsoil) is required.
   E. The minimum depths of decompaction stated above in 3.D. are required where possible. A safe distance from sub-surface structures (tile drains, pipelines, buried utilities, bedrock, etc.) must be maintained at all times. Where such structures exist, a lesser depth of decompaction will be required to prevent damage to equipment and the structures as well as to maintain a safe work environment. The allowable decompaction depth in these instances will be determined on a site by site basis.
   F. When the knives are in the soil to the desired depth, the tongue of the ripper should be parallel to the surface of the ground.
   G. Select a tractor that has enough horsepower to pull the ripper at a speed of 1.5 to 2 mph and whose footprint is of equal or lesser width than the ripper. Tracked equipment is preferred and typically required to achieve this criteria.
   H. The ripper shanks should not create ruts, channels, or mixing of the sub-soil with topsoil. A speed of 1.5 to 2 mph is recommended to minimize the risk of rutting and soil mixing. The ideal operating speed can vary with soil characteristics, tractor and ripping tool used. An excessive travel speed will often increase mixing of soil horizons.
   I. When the equipment is set up and operated correctly, the ripper should create a wave across the surface of the ground as it lifts and drops the soil.

J. Make one ripping pass through the compacted area. Using a penetrometer, the AI will measure the PSI between the ripped knife tracks to determine if the single ripping pass was successful. Additional passes should only be used where needed as they may reduce the effectiveness of the ripping by recompacting the soil shattered in the previous pass.

K. If the first pass does not successfully decompact the soil, additional passes will be needed. Should multiple passes of the ripper be needed to achieve decompaction between the knives tracks of the ripping tool, the subsequent passes should be positioned so the knife tracks from the previous pass are split by the second pass. If three or more passes have been made and sufficient decompaction has not yet been achieved the AI may choose to halt further decompaction efforts in that area until conditions improve or better methods are determined.

L. Following ripping, all stone and rock three or more inches in size which has been lifted to the surface shall be collected and removed from agricultural areas.

M. After ripping has been conducted, do not allow unnecessary traffic on the ripped area.

N. In agricultural lands and croplands that will not be replanted to vegetation by the Company, recommend to landowners to plant a cover crop (cereal rye, clover, alfalfa, tillage radish, turnips, etc.) following decompaction. Reduced compaction created by the ripper pass will not remain over time without subsequent root penetration. Root penetration into the shattered soil is necessary to establish permanent stabilized channels to conduct air and water into the soil profile. Two good sources for landowner cover crop education are http://www.mccc.msu.edu/CCinfo/cropbycrop.html and http://mcccdev.anr.msu.edu/. For local expertise, consult with your county's Soil and Water Conservation District /USDA Natural Resource Conservation Service (NRCS) office for cover crop selection and compliance with NRCS planting deadlines.

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Appendix B.

Soil Plasticity Test Procedures

The Agricultural Inspector will test the consistency of the surface soil to a depth of approximately 4 to 8 inches using the Field Plasticity Test procedure developed from the *Annual Book of ASTM Standards, Plastic Limit of Soils* (ASTM D-4318).

1. Pull a soil plug from the area to be tilled, moved, or trafficked to a depth of 4-8 inches.

2. Roll a portion of the sample between the palms of the hands to form a wire with a diameter of one-eighth inch.

3. The soil consistency is:

   A. Tillable (able to be worked) if the soil wire breaks into segments not exceeding 3/8 of an inch in length.

   B. Plastic (not tillable) if the segments are longer than 3/8 of an inch before breaking.

4. This Procedure is to be used to aid in determining when soil conditions are dry enough for construction activities to proceed.

5. Once the soil consistency has been determined to be of adequate dryness, the plasticity test is not required again until the next precipitation event.

ELECTRIC TRANSMISSION LINE
CONSTRUCTION STANDARDS AND POLICIES

Recommended by the

Illinois Department of Agriculture

The following electric line construction standards and policies are recommended by the Illinois Department of Agriculture (IDOA) to help preserve the integrity of any agricultural land that is impacted by electric line construction. They were developed with the cooperation of agricultural agencies, organizations, landowners, tenants, drainage contractors and electric utility companies.

The below prescribed construction standards and policies are applicable to construction activities occurring partially or wholly on privately owned agricultural land. With the exception of Item No. 3, they are not intended to apply to construction activities occurring entirely on public right-of-way, railroad right-of-way, or privately owned land that is not agricultural land.

Conditions

The mitigative actions specified in the construction standards and policies set forth below will be implemented in accordance with the conditions listed below:

A. All mitigative actions are subject to modification through negotiation by landowners and a representative of the Company, provided such changes are negotiated in advance of any construction, maintenance, or repairs.

B. The Company may negotiate with landowners to carry out the mitigative actions that landowners wish to perform themselves.

C. All mitigative actions employed by the Company, unless otherwise specified in these construction standards and policies or in an easement negotiated with an individual landowner, will be implemented within 45 days of completion of the electric transmission line facilities on any affected property, weather and landowner permitting. Temporary repairs will be made by the Company during the construction process as needed to minimize the risk of additional property damage that may result from an extended construction time period. If weather delays the completion of any mitigative action beyond the 45 day period, the Company will provide the affected landowner(s) with a written estimate of the time needed for completion of the mitigative action.

D. All mitigative actions will extend to associated future construction, maintenance, and repairs by the Company.

E. Every effort will be made by the Company to determine all affected tenants along the route of the electric transmission line. The Company will endeavor to keep the tenants informed of the project=s status, meetings, and other factors that may have an impact upon their farming operations.

F. The Company agrees to include a statement of its adherence to the construction standards and policies in any environmental assessment and/or environmental impact statement that may be prepared on the project.

G. The Company will implement all mitigative actions to the extent that they do not conflict with the requirements of any applicable federal, state and local rules and regulations and other permits and approvals that are obtained by the Company for the project.

H. If any mitigative action(s) is held to be unenforceable, no other provision shall be affected by that holding, and the remainder of the mitigative actions shall be interpreted as if they did not contain the unenforceable provision.

Definitions

Agricultural land - Land used for cropland, hayland, pasture land, managed woodlands, truck gardens, farmsteads, commercial ag-related facilities, feedlots, livestock confinement systems, land on which farm buildings are located, and land in government set-aside programs.

Company - Utility company, and any contractor or sub-contractor in the employ of the Company, for the purpose of completing the electric transmission line or any mitigative actions contained herein.

Cropland - Land used for growing row crops, small grains, or hay; includes land which was formerly used as cropland, but is currently in a government set-aside program and pastureland comprised of prime farmland.

Electric Line - Includes the electric transmission line and its related appurtenances.

Landowner - Person(s) holding legal title to property on the electric transmission line route from whom the Company is seeking, or has obtained, a temporary or permanent easement, or any person(s) legally authorized by a landowner to make decisions regarding the mitigation or restoration of agricultural impacts to such landowner's property.

Prime farmland - Agricultural land comprised of soils that are defined by the USDA Natural Resources Conservation Service as being "prime" soils (generally considered the most productive soils with the least input of nutrients and management).

Right-of-way - Includes the permanent and temporary easements that the Company acquires for the purpose of constructing and operating the electric transmission line.

Topsoil - The uppermost layer of the soil that has the darkest color or the highest content of organic matter, more specifically defined as the "A" horizon.

Electric Transmission Line
Construction Standards and Policies

1. Support Structures

A. Only single pole support structures will be used.

B. Where the electric line is adjacent and parallel to highway and/or railroad right-of-way but on privately owned property, the support structures will be placed on the highway and/or railroad right-of-way or a maximum of one foot from the edge of the highway and/or railroad right-of-way. The only exception may be at jogs or weaves on the highway alignment.

C. The highest priority will be given to locating the electric line parallel and adjacent to highway and/or railroad right-of-way. When this is not possible, all support poles will be spaced in such a manner so as to minimize their placement on cropland (i.e., longer than normal spans will be utilized when traversing cropland).

2. Land to be Purchased via Fee Simple Acquisition

No land will be purchased via fee simple acquisition.

3. Aboveground Facilities

There will be no aboveground facilities located on cropland other than the support structures, conductors, guy wires, and anchors.

4. Guy Wires and Anchors

A. Concerted effort will be made to place guy wires and their anchors out of crop and hayland, placing them instead along existing utilization lines and on land not used for row crops or hay.

B. All guy wires will be shielded with highly visible guards.

5. Drainage Tile

A. If tiling is practiced in the area where an electric line is to be constructed, the Company will send a letter to all landowners to request information as to whether support structure locations will interfere with any drainage tile.

B. If the Company is advised of possible drainage tile interference with a support structure location, the Company will relocate the support structure to avoid interference with the tile.

C. In the event that the landowner does not advise the Company of a tile location problem and one is found to exist when drilling the hole for the support structure, the Company will relocate in the support structure and repair the tile line if it is damaged in accordance with the repair specifications of the county Soil and Water Conservation District.

6. Damages to Private Property

A. The Company will make every reasonable effort to repair, replace, or pay to repair or replace damaged private property within 45 days, weather and landowner permitting, after the electric line had been constructed across the effected property.
B. If the landowner is paid for any work that is needed to correct damage to his/her property, the Company will pay the ongoing commercial rate for such work.

C. The Company will remain liable to correct damages to private property beyond the construction of the electric line, to associated future construction, maintenance, and repairs as well.

7. Restoration of Soil for Compaction and Rutting

A. The Company will chisel to a depth of 18 inches all cropland, which has been traversed by construction equipment to alleviate compaction impacts, unless the landowner specifies other arrangements that are acceptable to the Company.

B. The Company will chisel to a depth of 12 inches all pasture and hayland that has been traversed by construction equipment to alleviate compaction impacts, unless the landowner specifies other arrangements that are acceptable to the Company.

C. The Company will chisel or pay to have chiseled all compacted and rutted soil within 45 days, weather and landowner permitting, after the electric line has been constructed across any affected property.

8. Fertilization of Disturbed Soils

A. If desired by the landowner, the Company will agree to apply fertilizer and lime to land disturbed by construction at a rate specified by the local University of Illinois Extension office to help restore the fertility of disturbed soils and enhance the establishment of a vegetative cover to control soil erosion.

B. Unless other arrangements are made with the landowner, the Company will apply fertilizer and lime to the disturbed right-of-way within 45 days, weather and landowner permitting, after the electric line has been constructed across an affected property.

9. Repair of Damaged Soil Conservation Practices

A. The Company will repair or pay the landowner to repair any soil conservation practices (such as terraces, grassed waterways, etc.), which are damaged by the electric line's construction.

B. If the Company will responsible for repairing any damaged soil conservation practices, the repairs will be made in accordance with the specifications of the county Soil and

Water Conservation Districts (unless the landowner and the Company agree to the other repair specifications).

C. The Company will repair or pay to have repaired damaged soil conservation practices within 45 days, weather and landowner permitting, of the electric line's construction across any affected property.

10. Removal of Construction Debris

A. The Company will remove from the landowner's property all material that was not there before construction commenced and which is not an integral part of the electric line. (Note: Such material to be removed would also include litter generated by the construction crews.)

B. The Company will make all reasonable efforts to insure that all construction debris will be removed within 45 days, weather and landowner permitting, after the electric line has been constructed.

11. Preventing Erosion

A. The Company will work with landowners to prevent or correct excessive erosion on all lands disturbed by construction by implementing reasonable methods to control erosion as suggested by the landowner.

B. If the landowner A) does not suggest a reasonable erosion control method, or B) does not suggest any method of erosion control, the Company will follow the recommendations of the county Soil and Water Conservation District.

C. The Company will use all reasonable efforts to insure that erosion control measures are implemented, or pay the landowner to do so, within 45 days, weather and landowner permitting, following the construction of the electric line across any affected property subject to erosion.

12. Soil Removed from Support Structures Holes/Foundations

A. It is expected that most soil material will be back-filled in and around the hole augered for the structures. If the landowner expresses concern regarding remaining soil, the Company will agree to remove the spoil material or pay the comparable area hauling charge to the landowner for removal of the spoil material.

B. If spoil material is to be removed, the Company will remove or pay to have removed the spoil material within 45 days, weather and landowner permitting, following the construction of the electric line across any affected property.

13. Clearing of Trees and Brush from the Easement

A. If trees are to be removed from privately owned land, the Company will consult with the landowner to see if there are trees of commercial or other value to the landowner.

B. It there are trees of commercial or other value to the landowner, the Company will allow the landowner the right to retain ownership of the trees with the disposition of the trees to be negotiated prior to the commencement of land clearing.

C. The Company will follow the landowner's desires, if reasonable, regarding the disposition of trees and brush of no value to the landowner by burning, burial, or complete removal from any affected property.

14. Interference with Neighboring Communications Circuits

If interference should develop between the Company's new facilities and a landowner's communication circuits, the Company will seek to eliminate such interference at its own expense within 45 days of receiving a verbal or written notice from the affected landowner.

15. Advance Notice of Access to Private Property

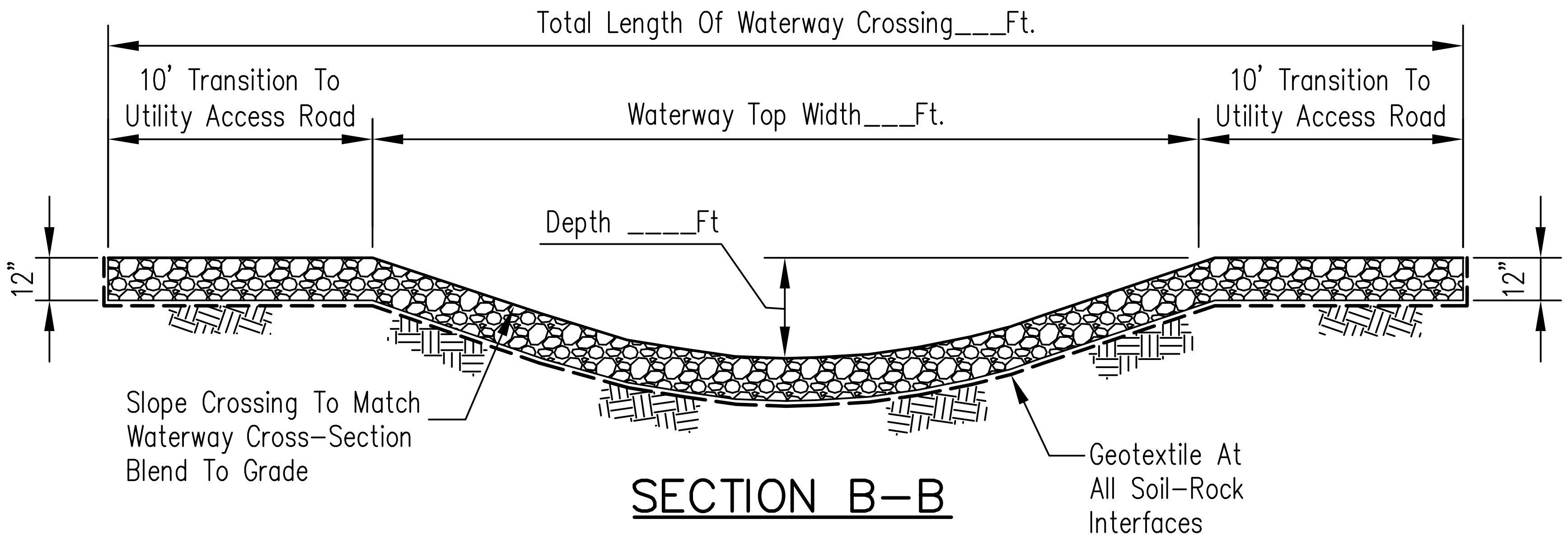
A. The Company will provide the landowner with a minimum of 24 hours prior notice before accessing private property for the purpose of constructing the electric line.
B. Prior notice shall first consist of a personal contact or a telephone contact, whereby the landowner is actually informed of the Company's intent to access the landowner's land. If the landowner cannot be reached in person or by telephone, the Company will mail or hand deliver to the landowner's home a dated, written notice of the Company's intent. The landowner need not acknowledge receipt of the second notice before the Company enters the landowner's property.

16. Reporting of Inferior Agricultural Impact Mitigation Work

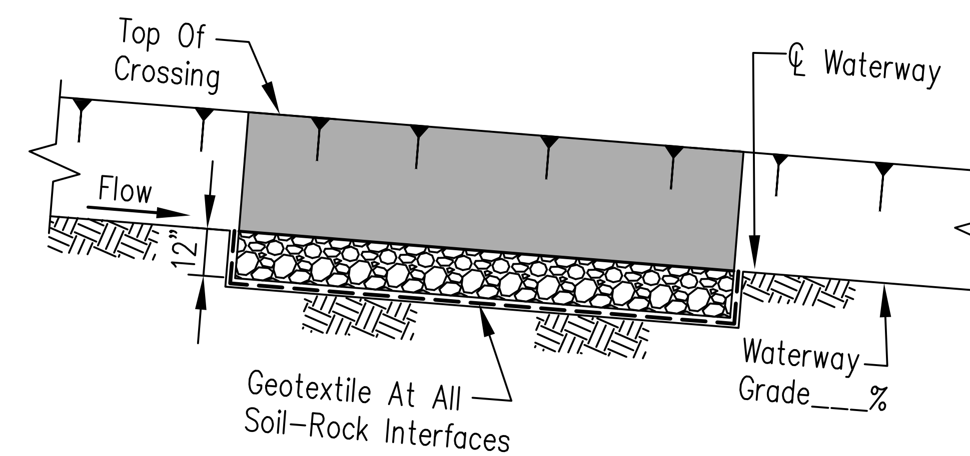
Prior to the construction of the electric line, the Company will provide the landowner with a number to call to alert the Company should the landowner observe inferior work relating to the agricultural impact mitigation work that performed on the owner's property.

17. Indemnification

The Company will indemnify all owners of agricultural land upon which such electric line is installed, their heirs, successors, legal representatives, and assigns from and against all claims, injuries, suits, damages, costs, losses, and reasonable expenses resulting from or arising out of the construction, maintenance, removal, repair, use or existence of such electric line, whether heretofore or hereafter installed, including damage to such electric line or any of its appurtenances, except where claims, injuries, suits, damages, costs, losses, and expenses are caused by the negligence or intentional acts, or willful omissions of such owners, their heirs, successors, legal representatives, and assigns.

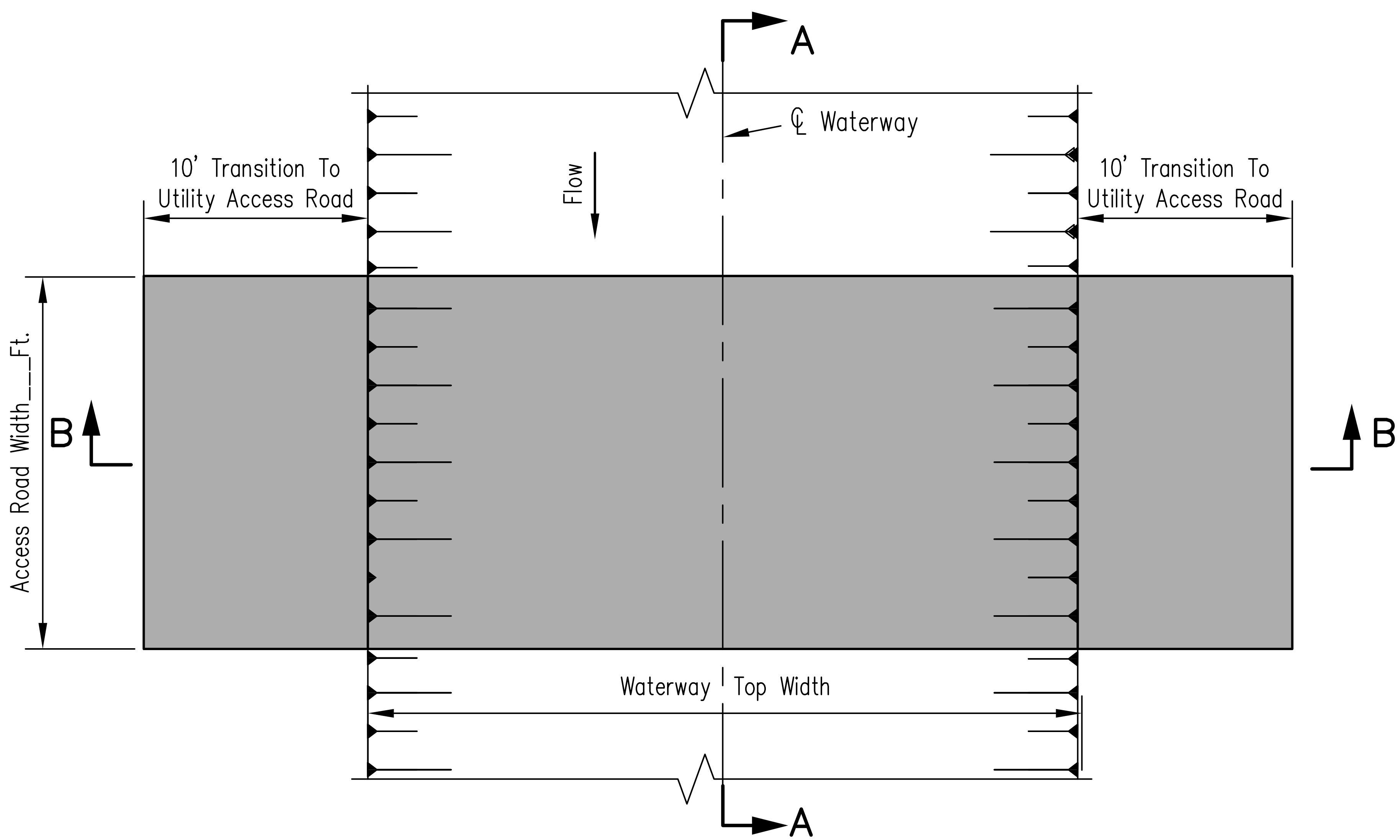


SECTION B-B



SECTION A-A

At Centerline Of Waterway



PLAN VIEW

Notes:

1. Geotextile (non-woven, needle punched) min. criteria:
   - Grab Tensile strength (lb) ASTM D 4632__________202
   - Elongation at failure (%) ASTM D 4632___________≥50
   - Trapezoidal tear strength (lb) ASTM D 4533_______79
   - Puncture strength (lb) ASTM D 6241 ___________433
   - Ultraviolet light (% retained strength) ASTM D 4355__ ____min 50
   - Apparent opening size (AOS) ASTM D 4751____ max 0.22 mm (US sieve size 70)
   - Permittivity sec^{-1}/ ASTM D 4491__________min 0.70
2. Any geotextile splices shall overlap a minimum of 18 inches, with upstream or upslope geotextile overlapping the abutting downslope geotextile.
3. The rock surface shall be compacted with the track or tire of the equipment used for construction over the entire surface and shall not leave any large depressions or irregularities that would not drain.

IDOT = Illinois Department Of Transportation

BILL OF MATERIAL		
Surface Material IDOT GRAD. CA 2 Quality Designation A	Tons	
Geotextile	Sq.Yd.	

Designed	____
Drawn	M. QUINONES
Checked	____
Approved	____
Date	10/1/13

ROCK CROSSING FOR WATERWAY

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

File No. IL-ENG-80
Drawing No.
Page 1 of 1
Sheet of

United States Department of Agriculture

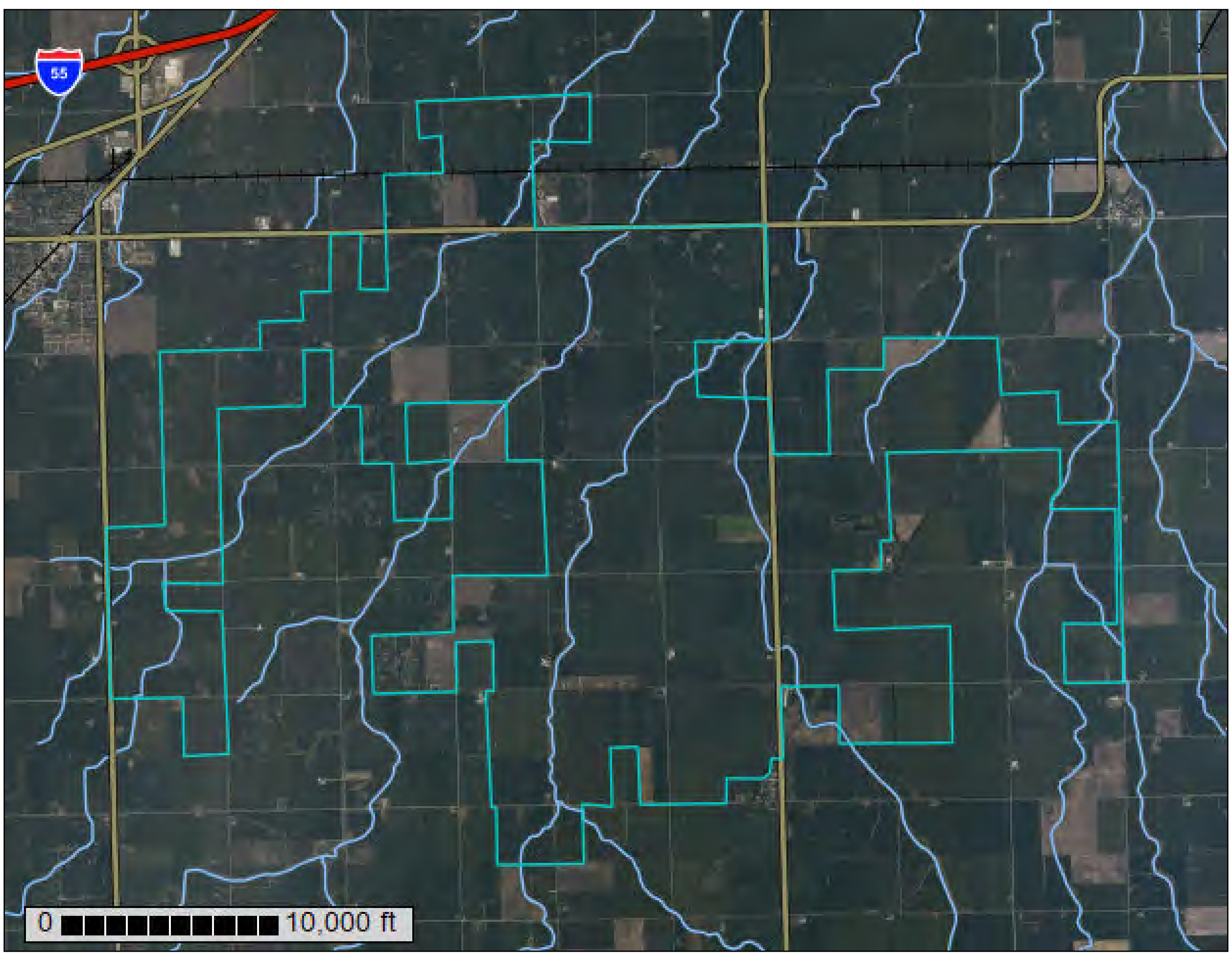
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Grundy County, Illinois, Kankakee County, Illinois, and Livingston County, Illinois

Heritage Prairie Wind



December 12, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

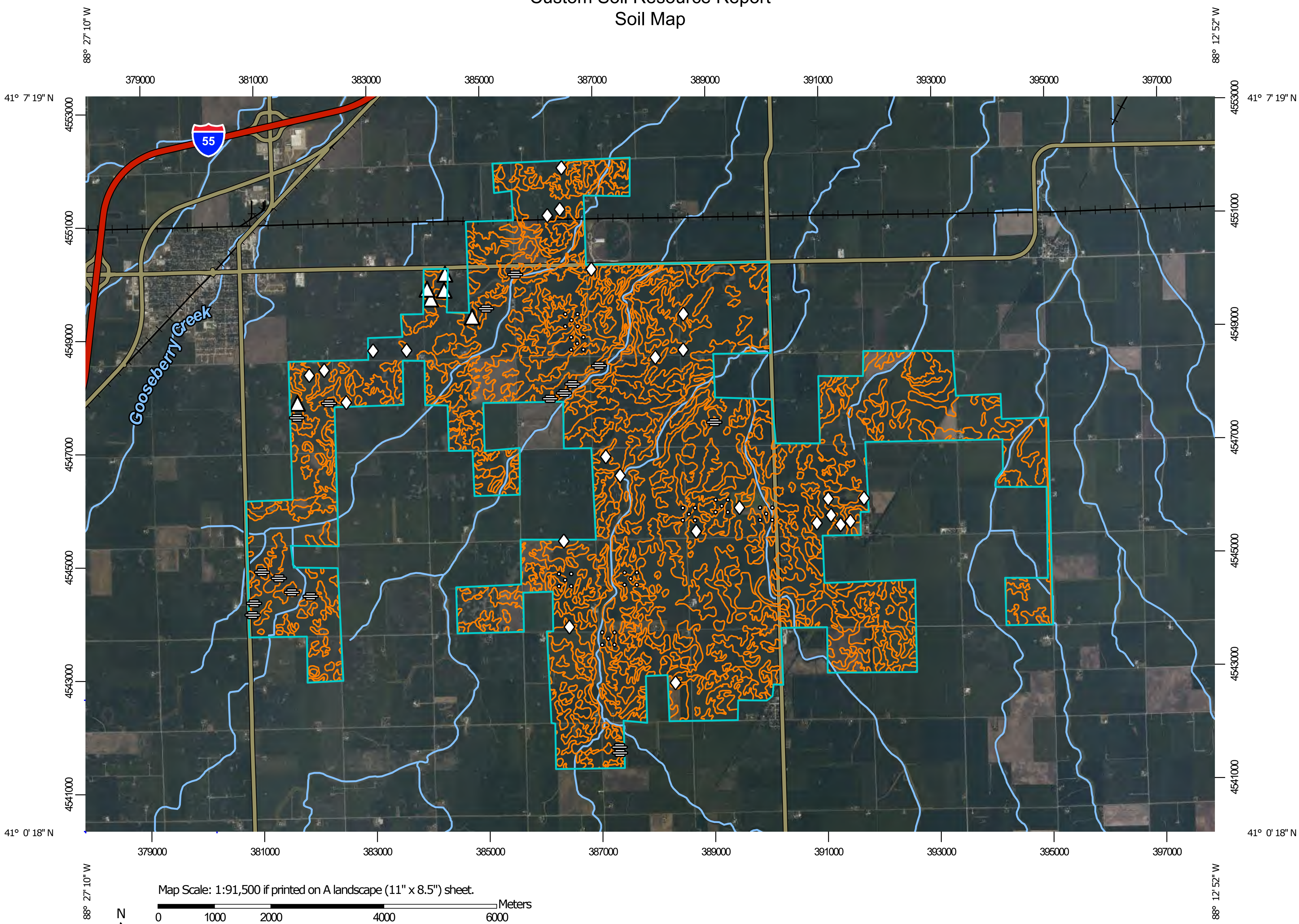
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:91,500 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 1000, 2000, 4000, 6000

Feet: 0, 4000, 8000, 16000, 24000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Grundy County, Illinois
Survey Area Data: Version 18, Aug 28, 2023

Soil Survey Area: Kankakee County, Illinois
Survey Area Data: Version 20, Aug 28, 2023

Soil Survey Area: Livingston County, Illinois
Survey Area Data: Version 18, Aug 28, 2023

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2019—Aug 24, 2019

MAP LEGEND	MAP INFORMATION
	The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
69A	Milford silty clay loam, 0 to 2 percent slopes	0.9	0.0%
594A	Reddick clay loam, 0 to 2 percent slopes	1.6	0.0%
Subtotals for Soil Survey Area		**2.5**	**0.0%**
Totals for Area of Interest		**15,353.1**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
293A	Andres silt loam, 0 to 2 percent slopes	11.5	0.1%
594A	Reddick clay loam, 0 to 2 percent slopes	15.6	0.1%
Subtotals for Soil Survey Area		**27.1**	**0.2%**
Totals for Area of Interest		**15,353.1**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
69A	Milford silty clay loam, 0 to 2 percent slopes	48.5	0.3%
91A	Swygert silty clay loam, 0 to 2 percent slopes	128.7	0.8%
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded	8.5	0.1%
102A	La Hogue loam, 0 to 2 percent slopes	98.8	0.6%
125A	Selma loam, 0 to 2 percent slopes	6.2	0.0%
141A	Wesley fine sandy loam, 0 to 2 percent slopes	185.4	1.2%
146A	Elliott silt loam, 0 to 2 percent slopes	825.4	5.4%
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded	97.7	0.6%
147B2	Clarence silty clay loam, 2 to 4 percent slopes, eroded	21.0	0.1%
147C2	Clarence silty clay loam, 4 to 6 percent slopes, eroded	72.9	0.5%
150B	Onarga fine sandy loam, 2 to 5 percent slopes	85.7	0.6%
151A	Ridgeville fine sandy loam, 0 to 2 percent slopes	111.4	0.7%
153A	Pella silty clay loam, 0 to 2 percent slopes	9.7	0.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
206A	Thorp silt loam, 0 to 2 percent slopes	6.9	0.0%
223B2	Varna silt loam, 2 to 4 percent slopes, eroded	18.5	0.1%
223C2	Varna silt loam, 4 to 6 percent slopes, eroded	9.1	0.1%
232A	Ashkum silty clay loam, 0 to 2 percent slopes	2,028.0	13.2%
235A	Bryce silty clay, 0 to 2 percent slopes	672.2	4.4%
238A	Rantoul silty clay, 0 to 2 percent slopes	0.2	0.0%
293A	Andres silt loam, 0 to 2 percent slopes	3,407.7	22.2%
294B2	Symerton loam, 2 to 5 percent slopes, eroded	606.3	3.9%
295A	Mokena silt loam, 0 to 2 percent slopes	6.6	0.0%
330A	Peotone silty clay loam, 0 to 2 percent slopes	22.5	0.1%
448B2	Mona silt loam, 2 to 5 percent slopes, eroded	5.7	0.0%
536	Dumps, mine	29.9	0.2%
594A	Reddick clay loam, 0 to 2 percent slopes	6,348.7	41.4%
614A	Chenoa silty clay loam, 0 to 2 percent slopes	379.4	2.5%
614B	Chenoa silty clay loam, 2 to 5 percent slopes	3.7	0.0%
3107A	Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded	8.4	0.1%
3776A	Comfrey loam, 0 to 2 percent slopes, frequently flooded	60.2	0.4%
W	Water	9.2	0.1%
Subtotals for Soil Survey Area		**15,323.3**	**99.8%**
Totals for Area of Interest		**15,353.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Grundy County, Illinois

69A—Milford silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2smzk
Elevation: 510 to 930 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Milford, drained, and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Milford, Drained

Setting

Landform: Depressions on lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Clayey lacustrine deposits

Typical profile

Ap - 0 to 9 inches: silty clay loam
A - 9 to 22 inches: silty clay
Bg - 22 to 50 inches: silty clay loam
Cg - 50 to 60 inches: stratified sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Minor Components

Peotone, drained

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 1 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

594A—Reddick clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zw
Elevation: 560 to 740 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Reddick, drained, and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reddick, Drained

Setting

Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear

Across-slope shape: Concave
Parent material: Loamy outwash over till and/or lacustrine deposits

Typical profile

Ap - 0 to 13 inches: clay loam
Btg1 - 13 to 32 inches: clay loam
2Btg2 - 32 to 47 inches: silty clay loam
2Cg - 47 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Kankakee County, Illinois

293A—Andres silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zx
Elevation: 540 to 860 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Andres and similar soils: 91 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Andres

Setting

Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin mantle of loess over loamy outwash over till and/or lacustrine deposits

Typical profile

Ap - 0 to 11 inches: silt loam
Bt1 - 11 to 36 inches: clay loam
2Bt2 - 36 to 50 inches: silty clay loam
2C - 50 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Elliott

Percent of map unit: 3 percent
Landform: Ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Ashkum, drained

Percent of map unit: 3 percent
Landform: Ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Reddick, drained

Percent of map unit: 3 percent
Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

594A—Reddick clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zw
Elevation: 560 to 740 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Reddick, drained, and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reddick, Drained

Setting

Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy outwash over till and/or lacustrine deposits

Typical profile

Ap - 0 to 13 inches: clay loam
Btg1 - 13 to 32 inches: clay loam
2Btg2 - 32 to 47 inches: silty clay loam
2Cg - 47 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Livingston County, Illinois

69A—Milford silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2smzk
Elevation: 510 to 930 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Milford, drained, and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Milford, Drained

Setting

Landform: Depressions on lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Clayey lacustrine deposits

Typical profile

Ap - 0 to 9 inches: silty clay loam
A - 9 to 22 inches: silty clay
Bg - 22 to 50 inches: silty clay loam
Cg - 50 to 60 inches: stratified sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Minor Components

Peotone, drained

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 1 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

91A—Swygert silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zn
Elevation: 540 to 840 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Swygert and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swygert

Setting

Landform: Till plains, ground moraines, end moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Thin mantle of loess over clayey lacustrine deposits over clayey till

Typical profile

Ap - 0 to 12 inches: silty clay loam
Bt1 - 12 to 26 inches: silty clay
2Bt2 - 26 to 51 inches: silty clay
2Cd - 51 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 35 to 55 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.02 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Bryce, drained

Percent of map unit: 2 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2st2l
Elevation: 540 to 840 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Swygert, eroded, and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swygert, Eroded

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey lacustrine deposits over clayey till

Typical profile

Ap - 0 to 7 inches: silty clay loam
Bt1 - 7 to 30 inches: silty clay
2Bt2 - 30 to 48 inches: silty clay
2Cd - 48 to 60 inches: silty clay

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 35 to 51 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.02 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Bryce, drained

Percent of map unit: 2 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

102A—La Hogue loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ww9f
Elevation: 510 to 790 feet
Mean annual precipitation: 36 to 41 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

La hogue and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of La Hogue

Setting

Landform: Stream terraces, outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified sandy and loamy outwash

Typical profile

Ap - 0 to 16 inches: loam
Bt - 16 to 32 inches: clay loam
BCt - 32 to 48 inches: sandy loam
C - 48 to 60 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B/D
Ecological site: R111XD020IN - Wet Outwash Mollisol, R110XY007IL - Moist Glacial Drift Upland Prairie

Hydric soil rating: No

Minor Components

Selma, drained

Percent of map unit: 5 percent
Landform: Stream terraces, lake plains, outwash plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

125A—Selma loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zr
Elevation: 450 to 960 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Selma, drained, and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Selma, Drained

Setting

Landform: Stream terraces, lake plains, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy outwash

Typical profile

Ap - 0 to 21 inches: loam
Bg - 21 to 46 inches: loam
Cg - 46 to 60 inches: stratified silt loam to loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches

Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Houghton, drained

Percent of map unit: 1 percent
Landform: Depressions on lake plains, depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Harpster, drained

Percent of map unit: 1 percent
Landform: Depressions on lake plains, depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY025IL - Ponded Calcareous Sedge Meadow
Hydric soil rating: Yes

Orthents, loamy

Percent of map unit: 1 percent
Landform: Lake plains, outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

141A—Wesley fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5y31
Elevation: 510 to 980 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wesley and similar soils: 91 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wesley

Setting

Landform: Glacial lakes (relict), ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse textured outwash over lacustrine deposits and/or till

Typical profile

H1 - 0 to 13 inches: fine sandy loam
H2 - 13 to 38 inches: fine sandy loam
H3 - 38 to 43 inches: silty clay loam
H4 - 43 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 30 to 59 inches to abrupt textural change
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY014IL - Moist Sand Prairie
Hydric soil rating: No

Minor Components

Orthents, loamy

Percent of map unit: 3 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

Milford

Percent of map unit: 3 percent
Landform: Lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Urban land

Percent of map unit: 3 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

146A—Elliott silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2sss0
Elevation: 570 to 930 feet
Mean annual precipitation: 33 to 42 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 150 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elliott and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elliott

Setting

Landform: Till plains, ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Thin mantle of loess or other silty material over silty clay loam till

Typical profile

Ap - 0 to 6 inches: silt loam
A - 6 to 11 inches: silty clay loam
Bt1 - 11 to 16 inches: silty clay
2Bt2 - 16 to 41 inches: silty clay loam
2Cd - 41 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 29 to 45 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Forage suitability group: Mod AWC, high water table (G095BY004WI), High AWC, high water table (G095BY007WI)
Other vegetative classification: Mod AWC, high water table (G095BY004WI), High AWC, high water table (G095BY007WI)
Hydric soil rating: No

Minor Components

Ashkum, drained

Percent of map unit: 4 percent
Landform: Till plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Orthents, clayey

Percent of map unit: 1 percent
Landform: Till plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2sss2
Elevation: 570 to 930 feet
Mean annual precipitation: 33 to 42 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 150 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elliott, eroded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elliott, Eroded

Setting

Landform: Till plains, ground moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Thin mantle of loess or other silty material over silty clay loam till

Typical profile

Ap - 0 to 8 inches: silty clay loam
2Bt1 - 8 to 14 inches: silty clay loam
2Bt2 - 14 to 31 inches: silty clay loam
2Cd - 31 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 24 to 38 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie, R111XD012IN - Till Ridge Prairie
Hydric soil rating: No

Minor Components

Ashkum, drained
Percent of map unit: 5 percent
Landform: Till plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded

Map Unit Setting
National map unit symbol: 2yrrf
Elevation: 590 to 820 feet
Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 150 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Clarence, eroded, and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clarence, Eroded

Setting
Landform: Ground moraines
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty clay or clay till

Typical profile
Ap - 0 to 9 inches: silty clay loam

Btg - 9 to 28 inches: clay
Cdg - 28 to 60 inches: silty clay

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 25 to 40 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Bryce, drained

Percent of map unit: 3 percent
Landform: Till-floored lake plains, glacial lakes (relict), ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, talf
Down-slope shape: Linear, concave
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: Yes

Rowe

Percent of map unit: 3 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R108XA007IL - Wet Loess Upland Prairie
Hydric soil rating: Yes

147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2yrrg

Elevation: 590 to 820 feet
Mean annual precipitation: 35 to 40 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 150 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Clarence, eroded, and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clarence, Eroded

Setting

Landform: Ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty clay or clay till

Typical profile

Ap - 0 to 9 inches: silty clay loam
Btg - 9 to 28 inches: clay
Cdg - 28 to 60 inches: silty clay

Properties and qualities

Slope: 4 to 6 percent
Depth to restrictive feature: 25 to 40 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Rowe

Percent of map unit: 3 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie

Hydric soil rating: Yes

150B—Onarga fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 5y3f
Elevation: 510 to 930 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Onarga, deep water table, and similar soils: 92 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Onarga, Deep Water Table

Setting

Landform: Stream terraces, outwash plains
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits and/or outwash

Typical profile

H1 - 0 to 17 inches: fine sandy loam
H2 - 17 to 31 inches: fine sandy loam
H3 - 31 to 60 inches: stratified sand to fine sandy loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 42 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: R110XY013IL - Dry Sand Prairie
Hydric soil rating: No

151A—Ridgeville fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5y3h
Elevation: 510 to 930 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ridgeville and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgeville

Setting

Landform: Stream terraces, outwash plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits and/or outwash

Typical profile

H1 - 0 to 16 inches: fine sandy loam
H2 - 16 to 40 inches: fine sandy loam
H3 - 40 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A/D
Ecological site: R108XA016IL - Sand Prairie, R110XY014IL - Moist Sand Prairie, R098XB033IN - Kankakee Moist Drift Flats
Hydric soil rating: No

Minor Components

Gilford

Percent of map unit: 3 percent
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY015IL - Wet Sand Prairie
Hydric soil rating: Yes

153A—Pella silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2smzn
Elevation: 490 to 830 feet
Mean annual precipitation: 34 to 41 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 150 to 195 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Pella, drained, and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pella, Drained

Setting

Landform: Till plains, lake plains, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess or silty material over calcareous loamy outwash

Typical profile

Ap - 0 to 12 inches: silty clay loam
Bg - 12 to 28 inches: silty clay loam
2Bkg - 28 to 36 inches: silt loam
2Cg - 36 to 60 inches: stratified sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Harpster, drained

Percent of map unit: 3 percent
Landform: Depressions on till plains, depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY025IL - Ponded Calcareous Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

206A—Thorp silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ytdt
Elevation: 520 to 980 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 150 to 180 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Thorp, drained, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Thorp, Drained

Setting

Landform: Outwash plains, ground moraines

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loess over stratified loamy outwash

Typical profile

Ap - 0 to 14 inches: silt loam
Eg - 14 to 19 inches: silt loam
Btg - 19 to 43 inches: silty clay loam
2Btg - 43 to 50 inches: sandy clay loam
2Cg - 50 to 79 inches: stratified loamy sand to loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R108XA013IL - Wet Outwash Prairie, R108XA007IL - Wet Loess Upland Prairie, R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Elburn

Percent of map unit: 5 percent
Landform: Stream terraces, outwash plains
Landform position (two-dimensional): Toeslope, summit, footslope
Landform position (three-dimensional): Interfluve, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R108XA012IL - Outwash Prairie
Hydric soil rating: No

223B2—Varna silt loam, 2 to 4 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2yrqv

Elevation: 520 to 870 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 150 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Varna, eroded, and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Varna, Eroded

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over silty clay loam or clay loam till

Typical profile

Ap - 0 to 10 inches: silt loam
2Bt1 - 10 to 30 inches: silty clay loam
2Bt2 - 30 to 48 inches: silty clay loam
2Cd - 48 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 24 to 55 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie, R108XA006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Ashkum, drained

Percent of map unit: 6 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear

Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

223C2—Varna silt loam, 4 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2yrqw
Elevation: 520 to 950 feet
Mean annual precipitation: 34 to 42 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Varna, eroded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Varna, Eroded

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over silty clay loam or clay loam till

Typical profile

Ap - 0 to 9 inches: silt loam
2Bt1 - 9 to 30 inches: silty clay loam
2Bt2 - 30 to 48 inches: silty clay loam
2Cd - 48 to 60 inches: silty clay loam

Properties and qualities

Slope: 4 to 6 percent
Depth to restrictive feature: 24 to 55 inches to densic material
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie, R108XA006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Ashkum, drained

Percent of map unit: 6 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

232A—Ashkum silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ssrw
Elevation: 520 to 930 feet
Mean annual precipitation: 33 to 41 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 160 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Ashkum, drained, and similar soils: 92 percent
Minor components: 8 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashkum, Drained

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Clayey colluvium over till

Typical profile

Ap - 0 to 12 inches: silty clay loam
Bg1 - 12 to 29 inches: silty clay
2Bg2 - 29 to 54 inches: silty clay loam
2Cg - 54 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Peotone, drained

Percent of map unit: 5 percent
Landform: Depressions on ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Orthents, clayey

Percent of map unit: 2 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear

Across-slope shape: Linear
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

235A—Bryce silty clay, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zp
Elevation: 540 to 770 feet
Mean annual precipitation: 33 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Bryce, drained, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bryce, Drained

Setting

Landform: Till-floored lake plains, glacial lakes (relict), ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, talf
Down-slope shape: Linear, concave
Across-slope shape: Concave
Parent material: Clayey glaciolacustrine deposits over clayey till

Typical profile

Ap - 0 to 13 inches: silty clay
Btg - 13 to 45 inches: silty clay
2BCg - 45 to 58 inches: silty clay
2Cg - 58 to 66 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.02 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.2 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: Yes

Minor Components

Orthents, clayey

Percent of map unit: 2 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F095XB010WI - Loamy and Clayey Upland
Hydric soil rating: No

Rantoul, drained

Percent of map unit: 2 percent
Landform: Depressions on till-floored lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

238A—Rantoul silty clay, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5y40
Elevation: 510 to 930 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Rantoul and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rantoul

Setting

Landform: Depressions on lake plains, depressions on ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Colluvium

Typical profile

H1 - 0 to 17 inches: silty clay
H2 - 17 to 40 inches: silty clay
H3 - 40 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.02 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Houghton

Percent of map unit: 6 percent
Landform: Depressions on outwash plains, depressions on ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

293A—Andres silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zx
Elevation: 540 to 860 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Andres and similar soils: 91 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Andres

Setting

Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin mantle of loess over loamy outwash over till and/or lacustrine deposits

Typical profile

Ap - 0 to 11 inches: silt loam
Bt1 - 11 to 36 inches: clay loam
2Bt2 - 36 to 50 inches: silty clay loam
2C - 50 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Elliott

Percent of map unit: 3 percent
Landform: Ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Ashkum, drained

Percent of map unit: 3 percent
Landform: Ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Reddick, drained

Percent of map unit: 3 percent
Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

294B2—Symerton loam, 2 to 5 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5y49
Elevation: 510 to 930 feet
Mean annual precipitation: 28 to 42 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Symerton and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Symerton

Setting

Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy outwash over silty clay loam till

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 35 inches: clay loam
H3 - 35 to 43 inches: silty clay loam
H4 - 43 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Reddick

Percent of map unit: 3 percent
Landform: Swales
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Ashkum

Percent of map unit: 3 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

295A—Mokena silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5y4c
Elevation: 510 to 980 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 140 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Mokena and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mokena

Setting

Landform: Lake plains, ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin mantle of loess or other silty material and in the underlying outwash and till or lacustrine deposits

Typical profile

H1 - 0 to 5 inches: silt loam

H2 - 5 to 15 inches: loam
H3 - 15 to 38 inches: clay loam
H4 - 38 to 42 inches: silty clay
H5 - 42 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 30 to 60 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.02 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Bryce

Percent of map unit: 6 percent
Landform: Glacial lakes (relict), ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Urban land

Percent of map unit: 2 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

330A—Peotone silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2sn05
Elevation: 500 to 1,020 feet
Mean annual precipitation: 33 to 43 inches
Mean annual air temperature: 46 to 55 degrees F
Frost-free period: 140 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Peotone, drained, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peotone, Drained

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey colluvium

Typical profile

Ap - 0 to 7 inches: silty clay loam
Bg1 - 7 to 27 inches: silty clay loam
Bg2 - 27 to 50 inches: silty clay
Cg - 50 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Peotone, long duration ponding

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F095XB004WI - Wet Loamy or Clayey Lowland
Hydric soil rating: Yes

448B2—Mona silt loam, 2 to 5 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5y50
Elevation: 540 to 930 feet
Mean annual precipitation: 28 to 42 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 140 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Mona and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mona

Setting

Landform: Ground moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess and loamy outwash over silty clay till

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 31 inches: clay loam
H3 - 31 to 36 inches: silty clay
H4 - 36 to 60 inches: silty clay

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 32 to 54 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.02 to 0.06 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Bryce

Percent of map unit: 5 percent
Landform: Glacial lakes (relict), ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

536—Dumps, mine

Map Unit Setting

National map unit symbol: 5y54
Elevation: 400 to 1,020 feet
Mean annual precipitation: 29 to 48 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 160 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Dumps, mine: 97 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dumps, Mine

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8

Minor Components

Orthents, silty

Percent of map unit:
Landform: Ground moraines
Landform position (two-dimensional): Summit, backslope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Hydric soil rating: No

Orthents, loamy

Percent of map unit:
Landform: Ground moraines
Landform position (two-dimensional): Summit
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F105XY013WI - Loamy-Silty Upland

Hydric soil rating: No

594A—Reddick clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zw
Elevation: 560 to 740 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Reddick, drained, and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reddick, Drained

Setting

Landform: Till-floored lake plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy outwash over till and/or lacustrine deposits

Typical profile

Ap - 0 to 13 inches: clay loam
Btg1 - 13 to 32 inches: clay loam
2Btg2 - 32 to 47 inches: silty clay loam
2Cg - 47 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

614A—Chenoa silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t706
Elevation: 590 to 800 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 48 to 53 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Chenoa and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenoa

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over till

Typical profile

Ap - 0 to 12 inches: silty clay loam
Btg - 12 to 32 inches: silty clay loam
2Bt - 32 to 36 inches: silty clay loam
2C - 36 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie, R108XA006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Elpaso, drained

Percent of map unit: 3 percent
Landform: Swales, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R108XA007IL - Wet Loess Upland Prairie, R108XA008IL - Ponded Loess Sedge Meadow, R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Ashkum, drained

Percent of map unit: 3 percent
Landform: Swales, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

614B—Chenoa silty clay loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2ww9k
Elevation: 590 to 910 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 48 to 53 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Chenoa and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenoa

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over calcareous till

Typical profile

Ap - 0 to 12 inches: silty clay loam
Btg - 12 to 31 inches: silty clay loam
2Bt - 31 to 40 inches: silty clay loam
2C - 40 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie, R108XA006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Elpaso, drained

Percent of map unit: 3 percent
Landform: Swales, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R108XA007IL - Wet Loess Upland Prairie, R108XA008IL - Ponded Loess Sedge Meadow, R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Ashkum, drained

Percent of map unit: 3 percent
Landform: Ground moraines, swales
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

3107A—Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2ww9j
Elevation: 450 to 930 feet
Mean annual precipitation: 34 to 39 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 158 to 175 days
Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Sawmill, heavy till plain, frequently flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sawmill, Heavy Till Plain, Frequently Flooded

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 8 inches: silty clay loam
A - 8 to 30 inches: silty clay loam
Bg - 30 to 51 inches: silty clay loam
Cg - 51 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches

Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: R110XY027IL - Ponded Floodplain Marsh, R108XA018IL - Ponded Floodplain Marsh
Hydric soil rating: Yes

Minor Components

Millington, heavy till plain, frequently flooded

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY027IL - Ponded Floodplain Marsh, R108XA018IL - Ponded Floodplain Marsh
Hydric soil rating: Yes

3776A—Comfrey loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 5y4q
Elevation: 510 to 800 feet
Mean annual precipitation: 31 to 45 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 145 to 185 days
Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Comfrey and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Comfrey

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 34 inches: clay loam
H3 - 34 to 43 inches: clay loam
H4 - 43 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: R110XY029IL - Wet Floodplain Sedge Meadow
Hydric soil rating: Yes

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Rivers, perenial streams, oxbows, lakes, drainageways, channels

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or

B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.
Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.
Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–IL063-Grundy County, Illinois					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
69A: Milford silty clay loam, 0 to 2 percent slopes	Milford-Drained	88-100	Depressions on lake plains	Yes	2
	Peotone-Drained	0-9	Depressions	Yes	2
	Urban land	0-2	—	No	—
	Orthents, clayey	0-3	Lake plains,ground moraines	No	—
594A: Reddick clay loam, 0 to 2 percent slopes	Reddick-Drained	98-100	Till-floored lake plains,ground moraines	Yes	2
	Urban land	0-2	Ground moraines	No	—

Hydric Soil List - All Components–IL091-Kankakee County, Illinois					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
293A: Andres silt loam, 0 to 2 percent slopes	Andres	88-100	Till-floored lake plains,ground moraines	No	—
	Elliott	0-5	Ground moraines	No	—
	Ashkum-Drained	0-5	Ground moraines	Yes	2
	Reddick-Drained	0-5	Till-floored lake plains,ground moraines	Yes	2
594A: Reddick clay loam, 0 to 2 percent slopes	Reddick-Drained	98-100	Till-floored lake plains,ground moraines	Yes	2
	Urban land	0-2	Ground moraines	No	—

Hydric Soil List - All Components–IL105-Livingston County, Illinois					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
69A: Milford silty clay loam, 0 to 2 percent slopes	Milford-Drained	88-100	Depressions on lake plains	Yes	2
	Peotone-Drained	0-9	Depressions	Yes	2
	Urban land	0-2	—	No	—
	Orthents, clayey	0-3	Lake plains,ground moraines	No	—
91A: Swygert silty clay loam, 0 to 2 percent slopes	Swygert	95-100	Till plains,ground moraines,end moraines	No	—
	Bryce-Drained	0-5	Ground moraines,end moraines	Yes	2
91B2: Swygert silty clay loam, 2 to 4 percent slopes, eroded	Swygert-Eroded	95-100	Ground moraines,end moraines	No	—
	Bryce-Drained	0-5	Ground moraines,end moraines	Yes	2
102A: La Hogue loam, 0 to 2 percent slopes	La Hogue	91-100	Stream terraces,outwash plains	No	—
	Selma-Drained	0-9	Stream terraces,lake plains,outwash plains	Yes	2
125A: Selma loam, 0 to 2 percent slopes	Selma-Drained	88-100	Stream terraces,lake plains,outwash plains	Yes	2
	Houghton-Drained	0-3	Depressions on lake plains,depressions on outwash plains	Yes	1
	Urban land	0-3	Ground moraines	No	—
	Harpster-Drained	0-3	Depressions on lake plains,depressions on outwash plains	Yes	2
	Orthents, loamy	0-3	Lake plains,outwash plains	No	—
141A: Wesley fine sandy loam, 0 to 2 percent slopes	Wesley	85-100	Glacial lakes (relict),ground moraines	No	—
	Orthents, loamy	0-9	Lake plains,ground moraines	No	—
	Milford	0-9	Lake plains	Yes	2
	Urban land	0-9	—	No	—
146A: Elliott silt loam, 0 to 2 percent slopes	Elliott	85-100	Till plains,ground moraines	No	—
	Ashkum-Drained	0-9	Till plains,ground moraines	Yes	2
	Orthents, clayey	0-3	Till plains,ground moraines	No	—
	Urban land	0-3	Ground moraines	No	—

Hydric Soil List - All Components–IL105-Livingston County, Illinois					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
146B2: Elliott silty clay loam, 2 to 4 percent slopes, eroded	Elliott-Eroded	91-100	Till plains,ground moraines	No	—
	Ashkum-Drained	0-9	Till plains,ground moraines	Yes	2
147B2: Clarence silty clay loam, 2 to 4 percent slopes, eroded	Clarence-Eroded	90-100	Ground moraines	No	—
	Bryce-Drained	0-5	Till-floored lake plains,glacial lakes (relict),ground moraines	Yes	2
	Rowe	0-5	Lake plains,ground moraines	Yes	2
147C2: Clarence silty clay loam, 4 to 6 percent slopes, eroded	Clarence-Eroded	95-100	Ground moraines	No	—
	Rowe	0-5	Lake plains,ground moraines	Yes	2
150B: Onarga fine sandy loam, 2 to 5 percent slopes	Onarga-Deep water table	88-100	Stream terraces,outwash plains	No	—
151A: Ridgeville fine sandy loam, 0 to 2 percent slopes	Ridgeville	88-100	Stream terraces,outwash plains	No	—
	Gilford	0-5	Outwash plains	Yes	2
153A: Pella silty clay loam, 0 to 2 percent slopes	Pella-Drained	90-100	Till plains,lake plains,outwash plains	Yes	2
	Harpster-Drained	0-9	Depressions on till plains,depressions on outwash plains	Yes	2
	Urban land	0-2	—	No	—
206A: Thorp silt loam, 0 to 2 percent slopes	Thorp-Drained	94-100	Outwash plains,ground moraines	Yes	2
	Elburn	0-6	Stream terraces,outwash plains	No	—
223B2: Varna silt loam, 2 to 4 percent slopes, eroded	Varna-Eroded	91-100	Ground moraines,end moraines	No	—
	Ashkum-Drained	0-9	Ground moraines,end moraines	Yes	2
223C2: Varna silt loam, 4 to 6 percent slopes, eroded	Varna-Eroded	85-100	Ground moraines,end moraines	No	—
	Ashkum-Drained	0-9	Ground moraines,end moraines	Yes	2
	Urban land	0-7	Ground moraines	No	—
	Orthents, clayey	0-7	Ground moraines	No	—

Hydric Soil List - All Components–IL105-Livingston County, Illinois					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
232A: Ashkum silty clay loam, 0 to 2 percent slopes	Ashkum-Drained	85-100	Ground moraines,end moraines	Yes	2
	Peotone-Drained	0-9	Depressions on ground moraines	Yes	2
	Orthents, clayey	0-3	Lake plains,ground moraines	No	—
	Urban land	0-3	Ground moraines	No	—
235A: Bryce silty clay, 0 to 2 percent slopes	Bryce-Drained	88-100	Till-floored lake plains,glacial lakes (relict),ground moraines	Yes	2
	Orthents, clayey	0-3	Lake plains,ground moraines	No	—
	Rantoul-Drained	0-9	Depressions on till-floored lake plains	Yes	2,3
	Urban land	0-3	Ground moraines	No	—
238A: Rantoul silty clay, 0 to 2 percent slopes	Rantoul	88-100	Depressions on lake plains,depressions on ground moraines	Yes	2,3
	Houghton	0-9	Depressions on outwash plains,depressions on ground moraines	Yes	1
293A: Andres silt loam, 0 to 2 percent slopes	Andres	88-100	Till-floored lake plains,ground moraines	No	—
	Elliott	0-5	Ground moraines	No	—
	Ashkum-Drained	0-5	Ground moraines	Yes	2
	Reddick-Drained	0-5	Till-floored lake plains,ground moraines	Yes	2
294B2: Symerton loam, 2 to 5 percent slopes, eroded	Symerton	88-100	Lake plains,ground moraines	No	—
	Reddick	0-9	Swales	Yes	2
	Ashkum	0-9	Ground moraines,end moraines	Yes	2
295A: Mokena silt loam, 0 to 2 percent slopes	Mokena	88-100	Lake plains,ground moraines	No	—
	Bryce	0-9	Glacial lakes (relict),ground moraines	Yes	2
	Urban land	0-5	—	No	—
330A: Peotone silty clay loam, 0 to 2 percent slopes	Peotone-Drained	91-100	Depressions	Yes	2
	Peotone-Long duration ponding	0-9	Depressions	Yes	2,3

Hydric Soil List - All Components–IL105-Livingston County, Illinois					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
448B2: Mona silt loam, 2 to 5 percent slopes, eroded	Mona	90-100	Ground moraines	No	—
	Bryce	0-9	Glacial lakes (relict),ground moraines	Yes	2
536: Dumps, mine	Dumps-Mine	97	—	—	—
	Orthents-Silty		Ground moraines	No	—
	Orthents-Loamy		Ground moraines	No	—
594A: Reddick clay loam, 0 to 2 percent slopes	Reddick-Drained	98-100	Till-floored lake plains,ground moraines	Yes	2
	Urban land	0-2	Ground moraines	No	—
614A: Chenoa silty clay loam, 0 to 2 percent slopes	Chenoa	90-100	Ground moraines,end moraines	No	—
	Elpaso-Drained	0-6	Swales,ground moraines	Yes	2
	Ashkum-Drained	0-6	Swales,ground moraines	Yes	2
614B: Chenoa silty clay loam, 2 to 5 percent slopes	Chenoa	90-100	Ground moraines,end moraines	No	—
	Elpaso-Drained	0-5	Swales,ground moraines	Yes	2
	Ashkum-Drained	0-5	Ground moraines,swales	Yes	2
3107A: Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded	Sawmill-Heavy till plain, frequently flooded	91-100	Flood plains	Yes	2
	Millington-Heavy till plain, frequently flooded	0-9	Flood plains	Yes	2
3776A: Comfrey loam, 0 to 2 percent slopes, frequently flooded	Comfrey	85-100	Flood plains	Yes	2
W: Water	Water	100	Rivers,perenial streams,oxbows,lakes,drainageways,channels	—	—

NCCPI Overall

National Commodity Crop Productivity Index is a method of arraying the soils of the United States for non-irrigated commodity crop production based on their inherent soil properties. The rating a soil is assigned is the highest one of four basic crop group indices, which are based on the climate where the crop is typically grown. Cooler climates are represented by winter wheat, moderate climates are represented by corn and, new for this version, a separate soybeans model, and warmer climates are represented by cotton.

The interpretation is applicable to both heavily populated and sparsely populated areas. Ratings are for soils in their present condition. The present land use is not considered in the ratings.

Ratings are based on properties and qualities to the depth normally observed during soil mapping (approximately 6 feet). Soil, site, and climate properties that influence the growth of crops are major considerations. Soil productivity is influenced by many soil properties. An ideal soil will store adequate amounts of water to nurture the crop between rains. This soil will have a near-neutral pH, will store nutrients, and lack toxic materials. The soil will have no barriers, either physical or chemical, to root growth. Water and gas transmission through the soil will be sufficient to maintain both water and oxygen at sufficient levels in the root zone. The soil will not be saturated with water during the growing season to the point that root growth is inhibited. The soil will not be subject to excessive flooding or ponding during the growing season. Slope is an important consideration because it affects erosion by water, runoff, and the operation of equipment. The climate must provide adequate water and heat to allow the desired crop to mature. A soil that differs from the ideal in any of these features will have lower inherent productivity for a particular crop. The further a soil differs from ideality in any one or all of the factors that determine inherent productivity, the lower its inherent productivity will be.

The ratings are both verbal and numerical. Rating class terms indicate the estimated productivity which is determined by all of the soil, site, and climatic features that affect crop productivity. "High inherent productivity" indicates that the soil, site, and climate have features that are very favorable for crop production. High yields and low risk of crop failure can be expected if a high level of management is employed. "Moderately high inherent productivity" indicates that the soil has features that are generally quite favorable crop production. Good yields and moderately low risk of crop failure can be expected. "Moderate inherent productivity" indicates that the soil has features that are generally favorable crop production. Good yields and moderate risk of crop failure can be expected. "Moderately low inherent productivity" indicates that the soil has features that are generally not favorable crop production. Low yields and moderately high risk of crop failure can be expected. "Low inherent productivity" indicates that the soil has one or more features that are unfavorable for crop production. Low yields and high risk of crop failure can be expected.

Numerical ratings indicate the overall productivity of the soil. The ratings are shown in decimal fractions ranging from 1.00 to 0.01. They indicate gradations between the point at which the combination of soil, site, and climate features has the greatest positive impact on inherent productivity (1.00) and the point at which the soil features are very unfavorable (0.01).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Report—NCCPI Overall

“National Commodity Crop Productivity Index” is a method of arraying the soils of the United States for non-irrigated commodity crop production based on their inherent soil properties. The interpretation is applicable to both heavily populated and sparsely populated areas. Ratings are for soils in their present condition. The present land use is not considered in the ratings.

NCCPI Overall–Grundy County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
69A—Milford silty clay loam, 0 to 2 percent slopes			
Milford, drained	93	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.65
		Small grains	0.66
		Corn	0.67
594A—Reddick clay loam, 0 to 2 percent slopes			
Reddick, drained	99	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.61
		Corn	0.67
		Soybeans	0.67

NCCPI Overall–Kankakee County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
293A—Andres silt loam, 0 to 2 percent slopes			
Andres	91	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.67
		Soybeans	0.70
		Corn	0.72

NCCPI Overall–Kankakee County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
594A—Reddick clay loam, 0 to 2 percent slopes			
Reddick, drained	99	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.61
		Corn	0.67
		Soybeans	0.67

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
69A—Milford silty clay loam, 0 to 2 percent slopes			
Milford, drained	93	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.65
		Small grains	0.66
		Corn	0.67
91A—Swygert silty clay loam, 0 to 2 percent slopes			
Swygert	98	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.58
		Small grains	0.59
		Corn	0.63
91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded			
Swygert, eroded	98	Moderate inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.45
		Small grains	0.53
		Corn	0.57

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	**Pct. of map unit**	**NCCPI**	
		Rating class and limiting features	**Value**
102A—La Hogue loam, 0 to 2 percent slopes			
La hogue	95	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.64
		Soybeans	0.69
		Corn	0.71
125A—Selma loam, 0 to 2 percent slopes			
Selma, drained	96	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.69
		Corn	0.75
		Soybeans	0.77
141A—Wesley fine sandy loam, 0 to 2 percent slopes			
Wesley	91	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.53
		Corn	0.61
		Small grains	0.63
146A—Elliott silt loam, 0 to 2 percent slopes			
Elliott	94	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.62
		Corn	0.63
		Small grains	0.65
146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded			
Elliott, eroded	95	Moderate inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.42
		Small grains	0.51
		Corn	0.55

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded			
Clarence, eroded	94	Moderately low inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.26
		Corn	0.37
		Small grains	0.38
147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded			
Clarence, eroded	97	Moderately low inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.26
		Corn	0.36
		Small grains	0.38
150B—Onarga fine sandy loam, 2 to 5 percent slopes			
Onarga, deep water table	92	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.53
		Small grains	0.59
		Corn	0.72
151A—Ridgeville fine sandy loam, 0 to 2 percent slopes			
Ridgeville	90	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.62
		Small grains	0.64
		Corn	0.76
153A—Pella silty clay loam, 0 to 2 percent slopes			
Pella, drained	96	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.63
		Corn	0.68
		Soybeans	0.79

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
206A—Thorp silt loam, 0 to 2 percent slopes			
Thorp, drained	95	High inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.70
		Soybeans	0.76
		Corn	0.89
223B2—Varna silt loam, 2 to 4 percent slopes, eroded			
Varna, eroded	94	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.58
		Small grains	0.62
		Corn	0.68
223C2—Varna silt loam, 4 to 6 percent slopes, eroded			
Varna, eroded	90	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.57
		Small grains	0.60
		Corn	0.68
232A—Ashkum silty clay loam, 0 to 2 percent slopes			
Ashkum, drained	92	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.61
		Small grains	0.62
		Corn	0.66
235A—Bryce silty clay, 0 to 2 percent slopes			
Bryce, drained	95	Moderate inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.34
		Corn	0.45
		Small grains	0.56

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
238A—Rantoul silty clay, 0 to 2 percent slopes			
Rantoul	94	Moderate inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Corn	0.17
		Soybeans	0.18
		Small grains	0.43
293A—Andres silt loam, 0 to 2 percent slopes			
Andres	91	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.67
		Soybeans	0.70
		Corn	0.72
294B2—Symerton loam, 2 to 5 percent slopes, eroded			
Symerton	94	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.56
		Soybeans	0.59
		Corn	0.62
295A—Mokena silt loam, 0 to 2 percent slopes			
Mokena	92	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.62
		Small grains	0.63
		Corn	0.65
330A—Peotone silty clay loam, 0 to 2 percent slopes			
Peotone, drained	95	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.43
		Corn	0.48
		Small grains	0.63

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
448B2—Mona silt loam, 2 to 5 percent slopes, eroded			
Mona	95	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.45
		Small grains	0.53
		Corn	0.66
536—Dumps, mine			
Dumps, mine	97	Not rated	
594A—Reddick clay loam, 0 to 2 percent slopes			
Reddick, drained	99	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.61
		Corn	0.67
		Soybeans	0.67
614A—Chenoa silty clay loam, 0 to 2 percent slopes			
Chenoa	94	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.65
		Corn	0.65
		Soybeans	0.70
614B—Chenoa silty clay loam, 2 to 5 percent slopes			
Chenoa	94	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Small grains	0.63
		Corn	0.66
		Soybeans	0.69

NCCPI Overall–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	NCCPI	
		Rating class and limiting features	Value
3107A—Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded			
Sawmill, heavy till plain, frequently flooded	95	Moderately high inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Soybeans	0.45
		Corn	0.61
		Small grains	0.63
3776A—Comfrey loam, 0 to 2 percent slopes, frequently flooded			
Comfrey	90	Moderate inherent productivity	
		No limitation	0.00
		Cotton	0.01
		Corn	0.49
		Soybeans	0.51
		Small grains	0.57
W—Water			
Water	100	Not rated	

Prime and other Important Farmlands

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Report—Prime and other Important Farmlands

Prime and other Important Farmlands–Grundy County, Illinois		
Map Symbol	**Map Unit Name**	**Farmland Classification**
69A	Milford silty clay loam, 0 to 2 percent slopes	Prime farmland if drained
594A	Reddick clay loam, 0 to 2 percent slopes	Prime farmland if drained

Prime and other Important Farmlands–Kankakee County, Illinois		
Map Symbol	**Map Unit Name**	**Farmland Classification**
293A	Andres silt loam, 0 to 2 percent slopes	All areas are prime farmland
594A	Reddick clay loam, 0 to 2 percent slopes	Prime farmland if drained

Prime and other Important Farmlands–Livingston County, Illinois		
Map Symbol	**Map Unit Name**	**Farmland Classification**
69A	Milford silty clay loam, 0 to 2 percent slopes	Prime farmland if drained
91A	Swygert silty clay loam, 0 to 2 percent slopes	All areas are prime farmland
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded	All areas are prime farmland
102A	La Hogue loam, 0 to 2 percent slopes	All areas are prime farmland
125A	Selma loam, 0 to 2 percent slopes	Prime farmland if drained
141A	Wesley fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
146A	Elliott silt loam, 0 to 2 percent slopes	All areas are prime farmland
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded	All areas are prime farmland
147B2	Clarence silty clay loam, 2 to 4 percent slopes, eroded	Farmland of statewide importance
147C2	Clarence silty clay loam, 4 to 6 percent slopes, eroded	Farmland of statewide importance
150B	Onarga fine sandy loam, 2 to 5 percent slopes	All areas are prime farmland
151A	Ridgeville fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
153A	Pella silty clay loam, 0 to 2 percent slopes	Prime farmland if drained
206A	Thorp silt loam, 0 to 2 percent slopes	Prime farmland if drained
223B2	Varna silt loam, 2 to 4 percent slopes, eroded	All areas are prime farmland
223C2	Varna silt loam, 4 to 6 percent slopes, eroded	All areas are prime farmland
232A	Ashkum silty clay loam, 0 to 2 percent slopes	Prime farmland if drained
235A	Bryce silty clay, 0 to 2 percent slopes	Prime farmland if drained
238A	Rantoul silty clay, 0 to 2 percent slopes	Farmland of statewide importance
293A	Andres silt loam, 0 to 2 percent slopes	All areas are prime farmland
294B2	Symerton loam, 2 to 5 percent slopes, eroded	All areas are prime farmland
295A	Mokena silt loam, 0 to 2 percent slopes	All areas are prime farmland
330A	Peotone silty clay loam, 0 to 2 percent slopes	Prime farmland if drained
448B2	Mona silt loam, 2 to 5 percent slopes, eroded	All areas are prime farmland
536	Dumps, mine	Not prime farmland
594A	Reddick clay loam, 0 to 2 percent slopes	Prime farmland if drained
614A	Chenoa silty clay loam, 0 to 2 percent slopes	All areas are prime farmland
614B	Chenoa silty clay loam, 2 to 5 percent slopes	All areas are prime farmland
3107A	Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
3776A	Comfrey loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
W	Water	Not prime farmland

Soil Erosion

This folder contains a collection of tabular reports that present soil erosion factors and groupings. The reports (tables) include all selected map units and components for each map unit. Soil erosion factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

Conservation Planning

This report provides those soil attributes for the conservation plan for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. It provides the soil description along with the slope, runoff, T Factor, WEI, WEG, Erosion class, Drainage class, Land Capability Classification, and the engineering Hydrologic Group and the erosion factors Kf, the representative percentage of fragments, sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. Further information on these factors can be found in the National Soil Survey Handbook section 618 found at the url http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/ref/?cid=nrcs142p2_054223#00 .

Soil properties and interpretations for conservation planning. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

Conservation Planning–Grundy County, Illinois																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface						
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
69A—Milford silty clay loam, 0 to 2 percent slopes																	
Milford, drained	93	0.5	150	Negligible	5	86	4	None - deposition	Poorly drained	2w	C/D	0 - 9	.24	1	13	50	37
594A—Reddick clay loam, 0 to 2 percent slopes																	
Reddick, drained	99	0.5	150	Negligible	5	48	6	None - deposition	Poorly drained	2w	C/D	0 - 12	.17	1	32	37	31

Conservation Planning–Kankakee County, Illinois																	
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface					
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
293A—Andres silt loam, 0 to 2 percent slopes																	
Andres	91	0.9	150	Low	5	48	6	Class 1	Somewhat poorly drained	—	C/D	0 - 11	.28	1	20	56	24
594A—Reddick clay loam, 0 to 2 percent slopes																	
Reddick, drained	99	0.5	150	Negligible	5	48	6	None - deposition	Poorly drained	2w	C/D	0 - 12	.17	1	32	37	31

Conservation Planning–Livingston County, Illinois																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface						
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
69A—Milford silty clay loam, 0 to 2 percent slopes																	
Milford, drained	93	0.5	150	Negligible	5	86	4	None - deposition	Poorly drained	2w	C/D	0 - 9	.24	1	13	50	37
91A—Swygert silty clay loam, 0 to 2 percent slopes																	
Swygert	98	0.9	150	Medium	4	48	6	Class 1	Somewhat poorly drained	2w	C/D	0 - 11	.24	1	8	60	32
91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded																	
Swygert, eroded	98	3.0	200	High	4	48	6	Class 2	Somewhat poorly drained	2e	C/D	0 - 7	.28	1	8	58	34
102A—La Hogue loam, 0 to 2 percent slopes																	
La Hogue	95	0.9	150	Low	5	48	6	Class 1	Somewhat poorly drained	—	B/D	0 - 16	.24	2	35	44	21
125A—Selma loam, 0 to 2 percent slopes																	
Selma, drained	96	0.5	150	Negligible	5	48	6	None - deposition	Poorly drained	2w	B/D	0 - 20	.24	2	38	41	21
141A—Wesley fine sandy loam, 0 to 2 percent slopes																	
Wesley	91	0.9	200	Medium	4	86	3	Class 1	Somewhat poorly drained	2w	C/D	0 - 12	.17	2	62	26	11

Conservation Planning–Livingston County, Illinois																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Fact or	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydro logic Group	Surface						
												Depths in.	Kf Fact or	Frag- ments RV	Sand RV	Silt RV	Clay RV
146A—Elliott silt loam, 0 to 2 percent slopes																	
Elliott	94	0.9	150	Low	4	48	6	Class 1	Somewhat poorly drained	2s	C/D	0 - 5	.32	1	10	65	25
146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded																	
Elliott, eroded	95	3.0	150	High	3	48	6	Class 2	Somewhat poorly drained	2e	C/D	0 - 7	.28	1	8	63	29
147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded																	
Clarence, eroded	94	3.0	200	Medium	3	48	6	Class 2	Somewhat poorly drained	3e	D	0 - 9	.37	2	8	58	34
147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded																	
Clarence, eroded	97	6.0	200	High	3	48	6	Class 2	Somewhat poorly drained	3e	D	0 - 9	.37	2	8	58	34
150B—Onarga fine sandy loam, 2 to 5 percent slopes																	
Onarga, deep water table	92	3.5	150	Low	3	86	3	Class 1	Well drained	2e	A	0 - 16	.24	—	62	26	11

Conservation Planning–Livingston County, Illinois																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface						
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
151A—Ridgeville fine sandy loam, 0 to 2 percent slopes																	
Ridgeville	90	0.9	150	Low	4	86	3	Class 1	Somewhat poorly drained	2s	A/D	0 - 16	.24	—	65	22	12
153A—Pella silty clay loam, 0 to 2 percent slopes																	
Pella, drained	96	0.5	150	Negligible	5	48	6	None - deposition	Poorly drained	2w	B/D	0 - 11	.24	0	9	60	31
206A—Thorp silt loam, 0 to 2 percent slopes																	
Thorp, drained	95	0.5	298	Negligible	5	48	6	None - deposition	Poorly drained	2w	C/D	0 - 14	.37	2	5	72	23
223B2—Varna silt loam, 2 to 4 percent slopes, eroded																	
Varna, eroded	94	3.0	150	Medium	4	48	6	Class 2	Moderately well drained	2e	C	0 - 9	.32	1	12	64	24
223C2—Varna silt loam, 4 to 6 percent slopes, eroded																	
Varna, eroded	90	5.0	150	High	4	48	6	Class 2	Moderately well drained	3e	C	0 - 9	.37	1	12	64	24
232A—Ashkum silty clay loam, 0 to 2 percent slopes																	
Ashkum, drained	92	0.5	150	Negligible	5	86	4	None - deposition	Poorly drained	2w	C/D	0 - 11	.20	0	8	55	37

Conservation Planning–Livingston County, Illinois																		
Map symbol and soil name	**Pct. of map unit**	**Slope RV**	**USLE Slope Length ft.**	**Runoff**	**T Fact or**	**WEI**	**WEG**	**Erosion**	**Drainage**	**NIRR LCC**	**Hydro logic Group**	**Surface**						
												Depths in.	**Kf Fact or**	**Frag- ments RV**	**Sand RV**	**Silt RV**	**Clay RV**
235A—Bryce silty clay, 0 to 2 percent slopes																	
Bryce, drained	95	0.5	150	Negligible	5	86	4	None - deposition	Poorly drained	3w	C/D	0 - 12	.17	0	5	50	45
238A—Rantoul silty clay, 0 to 2 percent slopes																	
Rantoul	94	0.5	200	Negligible	5	86	4	None - deposition	Very poorly drained	3w	D	0 - 16	.24	1	5	50	45
293A—Andres silt loam, 0 to 2 percent slopes																	
Andres	91	0.9	150	Low	5	48	6	Class 1	Somewhat poorly drained	—	C/D	0 - 11	.28	1	20	56	24
294B2—Symerton loam, 2 to 5 percent slopes, eroded																	
Symerton	94	3.0	200	Low	5	48	6	Class 2	Moderately well drained	2e	C	0 - 9	.24	3	40	36	24
295A—Mokena silt loam, 0 to 2 percent slopes																	
Mokena	92	0.9	150	Low	4	48	6	Class 1	Somewhat poorly drained	2s	C/D	0 - 5	.32	3	20	55	24
330A—Peotone silty clay loam, 0 to 2 percent slopes																	
Peotone, drained	95	0.5	150	Negligible	5	48	6	None - deposition	Very poorly drained	3w	C/D	0 - 7	.24	1	5	60	35

Conservation Planning–Livingston County, Illinois																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Fact or	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydro logic Group	Surface						
												Depths in.	Kf Fact or	Frag- ments RV	Sand RV	Silt RV	Clay RV
448B2—Mona silt loam, 2 to 5 percent slopes, eroded																	
Mona	95	4.0	200	Medium	3	48	6	Class 2	Moderately well drained	2e	C	0 - 9	.28	2	20	55	24
594A—Reddick clay loam, 0 to 2 percent slopes																	
Reddick, drained	99	0.5	150	Negligible	5	48	6	None - deposition	Poorly drained	2w	C/D	0 - 12	.17	1	32	37	31
614A—Chenoa silty clay loam, 0 to 2 percent slopes																	
Chenoa	94	0.9	249	Low	5	48	6	Class 1	Somewhat poorly drained	2w	C/D	0 - 11	.28	0	5	65	30
614B—Chenoa silty clay loam, 2 to 5 percent slopes																	
Chenoa	94	2.0	249	Low	5	48	6	Class 1	Somewhat poorly drained	2e	C/D	0 - 11	.28	0	5	65	30
3107A—Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded																	
Sawmill, heavy till plain, frequently flooded	95	1.0	200	Negligible	5	48	6	None - deposition	Poorly drained	3w	B/D	0 - 7	.28	—	7	62	31

Conservation Planning–Livingston County, Illinois																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface						
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
3776A—Comfrey loam, 0 to 2 percent slopes, frequently flooded																	
Comfrey	90	0.5	298	Negligible	5	48	6	None - deposition	Poorly drained	3w	B/D	0 - 7	.28	—	30	47	22

Vegetative Productivity

This folder contains a collection of tabular reports that present vegetative productivity data. The reports (tables) include all selected map units and components for each map unit. Vegetative productivity includes estimates of potential vegetative production for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture and rangeland. In the underlying database, some states maintain crop yield data by individual map unit component. Other states maintain the data at the map unit level. Attributes are included for both, although only one or the other is likely to contain data for any given geographic area. For other land uses, productivity data is shown only at the map unit component level. Examples include potential crop yields under irrigated and nonirrigated conditions, forest productivity, forest site index, and total rangeland production under of normal, favorable and unfavorable conditions.

Illinois NRCS Adjusted Yield Indices by Map Unit (IL)

Map Unit Productivity and Yield Indices that have been Adjusted for Slope, Erosion, and Flooding

Summary

In Illinois, USDA Natural Resources Conservation Service (NRCS) uses the base productivity index (PI) and base yield indices for corn, soybeans, winter wheat, oats, grain sorghum, and grass-legume hay from University of Illinois (UI) Bulletin 811 “Optimum Crop Productivity Ratings for Illinois Soils” (Olson and Lang, 2000) with revised data from “Table S2, Revised—Productivity of Illinois Soils Under Optimum Management, Slightly Eroded, 0 to 2 Percent Slopes” (Olson and Lang, 2012). NRCS uses base indices for grass-legume pasture from UI Bulletin 810 “Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils” (Olson, et al. 2000) with revised data from “Table 2 revised—Productivity of Illinois Soils Under Average Management, Slightly Eroded, 0 to 2 Percent Slopes” (Olson et al., 2012). The base indices are used for conservation planning and policy after adjusting for major-component percentage of the soil mapping units and for phase, including slope, erosion, and flooding.

NRCS developed calculations for the Web Soil Survey based on the indices from the University of Illinois. Previously, yields and indices were populated manually in the National Soil Information System (NASIS). They were then delivered through the Web Soil Survey, the digital soil survey geographic database (SSURGO), and published soil survey reports for individual counties. Manually editing the NASIS database to account for updates to the productivity and base index from UI generated a significant workload. Edits were needed for the 7 indexed crops in more than 10,000 soil map units in Illinois.

Soil Database Composition

A soil series represents the central, characteristic concepts of a soil. Soil map units are identified as phases of soil series based on variations in slope, erosion, flooding, surface texture, substratum (layers below the developed soil profile), drainage, or other specifically identified properties. Consociations are map units containing one major-component soil series that makes up at least 85 percent of that map unit. Complexes and undifferentiated groups are map units that contain more than one major-component soil series. Additional map units are composed of miscellaneous soil areas or materials that are not represented by standard soil series concepts. Examples of miscellaneous areas include urban land, dams, beaches, dumps, oil-waste land, pits, riverwash, rock outcrop, water, and miscellaneous water. Certain types of soil materials that are identified on a soil map do not typically have interpretations because of high variability (Soil Survey Division Staff, 1993). Examples include Orthents of several kinds, Alfic Udarents, and Aquents.

Indices for consociations are calculated by representing the major component as 100 percent of the whole map unit. Complexes and undifferentiated groups are developed by ignoring minor component percentages and re-calculating the major components to equal 100 percent of the map unit. These methods allow the major components in complexes and undifferentiated groups to proportionately dominate productivity and yield indices. If a miscellaneous area is included in a map unit as a component, it carries a value of zero in subsequent calculations, significantly impacting the map unit index.

Yield indices and productivity indices for row crops are not calculated for agricultural purposes where land capability classification (LCC) of the map unit is 6s, 6e, 7e, 8, or 8s or where the map unit component is identified as “Taxon above family” or “Miscellaneous area.” Grass-legume hay indices are not calculated where LCC is 7s, 7e, or 8. Grass-legume pasture indices are not calculated where LCC is 8 or 8s.

These indices are not used for real estate land assessment or for valuation of real estate tax base in Illinois.

Yield indices in Illinois have been adjusted by NRCS for several years on the basis of slope, erosion, and flooding. Additional factors may be needed to address differences among specific sites or series phases. Yields and productivity indices given in the table are generally accurate, but local variability and slight differences in soil characteristics still exist across the landscape. Some soils are more variable than others, and some soils respond differently to management. Variations in landform and in landform position also affect soil moisture and nutrient availability and consequently affect yield.

Yield indices are determined for nonirrigated land under normal management, including drainage for agricultural purposes where appropriate. Soils that are typically drained under normal management but have not been drained will have lower yield indices than given in the table. Soils under irrigation management will have higher yield indices than given in the table.

The calculated yield indices are relative to one another and the base yields of UI bulletins 810 and 811. The indices are intended for ranking, comparing, and estimating yields and productivity of crops typically grown on the named soil series.

University of Illinois Bulletin 811 (Olsen and Lang, 2012) provides index factors for determining RV optimum productivity index and optimum yield indices for row crops and hay. The calculated indices reflect soil productivity for crops and hay under dominantly optimum management.

University of Illinois Bulletin 810 (Olsen et al., 2012) provides base yield index factors for calculating representative values (RV) for soil map units. The resulting values for average productivity index and average pasture yield index reflect the overall productivity and productivity for pasture under average management for each soil map unit.

Hay and pasture yields are delivered as grass-legume mixed hay and grass-legume mixed pasture. Well drained soils typically use alfalfa yields. Vegetation is more mixed on wetter soils where alfalfa is not grown. Dominantly, both hayland and pasture support mixed grasses and legumes.

Factors used for slope and erosion are applied as defined by bulletin 810 and 811. In Illinois, NRCS uses relative value (Rv) slope, assigned erosion class, and a simple table to determine which value (from table S3 in bulletin 811) to use for row crops and hay. Table 7 in bulletin 810 is used with the Rv slope and assigned erosion to determine the number of animal unit days, which is then divided by 30 to get animal unit months.

Productivity indices derived with this method have been incorporated with the statewide Land Evaluation and Site Assessment (LESA) system for the protection of farmland relative to The Illinois Farmland Preservation Act, 1982 (505 ILCS 75/1 et seq.), in which the Illinois Department of Agriculture (IDA) was legislatively directed to review all State agency projects and activities that may have a direct or indirect effect upon the potential conversion of farmland in Illinois (IDA, 2001; CCRPC, 2011).

Productivity indices derived with this method have been incorporated with the Federal Farmland Protection Policy Act (FPPA), 1981, which directs all Federal agencies to evaluate their programs and projects and to modify their actions so as to produce the least impact on farmland. The FPPA also seeks to ensure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State and local government programs, private programs, and policies to protect farmland. Additional information on the FPPA is online at http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/.

Further documentation regarding the indices, including information on how they were derived, is available from the University of Illinois soil productivity website athttp://soilproductivity.nres.uiuc.edu/ (Olson and Lang, 2000, 2012; Olson, et al. 2000, 2012). Other information regarding the Illinois productivity and yield indices can be found on the Illinois Field Office Technical Guide (FOTG). Select Illinois from the map at http://efotg.sc.egov.usda.gov/; select a county of interest from the next map; select “Section II” from the drop-down menu on the left; select “Soil and Site Information;” select “Productivity and Yield Indices;” and select a document of interest.

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Report—Illinois NRCS Adjusted Yield Indices by Map Unit (IL)

[This table arrays soils in Illinois for nonirrigated commodity crop production based on their inherent soil properties. Ratings are for soils in their present condition. Absence of an entry indicates that a crop productivity index is not assigned. These estimates are factored for slope, erosion, and flooding.]

Illinois NRCS Adjusted Yield Indices by Map Unit (IL) –Grundy County, Illinois							
Map symbol and name	Corn	Soybeans	Wheat	Oats	Sorghum	Hay	Pasture
	Bu	Bu	Bu	Bu	Bu	Tons	AUM
594A—Reddick clay loam, 0 to 2 percent slopes	177	56	66	89	—	5.1	6.8
69A—Milford silty clay loam, 0 to 2 percent slopes	171	57	68	88	—	5.5	7.3

Illinois NRCS Adjusted Yield Indices by Map Unit (IL) –Kankakee County, Illinois							
Map symbol and name	Corn	Soybeans	Wheat	Oats	Sorghum	Hay	Pasture
	Bu	Bu	Bu	Bu	Bu	Tons	AUM
594A—Reddick clay loam, 0 to 2 percent slopes	177	56	66	89	—	5.1	6.8
293A—Andres silt loam, 0 to 2 percent slopes	0	0	0	0	—	0.0	0.0

Illinois NRCS Adjusted Yield Indices by Map Unit (IL) –Livingston County, Illinois							
Map symbol and name	Corn	Soybeans	Wheat	Oats	Sorghum	Hay	Pasture
	Bu	Bu	Bu	Bu	Bu	Tons	AUM
146A—Elliott silt loam, 0 to 2 percent slopes	168	55	68	87	—	5.0	6.7
146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded	160	52	65	83	—	4.8	6.4
125A—Selma loam, 0 to 2 percent slopes	176	57	70	90	1	7.5	7.0
102A—La Hogue loam, 0 to 2 percent slopes	162	52	71	80	—	5.3	7.0
150B—Onarga fine sandy loam, 2 to 5 percent slopes	147	48	60	76	—	4.1	5.4
147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded	130	46	55	60	—	4.1	5.3
141A—Wesley fine sandy loam, 0 to 2 percent slopes	152	49	59	78	—	4.8	6.3
147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded	127	45	54	59	—	4.0	5.2
223B2—Varna silt loam, 2 to 4 percent slopes, eroded	150	48	61	75	—	4.7	6.2
223C2—Varna silt loam, 4 to 6 percent slopes, eroded	149	47	60	74	—	4.6	6.1
151A—Ridgeville fine sandy loam, 0 to 2 percent slopes	151	51	63	78	—	5.0	6.7
206A—Thorp silt loam, 0 to 2 percent slopes	170	55	66	88	—	5.1	6.8
232A—Ashkum silty clay loam, 0 to 2 percent slopes	170	56	65	85	—	5.1	6.8
294B2—Symerton loam, 2 to 5 percent slopes, eroded	170	53	66	87	—	6.0	7.9
153A—Pella silty clay loam, 0 to 2 percent slopes	183	60	70	92	—	5.3	7.0
235A—Bryce silty clay, 0 to 2 percent slopes	162	54	64	82	—	4.8	6.3
293A—Andres silt loam, 0 to 2 percent slopes	0	0	0	0	—	0.0	0.0
295A—Mokena silt loam, 0 to 2 percent slopes	172	54	66	88	—	4.9	6.5
238A—Rantoul silty clay, 0 to 2 percent slopes	144	49	56	64	—	4.1	5.5
3776A—Comfrey loam, 0 to 2 percent slopes, frequently flooded	166	55	62	80	—	5.0	6.6
3107A—Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded	170	54	64	88	1	5.2	6.9
91A—Swygert silty clay loam, 0 to 2 percent slopes	158	52	63	79	—	4.5	6.0
536—Dumps, mine	0	0	0	0	0	—	—
448B2—Mona silt loam, 2 to 5 percent slopes, eroded	152	48	59	78	—	4.0	5.4
330A—Peotone silty clay loam, 0 to 2 percent slopes	164	55	61	78	—	5.0	6.7
91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded	147	48	59	73	—	4.2	5.5

Illinois NRCS Adjusted Yield Indices by Map Unit (IL) –Livingston County, Illinois							
Map symbol and name	Corn	Soybeans	Wheat	Oats	Sorghum	Hay	Pasture
	Bu	Bu	Bu	Bu	Bu	Tons	AUM
614B—Chenoa silty clay loam, 2 to 5 percent slopes	172	56	67	91	—	5.0	6.8
614A—Chenoa silty clay loam, 0 to 2 percent slopes	174	57	68	92	—	5.1	6.8
594A—Reddick clay loam, 0 to 2 percent slopes	177	56	66	89	—	5.1	6.8
W—Water	—	—	—	—	—	—	—
69A—Milford silty clay loam, 0 to 2 percent slopes	171	57	68	88	—	5.5	7.3

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Hydrologic Soil Group and Surface Runoff

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

Report—Hydrologic Soil Group and Surface Runoff

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

Hydrologic Soil Group and Surface Runoff–Grundy County, Illinois			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
69A—Milford silty clay loam, 0 to 2 percent slopes			
Milford, drained	93	Negligible	C/D
594A—Reddick clay loam, 0 to 2 percent slopes			
Reddick, drained	99	Negligible	C/D

Hydrologic Soil Group and Surface Runoff–Kankakee County, Illinois			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
293A—Andres silt loam, 0 to 2 percent slopes			
Andres	91	Low	C/D
594A—Reddick clay loam, 0 to 2 percent slopes			
Reddick, drained	99	Negligible	C/D

Hydrologic Soil Group and Surface Runoff–Livingston County, Illinois			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
69A—Milford silty clay loam, 0 to 2 percent slopes			
Milford, drained	93	Negligible	C/D
91A—Swygert silty clay loam, 0 to 2 percent slopes			
Swygert	98	Medium	C/D
91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded			
Swygert, eroded	98	High	C/D
102A—La Hogue loam, 0 to 2 percent slopes			
La hogue	95	Low	B/D
125A—Selma loam, 0 to 2 percent slopes			
Selma, drained	96	Negligible	B/D
141A—Wesley fine sandy loam, 0 to 2 percent slopes			
Wesley	91	Medium	C/D

Hydrologic Soil Group and Surface Runoff–Livingston County, Illinois			
Map symbol and soil name	Pct. of map unit	Surface Runoff	Hydrologic Soil Group
146A—Elliott silt loam, 0 to 2 percent slopes			
Elliott	94	Low	C/D
146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded			
Elliott, eroded	95	High	C/D
147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded			
Clarence, eroded	94	Medium	D
147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded			
Clarence, eroded	97	High	D
150B—Onarga fine sandy loam, 2 to 5 percent slopes			
Onarga, deep water table	92	Low	A
151A—Ridgeville fine sandy loam, 0 to 2 percent slopes			
Ridgeville	90	Low	A/D
153A—Pella silty clay loam, 0 to 2 percent slopes			
Pella, drained	96	Negligible	B/D
206A—Thorp silt loam, 0 to 2 percent slopes			
Thorp, drained	95	Negligible	C/D
223B2—Varna silt loam, 2 to 4 percent slopes, eroded			
Varna, eroded	94	Medium	C
223C2—Varna silt loam, 4 to 6 percent slopes, eroded			
Varna, eroded	90	High	C
232A—Ashkum silty clay loam, 0 to 2 percent slopes			
Ashkum, drained	92	Negligible	C/D
235A—Bryce silty clay, 0 to 2 percent slopes			
Bryce, drained	95	Negligible	C/D
238A—Rantoul silty clay, 0 to 2 percent slopes			
Rantoul	94	Negligible	D
293A—Andres silt loam, 0 to 2 percent slopes			
Andres	91	Low	C/D
294B2—Symerton loam, 2 to 5 percent slopes, eroded			
Symerton	94	Low	C
295A—Mokena silt loam, 0 to 2 percent slopes			
Mokena	92	Low	C/D
330A—Peotone silty clay loam, 0 to 2 percent slopes			
Peotone, drained	95	Negligible	C/D
448B2—Mona silt loam, 2 to 5 percent slopes, eroded			
Mona	95	Medium	C

Hydrologic Soil Group and Surface Runoff–Livingston County, Illinois			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
536—Dumps, mine			
Dumps, mine	97	—	—
594A—Reddick clay loam, 0 to 2 percent slopes			
Reddick, drained	99	Negligible	C/D
614A—Chenoa silty clay loam, 0 to 2 percent slopes			
Chenoa	94	Low	C/D
614B—Chenoa silty clay loam, 2 to 5 percent slopes			
Chenoa	94	Low	C/D
3107A—Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded			
Sawmill, heavy till plain, frequently flooded	95	Negligible	B/D
3776A—Comfrey loam, 0 to 2 percent slopes, frequently flooded			
Comfrey	90	Negligible	B/D
W—Water			
Water	100	—	—

Water Features

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Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. The kind of water table, apparent or perched, is given if a seasonal high water table exists in the soil. A water table is perched if free water is restricted from moving downward in the soil by a restrictive feature, in most cases a hardpan; there is a dry layer of soil underneath a wet layer. A water table is apparent if free water is present in all horizons from its upper boundary to below 2 meters or to the depth of observation. The water table kind listed is for the first major component in the map unit.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
69A—Milford silty clay loam, 0 to 2 percent slopes											
Milford, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
594A—Reddick clay loam, 0 to 2 percent slopes											
Reddick, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
293A—Andres silt loam, 0 to 2 percent slopes											
Andres	C/D	Low	Jan-May	1.0-2.0	3.0-5.5	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
594A—Reddick clay loam, 0 to 2 percent slopes											
Reddick, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
69A—Milford silty clay loam, 0 to 2 percent slopes											
Milford, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
91A—Swygert silty clay loam, 0 to 2 percent slopes											
Swygert	C/D	Medium	Jan-May	1.0-2.0	2.9-4.8	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded											
Swygert, eroded	C/D	High	Jan-May	1.0-2.0	2.9-4.8	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
102A—La Hogue loam, 0 to 2 percent slopes											
La hogue	B/D	Low	Jan-May	1.0-2.0	6.0	Apparent	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
125A—Selma loam, 0 to 2 percent slopes											
Selma, drained	B/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
141A—Wesley fine sandy loam, 0 to 2 percent slopes											
Wesley	C/D	Medium	Jan-May	1.0-2.0	2.0-4.9	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
146A—Elliott silt loam, 0 to 2 percent slopes											
Elliott	C/D	Low	Jan-May	1.0-2.0	2.4-4.3	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded											
Elliott, eroded	C/D	High	Jan-May	1.0-2.0	2.0-3.7	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded											
Clarence, eroded	D	Medium	Jan-May	1.0-2.0	2.1-3.8	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded											
Clarence, eroded	D	High	Jan-May	1.0-2.0	2.1-3.8	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
150B—Onarga fine sandy loam, 2 to 5 percent slopes											
Onarga, deep water table	A	Low	Jan	—	—	—	—	—	None	—	None
			Feb-Apr	3.5-6.0	6.0	Apparent	—	—	None	—	None
			May-Dec	—	—	—	—	—	None	—	None
151A—Ridgeville fine sandy loam, 0 to 2 percent slopes											
Ridgeville	A/D	Low	Jan-May	1.0-2.0	6.0	Apparent	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
153A—Pella silty clay loam, 0 to 2 percent slopes											
Pella, drained	B/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
206A—Thorp silt loam, 0 to 2 percent slopes											
Thorp, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
223B2—Varna silt loam, 2 to 4 percent slopes, eroded											
Varna, eroded	C	Medium	Jan	—	—	—	—	—	None	—	None
			Feb-Apr	2.0-3.5	2.2-5.5	Perched	—	—	None	—	None
			May-Dec	—	—	—	—	—	None	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
223C2—Varna silt loam, 4 to 6 percent slopes, eroded											
Varna, eroded	C	High	Jan	—	—	—	—	—	None	—	None
			Feb-Apr	2.0-3.5	2.2-5.5	Perched	—	—	None	—	None
			May-Dec	—	—	—	—	—	None	—	None
232A—Ashkum silty clay loam, 0 to 2 percent slopes											
Ashkum, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
235A—Bryce silty clay, 0 to 2 percent slopes											
Bryce, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
238A—Rantoul silty clay, 0 to 2 percent slopes											
Rantoul	D	Negligible	Jan-Jun	0.0-1.0	6.0	Apparent	0.0-0.5	Long (7 to 30 days)	Frequent	—	None
			Jul-Dec	—	—	—	—	—	—	—	None
293A—Andres silt loam, 0 to 2 percent slopes											
Andres	C/D	Low	Jan-May	1.0-2.0	3.0-5.5	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
294B2—Symerton loam, 2 to 5 percent slopes, eroded											
Symerton	C	Low	Jan	—	—	—	—	—	None	—	None
			Feb-Apr	2.0-3.5	2.5-4.7	Perched	—	—	None	—	None
			May-Dec	—	—	—	—	—	None	—	None
295A—Mokena silt loam, 0 to 2 percent slopes											
Mokena	C/D	Low	Jan-May	1.0-2.0	2.5-5.5	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
330A—Peotone silty clay loam, 0 to 2 percent slopes											
Peotone, drained	C/D	Negligible	Jan-Jun	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jul-Dec	—	—	—	—	—	—	—	None
448B2—Mona silt loam, 2 to 5 percent slopes, eroded											
Mona	C	Medium	Jan	—	—	—	—	—	None	—	None
			Feb-Apr	2.0-3.5	2.5-5.0	Perched	—	—	None	—	None
			May-Dec	—	—	—	—	—	None	—	None
536—Dumps, mine											
Dumps, mine				—	—	—	—	—	—	—	
594A—Reddick clay loam, 0 to 2 percent slopes											
Reddick, drained	C/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	—	None
			Jun-Dec	—	—	—	—	—	—	—	None
614A—Chenoa silty clay loam, 0 to 2 percent slopes											
Chenoa	C/D	Low	Jan-May	1.0-2.0	2.1-4.3	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None
614B—Chenoa silty clay loam, 2 to 5 percent slopes											
Chenoa	C/D	Low	Jan-May	1.0-2.0	2.1-4.3	Perched	—	—	None	—	None
			Jun-Dec	—	—	—	—	—	None	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
3107A—Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded											
Sawmill, heavy till plain, frequently flooded	B/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	Brief (2 to 7 days)	Frequent
			Jun	—	—	—	—	—	—	Brief (2 to 7 days)	Frequent
			Jul-Oct	—	—	—	—	—	—	—	
			Nov-Dec	—	—	—	—	—	—	Brief (2 to 7 days)	Frequent
3776A—Comfrey loam, 0 to 2 percent slopes, frequently flooded											
Comfrey	B/D	Negligible	Jan-May	0.0-1.0	6.0	Apparent	0.0-0.5	Brief (2 to 7 days)	Frequent	Brief (2 to 7 days)	Frequent
			Jun	—	—	—	—	—	—	Brief (2 to 7 days)	Frequent
			Jul-Oct	—	—	—	—	—	—	—	
			Nov-Dec	—	—	—	—	—	—	Brief (2 to 7 days)	Frequent
W—Water											
Water				—	—	—	—	—	—	—	

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