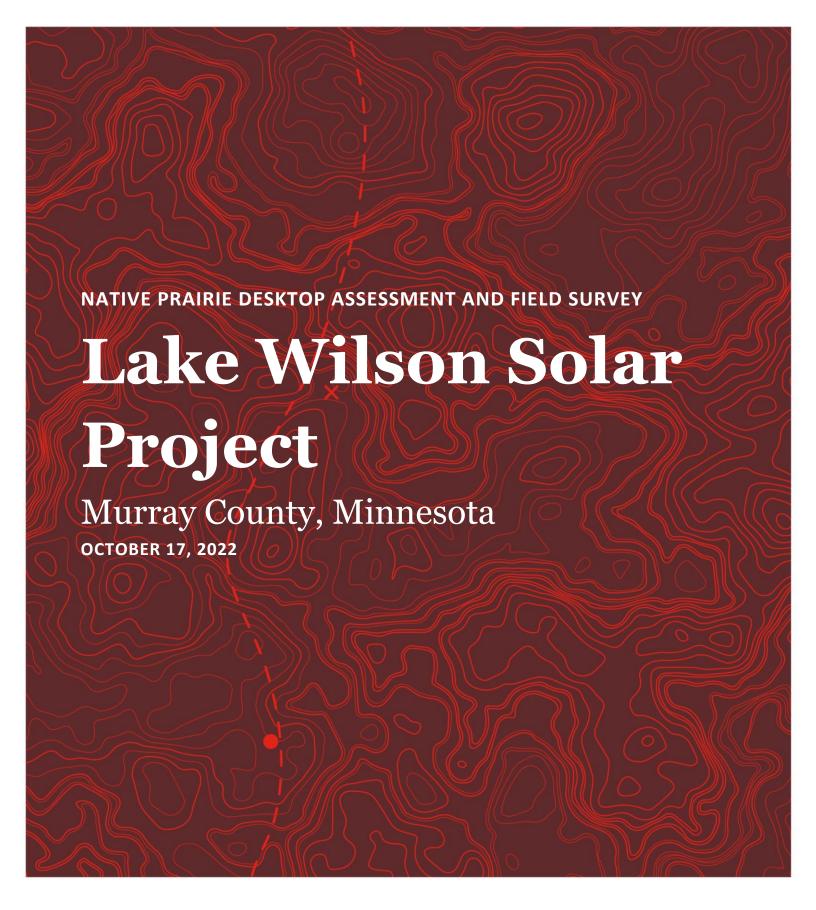
Appendix J – Native Prairie Desktop Assessment and Field Survey



**PREPARED FOR:** 

Lake Wilson Solar Energy LLC

**PREPARED BY:** 

Multi-Disciplined Surveying & Engineer

### Westwood

# Native Prairie Desktop Assessment and Field Survey

**Lake Wilson Solar Project** 

Murray County, Minnesota

#### **Prepared For:**

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Project Number: R0012861.02

Date: October 17, 2022

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#### 1.0 Introduction

This report and attached exhibits present the results of the desktop inventory, field surveys, and additional research conducted to identify areas of potential native prairie for the Lake Wilson Solar Project (Project), which covers approximately 2,621 acres (Proposed Project Area) of agricultural land in Murray County, Minnesota (Exhibit 1). Westwood Professional Services, Inc. (Westwood) performed this work on behalf of Lake Wilson Solar Energy LLC (Lake Wilson Solar) from 2017 through July 2022. The purpose of this work is to identify locations of native prairie that may be present within the Proposed Project Area to assist with siting and designing the layout of the Project.

#### 2.0 Summary of Regulatory Agency Consultation

On September 15, 2021, the Lake Wilson Solar permitting team held a virtual meeting with representatives from the MNDNR and U.S. Fish and Wildlife Service (USFWS) to introduce the Project and coordinate early review comments. As a follow up to that meeting, on September 27, 2021, Lake Wilson Solar emailed shapefiles of the Proposed Project Area, initial MNDNR Natural Heritage Information System (NHIS) response (Correspondence # ERDB 20180232-0002, dated November 16, 2020), and initial USFWS Information for Planning and Consultation (IPaC, dated September 15, 2021) associated with the Project and requested agency comments for the Project. Additionally, Lake Wilson Solar submitted a formal request to MNDNR for an updated Natural Heritage Information System (NHIS) review for the Project on October 6, 2021. The MNDNR recently created an online tool, the Minnesota Conservation Explorer, that automates and succeeds the Natural Heritage Review process. Westwood submitted updated requests through the Minnesota Conservation Explorer for the Proposed Project Area on June 29, 2022; August 22, 2022; and October 5, 2022.

The USFWS emailed comments on the Project to Lake Wilson Solar on October 6, 2021, concerning species and habitat in the Proposed Project Area and providing site selection, layout, and construction recommendations. Regarding native prairie, the USFWS suggested that if low wildlife value sites are not feasible for use in the Project, that conversion of forested areas, native grasslands, and wetlands be avoided or minimized to the greatest degree to help protect water quality and important habitat for a variety of species. The USFWS also suggested consideration of voluntary mitigation (in addition to any required mitigation) to offset the loss of forested areas, wetlands, or native grasslands.

The MNDNR emailed comments on November 2, 2021, concerning initial comments on species, habitat, Project siting, construction, and related matters. The MNDNR indicated that based on desktop datasets, the Project boundary contains mapped native prairie, other native plant communities, Minnesota Biological Survey (MBS) sites, as well as several areas identified on the "potentially undisturbed land" data layer. The MNDNR indicated that any areas that may be impacted and have not been plowed should be assessed as potential prairie. In the instance that native prairie is present and will not be avoided, the MNDNR recommended that a Native Prairie Protection Plan (NPPP) be prepared and submitted with detailed assessment information.

To determine if a NPPP is necessary, Westwood completed a native prairie assessment consisting of both desktop and field components to confirm the presence or absence of native prairie from the Proposed Project Area.

The following presents the desktop, field review and additional research methods and results of the native prairie assessment Westwood completed for the Project, followed by recommendations to address the above discussed regulatory agency comments.

#### 3.0 Desktop Assessment and Field Survey Methods

Native prairie, as defined by Minnesota Statute 84.02, Subpart 5, means (1) "land that has never been plowed where native prairie vegetation originating from the site currently predominates or, (2) if disturbed, is predominantly covered with native prairie vegetation that originated from the site. Unbroken pasture land used for livestock grazing can be considered native prairie if it has predominantly native vegetation originating from the site and conservation practices have maintained biological diversity."

To identify potential locations of native prairie, Westwood conducted an initial screening within and immediately surrounding the Proposed Project Area by overlaying the following data layers:

- MNDNR Native Plant Communities (NPC)
- Potentially Undisturbed Land (Virgin Sod)
- MBS Sites of Biodiversity Significance
- Minnesota County Biological Survey (MCBS) Railroad Right-of-Way Prairies

Westwood also reviewed historical aerial photography to identify potential native prairie remnants within and adjacent to the Proposed Project Area. In addition to areas mapped based on the NPC, Potentially Undisturbed Land, and MBS Sites of Biodiversity Significance data layers, other areas identified by Westwood as potential native prairie were grasslands that exhibited a history of grazing, having, or other disturbance, but did not appear to show evidence of ground disturbance that would be caused by plowing, disking, and/or the planting of a uniform crop (Exhibit 2).

To determine additional potential prairie remnant locations Westwood first obtained the most recent Proposed Project Area boundary and overlaid the boundary on the 2018 MnGEO WMS Service (2022) aerial photography to identify areas within the Proposed Project Area that appeared undisturbed and could be considered potential prairie (i.e., not in active row crop production or otherwise graded). All areas requiring further review for definitive determination were listed as Suspect Native Prairies (SNPs).

Westwood then reviewed SNPs against historical aerial photography in GIS and Google Earth (1991 – 2019) as a means of evaluating agricultural disturbance in potential native prairie areas. Evidence of agricultural disturbance and other features sufficient to remove areas from native prairie consideration included:

- 1. The presence of row crops or tilled land
- 2. Bare or developed ground
- 3. Areas in forest, wooded fencerows, or woodlots

As an additional means of determining native prairie status, SNPs were also evaluated against available Conservation Reserve Program (CRP) (U.S. Department of Agriculture [USDA] 2019) land information as a means of determining lands previously in agricultural production.

To further assess areas for native prairie characteristics, all identified SNPs were visited in the field by Westwood biologists on October 17 through October 20, 2017, July 12 through July 15, 2021, October 11, 2021, and July 25 through July 26, 2022. During the field review, notes detailing dominant and unique species present, representative photographs, and, where necessary, GPS locations were recorded.

#### 4.0 Desktop Assessment Results

Based on the above data analysis, mapping methods and techniques, polygons were created around 9 areas potentially having native prairie characteristics and are summarized below (Exhibit 2; Table 1). Of note, three areas (SNP\_03, 04, 06) overlap MBS sites of moderate biodiversity significance and one area (SNP\_05) overlaps a MBS site of below biodiversity significance. Additionally, three areas (SNP\_03, 04, and 06) were mapped as DNR native prairies. The nine total areas include seven areas located either wholly or partially within the Proposed Project Area and two areas (SNP\_o6 and SNP\_o8) immediately adjacent to the Proposed Project Area. One additional area, the Carlson Wildlife Management Area, is located adjacent to the Proposed Project Area and has been confirmed by the MNDNR as native prairie. Due to official state designation, this area was not further assessed and is mapped in **Exhibit 3** depicting its status as native prairie.

## 5.0 Field Survey Results

The nine identified and field surveyed areas are shown and numbered on the attached field survey results map (Exhibit 3). Westwood biologists visited these sites and concluded all potential areas within the Proposed Project Area are not native prairie as defined by Minnesota Statute 84.02, Subpart 5 (Exhibit 3; Table 1) and as further assessed below. Photographs documenting site characteristics of each potential native prairie area visited during field surveys are available in **Appendix B**.

Westwood biologists visited potential area SNP\_06, which borders the Proposed Project Area, and concluded the area is native prairie (as defined by Minnesota Statute 84.02, Subpart 5). This area (SNP o6) will be avoided due to its location outside of the Proposed Project Area and will not be impacted by Project development activities. Similarly, the Carlson Wildlife Management Area native prairie will be avoided due to its location outside of the Proposed Project Area and thus will not be impacted by Project development activities.

Table 1: Summary Desktop and Field Survey Results of Potential Native Prairie Sites.

Site	Prairie	Results
SNP_01	No	Mapped in the Potentially Undisturbed Land dataset but ruled out based on field review. Although untilled, the area is dominated by invasive reed canary grass ( <i>Phalaris arundinacea</i> ) and non-native smooth brome ( <i>Bromus inermis</i> ) and yellowsweet clover ( <i>Melilotus officinalis</i> ).
SNP_02	No	Mapped in the Potentially Undisturbed Land dataset but ruled out based on field review. Heavily disturbed area dominated by smooth brome and planted trees.
SNP_03	No	Mapped in the Minnesota Native Plant Communities and Potentially Undisturbed Land datasets as native prairie but ruled out based on field review. Heavily invaded by Kentucky bluegrass and smooth brome. Non-dominant species included Canada goldenrod ( <i>Solidago</i>

		canadensis), Canada thistle (Cirsium arvense), common milkweed (Asclepias syriaca), and Queen Anne's lace (Daucus carota).
SNP_04	No	Mapped in the Minnesota Native Plant Communities and Potentially Undisturbed Land datasets as native prairie but ruled out based on field review. Heavily invaded by Kentucky bluegrass ( <i>Poa pratensis</i> ) and smooth brome. Other plants found on site include field horsetail ( <i>Equisetum arvense</i> ), Canada goldenrod, Canada thistle, common milkweed, and switchgrass ( <i>Panicum virgatum</i> ).
SNP_05	No	Mapped in the Potentially Undisturbed Land dataset but ruled out based on field review. Observed tilled agricultural field and an avoided wetland dominated by nonnative narrowleaf cattail ( <i>Typha angustifolia</i> ) and reed canary grass.
SNP_06	Yes	Mapped in the Minnesota Native Plant Communities and Potentially Undisturbed Land datasets as native prairie and confirmed as such based on field review. Located outside of, but adjacent to the Proposed Project Area (Exhibits 2 and 3). No signs of past cultivation, discing, planting, or tilling. Area invaded by smooth brome. Native plants observed.
SNP_07	No	Not mapped as a MNDNR Native Plant Community or a Potentially Undisturbed Land, but uncropped in 2018 aerial imagery (Appendix A). This suspect area was further researched to determine its prairie status due to observed native plants during the field review (see summary of research results below and Appendix C). Both native and non-native/invasive vegetative species observed at SNP_07 include big bluestem ( <i>Andropogon gerardii</i> ), purple prairie clover ( <i>Dalea purpurea</i> ), smooth brome, Kentucky bluegrass, brown-eyed Susan ( <i>Rudbeckia triloba</i> ), field horsetail, and white sagebrush ( <i>Artemesia ludoviciana</i> ).
SNP_08	No	Located outside of, but adjacent to the Proposed Project Area (Exhibits 2 and 3). Area was mapped in the Potentially Undisturbed Land datasets but was ruled out during field review. Area invaded by smooth brome and eastern red cedar (Juniperus virginiana).
SNP_09	No	Not mapped as a MNDNR Native Plant Community or a Potentially Undisturbed Land but is uncropped in historic aerial imagery (Appendix A). Based on field review, the area is an old homestead site bordered by willows and honeysuckle as planted windbreaks. The area is dominated by smooth brome with small pockets of common milkweed.

Photographs documenting site characteristics of each site are available in Appendix B.

All suspect native prairie areas except SNP\_06 were ruled out as Native Prairie (as defined by Minnesota Statute 84.02, Subpart 5) based on a combination of field results (which showed a predominance of non-native/invasive vegetation), desktop review (which showed evidence of tillage and/or other forms of ground manipulation), and additional research of Site SNP\_o7 (Table 1 above and further discussed below). As noted above, Site SNP\_06 is outside of the Proposed Project Area and will not be impacted by proposed Project construction or operation.

#### 6.0 Additional Research Results of Site SNP\_07

While SNP o7 is not mapped as a MNDNR Native Plant Community or as a Potentially Disturbed Land, this site is currently enrolled in the CRP with a ten year term (October 1, 2012, to September 30, 2022, as indicated in the CRP Contract; see (Appendix C), field review identified Minnesota native species and further assessment was completed (see below).

According to the CRP guidance (December 2019):

"Eligible Land: For cropland, land must be planted or considered planted to an agricultural commodity for four of six crop years from 2012 to 2017, and that is physically and legally capable of being planted (no planting restrictions due to an easement or other legally binding instrument) in a normal manner to an agricultural commodity. For general signup, land also must meet one of the following criteria:

- Have a weighted average erosion index of eight or higher;
- Be enrolled in a CRP contract that expires September 30; or
- Be located in a national or state CRP conservation priority area.

Marginal pastureland may also be eligible for continuous signup. CRP Grasslands has alternative requirements for eligible land."

On December 20, 2021, Westwood obtained 16 historic aerial photographs from Historical Information Gatherers (HIG) of the SNP\_07 area dating from 1938 to 2019 (see Appendix C). The aerial images were reviewed for clear indication that agricultural disturbances occurred. A summary of this review indicated that Site SNP\_07 appears to have been in row crop agricultural use and/or surface gravel mining operations across 33 (1955 to 1988) of the past 83 years (1938 to 2021). Historic aerial photographs confirm that Site SNP o7 has been significantly disturbed by these land uses and that native prairie (as defined by Minnesota Statute 84.02, Subpart 5) is no longer present at the site (**Appendix C**).

Additionally, on January 14, 2022, Joyce Risacher (landowner of Site SNP 07) and her son John Risacher were contacted for additional information concerning the site. They indicated that the site is currently enrolled in the CRP and provided a copy of Site SNP\_07 CRP Contract (Appendix D. The Risacher's indicated that before the site was enrolled in the CRP it was all tillable acres. The CRP Contract identifies this CRP land under Practice No. CP2 (establishment of permanent native grasses), meaning that upon enrollment in the CRP program, prairie vegetation was seeded after years of agricultural tillage and production. Given that current vegetation does not originate from the site, SNP\_o7 was determined not to meet the definition of a native prairie.

#### 7.0 Conclusions

#### Sites SNP\_01 to SNP\_05 and SNP\_07 to SNP 09 7.1

As discussed above, each of these sites were assessed via desktop and field review methods for the presence of native prairie as defined by Minnesota Statute 84.02, Subpart 5. None of these sites were confirmed to contain native prairie, including MBS sites that overlap SNP -03 and SNP\_-04.

Based upon landowner and CRP Contract information, regulatory agency review, and additional research of historic aerial photographs associated with Site SNP o7, Westwood has determined that neither of the two provisions for native prairie (as defined by Minnesota Statute 84.02, Subpart 5) is present at Site SNP -07. No further assessment of these sites is recommended.

#### 7.2 Sites SNP 06 and Carson Wildlife Management Area

As indicated above, sites SNP o6 and the Carson Wildlife Management Area are both native prairies but are located outside of the Proposed Project Area and will not be a part of or impacted by the Project. Because these sites are not part of the proposed Project or within the Proposed Project Area, no further assessment of these sites is recommended.

#### 7.3 **Summary**

In summary, none of the areas assessed within the Proposed Project Area for suspect native prairie contain native prairie as defined under applicable Minnesota Statutes. Two areas (SNP) of

and Carson Wildlife Management Area) located outside of the Proposed Project Area are native prairie as defined under Minnesota Statutes or were confirmed as native prairie by the MNDNR; however, they are located outside of the Proposed Project Area. Therefore, further assessment or consideration of any of the suspected native prairie areas is not warranted as part of development and operation of the proposed Project and a native prairie protection plan is not required for the Project.

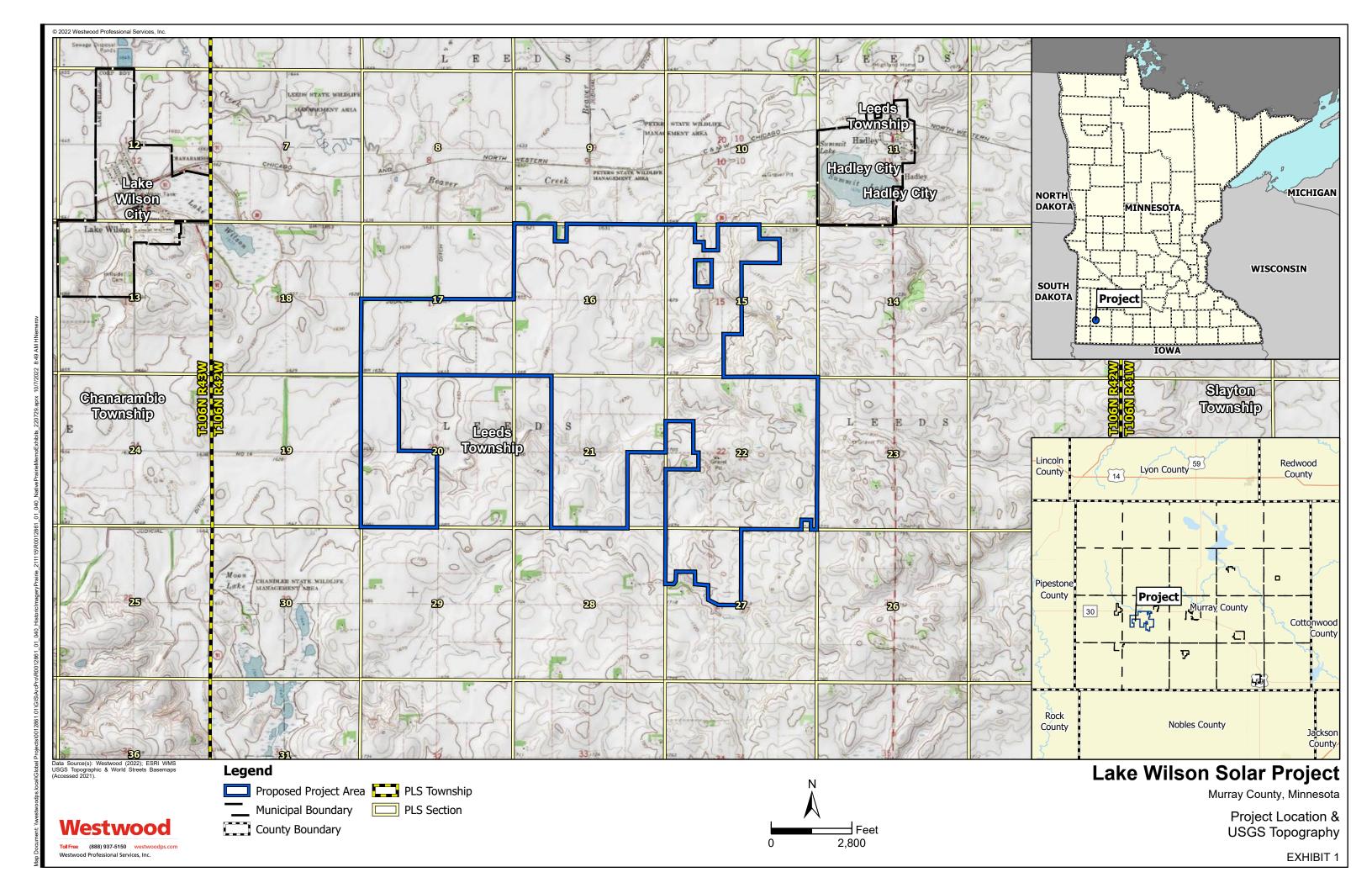
#### 8.0 References

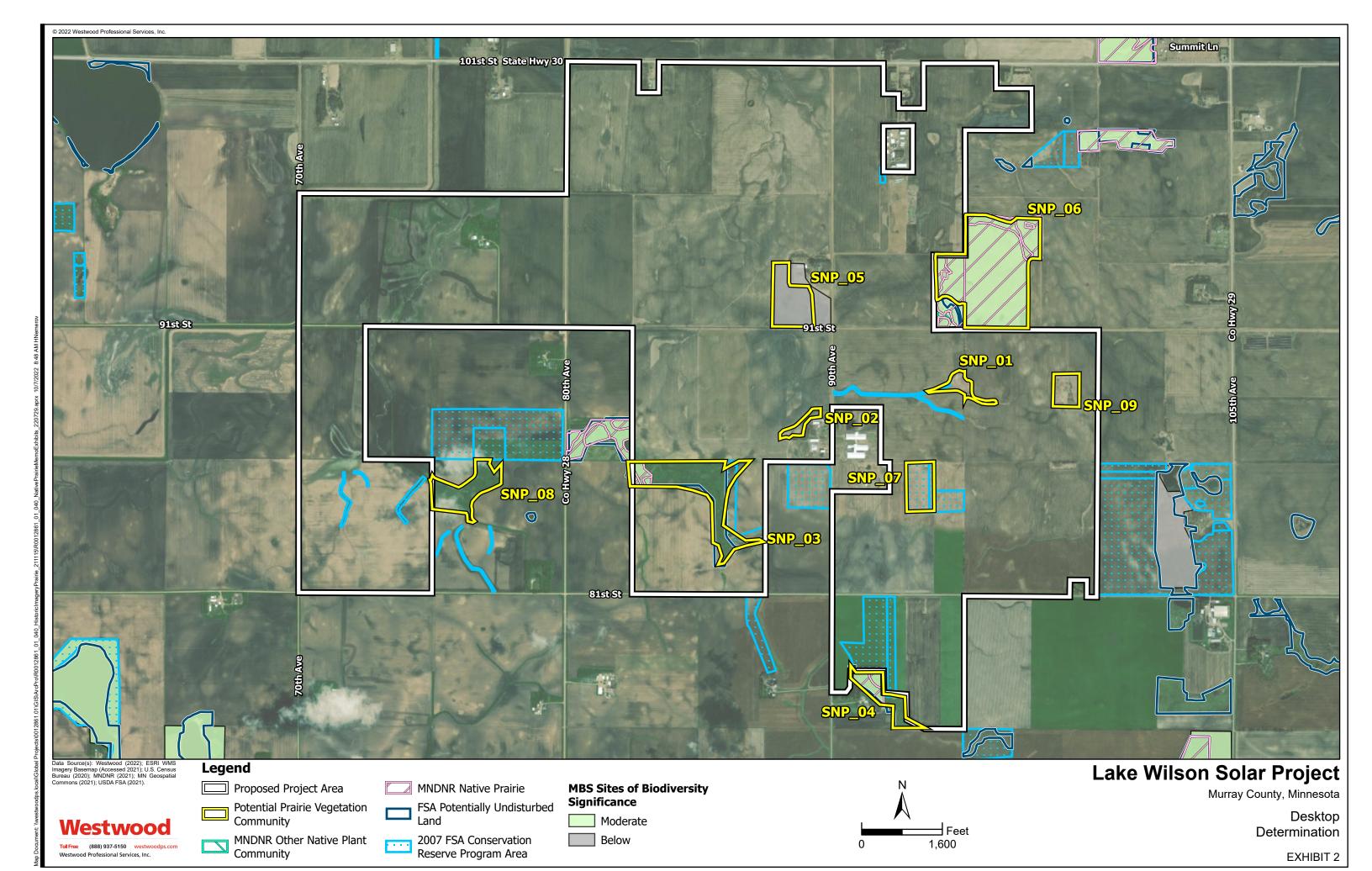
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- Minnesota Department of Natural Resources. 2021b. MNDNR Native Plant Communities GIS Layer. Accessed July 19, 2022. Available at: https://gisdata.mn.gov/dataset/biota-dnr-native-plant-comm
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- U.S. Department of Agriculture, Commodity Credit Corporation. Printed March 22, 2012. Conservation Reserve Program Contract (CRP-1, Form 07-23-10) (signed). Provided January 14, 2022, from Joyce Risacher (Participant/Landowner).
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- U.S. Department of Agriculture. July 2015. Conservation Reserve Program CP-2 Establishment of Permanent Native Grasses (Wind & Water Erosion Control, Water Quality Enhancement, Habitat) Fact Sheet. Accessed January 14, 2022. Available at: practicecp2establishmentpermanentnativegrassesjul2015.pdf (usda.gov).

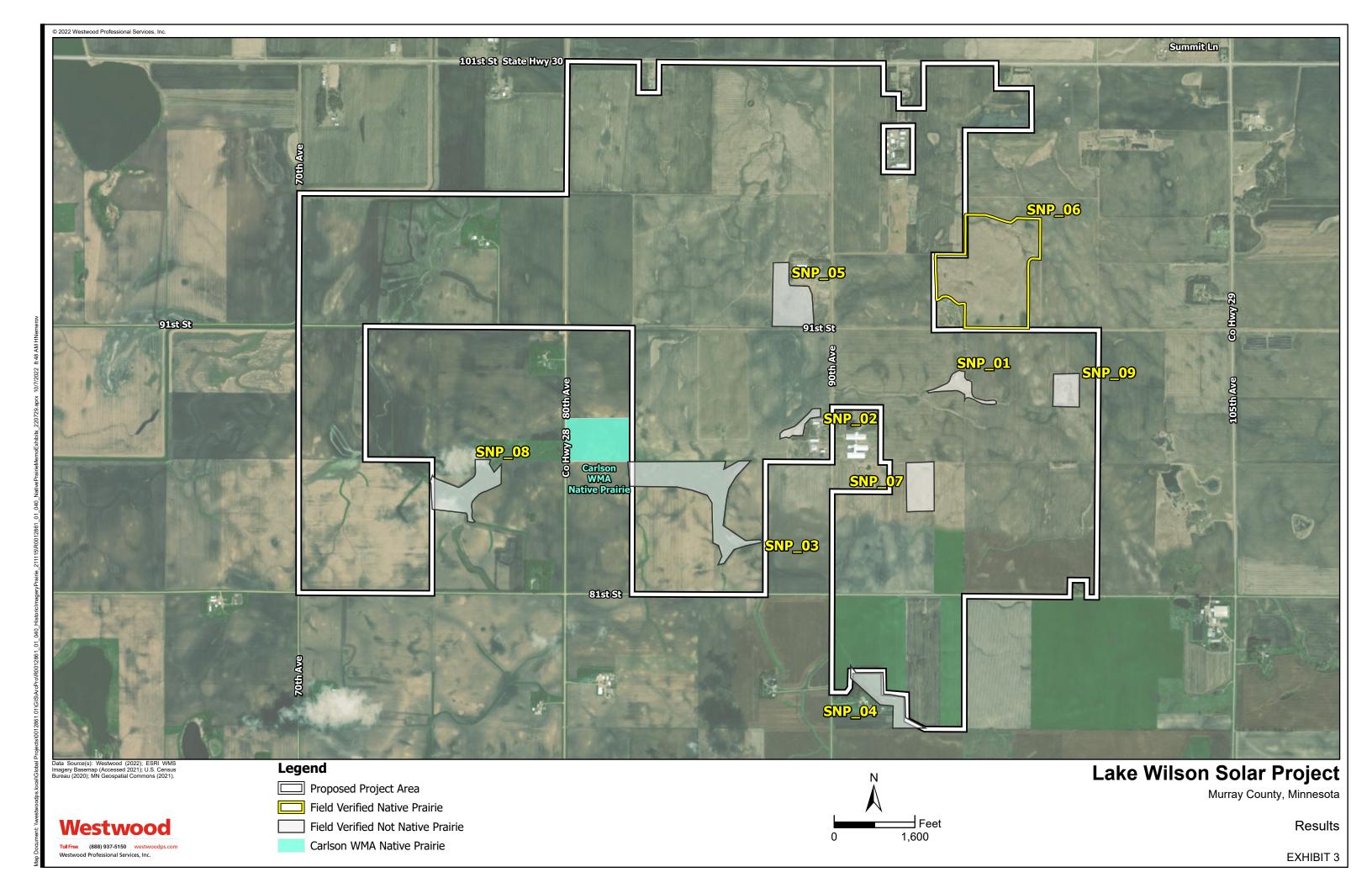
### **Exhibits**

# Native Prairie Desktop Assessment and Field Survey Lake Wilson Solar Project

Murray County, Minnesota







## **Appendix A**

Historic Aerial Photo Review – All SNP Sites (1991, 2003, 2004, 2006, 2008, 2009, 2010, 2012, 2013, 2015, 2017, and 2019)

**Lake Wilson Solar Project** 

Murray County, Minnesota

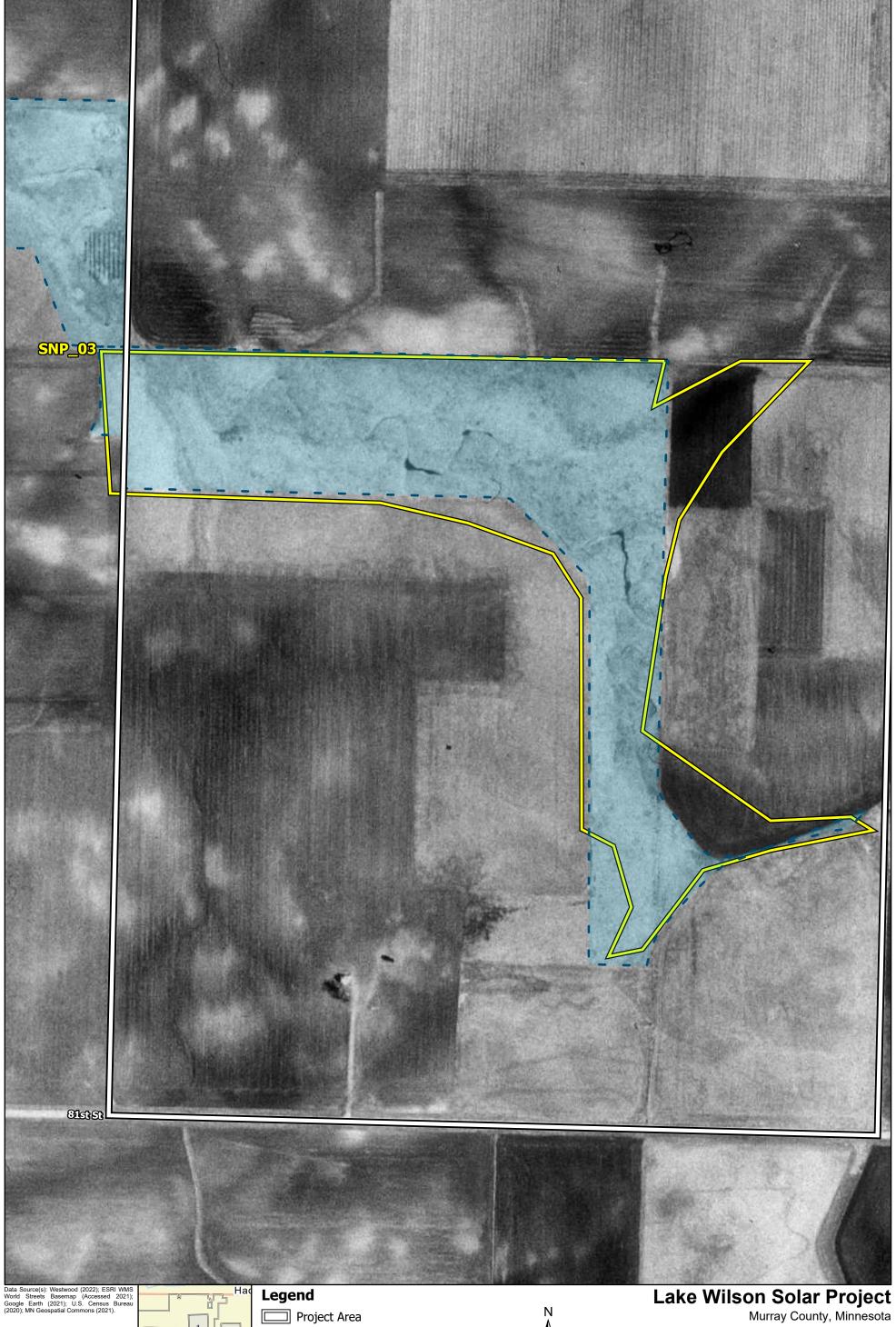
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FSA Potentially Undisturbed Land

Prairie Community 1991 Page 1

Feet 300

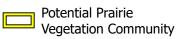


ioogle Earth (2021); U.S. Census Bureau 2020); MN Geospatial Commons (2021).

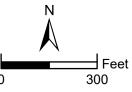
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Desktop Results: Potential Prairie Community 1991



FSA Potentially Undisturbed Land

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Page 1

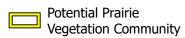
Prairie Community 1992

Feet 300 Prairie Community 1992 FSA Potentially Undisturbed Land Page 2

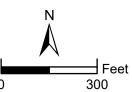


### Legend

Project Area



FSA Potentially Undisturbed Land



# Lake Wilson Solar Project Murray County, Minnesota

Desktop Results: Potential Prairie Community 1992



FSA Potentially Undisturbed Land

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Page 1

Prairie Community 2003

Feet 300

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