# Exhibit J
# Viewshed Analysis, Aesthetic Resources Inventory, and Glare Analysis

## Cardno

## January 2021

DICKINSON WRIGHT PLLC

# Visual Resource Assessment and Mitigation Plan

## Pleasant Prairie Solar Energy Project

January 2021

# Document Information

| | |
|---|---|
| Prepared for | Pleasant Prairie Solar Energy LLC |
| Project Name | Pleasant Prairie Solar Energy Project<br>Visual Resource Assessment and Mitigation Plan |
| Project Number | E320201701 |
| Project Manager | Ryan Rupprecht |
| Date | January 2021 |

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# Acronyms

| | |
|---|---|
| AC | Alternating Current |
| ATCT | Air Traffic Control Tower |
| BLM | Bureau of Land Management |
| DC | Direct Current |
| DSM | Digital Surface Model |
| FAA | Federal Aviation Administration |
| GPS | Global Positioning System |
| LT | Landscape Type |
| MW | Megawatt |
| NHL | National Historic Landmarks |
| NLCD | National Land Cover Database |
| NRHP | National Register of Historic Places |
| OAC | Ohio Administrative Code |
| OGS | Ohio Genealogical Society |
| OSIP | Ohio Statewide Imagery Program |
| PV | Photovoltaic |
| SRHP | Sate Register of Historic Places |
| USDOT | U.S. Department of Transportation |
| USFS | U.S. Forest Service |
| USGS | U.S. Geological Survey |
| VRA | Visual Resource Assessment |
| VSA | Visual Study Area |
| VSR | Visually Sensitive Resource |

# 1 Introduction

## 1.1 Purpose of the Investigation

On behalf of Pleasant Prairie Solar Energy, LLC (Pleasant Prairie), Cardno, Inc. (Cardno) has prepared this Visual Resource Assessment (VRA) for the proposed 250 megawatt (MW) Pleasant Prairie Solar Energy Project (the Project), proposed for construction in the within the townships of Pleasant and Prairie, in Franklin County, Ohio (Figure 1-1).

This report has been prepared to satisfy those portions of the requirements of Ohio Administrative Code (OAC) 4906-04-08(D) that relate to the identification of Visually Sensitive Resources (VSRs), project visibility, and potential visual impacts resulting from construction of the proposed solar-powered electric generation facility.

Recognizing the requirements of 4906-4-08(D) of the OAC, this VRA will:

> Describe the visible components of the proposed Project.

> Define the visual character of the Visual Study Area (VSA).

> Inventory and evaluate the existing VSRs within the VSA.

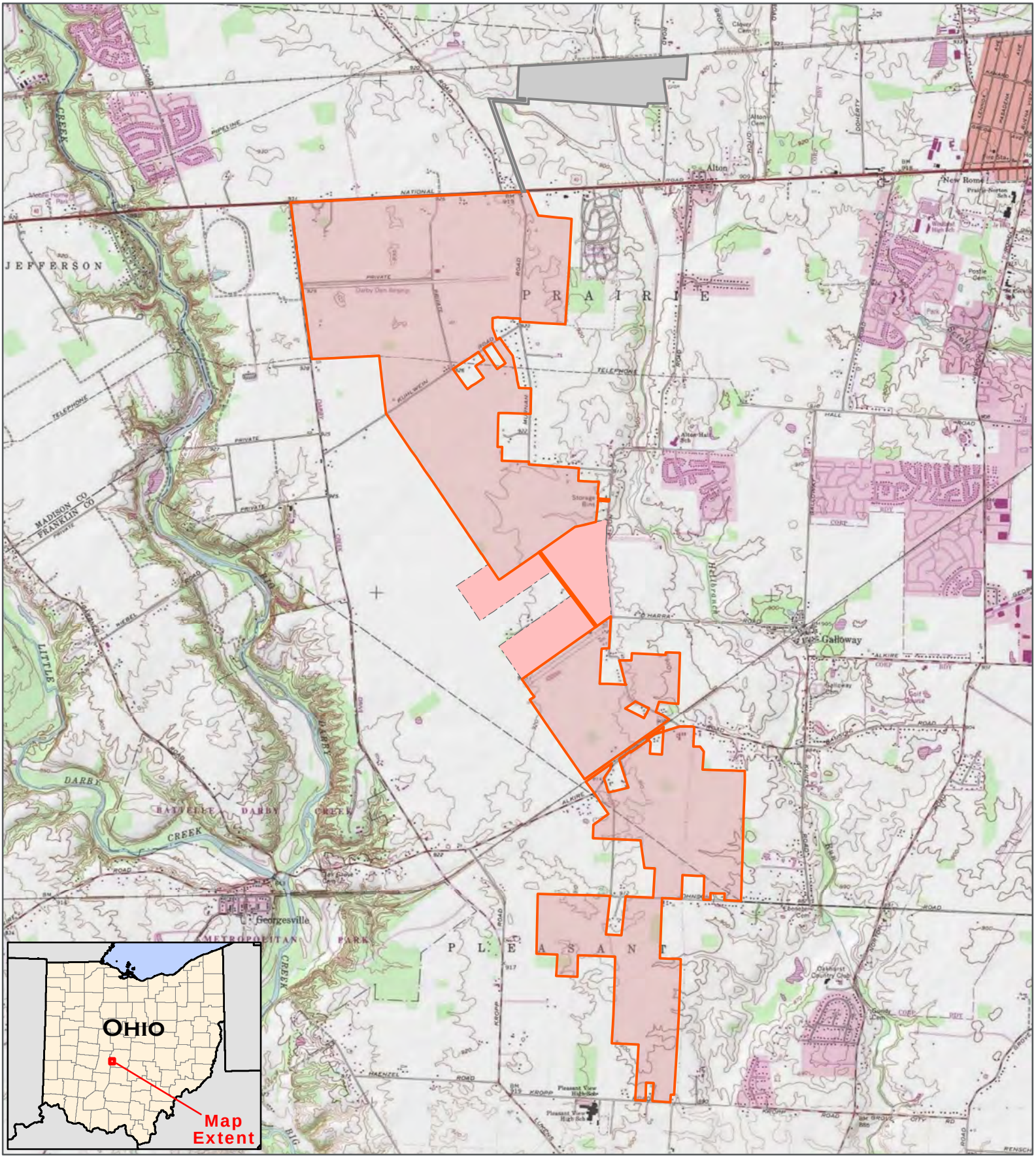
> Evaluate the potential visibility of the Project within the VSA.

> Create photographic simulations of the proposed Project from select locations.

> Assess the visual impacts associated with the proposal.

> Describe measures proposed to minimize visual impact.

This VRA was prepared by Cardno in accordance with the policies, procedures, and guidelines contained in established visual resource assessment methodologies.




**7.5' Quadrangle:**
**Galloway, OH (1982)**

**PLSS: unsectioned**



# 1-1: Project Location - USGS Topographic Quad

## Visual Resource Assessment
## for the Pleasant Prairie Solar Energy Project
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File Path: \\usauscfs06.cardno.corp\gis\Solar Projects\Pleasant Prairie Solar\mxds\VRA mxds\1-1 Project Location - Topo.mxd
GIS Analyst: samuel.waltman

## 1.2 Project Location and Description

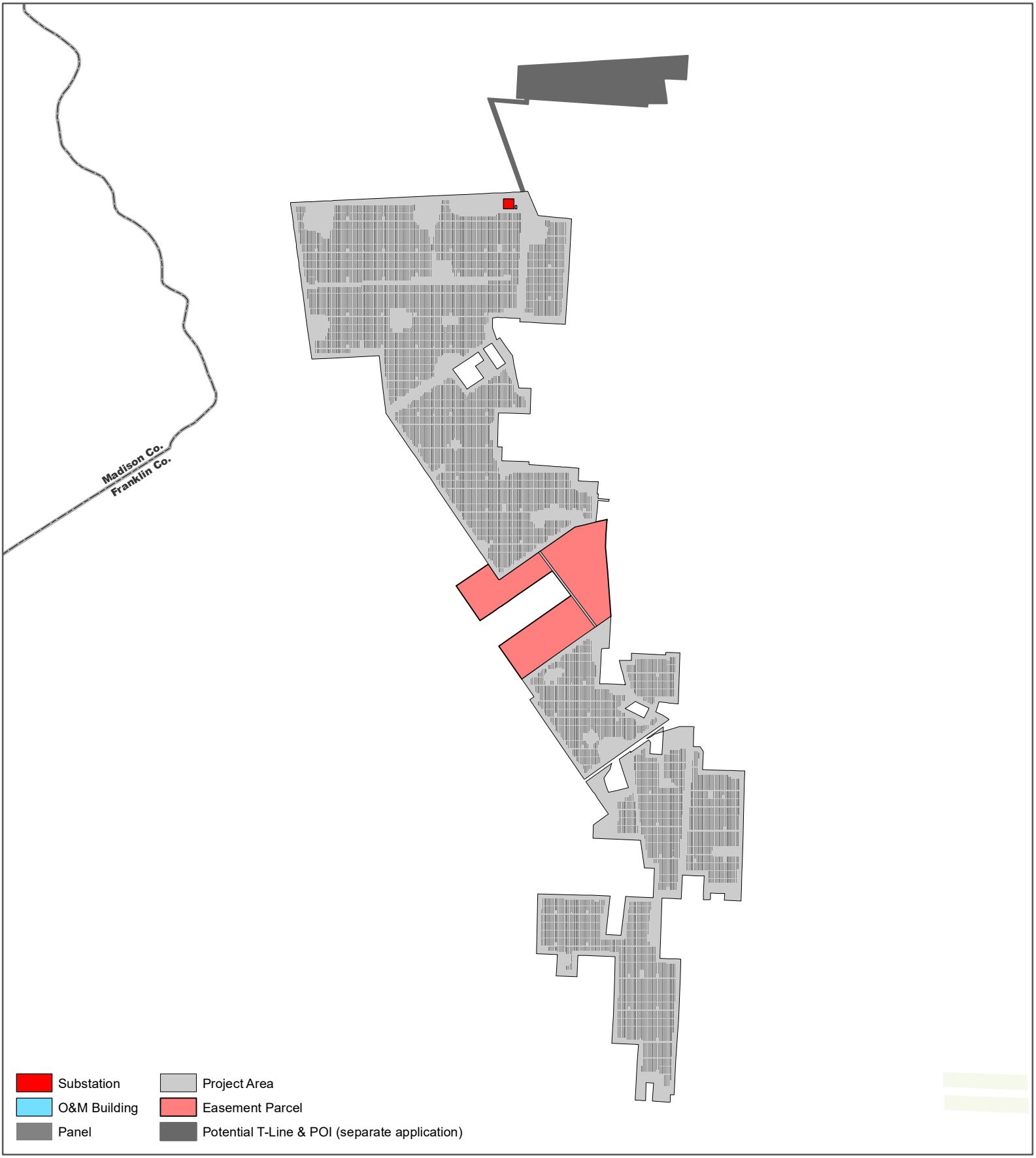
The Project is located approximately 10 miles west of the Columbus city center, within the townships of Pleasant and Prairie, in Franklin County, Ohio. It is bisected by Alkire Road running east and west, and bounded by County Road 140 to the west, US 40 to the north, and County Road 135 to the south. The proposed Project Area comprises 2,210.5 acres of privately owned lands; however, only 1,733 acres are anticipated to be occupied by permanent project components. Additionally, a potential 140.7 acre transmission line corridor and substation site lying north of US 40 has been included in the analysis of this visual resource assessment, although it will be permitted under a separate application.

The proposed Project is a solar-powered electric generation facility with a generating capacity of up to 250 MW. The Project will use arrays of ground-mounted photovoltaic (PV) modules, commonly known as solar panels, to generate renewable electricity for the Ohio bulk power transmission system to serve the needs of electric utilities and their customers. Solar panels will be affixed to metal racking system mounted on piles that will be driven or screwed into the ground in rows or arrays. The arrays generally will follow the existing topography of the Project Area with minimal grading or alteration of existing contours. Arrays will be grouped in separate, contiguous clusters, each of which will be fenced and gated for equipment security and public safety.

The PV arrays currently proposed for the Project will include a single-axis tracking style racking system. Using this system, the arrays will be oriented in a roughly north-south direction and equipped to rotate the panels from east to west so as to attempt to maintain a 90 degree angle relative to the direction of sunlight. Tracking arrays will face east at sunrise, rotate throughout the day, and end up facing west at sunset. The panel arrays will be connected to inverters which will convert the direct current (DC) generated by the solar panels to alternating current (AC), and then to a series of above- ground and below-ground interconnection cables that will deliver the electricity to a new substation, which will step-up the voltage in order to allow connection to the regional electrical grid. Associated support facilities include gravel access roads and meteorological stations within the arrays. The preliminary location of the proposed Project components is illustrated in Figure 1-2.

### 1.2.1 Visual Study Area

OAC 4906-4-08(D) requires that visual impacts to recreational, scenic, and historic resources from a proposed generating facility be evaluated within a 10 mile radius. However, based on the low profile of the proposed equipment, and the results of the visibility analysis presented herein, it was determined that 10 miles would be an excessive study area for this Project. To define an appropriately sized VSA, a viewshed analysis was conducted (using lidar data) to better understand the Project's area of potential effect. This viewshed analysis indicated that areas of potential Project visibility do not extend beyond 5 miles, with only discrete corridors and pockets of visibility extending beyond 0.5 mile from the Project. As such it was determined that a 5-mile radius around the Project would be a sufficient VSA for the purposes of this study. The VSA encompasses a total of approximately 42.6 square miles, including portions of the Franklin County townships of Pleasant, Prairie, Brown, Norwich, Franklin and Jackson, and the Madison County townships of Jefferson and Fairfield. The location and extent of the VSA is illustrated in Figure 1-3.




0 0.5 1 Miles

0 0.5 1 1.5 Kilometers

7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# 1-2: Preliminary Project Layout Map

## Visual Resource Assessment for the Pleasant Prairie Solar Energy Project Pleasant Prairie Solar Energy, LLC Franklin County, Ohio

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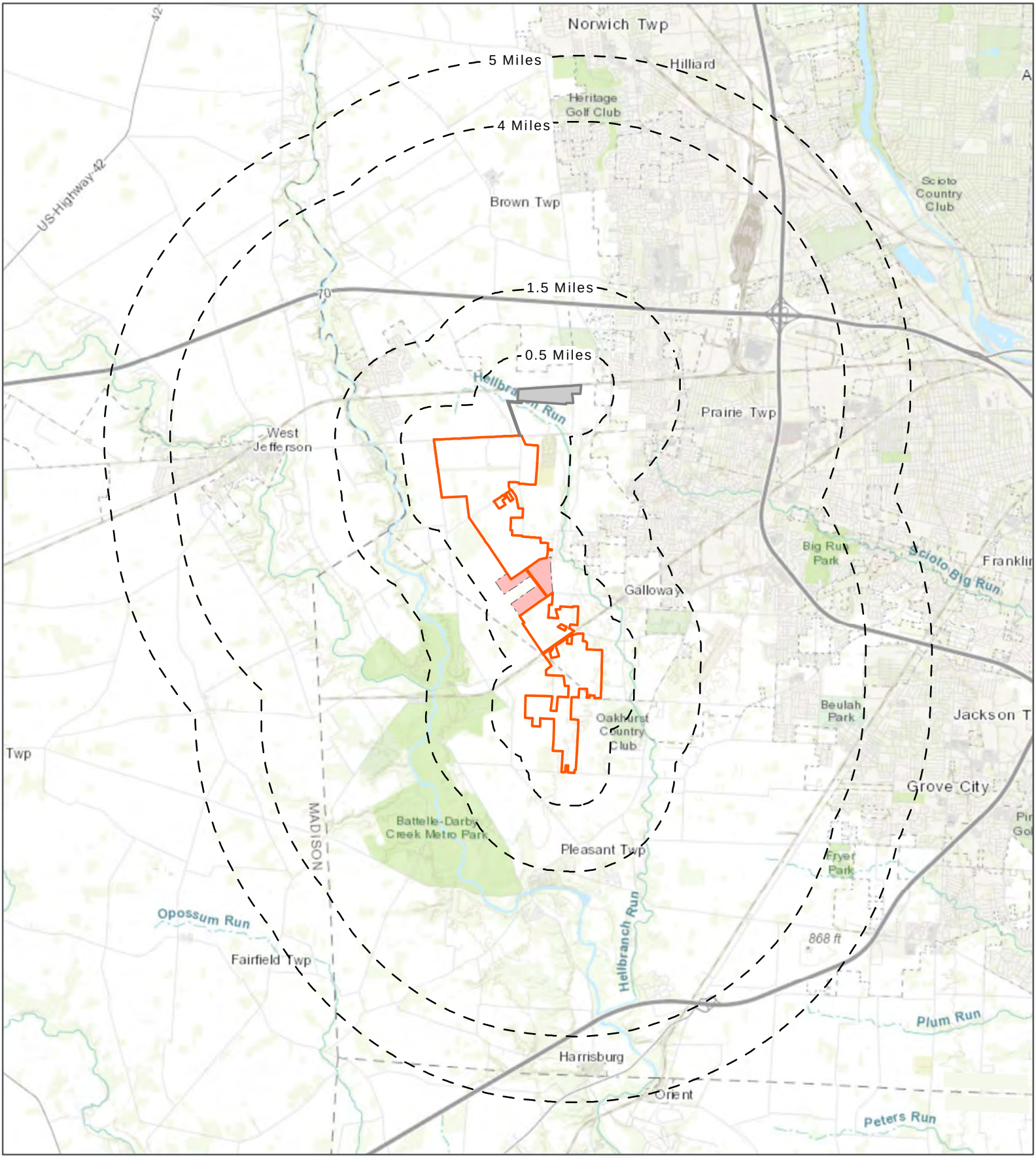
Basemap:

File Path: C:\sharegis\gisnt\Pleasant Prairie Solar\mxds\Pleasant Prairie FigX Preliminary Project Layout Map.mxd

GIS Analyst: Kevin.Gabel




0 1 2 3 Miles

0 1 2 3 4 Kilometers

Project Area

Easement Parcel

Potential T Line & POI (Separate Application)

Visibility Range Rings

7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# 1-3: Visual Study Area Map

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GIS Analyst: samuel.waltman

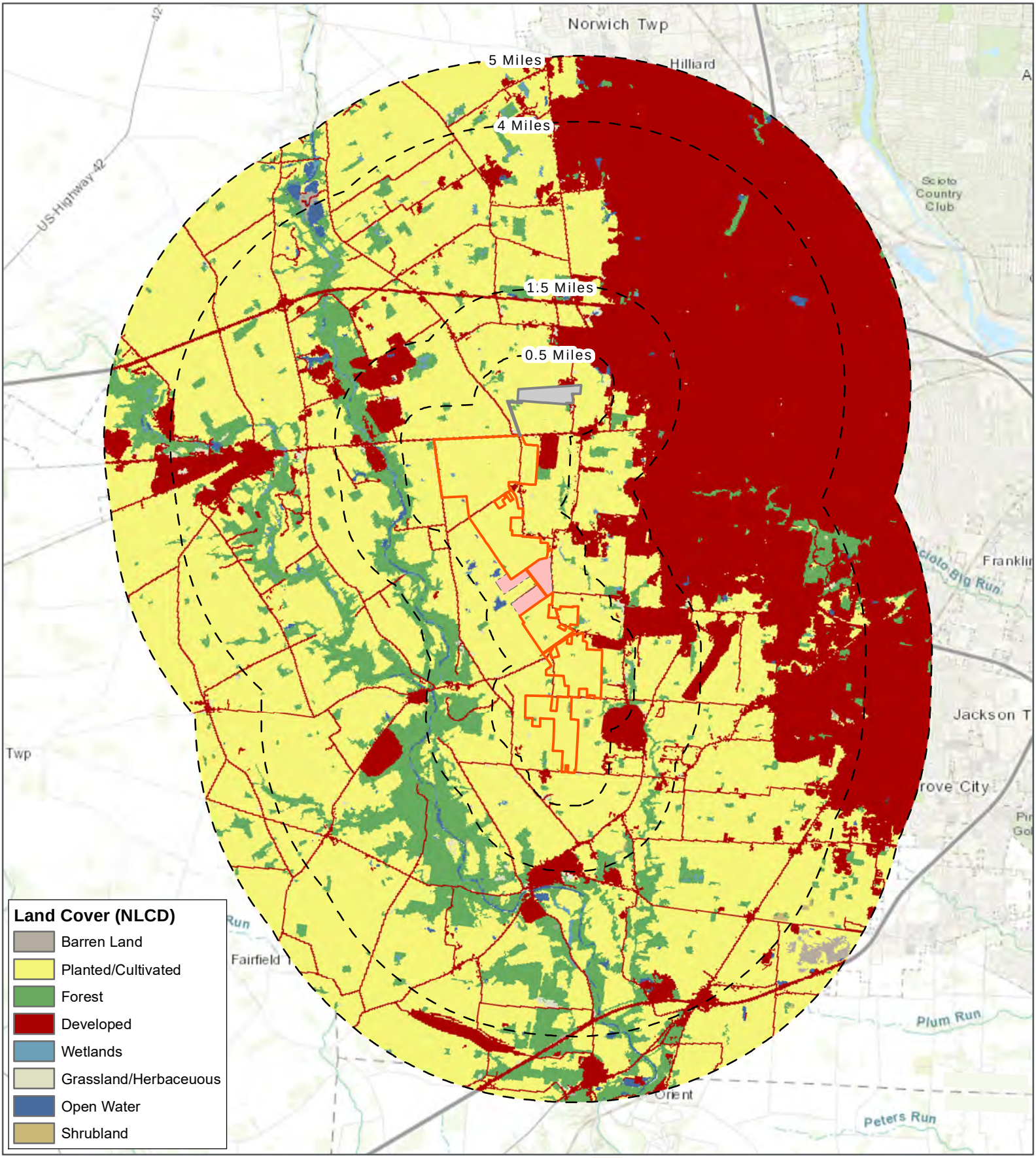
### 1.2.2 Landscape Character

Definition of landscape character within a given VSA provides a useful framework for the analysis of a facility's potential visual effects. The USGS National Land Cover Database (NLCD) was used to help define the character and location of various landscape types (LTs) within the VSA. These LTs were categorized based on the similarity of various features, including landform, vegetation, and/or land use patterns per the 2016 NLCD Database Legend (NLCD 2016). The LTs defined within the VSA are presented in Table 1.1 and Figure 1-4.

**Table 1-1 Landscape Types within the Visual Study Area**

| Landscape Type | Total Area of LT within the Visual Study Area (acres) | Percent of Total Area within Visual Study Area |
|---|---|---|
| Planted/Cultivated | 55,347.79 | 54.94% |
| Developed | 33,034.27 | 32.79% |
| Forest | 10,752.82 | 10.67% |
| Open Water | 665.55 | 0.66% |
| Grassland/Herbaceous | 363.00 | 0.36% |
| Wetlands | 322.17 | 0.32% |
| Barren Land | 202.03 | 0.20% |
| Shrubland | 52.04 | 0.05% |
| **Total** | **100,739.66** | **100.0%** |

The Project components are proposed to be built within the Planted/Cultivated LT, which makes up 54.94% of VSA. Because agricultural land typically lacks mature vegetation or other screening structures, this LT offers the greatest opportunities for views of PV panels from within the Project and its surrounding vicinity. The Developed LT makes up 32.79% of the VSA and includes the cities of Columbus, Grove City, and Hilliard, as well as the villages of Harrisburg, Orient, Urbancrest, and West Jefferson. The Developed LT typically provides limited outward views due to the presence of buildings and closely situated houses, landscaped yards/planted vegetation, utility poles, and other visual clutter the Forest LT, makes up 10.67% of the VSA, and includes the Battelle Darby Creek Metro Park. By its very nature, views from within the Forest LT are typically limited by the presence of dense vegetation. The Open Water and Wetlands LTs are scattered throughout the VSA and collectively make up only 0.98% of the land area. These LTs are often associated with river or stream corridors, the most notable being Big Darby Creek, where long distance views are typically limited due to the presence of tree-lined riverbanks and adjacent forested slopes.




7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# 1-4: Land Cover Types within the Visual Study Area

## Phase I Cultural Workplan
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### 1.2.3 Distance Zones

Distance zones are typically defined in visual studies to divide the VSA into distinct classifications based on the various levels of landscape detail that can be perceived by a viewer. Four distinct distance zones were developed for this purpose. To define these zones, Cardno consulted several well-established agency protocols, including those published by the U.S. Forest Service (USFS), Bureau of Land Management (BLM), and U.S. Department of Transportation (USDOT), to determine the appropriate extent of each distance zone. It is important to note that the distance zones recommended by each of these protocols was considered in the context of this VSA. For example, the BLM recommends a combined foreground-middle ground zone extending from 0 to 5 miles. While this may be appropriate in a western landscape with frequent, unscreened views over very long distances, it does not translate to eastern landscapes where views are often contained within 1.0 mile of the viewer. Conversely, the USFS (1995) suggests the foreground be defined as an area extending 0.5 mile from the viewer. Due to the characteristics of the specific landscape being evaluated in this VRA, Cardno defined distance zones within the VSA (as measured from the proposed Project) as follows:

> Near-Foreground: 0 to 0.5 mile. At this distance, a viewer is able to perceive details of an object with clarity. Surface textures, small features, and the full intensity and value of color can be seen on foreground objects.

> Foreground: 0.5 to 1.5 miles. At this distance, elements in the landscape tend to retain visual prominence, but detailed textures become less distinct. Larger scale landscape elements remain as a series of recognizable and distinguishable landscape patterns, colors, and textures.

> Middle ground: 1.5 to 4.0 miles. The middle ground is usually the predominant distance at which landscapes are seen. At these distances a viewer can perceive individual structures and trees but not in great detail. This is the zone where the parts of the landscape start to join together; individual hills become a range, individual trees merge into a forest, and buildings appear as simple geometric forms. Colors will be distinguishable but subdued by a bluish cast and softer tones than those in the foreground. Contrast in texture between landscape elements will also be reduced.

> Background: Over 4.0 miles. The background defines the broader regional landscape within which a view occurs. Within this distance zone, the landscape is simplified; only broad landforms are discernable, and atmospheric conditions often render the landscape an overall bluish color. Texture has generally disappeared and color has flattened, but large patterns of vegetation are discernable. Silhouettes of one land mass set against another and/or the skyline are often the dominant visual characteristics in the background. The background contributes to scenic quality by providing a softened backdrop for foreground and middle ground features, an attractive vista, or a distant focal point.

The area of each LT falling within each distance zone in the VSA is summarized in Table 1.2. As shown in this table, the distribution of LTs within the individual distance zones is relatively uniform. However, due to the positioning of the PV arrays in open agricultural land, approximately 84.8% of the near-foreground distance zone consists of the Pasture and Cropland LT, while 10.8% is included in the Forest LT. The Pasture and Cropland and Forest LTs make up an average of approximately 78% of the distance zones. Also of note, the Developed LT only makes up an average of approximately 5% across all distance zones within the VSA.

**Table 1-2 Distance Zones by Landscape Type**

| Common Name | Total Area (acres) and Percent of Landscape Type | | | |
|---|---|---|---|---|
| | Near-Foreground (0 – 0.5 mile) | Foreground (0.5 – 1.5 miles) | Middle Ground (1.5 – 4.0 miles) | Background (>4.0miles) |
| Planted/Cultivated | 7,644.70 (86.45%) | 7,804.89 (56.99%) | 25,736.63 (50.51%) | 14,161.57 (51.96%) |
| Developed | 816.58 (9.23%) | 3,690.15 (26.95%) | 17,706.51 (34.75%) | 10,821.03 (39.71%) |
| Forest | 263.41 (2.98%) | 1,933.60 (14.12%) | 6,781.92 (13.31%) | 1,773.89 (6.51%) |
| Open Water | 39.09 (0.44%) | 106.83 (0.78%) | 339.01 (0.67%) | 180.61 (0.66%) |
| Grassland/Herbaceous | 45.22 (0.51%) | 83.60 (0.61%) | 177.58 (0.35%) | 56.59 (0.21%) |
| Wetlands | 19.80 (0.22%) | 67.37 (0.49%) | 171.29 (0.34%) | 63.70 (0.23%) |
| Barren Land | 2.45 (0.03%) | 0.67 (0.004%) | 19.89 (0.04%) | 179.03 (0.66%) |
| Shrubland | 11.34 (0.13%) | 7.56 (0.06%) | 17.39 (0.03%) | 15.75 (0.06%) |
| **Total Distance Zone Area** | **8,842.60** | **13,694.67** | **50,950.21** | **27,252.18** |

# 2 Methodology

## 2.1 Viewshed Analysis

### 2.1.1 PV Array Viewshed Analysis

A viewshed analysis for the proposed solar panels was prepared using 1) a digital surface model (DSM) derived from the Ohio Statewide Imagery Program's (OSIP) 2007 lidar data for Pickaway and Ross counties; 2) sample points representing solar panel locations; 3) an assumed maximum solar panel height of 15 feet at times of maximum tracking angles; 4) an assumed viewer height of 6 feet; and 5) Esri ArcGIS® software with the Spatial Analyst extension. Because the specific layout of solar panels is in the preliminary design phase, sample points representing solar panels were placed 300 feet apart in a grid pattern throughout all proposed array locations within the Project Area.

The viewshed analysis provided in this study was conducted to incorporate the screening effects of topography, structures, and vegetation by using the OSIP 2007 lidar data. A viewshed analysis based on topography alone is not provided because the results of such an analysis do not accurately represent conditions within the VSA. A DSM of the VSA was created from the lidar data, which include the elevations of buildings, trees, and other objects large enough to be resolved by lidar technology. Transmission lines that were included in these lidar data were removed from the resulting DSM, and road centerlines were buffered 50 feet to remove roadside hedgerows and utility lines. Lidar data for these narrow, vertical landscape features can be interpreted by the software as solid walls and are thus removed from the DSM to avoid introducing artificial screening features into the analysis. Areas within the PV array fence lines were cleared of any vegetation, as were small woodlots and hedgerows that will be cleared during construction of the Project to reflect the bare-earth elevation in these locations. This modified DSM was then used as a base layer for the viewshed analysis. Once the viewshed analysis was completed, a conditional statement was used within ArcGIS® to set solar panel visibility to zero in locations where the DSM elevation exceeded the bare-earth elevation by 6 feet or more, indicating the presence of vegetation or structures that exceed viewer height. This was done for two reasons; 1) in locations where trees or structures are present in the DSM, the viewshed would reflect visibility from the vantage point of standing on the tree top or building roof, which is not the intent of this analysis, and 2) to reflect the fact that ground-level vantage points within buildings or areas of vegetation exceeding 6 feet in height will generally be screened from views of the Project.

Because it accounts for the screening provided by structures and trees, the DSM viewshed analysis is a very accurate representation of Project visibility. However, it is worth noting that because certain characteristics of the Project and the VSA that may serve to restrict visibility (e.g., color, distance from viewer, and atmospheric/weather conditions) are not taken into consideration in the viewshed analyses, being located within the DSM viewshed does not necessarily equate to actual Project visibility. Although the proposed substation and interconnection structures will result in some minimal visual impacts in their immediate vicinity, their location is adjacent to an existing overhead power line corridor, with a footprint considerably smaller than the proposed solar panels. For these reasons, a viewshed analysis was not conducted within the VSA for these structures.

### 2.1.2 Visually Sensitive Resources

VSRs within the VSA were identified per the requirements of OAC 4906-04-08(D). Below are the potential VSR categories that may be present within the VSA. In addition, Cardno identified other aesthetic resources based on the type/classification and/or intensity of use they receive. The categories of VSRs that would typically be required for consideration in a VRA include the following:

- **Properties of Historic Significance:** National Historic Landmarks, National or State Historic Sites, Sites listed on National or State Registers of Historic Places (NRHP, SRHP); Sites Eligible for Listing on the NRHP or SRHP; National or State Historic Sites, Ohio Historic Structures, Historic Bridges, Ohio Genealogical Society (OGS) Cemeteries, and Ohio Historic State Markers.
- **Designated Scenic Resources:** Rivers Designated as National or State Wild, Scenic, or Recreational; Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic; Other Designated Scenic Resources.
- **Public Lands and Recreational Resources:** National Parks, Recreation Areas, Seashores, and/or Forests; National Natural Landmarks; National Wildlife Refuges; Heritage Areas; State Parks; State Nature Preserves or Wildlife Areas; State Forests; State Fishing/Waterway Access Sites; Other State Lands, Designated Trails; Local Parks and Recreation Areas; Publicly Accessible Conservation Lands/Easements; Rivers and Streams with Public Fishing Rights Easements; Named Lakes, Ponds, and Reservoirs.
- **High-Use Public Areas:** State, US, and Interstate Highways, Schools, Cities, and Villages.

### 2.1.3 Field Verification

Cardno conducted a site visit to the VSA on December 23, 2020. The purpose of this field review was to verify the potential visibility of the Project as suggested by the viewshed analysis, to document the visual character of the various LTs within the VSA, identify the type and extent of existing visual screening, and obtain photographs for subsequent use in the development of visual simulations. During the site visit, Cardno staff members drove public roads and visited public vantage points within the VSA, and obtained photographs from 12 individual viewpoints. Global positioning system (GPS) points, focal length parameters, and times were documented electronically. A viewpoint location map and photo log are included in Appendix A.

### 2.1.4 Visual Simulation Methodology

Visual simulations of the proposed Project were developed by constructing a three-dimensional (3D) computer model of the proposed solar PV arrays and full Project layout based on specifications, dimensions, and locations provided by Pleasant Prairie. Exact camera specifications used to take selected viewpoint photographs were replicated in the 3D model. This was accomplished by positioning the 3D camera in the same real-world coordinate system as the Project model using GPS coordinates collected at each photo location. The camera was then aligned and the camera's target position (view direction) adjusted until the modeled 3D elements aligned exactly with the elements in the photograph.. Next, a translucent copy of the camera view with obstructions was placed on top of the image in order for the rendered objects to be placed correctly using the appropriate perspective and scales.

At viewpoints where mitigation plantings are proposed, vegetative screening is included in the simulations and represented at a height that would be achieved approximately 5-7 years after installation. Vegetative screening was illustrated based on the following screening applications that may be required across the Project perimeter. Greater detail of Module composition can be found within the Pleasant Prairie landscape mitigation plan.

> Module 1 – Native Grasses Habitat (herbaceous plant material): establishes a visual and ecological buffer along the Project perimeter in areas where visibility of PV panels is generally low, such as back of fields, or in areas where potential visibility is higher, but prolonged viewership is uncommon.

> Module 2 – Vertical Softening (small to medium shrubs and trees): for use in areas of high viewership and visibility potential, but low stationary (residential or recreational) activity occurs.

> Module 3 –Adjacent Resource (Large Trees and shrubs): Provides the highest level of screening, for use in areas where stationary adjacent uses and non-participating viewers could be impacted by the installation of Project components.

# 3 Results

## 3.1 Viewshed Analysis

### 3.1.1 PV Array Viewshed Analysis

Potential visibility of the proposed solar panels, as indicated by the DSM viewshed analysis, is illustrated in Figure 3-1 and summarized in Table 3-1. As indicated by this analysis, the Project will be screened from approximately 89.9% of the VSA by intervening landforms, vegetation, and structures.

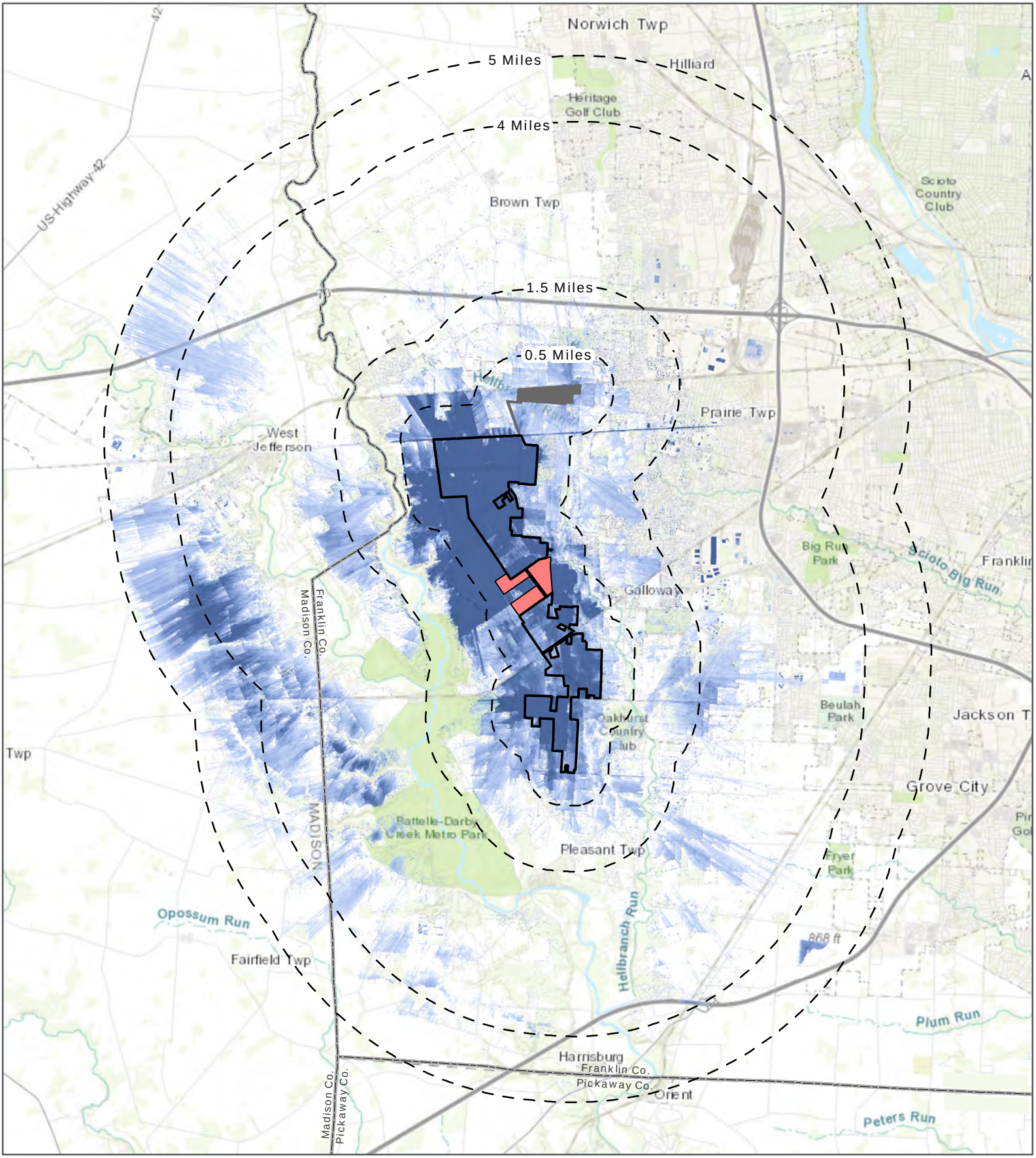
**Table 3-1 PV Array Viewshed Analysis Results Summary**

| | | Distance from Project | | | |
|---|---|---|---|---|---|
| Analysis | VSA | Near-Foreground 0-0.5 Mile | Foreground 0.5-1.5 Mile | Middle Ground 1.5-4.0 Mile | Background 4.0-5.0 Mile |
| Total Area | 157.4 $mi^2$ | 13.8 $mi^2$ | 21.4 $mi^2$ | 79.6 $mi^2$ | 42.6 $mi^2$ |
| DSM Viewshed Visibility | 15.9 $mi^2$ (10.1%) | 8.7 $mi^2$ (63.0%) | 2.2 $mi^2$ (10.3%) | 2.9 $mi^2$ (3.6%) | 2.1 $mi^2$ (4.9%) |

The majority of Project visibility is concentrated within the near-foreground distance zone, with 63.0% of the area out to 0.5 mile from the Project Area indicated as having potential views of some portion of the Project. Views from areas beyond the near-foreground and into the foreground distance zone (0.5 to 1.5 miles) are better screened, with only 10.3% of the foreground distance zone indicated as having the potential for views of the PV arrays. The DSM viewshed analysis indicates that potential Project visibility is further reduced at distances beyond the foreground. Approximately 96.4% of the VSA is screened from view of the PV arrays in the middle ground (1.5 to 4 miles) and 95.1% in the background (4-5 miles).

The topography and vegetation associated with Big Darby Creek, as well as the developed areas within the VSA play a significant role in reducing potential PV array visibility within the VSA. Big Darby Creek Flows south into the VSA along the eastern boundary of West Jefferson, through Batelle Darby Creek Metro Park, and continues southward to its confluence with the Scioto River 17 miles outside of the VSA. Developed areas within Columbus comprise a large of the VSA to the east. Due to the orientation of Big Darby Creek and the developed areas within the VSA, areas of potential visibility are concentrated in the near-foreground distance zone, on level open ground between Big Darby Creek and Columbus. Areas outside the near-foreground distance zone are generally well screened by topography, vegetation, or various development. A few additional locations of potential visibility are present in the distance zones beyond the near-foreground zone. These areas are discrete corridors of visibility that result from breaks in the forest vegetation combined with slight topographic elevation. Due to the limited portion of the Project that would be visible, and the distance from the Project, it is unlikely that Project visibility within these narrow corridors or elevated viewpoints would be readily noticeable to a casual viewer.

It should be noted that the viewshed analysis treats all structures and vegetation as if they were opaque, and therefore, small woodlots and hedgerows are assumed to fully block views of the Project. In leaf-on conditions, this likely will be the case, but, during leaf-off conditions, narrow or sparsely forested hedgerows and woodlots may not provide enough screening to fully obscure views of the Project. However, some level of partial screening will still be provided by tree trunks and branches in these locations, even under leaf-off conditions. It is also important to note that the lidar data used in this analysis are from 2007, and therefore the analysis does not reflect any changes that have occurred since that time. However, based on review of recent aerial photography and in-field analysis, the lidar data appear to accurately reflect current vegetative screening conditions within the VSA. Figure 3-1 of the DSM viewshed analysis for a 5-mile radius illustrates, visibility beyond a 0.5-mile radius will be primarily limited to a corridor of agricultural fields at higher elevations to the west.




0 1 2 3 Miles

0 1 2 3 4 Kilometers

Greater Number of Panels Visible

Fewer Number of Panels Visible

Easement Parcel

Potential T-Line & POI (separate application)

Visibility Range Rings

Project Area

7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# 3-1: Vewshed Analysis - PV Panel (5-mile radius)

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## Pleasant Prairie Solar Energy, LLC
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GIS Analyst: Kevin.Gabel

Potential PV panel visibility within the various LTs, as predicted by the DSM viewshed analysis, is summarized in Table 3-2 and discussed below.

**Table 3-2 Landscape Types Viewshed Analysis Results Summary**

| | | | Landscape Types | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Analysis | VSA | Planted/ Cultivated | Developed | Forest | Open Water | Barren | Grassland/ Herbaceous | Wetlands | Shrubland |
| Total Area | 157.4 $mi^2$ | 86.5 $mi^2$ | 51.6 $mi^2$ | 16.8 $mi^2$ | 1.0 $mi^2$ | 0.32 $mi^2$ | 0.6 $mi^2$ | 0.5 $mi^2$ | 0.1 $mi^2$ |
| DSM Viewshed Visibility | 15.9 $mi^2$ (10.1%) | 14.5 $mi^2$ (9.21%) | 1.1 $mi^2$ (0.70%) | 0.2 $mi^2$ (0.13%) | 0.05 $mi^2$ (0.03%) | 0.04 $mi^2$ (0.03%) | 0.03 $mi^2$ (0.02%) | 0.02 $mi^2$ (0.01%) | 0.01 $mi^2$ (0.01 %) |

The greatest potential for visibility of the proposed solar arrays is indicated within the Planted/Cultivated LT. The DSM viewshed indicates that 9.21% of the total VSA could potentially offer views of the proposed PV panels from this LT. Visibility within the Planted/Cultivated LT is most heavily concentrated in the near-foreground distance zone, within open agricultural fields.

The potential for solar array visibility within the Developed LT is indicated in approximately 0.70% of the total VSA. The portions of this LT that may have views of the proposed PV panels are concentrated in the foreground and middle distance zones, primarily at the edges of various development where open and agricultural fields allow for a relatively unbroken viewshed.

The potential for solar array visibility within the Forested LT is indicated in approximately 0.13% of the total VSA. Visibility may occur in small breaks or clearings in the forest vegetation, but the occurrence of these areas is generally limited. Visibility within this zone occurs most frequently along the forest edges where abutting open fields provide opportunities for outward views. However, there will be little to no PV panel visibility from the majority of the forested areas, particularly during the growing season.

The LTs with the least amount of potential solar array visibility are the Open Water (0.03%), Barren (0.03%), Herbaceous/Grassland (0.02%), Wetlands (0.01%), and Shrubland (0.01%). These LTs comprise 0.1% of the total VSA and their visibility varies considerably based on proximity to the Project, elevation, and orientation.

### 3.1.2 Visibility Results from Visually Sensitive Resources

As indicated in Table 3-3, the DSM viewshed analysis suggests that 20 of the 122 VSRs identified within the VSA (16.4%) may have some level of PV array visibility. The locations of mapped VSRs within the VSA are illustrated in Figure 3-2. Additionally per OAC 4906-4-08(D)(1), Figure 3-3 shows resources out to 10 miles.

**Table 3-3 Visually Sensitive Resources in the DSM Viewshed**

| Visually Sensitive Resources | Total Number of Resources within the Visual Study Area | Total Number of Resources with Visibility |
|---|---|---|
| Properties of Historic Significance | Total 11 | Total 3 |
| National Historic Landmarks (NHL) | 0 | 0 |
| Sites Listed on National or State Registers of Historic Places (NRHP/SRHP) | 1 | 0 |
| Sites Eligible for Listing on NRHP or SRHP | 17 | 5 |
| National/State Historic Sites | 0 | 0 |

| Visually Sensitive Resources | Total Number of Resources within the Visual Study Area | Total Number of Resources with Visibility |
|---|---|---|
| Ohio Historic Structures | 0 | 0 |
| Historic Bridges | 1 | 0 |
| OGS Cemeteries | 9 | 3 |
| Ohio Historic State Markers | 0 | 0 |
| **Designated Scenic Resources** | **Total 5** | **Total 1** |
| Rivers Designated as National or State Wild, Scenic or Recreational | 2 | 0 |
| Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic ([ECL Article 49Title 1] or equivalent) | 1 | 1 |
| Scenic Areas of Statewide Significance [Article 42 of Executive Law] | 2 | 0 |
| Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks) | 0 | 0 |
| **Public Lands and Recreational Resources** | **Total 36** | **Total 6** |
| National Parks, Recreation Areas, Seashores, and/or Forests [16 U.S.C. 1c] | 0 | 0 |
| National Natural Landmarks [36 CFR Part 62] | 0 | 0 |
| National Wildlife Refuges [16 U.S.C. 668dd] | 0 | 0 |
| Heritage Areas [Parks, Recreation and Historic Preservation Law Section 35.15] | 0 | 0 |
| State Parks (Parks, Recreation and Historic Preservation Law Section 3.09) | 0 | 0 |
| State Nature and Historic Preserve Areas [Section 4 of Article XIV of the State Constitution] | 0 | 0 |
| Wildlife Areas | 0 | 0 |
| State Forest | 0 | 0 |
| Other State Lands | 0 | 0 |
| Designated Trails | 0 | 0 |
| Local Parks and Recreation Areas | 27 | 3 |
| Publicly Accessible Conservation Lands/Easements | 6 | 3 |
| Named Lakes, Ponds, and Reservoirs | 3 | 0 |
| **High-Use Public Areas** | **Total 53** | **Total 5** |
| State, US, and Interstate Highways | 10 | 3 |
| Cities, Villages, | 7 | 2 |
| Schools | 36 | 0 |
| Resources Identified by Stakeholders | Total 0 | Total 0 |
| **Total Number of Visually Sensitive Resources in the VSA** | **122** | **20** |

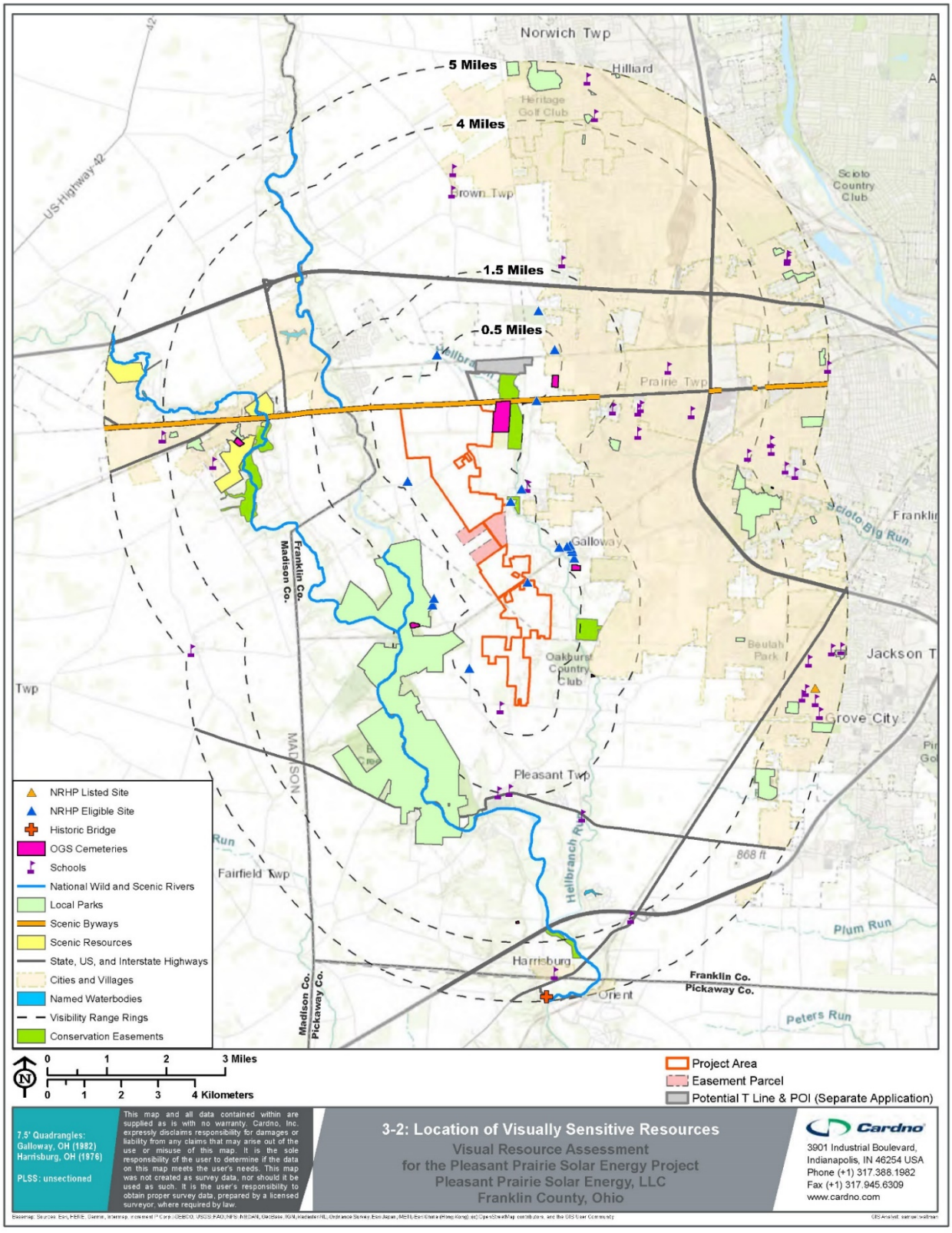
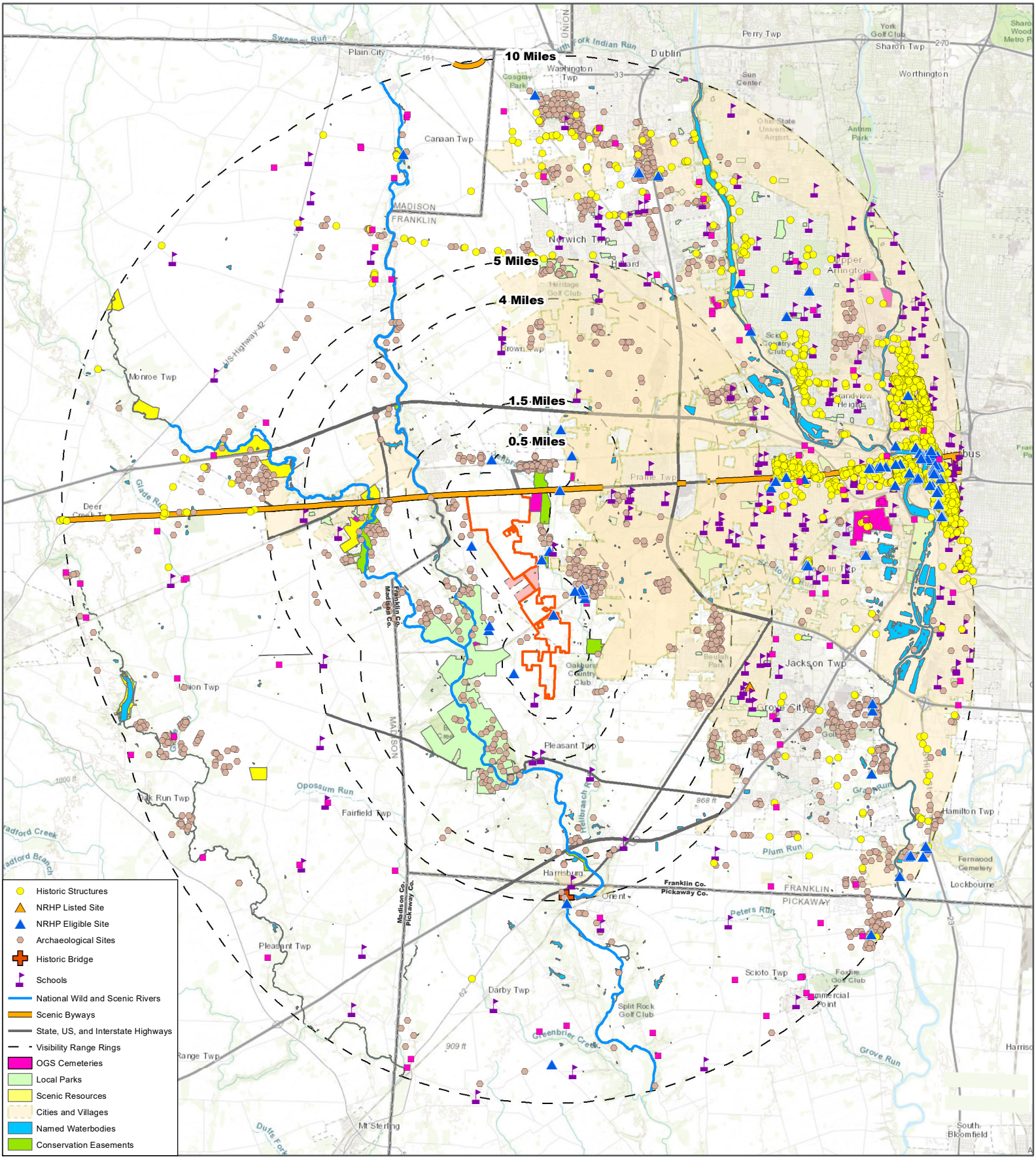



**Figure 3-2 Location of Visually Sensitive Resources**




7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# 3-3: Visually Sensitive Resources Within 10 Miles

## Visual Resource Assessment
## for the Pleasant Prairie Solar Energy Project
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## Franklin County, Ohio

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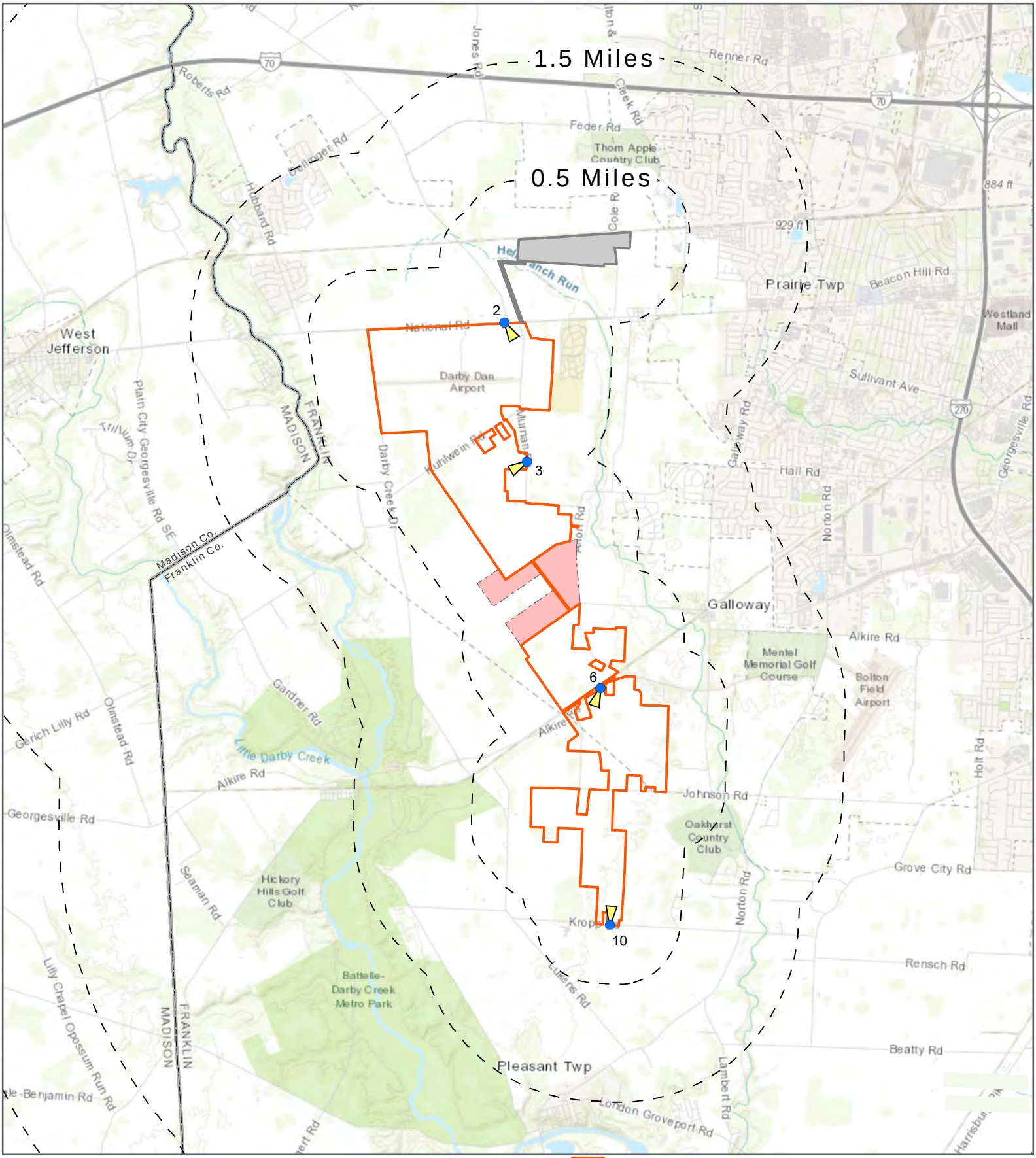
GIS Analyst: justin.stelly

### 3.1.3 Field Verification Results

Field verification generally confirmed the results of the DSM viewshed analysis. Project visibility was largely restricted to areas adjacent to the Project Area where public roads are bordered by open agricultural fields. Field review also confirmed that existing topography, as well as mature vegetation associated with Big Darby Creek, Hellbranch Run, various woodlots, and hedgerows will the screen Project from more distant portions of the VSA (beyond a half mile). Field review of the isolated areas of more distant visibility confirmed that discerning the proposed Project will be a much greater challenge than suggested by the viewshed analysis due to vegetative screening and the effects of distance. During the growing season, visibility of the Project from residences and roadways may also be limited by the growth of cultivated crops in the foreground agricultural fields. The combination of relatively low panel height, along with existing hedgerows, gently rolling topographic relief, and the atmospheric effects of distance, will limit visibility of the Project from the majority of the VSA.

## 3.2 Visual Simulations

Visual simulations from four representative locations were produced in order to illustrate the appearance of the Project and to evaluate its potential visual impact on the existing landscape and viewers within the VSA. The visual simulations were also intended to illustrate the time-lapse from the Project Area's existing conditions, to initial construction of Project components, to the establishment of proscribed plantings in 5-7 years. The locations of the viewpoints selected for the production of visual simulations are illustrated in Figure 3-4. The visual simulations and a discussion of the potential visual effects associated with the Project are summarized below. Full size images are presented in Appendix C.




7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# 3-4: Visual Simulation Viewpoint Map

## Visual Resource Assessment
## for the Pleasant Prairie Solar Energy Project
## Pleasant Prairie Solar Energy, LLC
## Franklin County, Ohio

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GIS Analyst: samuel.waltman

### 3.2.1 Viewpoint 2 Visual Simulation

#### *Viewpoint 2 Existing Conditions*

Viewpoint 2 is situated along US 40, facing southeast towards a fenced agricultural field. This viewpoint is located approximately 3.50 miles from the community of Lincoln Village. The existing conditions in this view show the rural field that extends from the foreground to the background of the visual. The agricultural field is surrounded by small, forested patches of land as seen in the background of this visual. Along the left side of the image a building is located 0.15 mile away. The white barn inspired fence surrounding the field adds to the rustic character of the area.

#### *Viewpoint 2 Proposed Project*

With the addition of the proposed Project, panel arrays and associated fencing line up along the soft rolling hill in the background of the visual, with subtle visibility due to their distance from the roadside. In the visual foreground, the proposed substation can be seen approximately 0.07 mile from the viewpoint location.

#### *Viewpoint 2 Proposed Project with Mitigation*

With proposed mitigation plantings placed and established 5-7 years following installation, the area comprising the proposed substation is surrounded by large deciduous and evergreen trees, and the panel arrays are surrounded by a variety of small to medium trees and shrubbery, as well as herbaceous pollinator vegetation. Although views of the substation and panel arrays remain available through gaps in the vegetation, the duration of these views will be limited for drivers passing the Project along US 40.

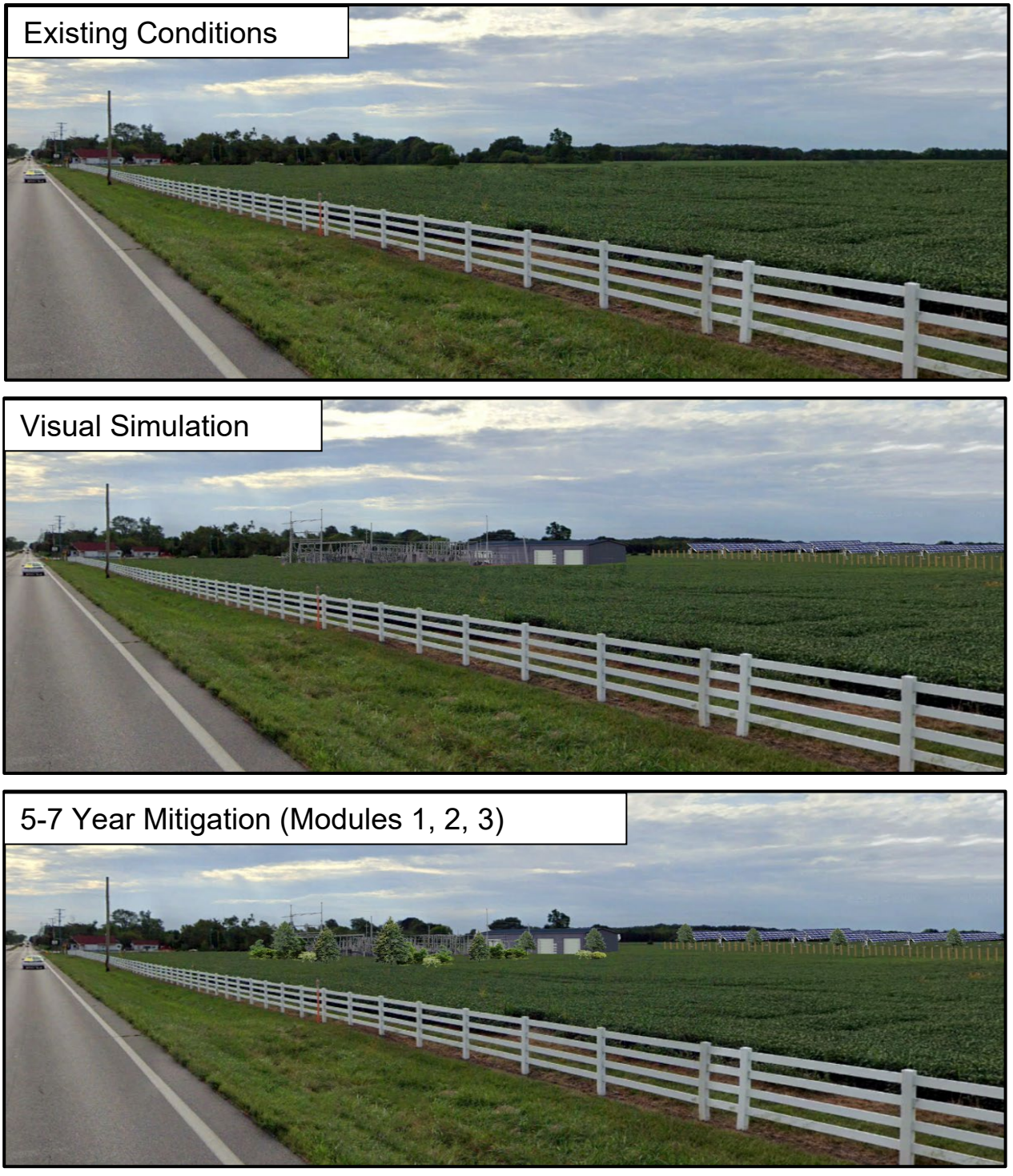


**Figure 3-5 Viewpoint 2 - Simulated Time-Lapse**

### 3.2.2 Viewpoint 3 Visual Simulation

#### *Viewpoint 3 Existing Conditions*

Viewpoint 3 is situated along CR 12 (Murnan Road) positioned south west of the community of New Rome and facing southwest. The existing conditions in this view show the large open field that extends from the foreground to the background of the visual. Forested patches approximately 1.15 miles away can be seen in the background. A tree line in the center of the visual provides pre-existing screening for an adjacent residence from the field.

#### *Viewpoint 3 Proposed Project*

With the addition of the proposed Project, panel arrays and an associated fence line can be can be viewed within the field along the right side of the visualization. These panels are located approximately 198 feet from the roadside viewpoint.

#### *Viewpoint 3 Proposed Project with Mitigation*

With proposed mitigation plantings placed and established 5-7 years following installation, the area comprising the proposed panel arrays is surrounded by a variety of herbaceous pollinator vegetation. Although views of the panel arrays remain available, the duration of these views will be limited for drivers passing along CR 12. For this reason, the plantings are intended to provide a visual ecological buffer, which offers seasonal color variety and habitat for local pollinators, rather than visual screening.

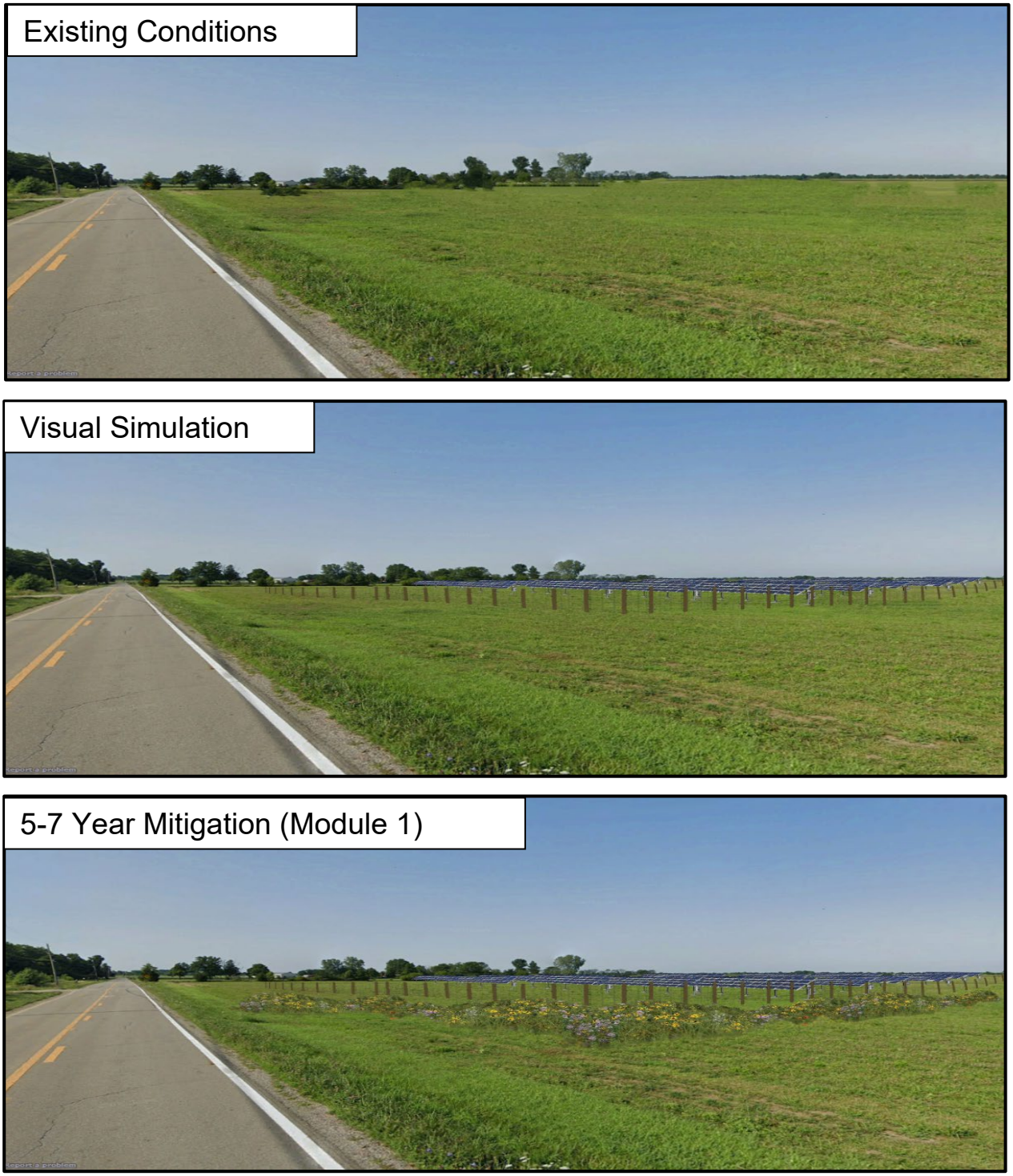


**Figure 3-6 Viewpoint 3 - Simulated Time-Lapse**

### 3.2.3 Viewpoint 6 Visual Simulation

#### *Viewpoint 6 Existing Conditions*

Viewpoint 6 is situated along CR 11 (Alkire Rd) near community of Galloway, facing east. The existing conditions in this view show an open plowed field with a small roadside ditch surrounded by herbaceous vegetation in the foreground. The background of the visual contains a tree line that serves as a pre-existing screen for an adjacent residence from the field. Further in the background, forest vegetation screens additional residences from the field and future Project.

#### *Viewpoint 6 Proposed Project*

With the addition of the proposed Project, panel arrays and associated fence line can be viewed within the field on the right side of the visual. These panels represent the closest view of the Project from this roadway segment, at approximately 95 feet away from the viewpoint location.

#### *Viewpoint 6 Proposed Project with Mitigation*

With proposed mitigation plantings placed and established 5-7 years following installation, the area comprising the proposed panel arrays is surrounded by a variety of herbaceous pollinator vegetation and small to medium shrubbery. Although views of the panel arrays remain available, the duration of these views will be limited for drivers passing along CR 11. Additionally, stationary views of the Project by adjacent residences, both in the visual background and across CR 11, are already screened by existing vegetation. For this reason, the plantings are intended to interrupt the horizontal lines of the Project components, allowing them to blend into the vegetated background.

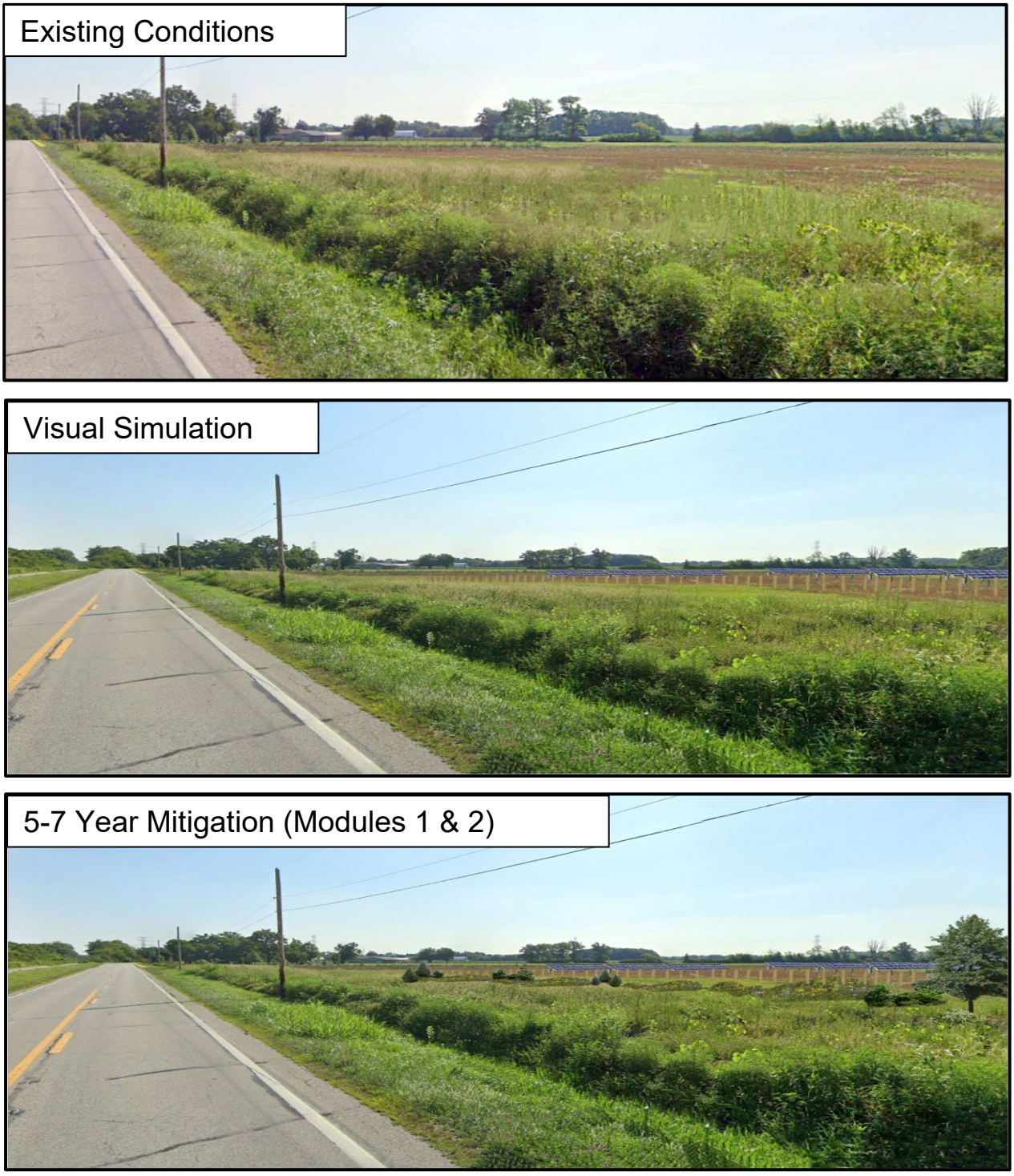


**Figure 3-7 Viewpoint 6 - Simulated Time-Lapse**

### 3.2.4 Viewpoint 10 Visual Simulation

#### *Viewpoint 10 Existing Conditions*

Viewpoint 10 is situated along CR 135 (Kropp Rd) facing northwest. The existing conditions in this view show a large open field with a small rolling hill heading to the west. The area as no tall vegetation in it and is lined with heavy shrubs and grasses. Directly in the center of the image is one building located 0.13 mile away from the viewpoint. The field is backed by a very thin line of trees far in the distance, the vegetation begins to thicken closer to the left side. The trees along the left side of the image are masking the few buildings located in them.

#### *Viewpoint 10 Proposed Project*

With the addition of the proposed Project, panel arrays and associated fence line can be viewed within the field on the right side of the visual. These panels are located approximately 480 feet from the roadside viewpoint.

#### *Viewpoint 10 Proposed Project with Mitigation*

With proposed mitigation plantings placed and established 5-7 years following installation, the area comprising the proposed panel arrays is surrounded by a variety of herbaceous pollinator vegetation and small to medium shrubbery. Although views of the panel arrays remain available, the duration of these views will be limited for drivers passing along CR 135. Additionally, stationary views of the Project by adjacent residences, both in the visual background and across CR 135, are already screened by existing vegetation. For this reason, the plantings are intended to interrupt the horizontal lines of the Project components, and blend with existing hedgerow screening.

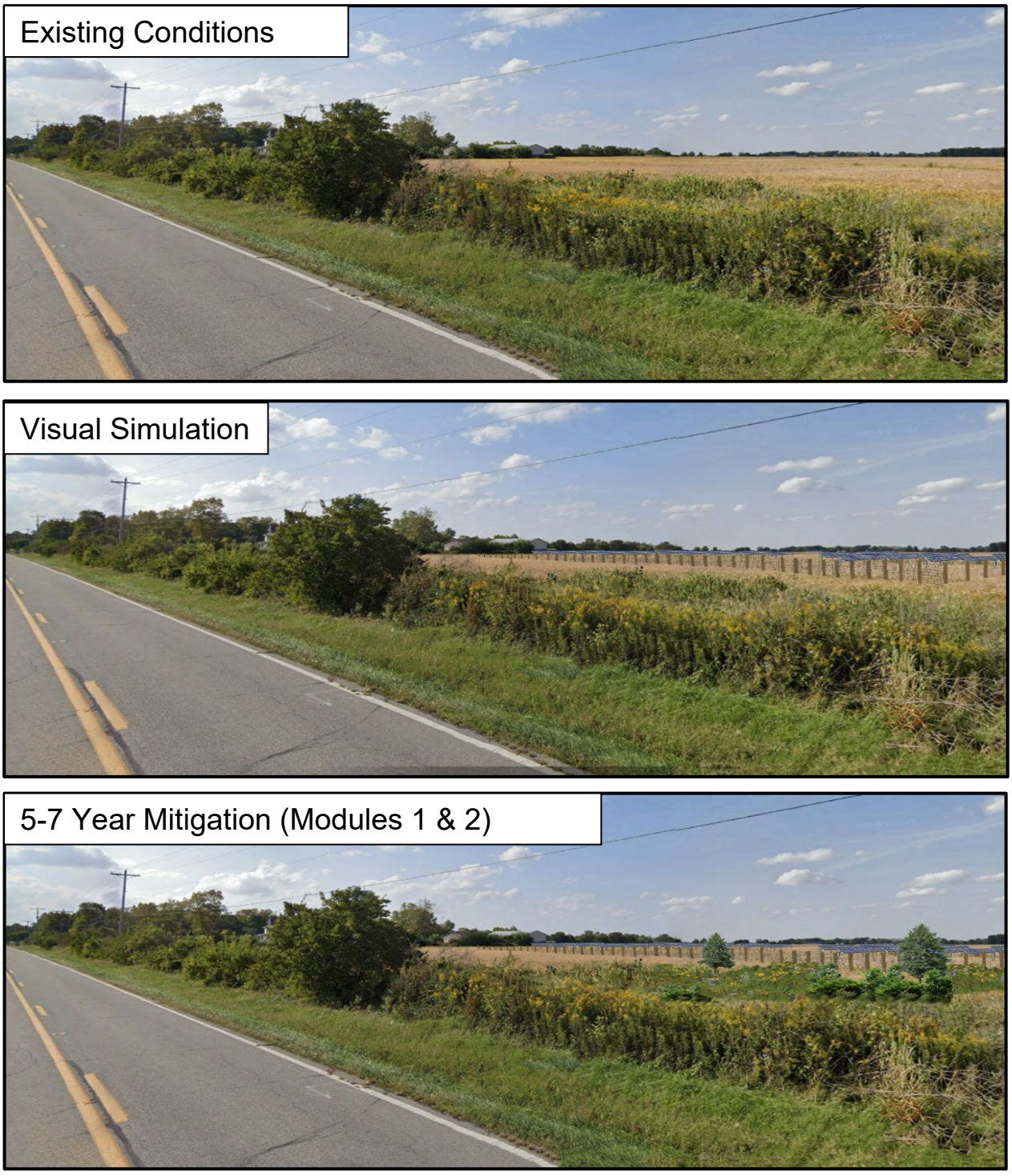


**Figure 3-8 Viewpoint 10 - Simulated Time-Lapse**

## 3.3 Reflectivity and Glare

A glare analysis was conducted using the Forge Solar Glare Gauge model developed by the Department of Energy's Sandia National Laboratory. Potential glare from the Project was evaluated on sensitive observer locations related to the Dan Darby Airport (750A) which lies within the Project Area, and Bolton Field Airport (TZR) which lies 1.7 miles to the southeast. The analysis focused on potential glare effects on aircraft within a 2-mile flight path of Dan Darby Airport, which is located within the Project Area, and in relation to various route receptors associated with the Bolton Field Airport flight paths and Air Traffic Control Tower (ATCT). It should be noted that the Dan Darby Airport will no longer receive air traffic, as it will be decommissioned as part of this Project. Additionally, the abandoned Columbus Southwest Airport (O4I) which lies within the Project Area will be decommissioned.

Based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276, solar energy farms located on airport property must meet the following criteria in regards to glare analysis:

> No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles

> No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.

> Default analysis and observer characteristics (see list below)

Based on the current design and layout of the Project, the Glare Gauge modeling predicted that no glare impacts to air traffic in regards to the above criteria will occur as a result of the Project. Although some level of glare may be experienced at the Bolton Field ATCT, the Project is not subject to the FAA ocular hazard standards as they relate to Bolton Field, as the Project is not located within the Airport property. As the Project design process progresses, additional studies on potential glare will be conducted, and Pleasant Prairie will continue to coordinate with the FAA through the FAA determination process that is currently underway. The full glare analysis report is included as Appendix B.

# 4 Conclusions

## 4.1 Visual Resource Assessment Summary

Based on the analyses provided above, the following conclusions can be drawn regarding the visibility and visual effect of the proposed Pleasant Prairie Solar Project.

The PV array viewshed analysis indicates that the proposed solar arrays will be screened from view in approximately 89.9% of the 5-mile radius VSA. Visibility is concentrated within the Project Area itself, and the open fields located in the vicinity of the Project. The viewshed analysis also suggests that panel visibility substantially diminishes beyond the near-foreground distance zone (0.5 mile).

PV array viewshed analysis of the 122 identified VSRs within the VSA indicates that 20 (16.4%) have potential Project visibility. Viewshed results suggest that views from VSRs will generally be small and/or include only a limited number of Project components.

Field review generally confirmed the results of the viewshed analysis. Beyond 0.5 mile, screening provided by topography and hedgerows, in combination with the low height of the solar panels, will significantly limit Project visibility.

As illustrated in the visual simulations, the Project will result in varying levels of visual impact when viewed from its surrounding vicinity. The Project will install structures that will alter the scenic quality and/or existing agricultural character of the landscape. However, Project visibility and potential visual impact will diminish rapidly at greater distances. For this reason, it is anticipated that the impacts will be localized to a limited number of areas adjacent to the Project. Additionally, these impacts will likely be mitigated to some degree by the presence of seasonal crops in actively farmed fields.

Glare from the proposed Project will not have an adverse impact on air traffic or airports within the Project Area.

## 4.2 Mitigation

Pleasant Prairie proposes to conduct perimeter plantings to achieve screening and soften views of constructed PV panels. The conceptual mitigation developed for this Project is based on the assumption that 100% screening is not necessary, and that introduction of native vegetation in clumps and hedgerows will adequately mimic the existing screening observed throughout the vicinity of the Project Area. Per the requirements of 4906-4-08(D) of the OAC, the visual simulations illustrate how the proposed planting modules will minimize potential visual impacts created by the installation of the PV panels. Although the mitigation represented in the visual simulations is conceptual at this time, and planting composition may be adjusted, the design goals and approach will not change. Additional details can be found in the Pleasant Prairie landscape mitigation plan.

# 5 References

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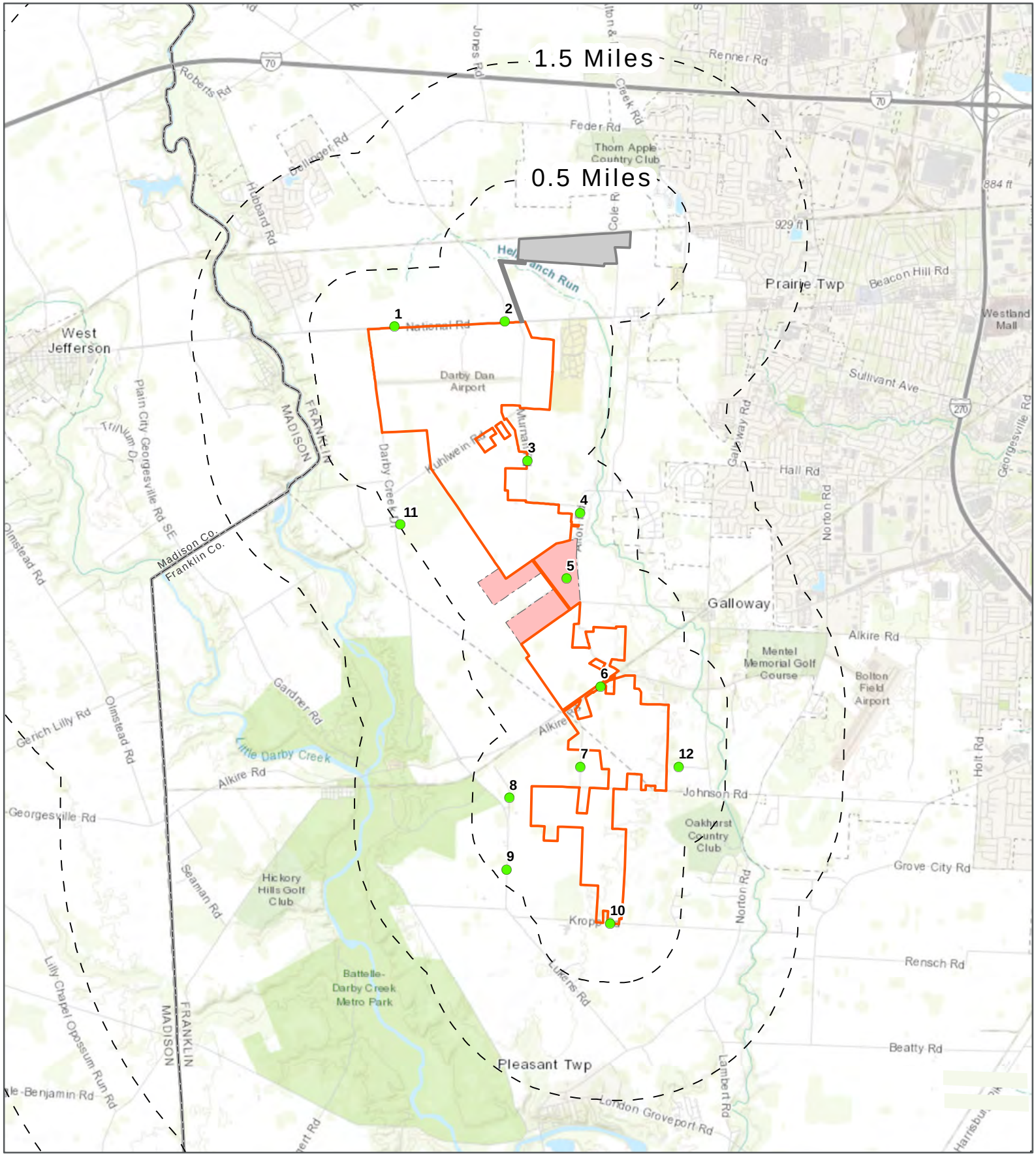
Visual Resource Assessment and Mitigation Plan
Pleasant Prairie Solar Energy Project

# APPENDIX A

## VIEWPOINT LOCATION MAP AND PHOTOLOG




7.5' Quadrangles:
Galloway, OH (1982)
Harrisburg, OH (1976)

PLSS: unsectioned



# Viewpoint Location Map

## Visual Resource Assessment
## for the Pleasant Prairie Solar Energy Project
## Pleasant Prairie Solar Energy, LLC
## Franklin County, Ohio

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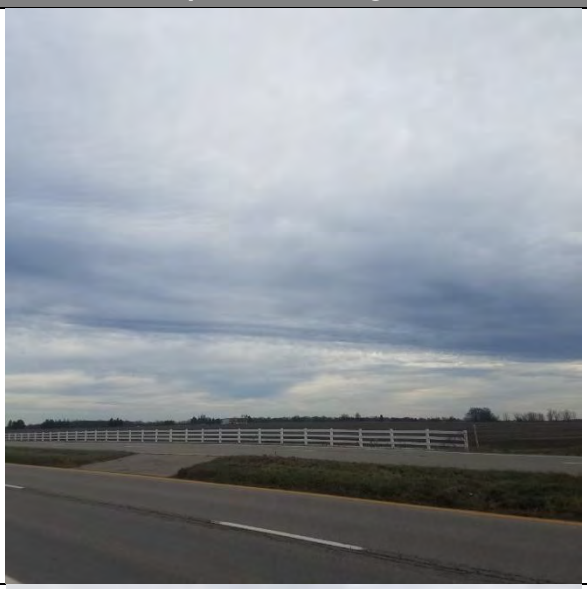
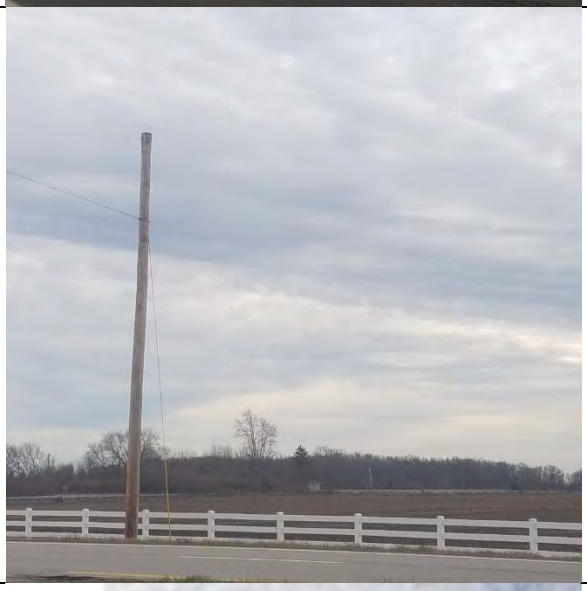
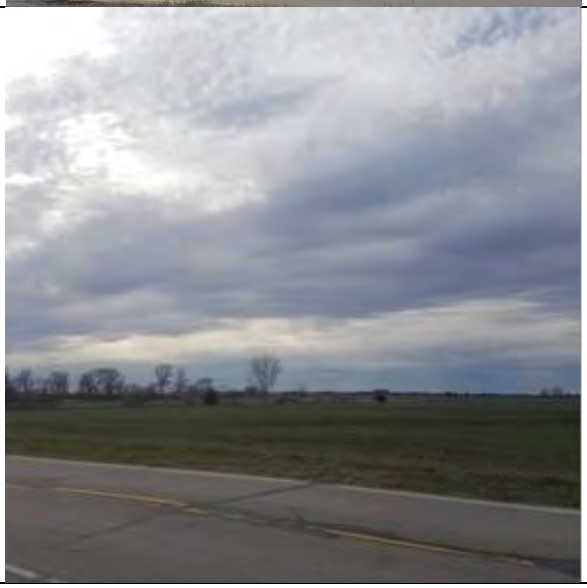
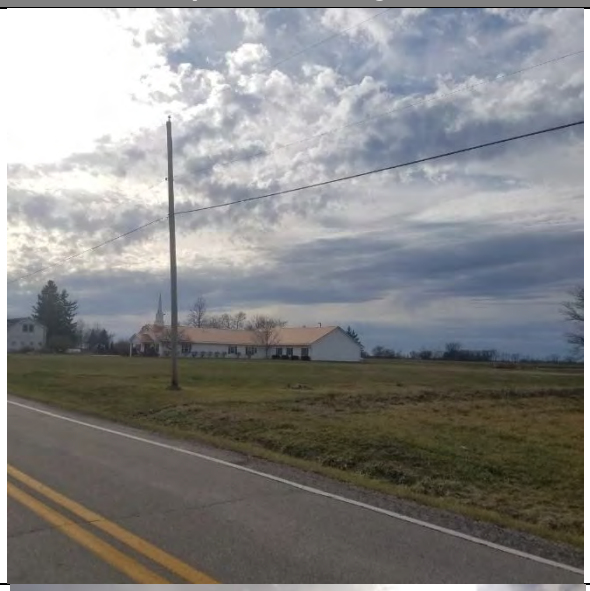
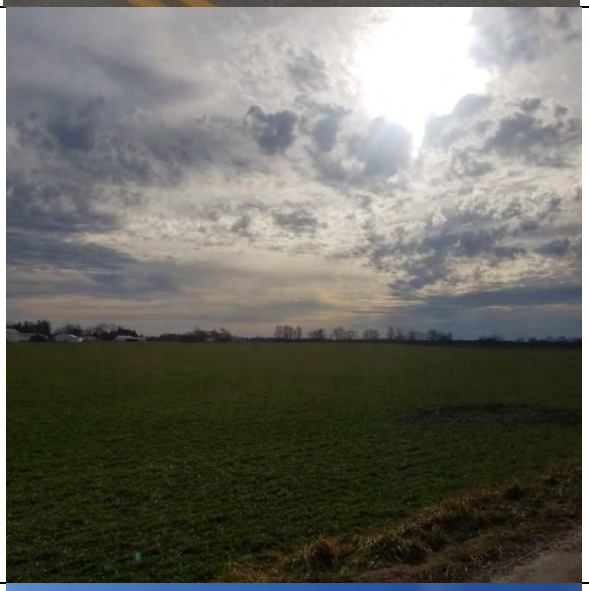
Fax (+1) 317.945.6309
www.cardno.com

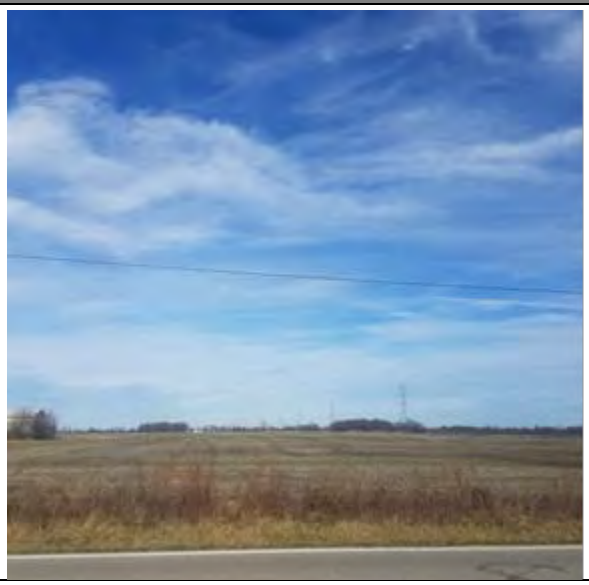


GIS Analyst: samuel.waltman

| Pleasant Prairie Viewpoint Photolog | |
|---|---|
|  | **Viewpoint 1**<br><br>Direction Facing<br>Southeast<br>Location<br>39.94868858, -83.21343214<br>Caption/Description<br>View from US 40 in the township of Prairie, Franklin County. 155 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 2**<br><br>Direction Facing<br>Southeast<br>Location<br>39.94940883, -83.19578519<br>Caption/Description<br>View from US 40 in the township of Prairie, Franklin County. 373 feet from the nearest substation structures, in the Near-Foreground distance zone. |
|  | **Viewpoint 3**<br><br>Direction Facing<br>Southwest<br>Location<br>39.93228114, -83.19198736<br>Caption/Description<br>View from CR 12 (Murnan Rd) in the township of Prairie, Franklin County. 207 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |

| Pleasant Prairie Viewpoint Photolog | |
|---|---|
|  | **Viewpoint 4**<br><br>Direction Facing<br>Southwest<br>Location<br>39.92589883, -83.18352864<br>Caption/Description<br>View from CR 35 (Alton Rd) in the township of Prairie, Franklin County. 599 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 5**<br><br>Direction Facing<br>North<br>Location<br>39.91781408, -83.18557367<br>Caption/Description<br>View from CR 35 (Alton Rd) in the township of Prairie, Franklin County. 1752 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 6**<br><br>Direction Facing<br>South<br>Location<br>39.90451344, -83.18006978<br>Caption/Description<br>View from CR 11 (Alkire Rd) in the township of Prairie, Franklin County. 167 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |

| Pleasant Prairie Viewpoint Photolog | |
|---|---|
|  | **Viewpoint 7**<br><br>Direction Facing<br>Northeast<br>Location<br>39.89459183, -83.18316469<br>Caption/Description<br>View from TR 293 (Johnson Rd) in the township of Pleasant, Franklin County. 918 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 8**<br><br>Direction Facing<br>East<br>Location<br>39.89074442, -83.19447583<br>Caption/Description<br>View from CR 140 (Kropp Rd) in the township of Pleasant, Franklin County. 1290 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 9**<br><br>Direction Facing<br>East<br>Location<br>39.88190103, -83.19486697<br>Caption/Description<br>View from CR 140 (Kropp Rd) in the township of Pleasant, Franklin County. 2573 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |

| Pleasant Prairie Viewpoint Photolog | |
|---|---|
|  | **Viewpoint 10**<br><br>Direction Facing<br>North<br>Location<br>39.87535339, -83.17823864<br>Caption/Description<br>View from CR 135 (Kropp Rd) in the township of Pleasant, Franklin County. 823 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 11**<br><br>Direction Facing<br>East<br>Location<br>39.92428511, -83.21225172<br>Caption/Description<br>View from CR 140 (Darby Creek Dr) in the township of Prairie, Franklin County. 3054 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |
|  | **Viewpoint 12**<br><br>Direction Facing<br>West<br>Location<br>39.89471878, -83.1674585<br>Caption/Description<br>View from TR 2624 (Royalton Dr) in the township of Prairie, Franklin County. 717 feet from the nearest proposed PV panel, in the Near-Foreground distance zone. |

Visual Resource Assessment and Mitigation Plan
Pleasant Prairie Solar Energy Project

APPENDIX

# B

## GLARE ANALYSIS REPORT

# FORGESOLAR GLARE ANALYSIS

Project: **Pleasant Prairie-OH**
Proposed 250 MW solar facility near regional airport

Site configuration: **Pleasant Prairie-OH Array**
Analysis conducted by Paul Thienpont (pthienpont@invenergyllc.com) at 20:40 on 03 Dec, 2020.

## U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

| COMPONENT | STATUS | DESCRIPTION |
|---|---|---|
| Analysis parameters | PASS | Analysis time interval and eye characteristics used are acceptable |
| 2-mile flight path(s) | PASS | Flight path receptor(s) do not receive yellow glare |
| ATCT(s) | FAIL | Receptor(s) marked as ATCT receive green and/or yellow glare |

Default glare analysis parameters and observer eye characteristics (for reference only):

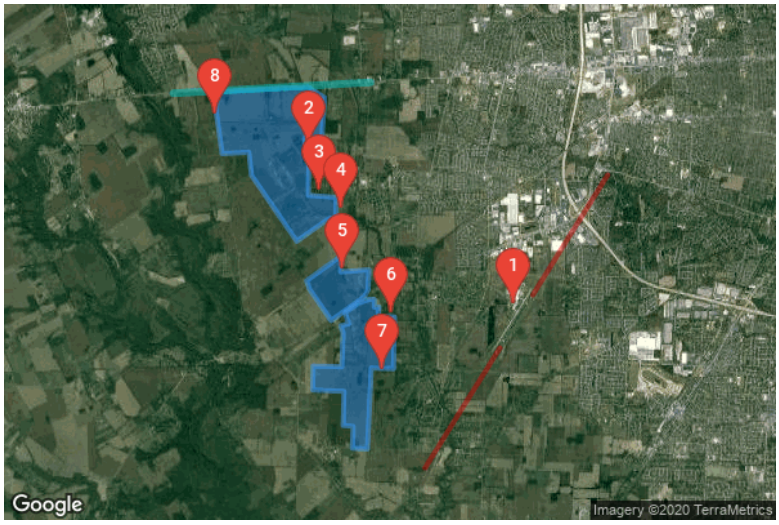
- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

# SITE CONFIGURATION

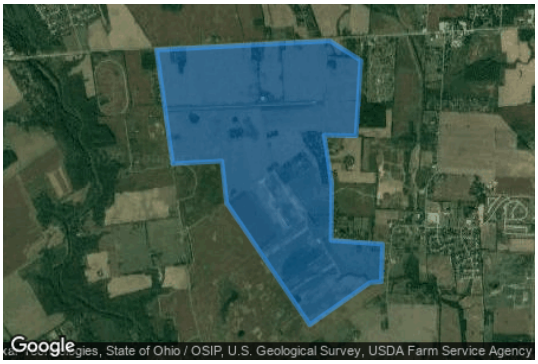
## Analysis Parameters

DNI: peaks at 900.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 46481.8393



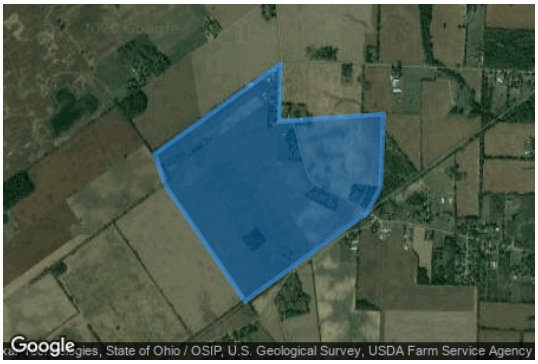

## PV Array(s)

**Name**: PV array 1
**Axis tracking**: Single-axis rotation
**Tracking axis orientation**: 180.0°
**Tracking axis tilt**: 0.0°
**Tracking axis panel offset**: 0.0°
**Max tracking angle**: 60.0°
**Resting angle**: 0.0°
**Rated power**: -
**Panel material**: Light textured glass with AR coating
**Reflectivity**: Vary with sun
**Slope error**: correlate with material



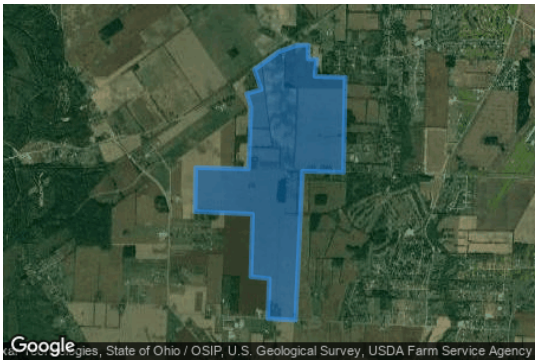

| Vertex | Latitude (°) | Longitude (°) | Ground elevation (ft) | Height above ground (ft) | Total elevation (ft) |
|---|---|---|---|---|---|
| 1 | 39.948272 | -83.217589 | 929.94 | 15.00 | 944.94 |
| 2 | 39.949282 | -83.192410 | 915.80 | 15.00 | 930.81 |
| 3 | 39.947111 | -83.187936 | 914.98 | 15.00 | 929.98 |
| 4 | 39.938751 | -83.188615 | 920.43 | 15.00 | 935.43 |
| 5 | 39.938833 | -83.193250 | 922.35 | 15.00 | 937.35 |
| 6 | 39.933305 | -83.192134 | 924.08 | 15.00 | 939.08 |
| 7 | 39.927151 | -83.192241 | 919.76 | 15.00 | 934.76 |
| 8 | 39.926739 | -83.184774 | 912.55 | 15.00 | 927.55 |
| 9 | 39.922568 | -83.184954 | 899.76 | 15.00 | 914.76 |
| 10 | 39.922469 | -83.186606 | 904.86 | 15.00 | 919.86 |
| 11 | 39.917794 | -83.195339 | 920.82 | 15.00 | 935.82 |
| 12 | 39.931271 | -83.207420 | 925.09 | 15.00 | 940.09 |
| 13 | 39.935944 | -83.208107 | 925.08 | 15.00 | 940.08 |
| 14 | 39.935659 | -83.215248 | 927.67 | 15.00 | 942.68 |

**Name**: PV array 2
**Axis tracking**: Single-axis rotation
**Tracking axis orientation**: 180.0°
**Tracking axis tilt**: 0.0°
**Tracking axis panel offset**: 0.0°
**Max tracking angle**: 60.0°
**Resting angle**: 0.0°
**Rated power**: -
**Panel material**: Light textured glass with AR coating
**Reflectivity**: Vary with sun
**Slope error**: correlate with material




| Vertex | Latitude (°) | Longitude (°) | Ground elevation (ft) | Height above ground (ft) | Total elevation (ft) |
|---|---|---|---|---|---|
| 1 | 39.914758 | -83.183545 | 912.10 | 15.00 | 927.10 |
| 2 | 39.911548 | -83.183653 | 912.92 | 15.00 | 927.92 |
| 3 | 39.911960 | -83.176078 | 893.61 | 15.00 | 908.61 |
| 4 | 39.907894 | -83.176293 | 901.20 | 15.00 | 916.20 |
| 5 | 39.906462 | -83.177301 | 909.71 | 15.00 | 924.71 |
| 6 | 39.901588 | -83.186139 | 912.56 | 15.00 | 927.56 |
| 7 | 39.907975 | -83.191903 | 920.18 | 15.00 | 935.18 |
| 8 | 39.909736 | -83.192697 | 923.59 | 15.00 | 938.59 |

**Name**: PV array 3
**Axis tracking**: Single-axis rotation
**Tracking axis orientation**: 180.0°
**Tracking axis tilt**: 0.0°
**Tracking axis panel offset**: 0.0°
**Max tracking angle**: 60.0°
**Resting angle**: 0.0°
**Rated power**: -
**Panel material**: Light textured glass with AR coating
**Reflectivity**: Vary with sun
**Slope error**: correlate with material




| Vertex | Latitude (°) | Longitude (°) | Ground elevation (ft) | Height above ground (ft) | Total elevation (ft) |
|---|---|---|---|---|---|
| 1 | 39.905902 | -83.176131 | 907.24 | 15.00 | 922.24 |
| 2 | 39.905902 | -83.174639 | 906.43 | 15.00 | 921.43 |
| 3 | 39.904354 | -83.174618 | 904.13 | 15.00 | 919.13 |
| 4 | 39.904321 | -83.173384 | 902.80 | 15.00 | 917.80 |
| 5 | 39.902420 | -83.173663 | 906.69 | 15.00 | 921.69 |
| 6 | 39.902330 | -83.169243 | 899.02 | 15.00 | 914.02 |
| 7 | 39.891779 | -83.169488 | 895.71 | 15.00 | 910.71 |
| 8 | 39.891904 | -83.175451 | 903.06 | 15.00 | 918.06 |
| 9 | 39.875372 | -83.176459 | 888.86 | 15.00 | 903.86 |
| 10 | 39.875537 | -83.180493 | 898.25 | 15.00 | 913.25 |
| 11 | 39.879983 | -83.180279 | 902.45 | 15.00 | 917.45 |
| 12 | 39.880181 | -83.182961 | 903.84 | 15.00 | 918.84 |
| 13 | 39.887136 | -83.182715 | 907.56 | 15.00 | 922.56 |
| 14 | 39.887416 | -83.191080 | 913.57 | 15.00 | 928.57 |
| 15 | 39.892311 | -83.190959 | 918.20 | 15.00 | 933.20 |
| 16 | 39.892163 | -83.183278 | 912.77 | 15.00 | 927.77 |
| 17 | 39.899061 | -83.182956 | 910.69 | 15.00 | 925.69 |
| 18 | 39.900509 | -83.183557 | 909.91 | 15.00 | 924.91 |
| 19 | 39.900970 | -83.181454 | 911.07 | 15.00 | 926.07 |
| 20 | 39.903192 | -83.182419 | 912.29 | 15.00 | 927.29 |
| 21 | 39.905183 | -83.178849 | 910.24 | 15.00 | 925.25 |

## Flight Path Receptor(s)

**Name**: FP 1
**Description**:
**Threshold height**: 50 ft
**Direction**: 32.0°
**Glide slope**: 3.0°
**Pilot view restricted?** Yes
**Vertical view**: 30.0°
**Azimuthal view**: 50.0°


| Point | Latitude (°) | Longitude (°) | Ground elevation (ft) | Height above ground (ft) | Total elevation (ft) |
|---|---|---|---|---|---|
| Threshold | 39.896040 | -83.141082 | 902.05 | 50.00 | 952.06 |
| Two-mile | 39.871520 | -83.161075 | 875.17 | 630.34 | 1505.51 |

**Name**: FP 2
**Description**:
**Threshold height**: 50 ft
**Direction**: 212.0°
**Glide slope**: 3.0°
**Pilot view restricted?** Yes
**Vertical view**: 30.0°
**Azimuthal view**: 50.0°


| Point | Latitude (°) | Longitude (°) | Ground elevation (ft) | Height above ground (ft) | Total elevation (ft) |
|---|---|---|---|---|---|
| Threshold | 39.906821 | -83.132346 | 903.63 | 50.00 | 953.63 |
| Two-mile | 39.931340 | -83.112349 | 834.03 | 673.06 | 1507.08 |

## Discrete Observation Receptors

| Name | ID | Latitude (°) | Longitude (°) | Elevation (ft) | Height (ft) |
|---|---|---|---|---|---|
| 1-ATCT | 1 | 39.904929 | -83.137564 | 910.79 | 30.00 |
| OP 2 | 2 | 39.937025 | -83.192005 | 924.82 | 6.00 |
| OP 3 | 3 | 39.928074 | -83.189301 | 920.39 | 6.00 |
| OP 4 | 4 | 39.924491 | -83.183379 | 913.02 | 6.00 |
| OP 5 | 5 | 39.911994 | -83.183111 | 915.35 | 6.00 |
| OP 6 | 6 | 39.903220 | -83.170079 | 898.16 | 6.00 |
| OP 7 | 7 | 39.891499 | -83.172568 | 903.85 | 6.00 |
| OP 8 | 8 | 39.943791 | -83.217277 | 927.81 | 6.00 |

*Map image of 1-ATCT*


## Route Receptor(s)

**Name**: Route 1
**Path type**: Two-way
**Observer view angle**: 50.0°

**Note:** Route receptors are excluded from this FAA policy review. Use the 2-mile flight path receptor to simulate flight paths according to FAA guidelines.


| Vertex | Latitude (°) | Longitude (°) | Ground elevation (ft) | Height above ground (ft) | Total elevation (ft) |
|---|---|---|---|---|---|
| 1 | 39.950214 | -83.175665 | 909.29 | 6.00 | 915.29 |
| 2 | 39.947985 | -83.228242 | 928.15 | 6.00 | 934.15 |

# GLARE ANALYSIS RESULTS

## Summary of Glare

| PV Array Name | Tilt (°) | Orient (°) | "Green" Glare min | "Yellow" Glare min | Energy kWh |
|---|---|---|---|---|---|
| PV array 1 | SA tracking | SA tracking | 55 | 265 | - |
| PV array 2 | SA tracking | SA tracking | 835 | 0 | - |
| PV array 3 | SA tracking | SA tracking | 1,175 | 803 | - |

*Total annual glare received by each receptor*

| Receptor | Annual Green Glare (min) | Annual Yellow Glare (min) |
|---|---|---|
| FP 1 | 0 | 0 |
| FP 2 | 1439 | 0 |
| 1-ATCT | 626 | 1068 |
| OP 2 | 0 | 0 |
| OP 3 | 0 | 0 |
| OP 4 | 0 | 0 |
| OP 5 | 0 | 0 |
| OP 6 | 0 | 0 |
| OP 7 | 0 | 0 |
| OP 8 | 0 | 0 |
| Route 1 | 0 | 0 |

## Results for: PV array 1

| Receptor | Green Glare (min) | Yellow Glare (min) |
|---|---|---|
| FP 1 | 0 | 0 |
| FP 2 | 0 | 0 |
| 1-ATCT | 55 | 265 |
| OP 2 | 0 | 0 |
| OP 3 | 0 | 0 |
| OP 4 | 0 | 0 |
| OP 5 | 0 | 0 |

| Receptor | Green Glare (min) | Yellow Glare (min) |
|---|---|---|
| OP 6 | 0 | 0 |
| OP 7 | 0 | 0 |
| OP 8 | 0 | 0 |
| Route 1 | 0 | 0 |

## Flight Path: FP 1

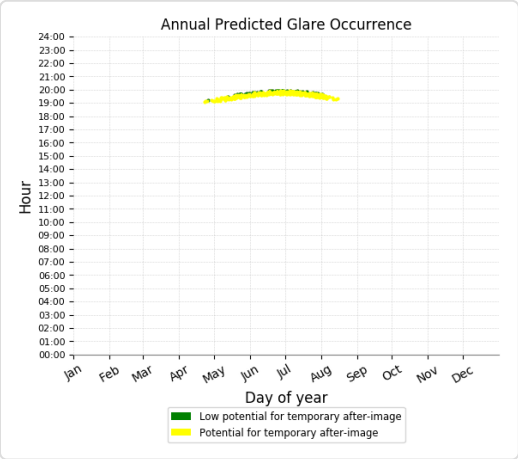
0 minutes of yellow glare
0 minutes of green glare

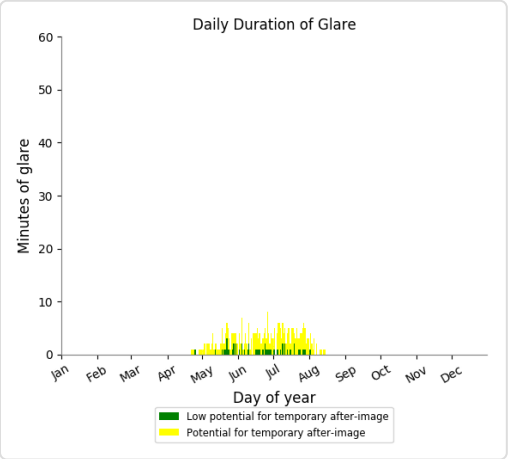
## Flight Path: FP 2

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: 1-ATCT

265 minutes of yellow glare
55 minutes of green glare




## Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

### Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

## Results for: PV array 2

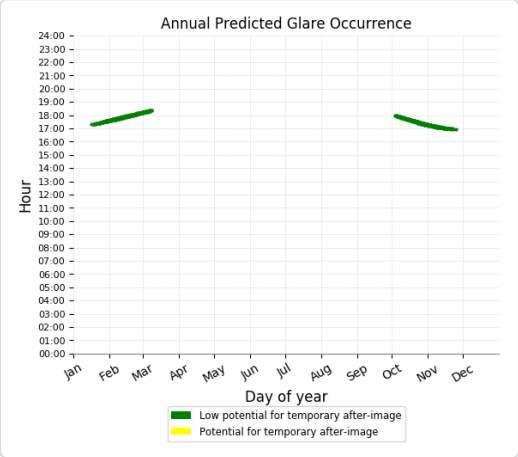
| Receptor | Green Glare (min) | Yellow Glare (min) |
|---|---|---|
| FP 1 | 0 | 0 |
| FP 2 | 473 | 0 |
| 1-ATCT | 362 | 0 |
| OP 2 | 0 | 0 |
| OP 3 | 0 | 0 |
| OP 4 | 0 | 0 |
| OP 5 | 0 | 0 |
| OP 6 | 0 | 0 |
| OP 7 | 0 | 0 |
| OP 8 | 0 | 0 |
| Route 1 | 0 | 0 |

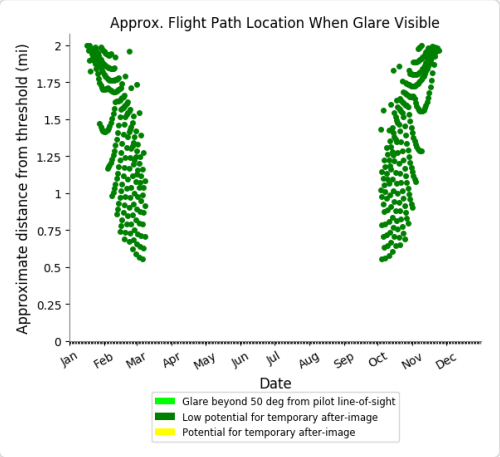
## Flight Path: FP 1

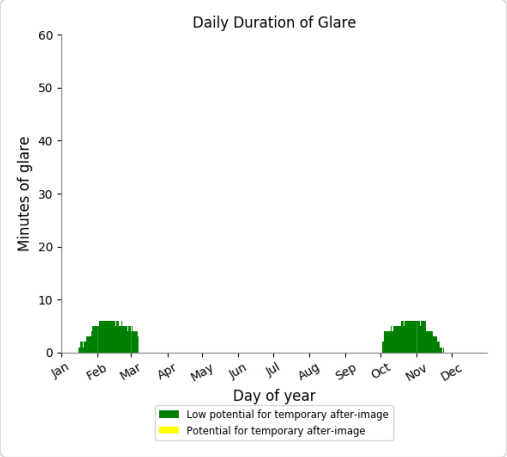
0 minutes of yellow glare
0 minutes of green glare

## Flight Path: FP 2

0 minutes of yellow glare
473 minutes of green glare

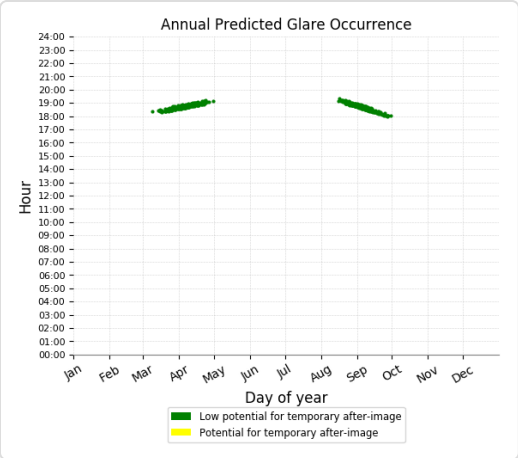


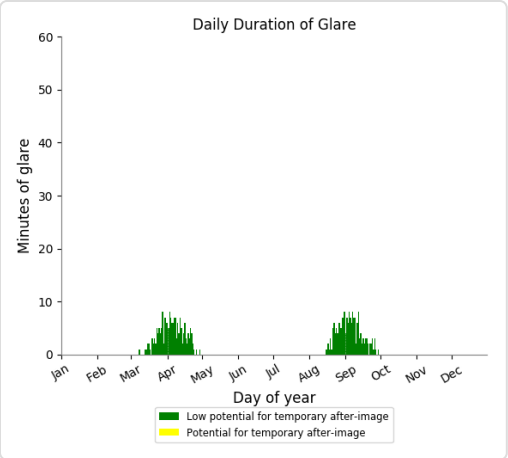




## Point Receptor: 1-ATCT

0 minutes of yellow glare
362 minutes of green glare




## Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

### Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

# Results for: PV array 3

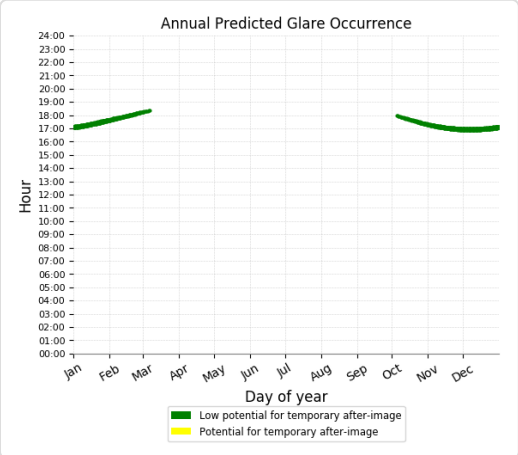
| Receptor | Green Glare (min) | Yellow Glare (min) |
|---|---|---|
| FP 1 | 0 | 0 |
| FP 2 | 966 | 0 |
| 1-ATCT | 209 | 803 |
| OP 2 | 0 | 0 |
| OP 3 | 0 | 0 |
| OP 4 | 0 | 0 |
| OP 5 | 0 | 0 |
| OP 6 | 0 | 0 |
| OP 7 | 0 | 0 |
| OP 8 | 0 | 0 |
| Route 1 | 0 | 0 |

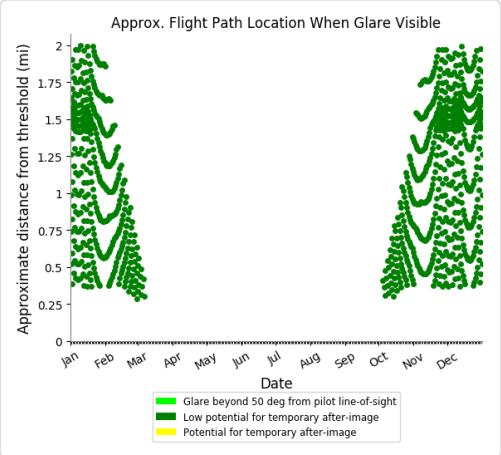
### Flight Path: FP 1

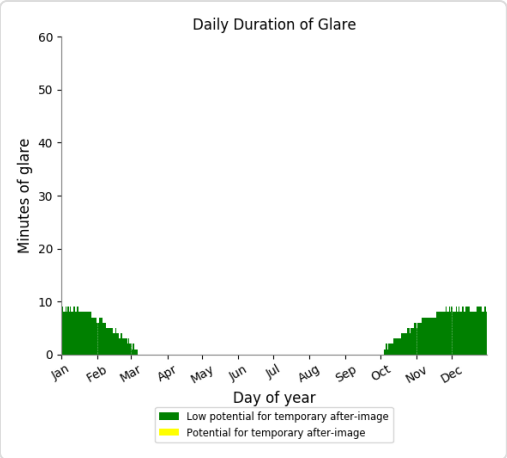
0 minutes of yellow glare
0 minutes of green glare

### Flight Path: FP 2

0 minutes of yellow glare
966 minutes of green glare

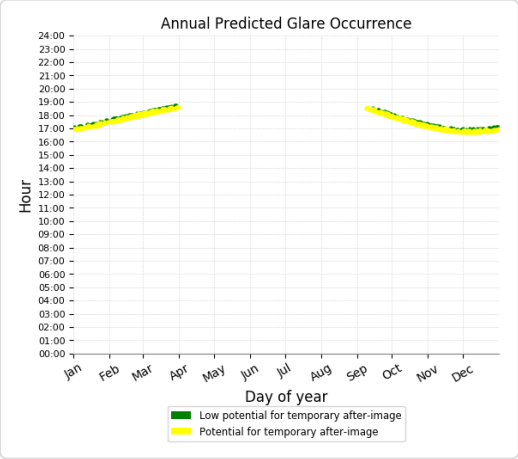


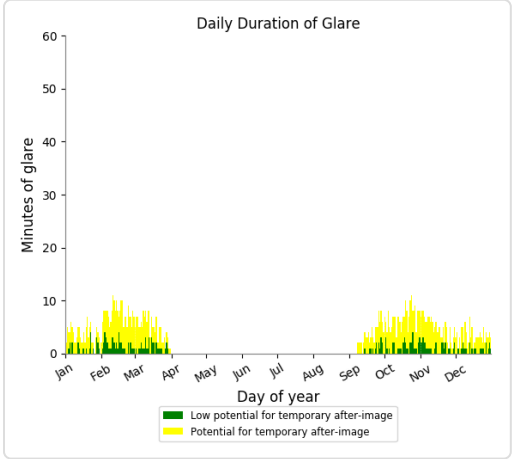






## Point Receptor: 1-ATCT

803 minutes of yellow glare
209 minutes of green glare




## Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

## Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

### Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

### Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

# Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

Visual Resource Assessment and Mitigation Plan
Pleasant Prairie Solar Energy Project

# APPENDIX C

## VISUAL SIMULATIONS

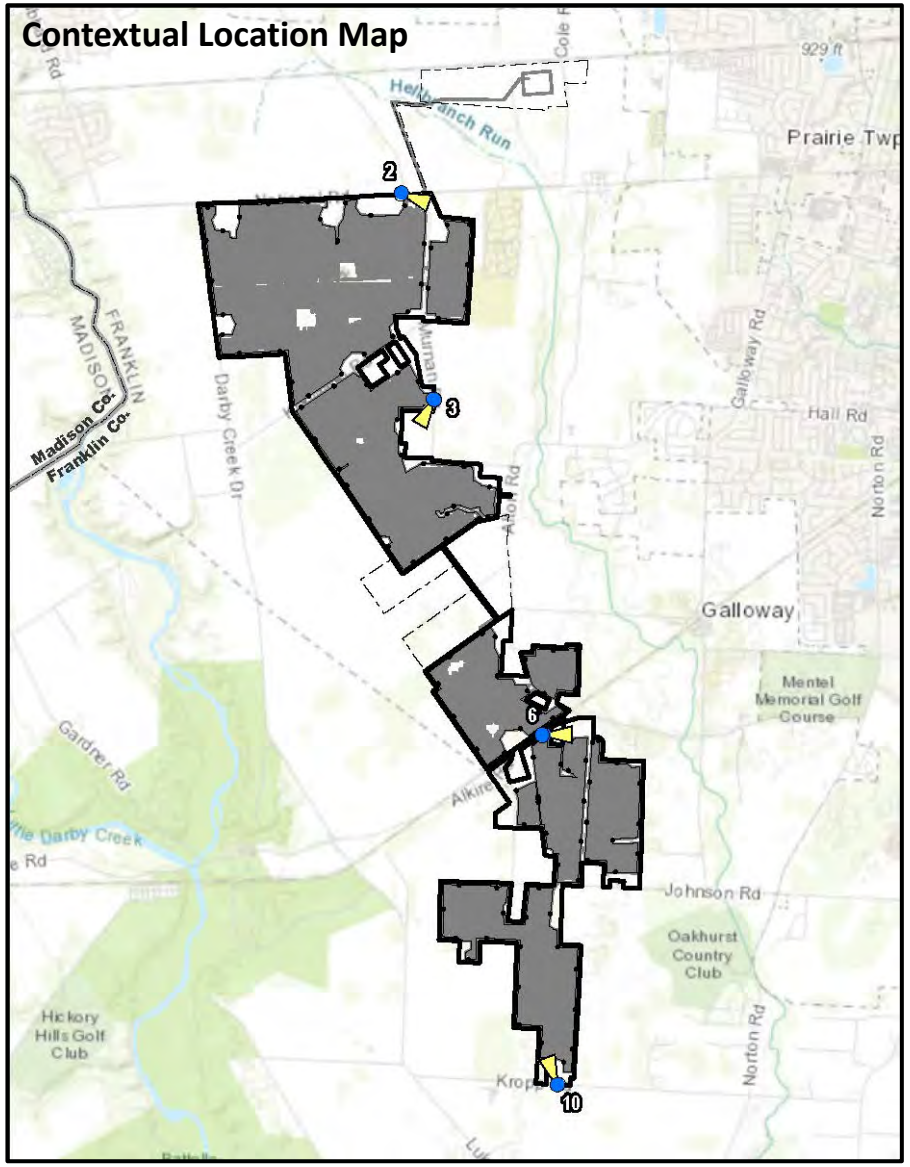
# US Route 40 | Prairie

**Viewpoint Information**
**Viewpoint ID:** 2
**County:** Franklin
**Township:** Prairie
**Location:** US 40
**Coordinates:**
**Direction of View:** Southeast
**Distance to Project:** 0.07 mile
**Distance Zone:** Near-Foreground

**Visual Resources**
**Landscape Type:** Farmland
**User Group:** Resident

**Photograph Information**
**Date Taken:** August 1, 2019
**Time:** 4:00 PM
**Camera:** Insta 360, 8k 360 View
**Resolution:** 1024 X 768 pixels
**Lens Focal Length:** 8mm 3.5
**Camera Elevation:** 8.2 feet

**Project Information**
**Racking Type:** Single Axis Tracker
**Max Panel Height:** 15 feet
**Total Buildable Area:** TBC acres





## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, US Route 40 in the Township of Prairie – Context Sheet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## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, US Route 40 in the Township of Prairie – Existing Conditions


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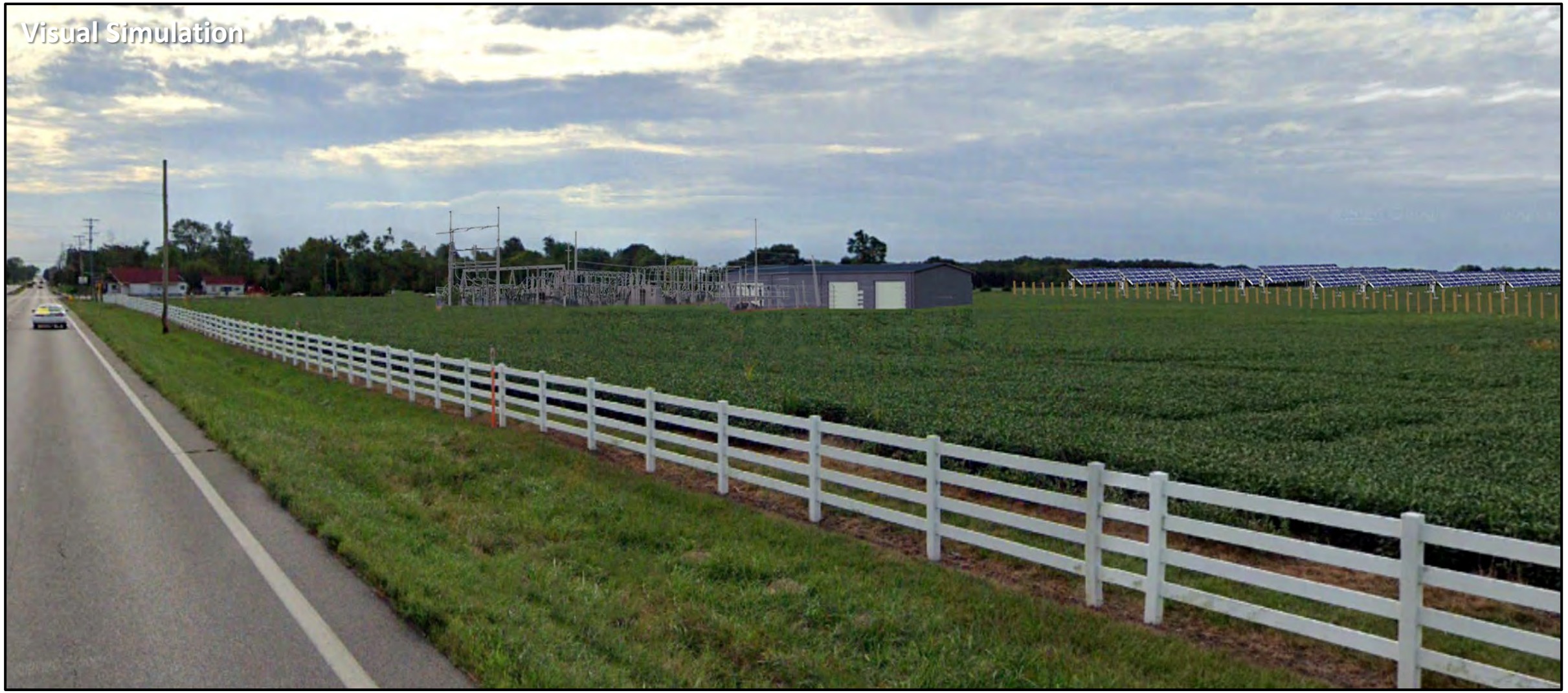


## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, US Route 40 in the Township of Prairie – Visual Simulation


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## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, US Route 40 in the Township of Prairie – Visual Simulation – 5-7 Year Mitigation


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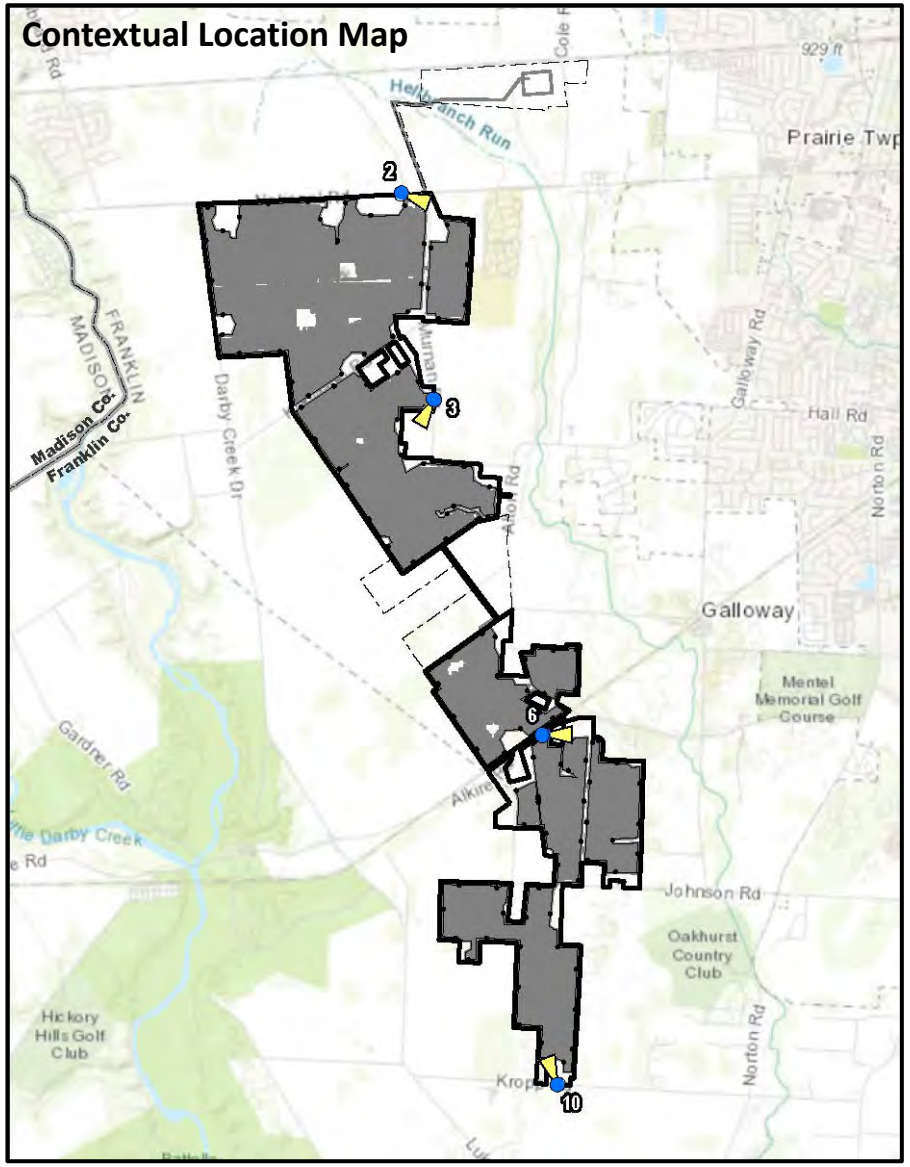
# County Road 12| Prairie

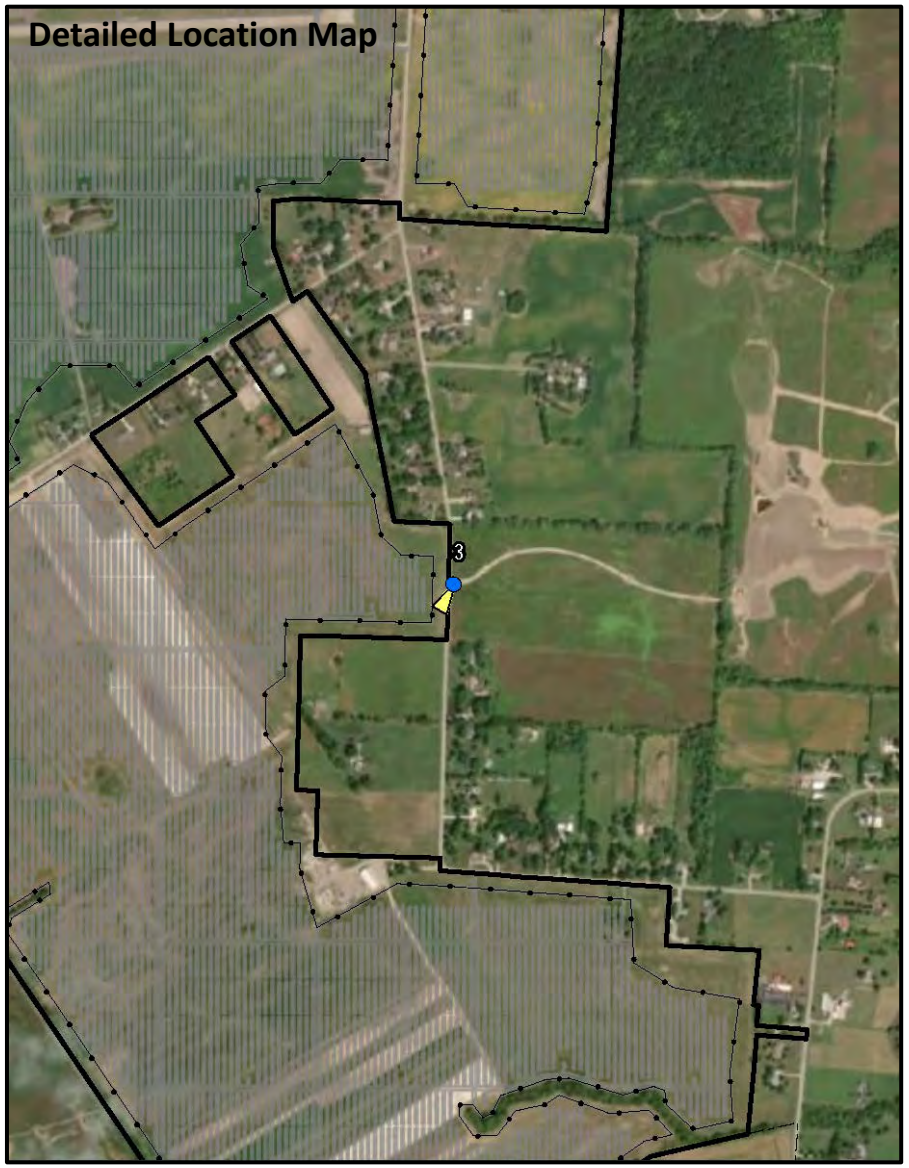
**Viewpoint Information**
**Viewpoint ID:** 3
**County:** Franklin
**Township:** Prairie
**Location:** CR 12
**Coordinates:** 39.932281, -83.191987
**Direction of View:** Southwest
**Distance to Project:** 0.037 mile
**Distance Zone:** Near-Foreground

**Visual Resources**
**Landscape Type:** Farmland
**User Group:** Resident

**Photograph Information**
**Date Taken:** July 1, 2019
**Time:** 2:00 PM
**Camera:** Insta 360, 8k 360 View
**Resolution:** 1024 X 768 pixels
**Lens Focal Length:** 8mm 3.5
**Camera Elevation:** 8.2 feet

**Project Information**
**Racking Type:** Single Axis Tracker
**Max Panel Height:** 15 feet
**Total Buildable Area:** TBC acres




## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
Visual Resource Assessment | Appendix C, County Road 12 in the Township of Prairie – Context Sheet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## Existing Conditions


**Pleasant Prairie Solar**
Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 12 in the Township of Prairie – Existing Conditions
Sheet 6 of 16

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## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 12 in the Township of Prairie – Visual Simulation
Sheet 7 of 16

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## Visual Simulation – 5-7 Year Mitigation


**Pleasant Prairie Solar**
Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 12 in the Township of Prairie – Visual Simulation – 5-7 Year Mitigation


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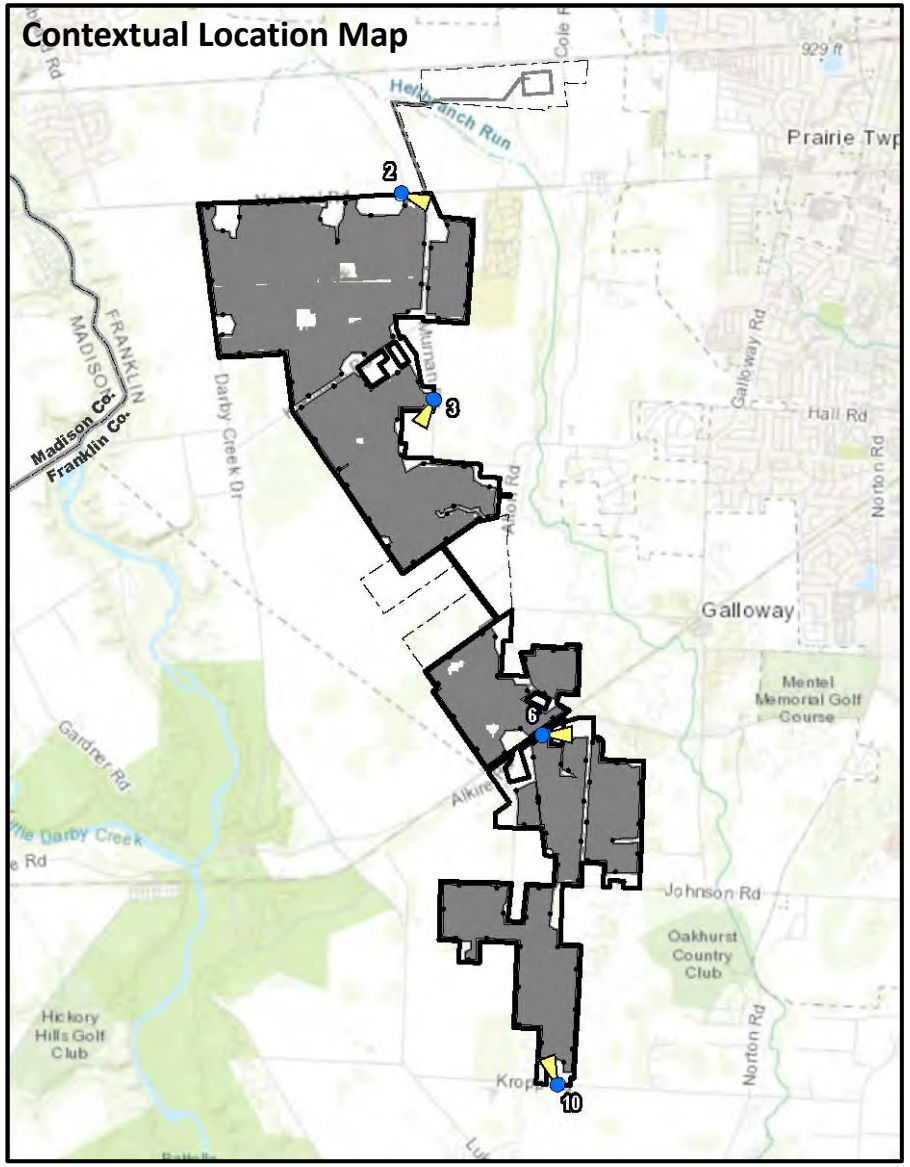
# County Road 11| Prairie

**Viewpoint Information**
**Viewpoint ID:** 6
**County:** Franklin
**Township:** Prairie
**Location:** CR 11
**Coordinates:** 39.904513, -83.180069
**Direction of View:** East
**Distance to Project:** 0.031 mile
**Distance Zone:** Near-Foreground

**Visual Resources**
**Landscape Type:** Farmland
**User Group:** Resident

**Photograph Information**
**Date Taken:** July 1, 2019
**Time:** 1:00 PM
**Camera:** Insta 360, 8k 360 View
**Resolution:** 1024 X 768 pixels
**Lens Focal Length:** 8mm 3.5
**Camera Elevation:** 8.2 feet

**Project Information**
**Racking Type:** Single Axis Tracker
**Max Panel Height:** 15 feet
**Total Buildable Area:** TBC acres





## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 11 in the Township of Prairie – Context Sheet
Sheet 9 of 16

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**Pleasant Prairie Solar**
Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 11 in the Township of Prairie – Existing Conditions


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## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 11 in the Township of Prairie – Visual Simulation
Sheet 11 of 16

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**Pleasant Prairie Solar**
Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 11 in the Township of Prairie – Visual Simulation – 5-7 Year Mitigation


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# County Road 135 | Pleasant

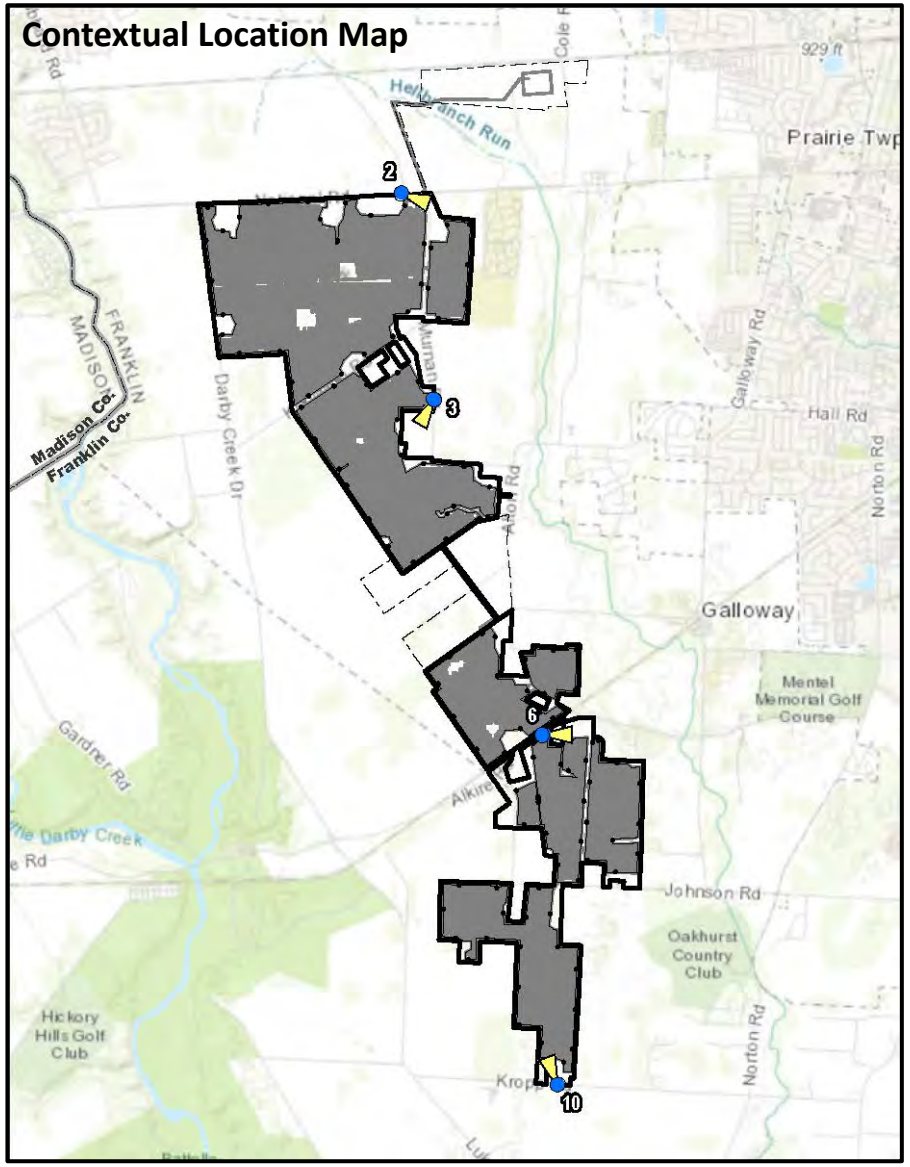
### Viewpoint Information
**Viewpoint ID:** 10
**County:** Franklin
**Township:** Prairie
**Location:** CR 135
**Coordinates:** 39.875353, -83.178238
**Direction of View:** Northwest
**Distance to Project:** 0.09 mile
**Distance Zone:** Near-Foreground

### Visual Resources
**Landscape Type:** Farmland
**User Group:** Resident

### Photograph Information
**Date Taken:** September 1, 2019
**Time:** 10:00 AM
**Camera:** Insta 360, 8k 360 View
**Resolution:** 1024 X 768 pixels
**Lens Focal Length:** 8mm 3.5
**Camera Elevation:** 8.2 feet

### Project Information
**Racking Type:** Single Axis Tracker
**Max Panel Height:** 15 feet
**Total Buildable Area:** TBC acres

## Contextual Location Map




## Detailed Location Map


## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
Visual Resource Assessment | Appendix C, County Road 135 in the Township of Pleasant – Context Sheet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**Pleasant Prairie Solar**
Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 135 in the Township of Pleasant – Existing Conditions


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## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 135 in the Township of Pleasant – Visual Simulation


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## Pleasant Prairie Solar

Pleasant and Prairie Townships
Franklin County, Ohio
**Visual Resource Assessment** | Appendix C, County Road 135 in the Township of Pleasant – Visual Simulation – 5-7 Year Mitigation


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Visual Resource Assessment and Mitigation Plan
Pleasant Prairie Solar Energy Project

# APPENDIX D

## VISUALLY SENSITIVE RESOURCE ANALYSIS

| Visually Sensitive Resources | Location | | Distance | Project Visibility (Viewshed Results) |
|---|---|---|---|---|
| | Township | County | Miles from Nearest PV Array | + Visible - Not Visible +/- Partially Visible<br>DSM Viewshed (Topography, Structures, Vegetation) |
| **Properties of Historic Significance** | | | | |
| **National Historic Landmarks (NHL)** | | | | |
| None within VSA. | | | | |
| **Sites Listed on National or State Registers of Historic Places (NRHP/SRHP)** | | | | |
| Grant, A. G., Homestead | Jackson | Franklin | 4.58 | - |
| **Sites Eligible for Listing on NRHP or SRHP** | | | | |
| Thorn Apple Country Club & Golf Course | Prairie | Franklin | 1.89 | - |
| Ingalls Farmhouse | Prairie | Franklin | 0.86 | - |
| Seaman Store | Prairie | Franklin | 0.78 | - |
| Thompson Farmstead | Prairie | Franklin | 0.42 | + |
| O'Harra Farmstead | Prairie | Franklin | 0.16 | + |
| Kuntz Farmstead | Prairie | Franklin | 0.09 | + |
| Myers House | Pleasant | Franklin | 0.99 | - |
| Emmalhainz Farmstead | Pleasant | Franklin | 0.91 | + |
| Reibel Farmstead | Pleasant | Franklin | 0.32 | + |
| Reibel Farmstead | Prairie | Franklin | 0.77 | - |
| Courtright House | Prairie | Franklin | 0.75 | - |
| Fulton Bros Store | Prairie | Franklin | 0.74 | - |
| Peters House | Prairie | Franklin | 0.74 | - |
| Byrum House | Prairie | Franklin | 0.68 | - |
| Clay House | Prairie | Franklin | 0.55 | - |
| Clover Cemetery | Prairie | Franklin | 1.50 | - |
| Darby Dan Horse Farm | Prairie | Franklin | 0.40 | - |
| **National/State Historic Sites** | | | | |
| None within VSA. | | | | |
| **Ohio Historic Structures** | | | | |
| None within VSA. | | | | |
| **Historic Bridges** | | | | |
| Orient Bridge (SR 762 at Big Darby Creek, bypassed) | Darby | Pickaway | 5.00 | - |
| **OGS Cemeteries** | | | | |
| Alton Cemetery | Prairie | Franklin | 1.10 | +/- |
| Chenoweth Cemetery | Pleasant | Franklin | 3.71 | |
| Clime Cemetery | Franklin | Franklin | 4.16 | - |
| Clover Cemetery | Prairie | Franklin | 1.48 | - |
| Galloway Cemetery | Prairie | Franklin | 0.59 | +/- |
| Gundy Cemetery | Pleasant | Franklin | 0.99 | - |
| Hampton Cemetery | Jefferson | Madison | 2.70 | - |
| Oak Grove Cemetery | Pleasant | Franklin | 1.08 | - |
| Sunset Cemetery | Prairie | Franklin | 0.02 | +/- |
| **Ohio Historic State Markers** | | | | |
| None within VSA. | | | | |
| **Designated Scenic Resources** | | | | |
| **Rivers Designated as National or State Wild, Scenic or Recreational** | | | | |
| Big Darby Creek Scenic River | Jefferson, Brown, Prairie, Pleasant, Darby, Scioto | Madison, Franklin, Pickaway | 1.31 | - |
| Little Darby Creek Scenic River | Jefferson, Brown, Prairie, Pleasant, Darby, Scioto | Madison, Franklin, Pickaway | 1.31 | - |
| **Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic ([ECL Article 49 Title 1] or equivalent)** | | | | |

| Visually Sensitive Resources | Location | | Distance | Project Visibility (Viewshed Results) |
|---|---|---|---|---|
| | Township | County | Miles from Nearest PV Array | + Visible - Not Visible +/- Partially Visible<br>DSM Viewshed (Topography, Structures, Vegetation) |
| Historic National Road (US 40) | Jefferson, Prairie, Franklin | Madison, Franklin | 0.02 | +/- |
| **Scenic Areas of Statewide Significance [Article 42 of Executive Law]** | | | | |
| Big Darby Creek Scenic River Area | Jefferson, Brown | Madison, Franklin | 2.72 | - |
| Little Darby Creek Scenic River Area | Jefferson | Madison | 2.11 | - |
| **Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks)** | | | | |
| None within VSA. | | | | |
| **Public Lands and Recreational Resources** | | | | |
| **National Parks, Recreation Areas, Seashores, and/or Forests [16U.S.C. 1c]** | | | | |
| None within VSA. | | | | |
| **National Natural Landmarks [36 CFR Part 62]** | | | | |
| None within VSA. | | | | |
| **National Wildlife Refuges [16 U.S.C. 668dd]** | | | | |
| None within VSA. | | | | |
| **Heritage Areas [Parks, Recreation and Historic Preservation Law Section 35.15]** | | | | |
| None within VSA. | | | | |
| **State Parks [Parks, Recreation and Historic Preservation Law Section 3.09]** | | | | |
| None within VSA. | | | | |
| **State Nature and Historic Preserve Areas [Section 4 of Article XIV of the State Constitution]** | | | | |
| None within VSA. | | | | |
| **Wildlife Areas** | | | | |
| None within VSA. | | | | |
| **State Forest** | | | | |
| None within VSA. | | | | |
| **Other State Lands** | | | | |
| None within VSA. | | | | |
| **Designated Trails** | | | | |
| None within VSA. | | | | |
| **Local Parks and Recreation Areas** | | | | |
| Converse Park | Jefferson | Madison | 3.38 | +/- |
| Battelle Darby Creek Metro Park | Pleasant, Prairie | Franklin | 2.13 | +/- |
| Tinapple Park | Norwich | Franklin | 4.74 | - |
| Westwood Memorial Park | Jefferson | Madison | 3.79 | - |
| Garrette Park | Jefferson | Madison | 2.69 | +/- |
| Municipal Park and Pool | Norwich | Franklin | 5.37 | - |
| Hilliard Soccer Complex | Norwich | Franklin | 5.55 | - |
| Battelle Darby Creek Metro Park | Pleasant | Franklin | 2.13 | - |
| Crosscreek Park | Norwich | Franklin | 5.09 | - |
| Big Run Park | Franklin, Jackson | Franklin | 3.42 | - |
| Redick Park | Franklin | Franklin | 5.42 | - |
| North Franklin Elementary | Franklin | Franklin | 5.92 | - |
| Westmoor Park | Franklin | Franklin | 5.58 | - |
| Evans Park | Jackson | Franklin | 4.82 | - |
| Murfin Field | Jackson | Franklin | 4.69 | - |
| Westgrove Park | Jackson | Franklin | 3.15 | - |
| Fryer Park | Jackson | Franklin | 0.00 | - |
| Stephens Drive Park | Franklin | Franklin | 4.82 | - |
| Beacon Fields | Norwich | Franklin | 6.11 | - |

| Visually Sensitive Resources | Location | | Distance | Project Visibility (Viewshed Results) |
|---|---|---|---|---|
| | Township | County | Miles from Nearest PV Array | + Visible - Not Visible +/- Partially Visible |
| | | | | DSM Viewshed (Topography, Structures, Vegetation) |
| Conklin Park | Norwich | Franklin | 5.56 | - |
| Westgate Park | Franklin | Franklin | 5.12 | - |
| Green Countrie Park | Prairie | Franklin | 1.98 | - |
| Georgian Heights Park | Franklin | Franklin | 3.58 | - |
| Riverbend Park | Franklin | Franklin | 4.58 | - |
| Alt Field | Norwich | Franklin | 5.98 | - |
| Scioto Woods Park | Franklin | Franklin | 5.46 | - |
| Windsor Park | Jackson | Franklin | 4.18 | - |
| **Publicly Accessible Conservation Lands/Easements** | | | | |
| Johnson Road Riparian Protection Area | Prairie | Franklin | 0.46 | +/- |
| Hellbranch Run Riparian Corridor Protection | Prairie | Franklin | 0.12 | +/- |
| Wetlands Reserve Program (WRP) | Prairie | Franklin | 3.85 | +/- |
| Wetlands Reserve Program (WRP) | Jefferson | Madison | 3.85 | - |
| Wetlands Reserve Program (WRP) | Pleasant | Franklin | 3.85 | - |
| Wetlands Reserve Program (WRP) | Jefferson | Madison | 3.85 | - |
| **Named Lakes, Ponds, and Reservoirs** | | | | |
| Silver Creek Reservoir | Jefferson | Madison | 2.01 | - |
| Timber Lake | Pleasant | Franklin | 3.35 | - |
| Lake Forest | Jefferson | Madison | 4.29 | - |
| **High-Use Public Areas** | | | | |
| **State, US, and Interstate Highways** | | | | |
| State Route 3 | Darby, Pleasant, Jackson | Franklin, Pickaway | 4.15 | - |
| Interstate Route 70 | Jefferson, Brown, Norwich, Franklin | Madison, Franklin | 2.07 | +/- |
| U.S. Route 40 | Jefferson, Prairie, Franklin | Madison, Franklin | 0.02 | +/- |
| U.S. Route 62 | Darby, Pleasant, Jackon | Franklin, Pickaway | 4.15 | - |
| State Route 762 | Darby, Scioto | Pickaway | 4.83 | - |
| Interstate Route 71 | Darby, Pleasant, Jackson | Franklin, Pickaway | 3.78 | - |
| State Route 665 | Fairfield, Pleasant, Jackson | Madison, Franklin | 1.57 | +/- |
| Interstate Route 270 | Norwhich, Franklin, Jackson | Franklin | 3.66 | - |
| State Route 142 | Jefferson | Madison | 2.52 | - |
| State Route 29 | Jefferson | Madison | 6.17 | - |
| **Cities, Villages,** | | | | |
| Harrisburg(Village) (Village) | Pleasant, Darby | Franklin, Pickaway | 4.34 | - |
| Orient(Village) (Village) | Pleasant, Scioto | Franklin, Pickaway | 4.87 | - |
| Columbus (City) | Norwich, Franklin, Pleasant, Jackson, Prairie | Franklin | 0.37 | +/- |
| Urbancrest(Village) (Village) | Jackson | Franklin | 3.99 | - |
| West Jefferson(Village) (Village) | Jefferson, Brown, Prairie | Madison, Franklin | 1.07 | +/- |
| Grove City (City) | Pleasant, Jackson | Franklin | 2.66 | - |

| Visually Sensitive Resources | Location | | Distance | Project Visibility (Viewshed Results) |
|---|---|---|---|---|
| | Township | County | Miles from Nearest PV Array | + Visible - Not Visible +/- Partially Visible |
| | | | | DSM Viewshed (Topography, Structures, Vegetation) |
| Hilliard (City) | Brown, Norwich | Franklin | 3.48 | - |
| **Schools** | | | | |
| Norwood Elementary School | Jefferson | Madison | 4.05 | - |
| Lilly Chapel School (historical) | Fairfield | Madison | 4.89 | - |
| West Jefferson High School | Jefferson | Madison | 3.25 | - |
| Brown Elementary School | Brown | Franklin | 3.02 | - |
| Hilliard Bradley High School | Brown | Franklin | 3.36 | - |
| Darbydale Elementary School | Pleasant | Franklin | 1.61 | - |
| Pleasant View High School | Pleasant | Franklin | 0.32 | - |
| Pennsylvania School (historical) | Pleasant | Franklin | 1.53 | - |
| Alton-Hall Elementary School | Prairie | Franklin | 0.53 | - |
| Harrisburg Elementary School | Pleasant | Franklin | 4.62 | - |
| Horizon Elementary School | Norwhich | Franklin | 1.82 | - |
| Scioto Darby Elementary School | Norwhich | Franklin | 4.88 | - |
| Pisgah School (historical) | Pleasant | Franklin | 2.15 | - |
| Hilliard Crossing Elementary School | Norwhich | Franklin | 4.32 | - |
| Westland High School | Prairie | Franklin | 1.71 | - |
| Miller School (historical) | Pleasant | Franklin | 4.05 | - |
| Norton Junior High School | Prairie | Franklin | 2.12 | - |
| Saint Cecelia School | Prairie | Franklin | 2.28 | - |
| Prairie-Norton Elementary School | Prairie | Franklin | 2.14 | - |
| Prairie-Lincoln Elementary School | Prairie | Franklin | 2.50 | - |
| Stiles Elementary School | Prairie | Franklin | 2.99 | - |
| Georgian Heights School | Franklin | Franklin | 4.08 | - |
| Eakin Elementary School | Franklin | Franklin | 4.41 | - |
| Wedgewood Middle School | Franklin | Franklin | 4.46 | - |
| West Franklin Elementary School | Franklin | Franklin | 4.53 | - |
| Columbus Preparatory Academy | Franklin | Franklin | 4.83 | - |
| The Villa Madonna School (historical) | Franklin | Franklin | 4.85 | - |
| Franklin Heights High School | Franklin | Franklin | 4.63 | - |
| Kingston School | Jackson | Franklin | 4.40 | - |
| Park Street Middle School | Jackson | Franklin | 4.44 | - |
| Our Lady of Perpetual Help School | Jackson | Franklin | 4.41 | - |
| Sommer Elementary School | Jackson | Franklin | 4.64 | - |
| Southwestern Technical School | Jackson | Franklin | 4.76 | - |
| Westside Christian Academy | Franklin | Franklin | 5.19 | - |
| Richard Avenue Elementary School | Jackson | Franklin | 4.77 | - |
| Brookpark Junior High School | Jackson | Franklin | 4.93 | - |

Summary: Application - 13 of 25 (Exhibit J - Viewshed Analysis, Aesthetic Resources Inventory, and Glare Analysis) electronically filed by Christine M.T. Pirik on behalf of Pleasant Prairie Solar Energy LLC