Visual Resource Assessment

Arche Solar

Gorham Township, Fulton County, Ohio

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1.0 INTRODUCTION

1.1 Purpose of the Investigation

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) was retained by 7X Energy, Inc. (the Applicant) to prepare a Visual Resource Assessment (VRA) for Arche Solar (the Project), a 107-MW solar-powered electric generation facility proposed to be located in Gorham Township, Fulton County, Ohio (see Figure 1.1).

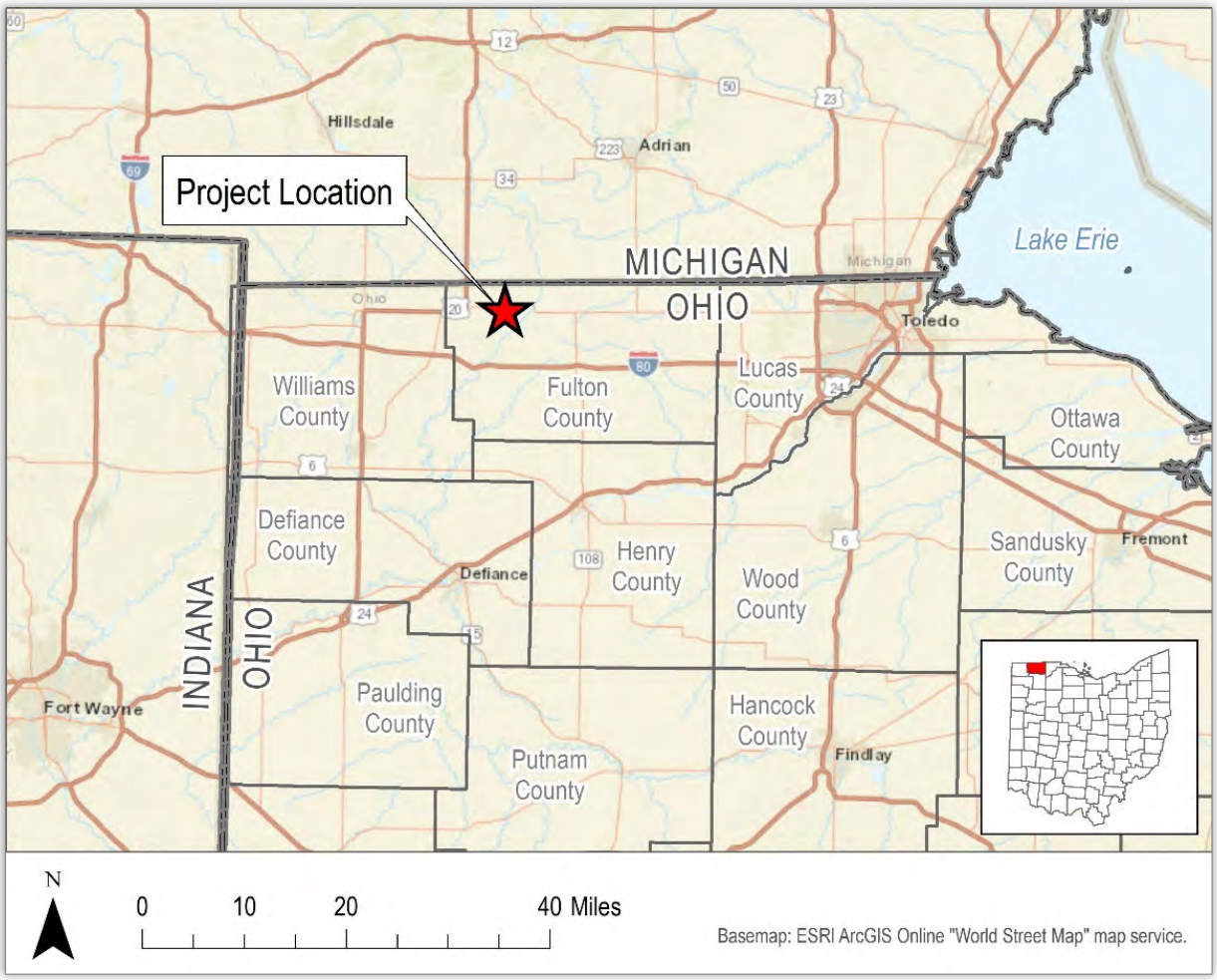

Figure 1.1. Regional Context Map

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 these requirements, 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 proposed mitigation measures considered to reduce/minimize potential visual impacts.

This VRA was prepared by a team of experienced visual resource assessment experts in accordance with the policies, procedures, and guidelines contained in established visual resource assessment methodologies.

1.2 Project Location and Description

The Project is proposed to be located on 16 parcels of private agricultural land in Gorham Township in Fulton County, Ohio. The parcels being considered for construction of the Project total approximately 1,010 acres (Project Area). However, it is anticipated that only approximately 650 acres will be occupied by the operational Project (Facility Area).

The proposed Project is a solar-powered electric generation facility with a generating capacity of up to 107 MW. The Project will use arrays of ground-mounted photovoltaic (PV) modules, commonly known as solar panels, to provide renewable energy to the Ohio bulk power transmission system to serve the needs of electric utilities and their customers. Solar panels will be affixed to a 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 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. When no sun is present, the panels will return to a horizontal stow position of 0 degrees. 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 collection substation, which will step-up the voltage in order to allow connection to the regional electrical grid via a short generation tie line (gen-tie). Associated support facilities include gravel access roads and meteorological stations within the arrays. The preliminary location of proposed Project components is illustrated in Figure 1.2.

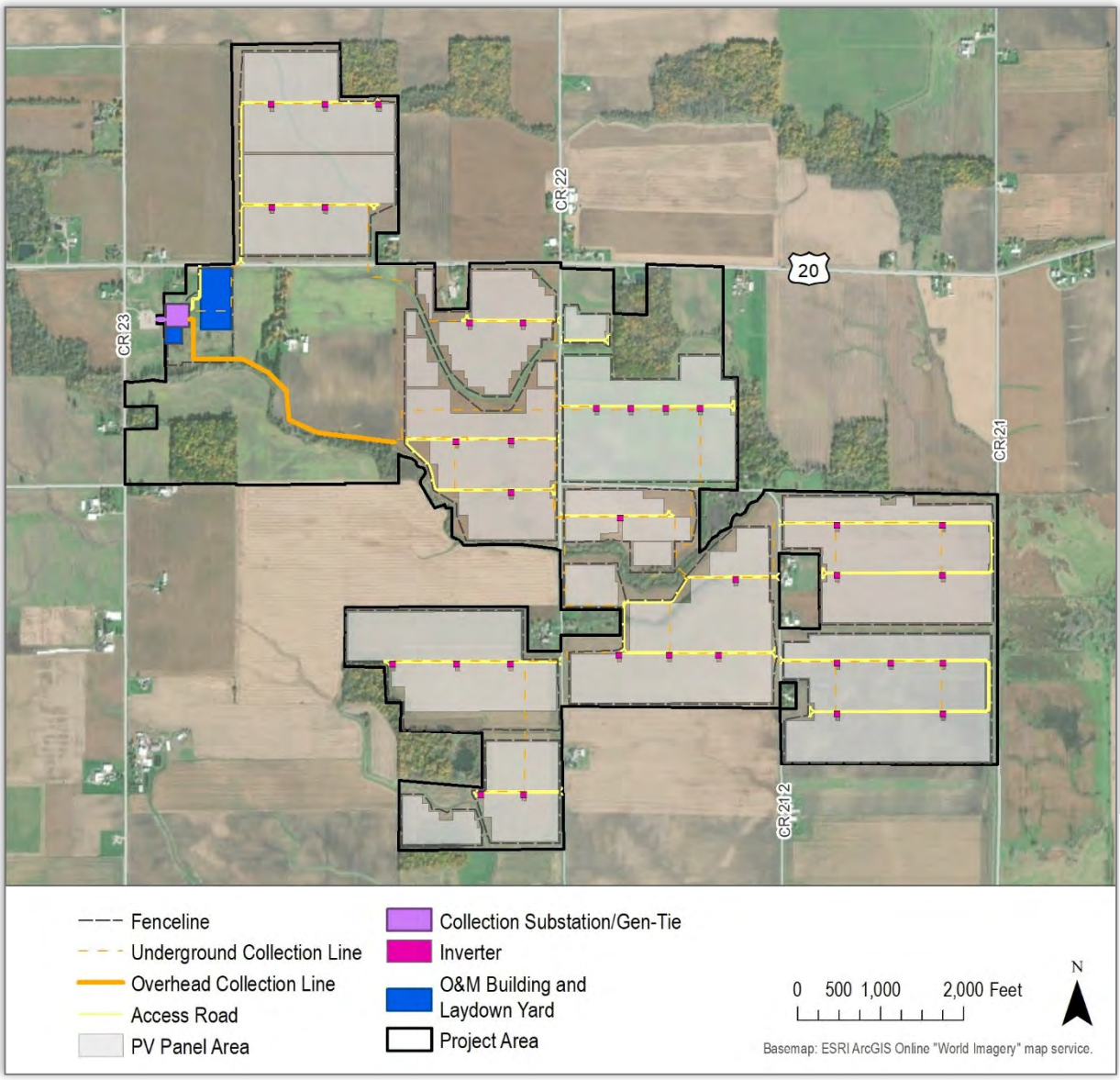

Figure 1.2. Preliminary Project Layout Map

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 VSA 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 indicates that areas of potential Project visibility, where the greatest number of PV panels will potentially be visible, are concentrated within 0.5 mile

of the Project Area. However, in places, these areas of potential visibility extend beyond 1.5 miles, and out to 4 miles in the southeast portion of the VSA. Only very small corridors of potential visibility extend to 5 miles from the Project. As such, it was determined that a 5-mile radius from the Project would be a sufficient VSA for the purposes of this study. However, because this analysis is limited to the state of Ohio, the northern boundary of the VSA follows the Ohio/Michigan state line, which lies 1.8 miles north of the Project Area. The resulting VSA encompasses a total of approximately 88.9 square miles. The location and extent of the VSA area is illustrated in Figure 1.3.

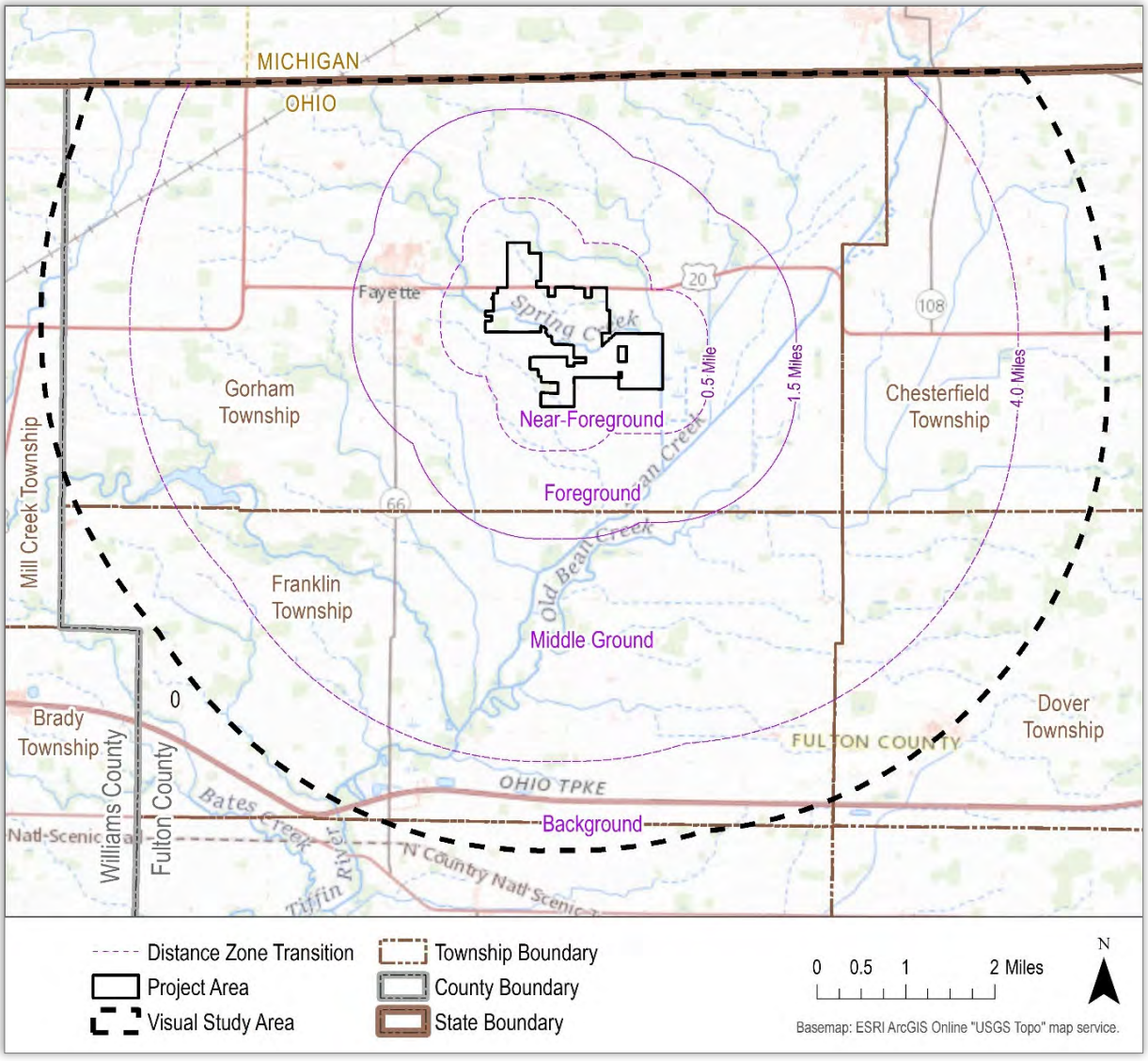

Figure 1.3. Visual Study Area

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. Landscape types (LTs) within the VSA were categorized based on the similarity of various features, including landform, vegetation, water, and/or land cover patterns, in accordance with established visual resource assessment methodologies (Smardon et al., 1988; USDA Forest Service, 1995; USDOT Federal Highway Administration, 1981; USDI Bureau of Land Management, 1980). The USGS National Land Cover Database (NLCD) was used to help define the character and location of various LTs within the VSA (see Figure 1.4). The landscape types defined within the VSA are presented in Table 1.1.

Table 1.1. Landscape Types Within the Visual Study Area

Landscape Type	Total Area of LT within the Visual Study Area (mi^2)	Percent of Total Area within Visual Study Area
Pasture and Cropland	76.0	85.5%
Forest	3.1	3.5%
Developed	4.7	5.3%
Wetlands	4.3	4.9%
Open Water	0.3	0.3%
Grassland	0.1	0.1%
Shrub/Scrub	0.4	0.4%
Total	88.9	100.0%

The Project components are proposed to be built almost entirely within the Pasture and Cropland LT, which makes up 85.5% of the VSA. This landscape type is likely to have the greatest opportunities for views of the Project. The Forest LT, which makes up 3.5% of the VSA, also occurs adjacent to the Project, but is largely concentrated northwest and southeast of the Project. By its very nature, views from within the Forest LT are typically limited by the presence of dense vegetation. Developed land, which makes up 5.3% of the VSA and includes the village of Fayette and hamlet of Tedrow, typically has limited outward views due to the presence of closely situated buildings, landscaped yards/planted vegetation, utility poles, and other visual clutter. The Developed LT also includes the Harrison Lake State Park campground facilities, which are bounded by densely forested areas which significantly limit long distance views. The Open Water and Wetlands LTs are scattered throughout the VSA and collectively make up approximately about 5.2% of the land area. These LTs are primarily concentrated in the southeastern portion of the VSA

(associated with Tiffin River, Stag Run, and Bean Creek), where long-distance views are typically limited due to the presence of tree-lined riverbanks and adjacent forested slopes.

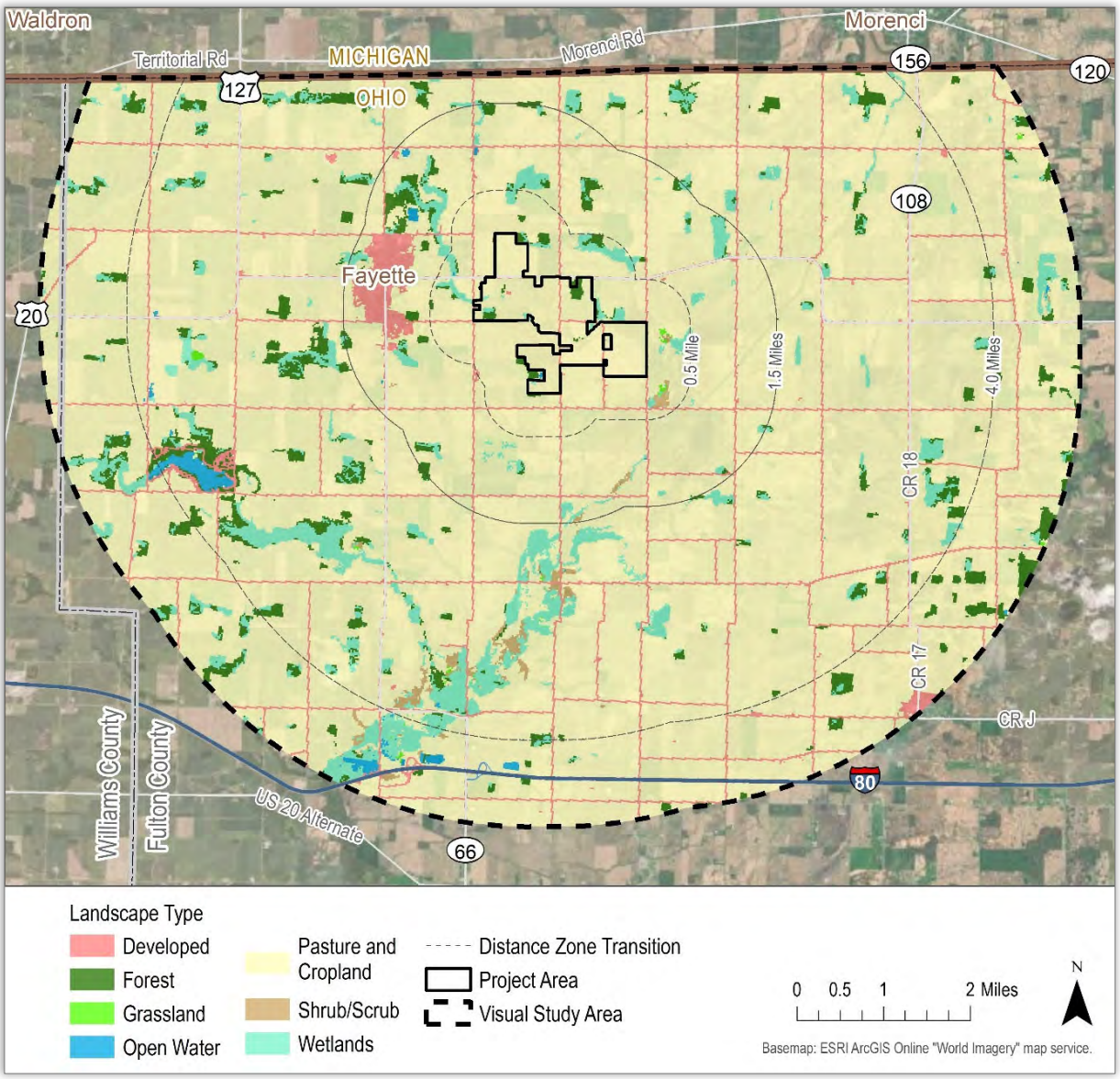

Figure 1.4. Landscape Types Within the Visual Study Area

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, EDR 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, EDR 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. The Pasture and Cropland LT makes up between 83.8% and 87.6% of each of the distance zones. Also, of note, the Developed Land LT, where the majority of VSRs and viewers occur, makes up less than 8.5% all of the distance zones within the VSA.

Table 1.2. Distance Zones by Landscape Type

Landscape Type	Total Area of Landscape Type and Percent of Distance Zone[1]			
	Near-Foreground (0 – 0.5 mile)	Foreground (0.5 – 1.5 miles)	Middle Ground (1.5 – 4.0 miles)	Background (4.0 – 5.0 miles)
Pasture and Cropland	5.4 mi^2 (87.6%)	10.6 mi^2 (83.8%)	40.2 mi^2 (85.8%)	19.9 mi^2 (85.4%)
Forest	0.2 mi^2 (2.5%)	0.4 mi^2 (2.9%)	1.6 mi^2 (3.4%)	1.0 mi^2 (4.2%)
Developed Land	0.3 mi^2 (4.6%)	1.1 mi^2 (8.4%)	2.0 mi^2 (4.3%)	1.3 mi^2 (5.8%)
Wetlands	0.3 mi^2 (4.5%)	0.6 mi^2 (4.4%)	2.6 mi^2 (5.6%)	0.9 mi^2 (3.9%)
Open Water	<0.1 mi^2 (0.1%)	<0.1 mi^2 (0.2%)	0.2 mi^2 (0.3%)	0.1 mi^2 (0.5%)
Grassland/Herbaceous	<0.1 mi^2 (0.2%)	-	<0.1 mi^2 (0.1%)	<0.1 mi^2 (0.1%)
Shrub/Scrub	<0.1 mi^2 (0.6%)	<0.1 mi^2 (0.2%)	0.2 mi^2 (0.5%)	<0.1 mi^2 (0.2%)
Total Area[2]	6.1 mi^2	12.6 mi^2	46.8 mi^2	23.3 mi^2

[1]The calculations used to generate this table were based on unrounded numbers; therefore, the rounded results may not add up precisely.
[2]The VSA includes approximately 88.9 square miles, or approximately 56,877 acres.

1.2.4 Visually Sensitive Resources

VSRs within the VSA were identified per the requirements of OAC 4906-04-08(D). The categories of VSRs that would be typically 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.

Table 1.3 provides the number of each type of identified VSRs within the VSA.

Table 1.3. Visually Sensitive Resources

Type of Visually Sensitive Resource	Number Identified within the Visual Study Area
Properties of Historic Significance	146
Designated Scenic Resources	0
Public Lands and Recreational Resources	21
High Use Public Areas	7
Total	174

The locations of mapped VSRs within the VSA are illustrated in Figure 1.5. Additional information regarding the specific VSRs included in the VSA, and potential Project visibility from these VSRs, is included in Section 2.1.3 and Appendix E.

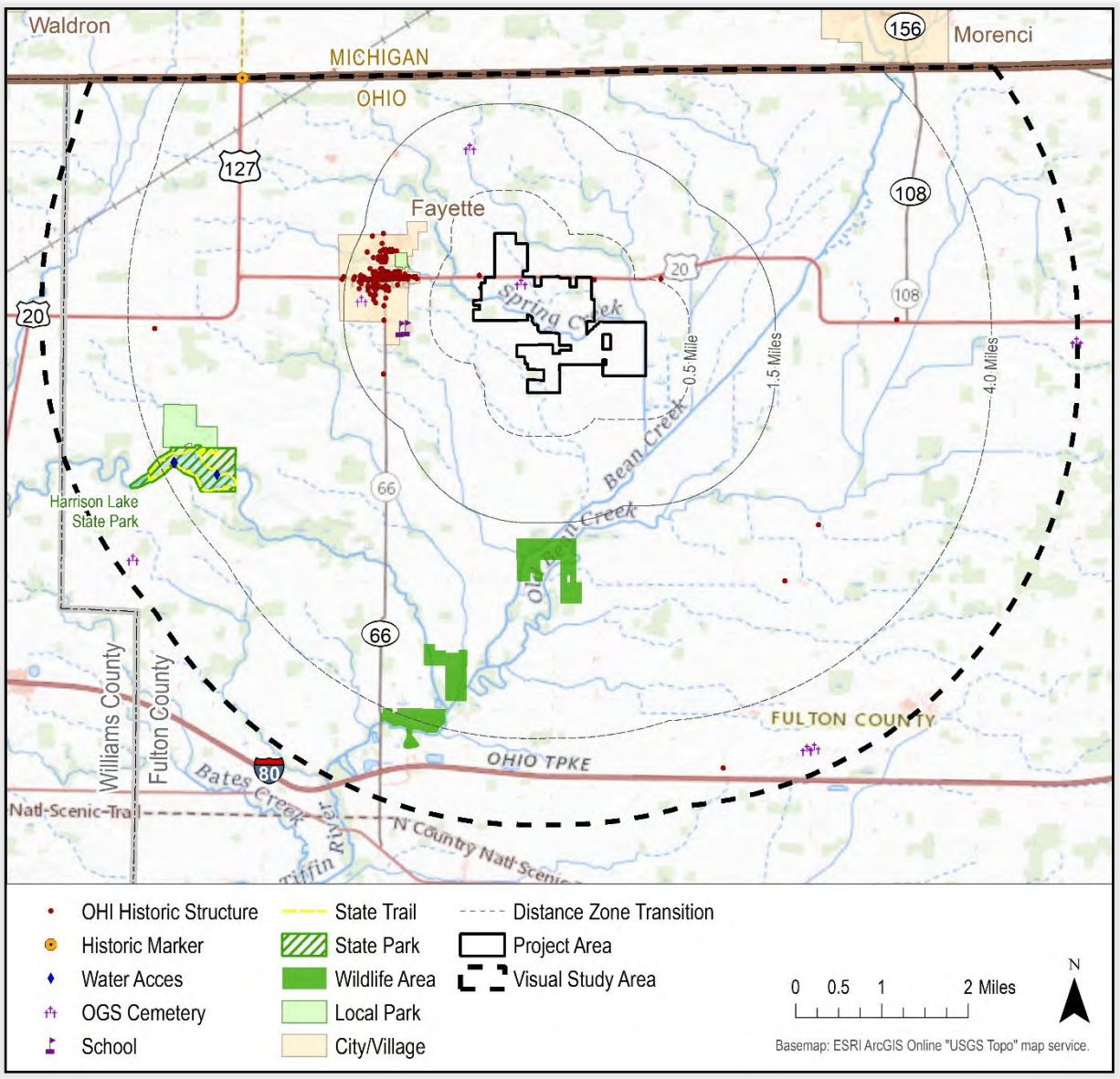

Figure 1.5. Location of Visually Sensitive Resources

2.0 VISUAL RESOURCE ASSESSMENT

The specific techniques used to assess potential Project visibility and visual effects, along with the results of those assessments, are described below.

2.1 Viewshed Analysis

2.1.1 Viewshed Methodology

PV Panel 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) 2006 lidar data for Fulton County, Ohio; 2) sample points representing solar panel locations; 3) an assumed maximum solar panel height of 14 feet; 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 200 feet apart in a grid pattern throughout all proposed array locations within the Facility Area.

The viewshed analysis was conducted to incorporate the screening effects of topography, structures, and vegetation by using the OSIP 2006 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 these lidar data, which include the elevations of buildings, trees, and other objects large enough to be resolved by lidar technology. Transmission lines that were reflected in these lidar data were removed from the resulting DSM and road centerlines were buffered by 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. All 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 certain characteristics of the Project and the VSA that may serve to restrict visibility (e.g., color, atmospheric/weather conditions, and distance from viewer) are not taken into consideration in the viewshed analysis. As such, being located within the DSM viewshed does not necessarily equate to actual Project visibility, nor does it indicate that adverse visual impacts will occur within these geographic locations.

Above-Ground Electrical Component Viewshed Analysis

DSM viewshed maps also were prepared for the collection substation, gen-tie, and overhead collection line. Because the precise locations of the above-ground electrical components are not known at this time, the analysis was run based on the following representative points for each of the components: five representative points within the proposed collection substation footprint, each with the assigned maximum height matching that of the proposed lightning masts (60 feet); two points at a height of 100 feet located adjacent to and between the existing POI substation and the proposed collection substation, to represent the gen-tie structures; and nine overhead collection line poles, each at a height of 40 feet. All other data sources and assumptions used in the electrical component viewshed analysis are as described above for the PV panel viewshed analysis.

2.1.2 Viewshed Results

PV Panel Viewshed Analysis

Potential visibility of the proposed solar panels, as indicated by the DSM viewshed analysis, is illustrated in Figures 2.1 and 2.2, and summarized in Table 2.1. As indicated by this analysis, the Project will be screened from approximately 73.3% of the VSA by intervening topography, vegetation, and structures.

Table 2.1. PV Panel Viewshed Analysis Results Summary

Analysis	VSA	Visibility by Distance Zone[1]			
		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	88.9 mi^2	6.1 mi^2	12.6 mi^2	46.8 mi^2	23.3 mi^2
DSM Viewshed Visibility	23.7 mi^2 (26.7%)	5.2 mi^2 (85.2%)	6.1 mi^2 (48.4%)	10.3 mi^2 (22.0%)	2.1 mi^2 (9.0%)

[1]The calculations used to generate this table were based on unrounded numbers; therefore, the rounded results may not add up precisely.

The majority of PV panel visibility is concentrated within the near-foreground distance zone, with 85.2% 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 (0.5-1.5 miles) are more well screened, with only 48.4% of the foreground distance zone indicated as having the potential for views of the PV panels. The DSM viewshed analysis indicates that potential Project visibility is further reduced at distances beyond the foreground. Approximately 78% of the VSA is screened from view of the PV panels in the middle ground (at distances between 1.5 and 4 miles) and at background distances, the viewshed analysis suggests the Project could be visible from only about 9.0% of the area between 4 and 5 miles away.

The topography and vegetation associated with several tributaries to the Tiffin River including Spring Creek, Deer Creek, and Bean Creek play a significant role in limiting potential PV panel visibility within the VSA. The narrow valley between Spring Creek and a smaller tributary to the north and east of the Project define an area of concentrated visibility within the near-foreground extending from the northwest to the southeast. Toward the southeastern edge of the Project, Spring Creek and Deer Creek flow southward for approximately 1.5 miles to their confluence with Bean Creek. Due to the orientation of these two creeks, and that of Bean Creek, visibility is concentrated in the southeastern portion of the VSA. The topography associated with Bean Creek, which flows approximately 3.4 miles from northeast to southwest through the southeastern portion of the VSA, includes a broad valley of open agricultural land extends to the southeast from Bean Creek and provides a large area of potential visibility up to 4 miles from the Project. Smaller, less concentrated areas of potential PV panel visibility are defined by the drainage areas between Bean Creek and the Tiffin River south of the Project.

Potential PV panel visibility within the various LTs, as predicted by the DSM viewshed analysis, is summarized in Table 2.2 and discussed below.

Table 2.2. Landscape Types Viewshed Analysis Results Summary

Analysis	VSA	Landscape Type[1]						
		Developed	Forest	Grassland	Open Water	Pasture and Cropland	Shrub/ Scrub	Wetlands
Total Area (acres)	56,877	3,024	1,993	33	202	48,636	216	2,774
DSM Viewshed Visibility (acres)	15,159 (26.7%)	677 (24.6%)	14 (0.8%)	10 (33.3%)	2 (1.0%)	13,127 (29.4%)	43 (20.8%)	60 (2.4%)

[1]The calculations used to generate this table were based on unrounded numbers; therefore, the rounded results may not add up precisely.

The greatest potential for visibility of the proposed solar arrays is indicated within the Grassland LT; however, this LT makes up just 0.1% of the VSA. The DSM viewshed indicates that 29.4% of the Pasture and Cropland LT could potentially offer views of the proposed PV panels. Visibility within this LT is most heavily concentrated in the near-foreground and foreground distance zones. More distant crop fields and pastureland are often screened from view of the Project by intervening woodlots and hedgerows. Additionally, the Shrub/Scrub LT is indicated by the DSM viewshed to have 20.8% potential visibility; these areas are concentrated along stream/creek corridors and are generally adjacent to wetland areas and are unlikely to provide significant opportunities for viewing the broader landscape.

The potential for solar array visibility is indicated in approximately 24.6% of the Developed LT. The portions of this LT that may have views of the proposed PV panels are concentrated in the foreground distance zone, primarily at the edge of the Village of Fayette where adjacent agricultural fields allow for long-distance views.

The potential for PV panel visibility is indicated in approximately 0.8% of the Forest LT. Visibility may occur in small breaks or clearings in the forest vegetation. Visibility within this zone occurs most frequently along the forest edges where abutting open fields (sometimes occupied by the Project) 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.

Wetlands (2.4%) and Open Water (1.0%) exhibit limited potential visibility, with visibility varying considerably based on proximity to the Project, elevation, and orientation.

Figures 2.1 and 2.2 illustrate the results of the DSM viewshed analysis for a 5-mile radius and a 1.5-mile focused radius, respectively. As these figures illustrate, visibility beyond a 2-mile radius will be

primarily limited to a broad corridor that extends to the southeast. Another more limited band of potential visibility extends from the southwest to the northeast following Bean Creek. These figures illustrate the areas of more concentrated visibility associated with Spring Creek, Deer Creek, Bean Creek, and the Tiffin River. The viewshed maps also illustrate how potential views of the Project will include a smaller portion of the proposed PV panel arrays as one moves further away from the Project.

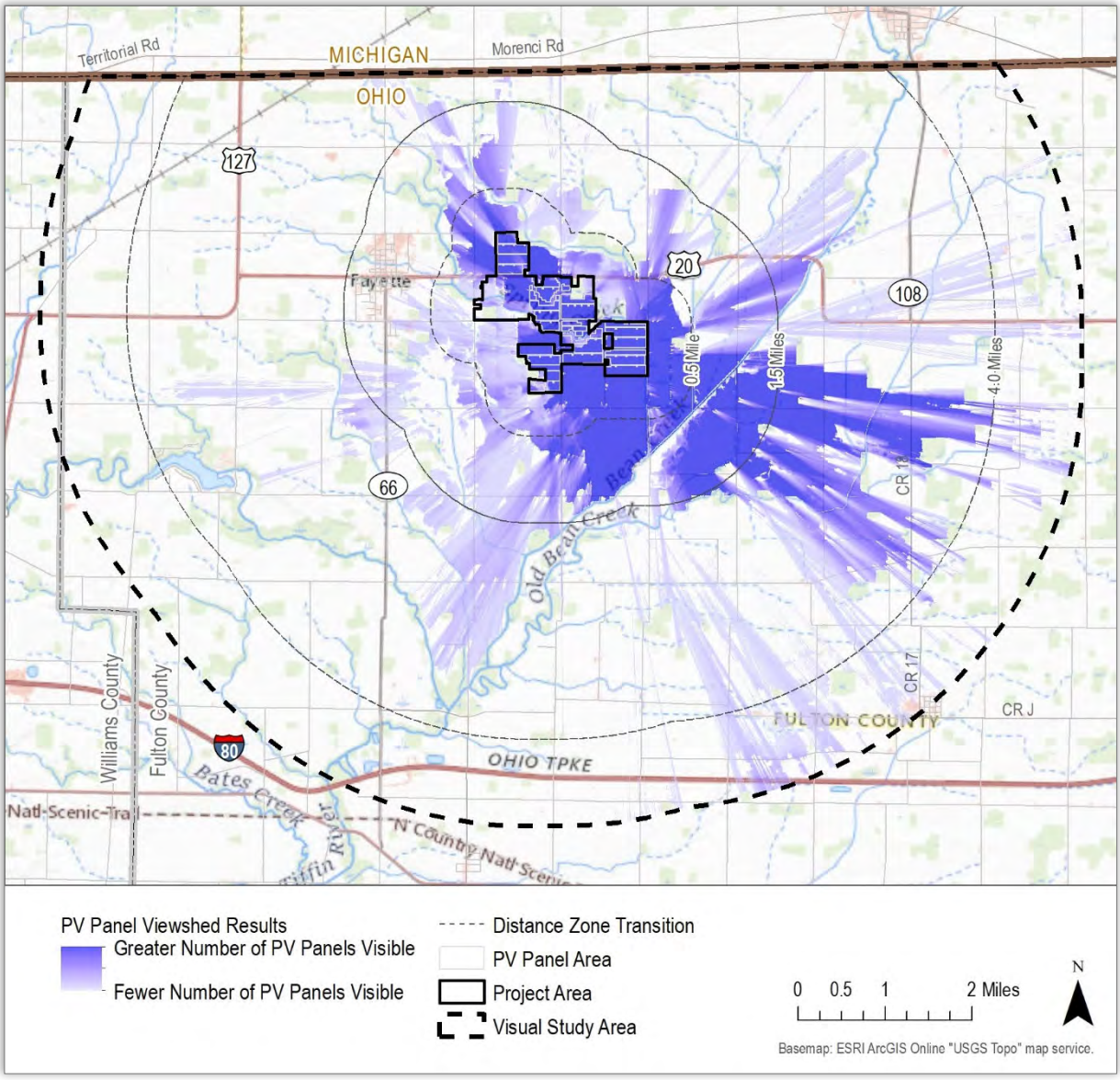

Figure 2.1. PV Panel Viewshed Analysis Results Within the VSA

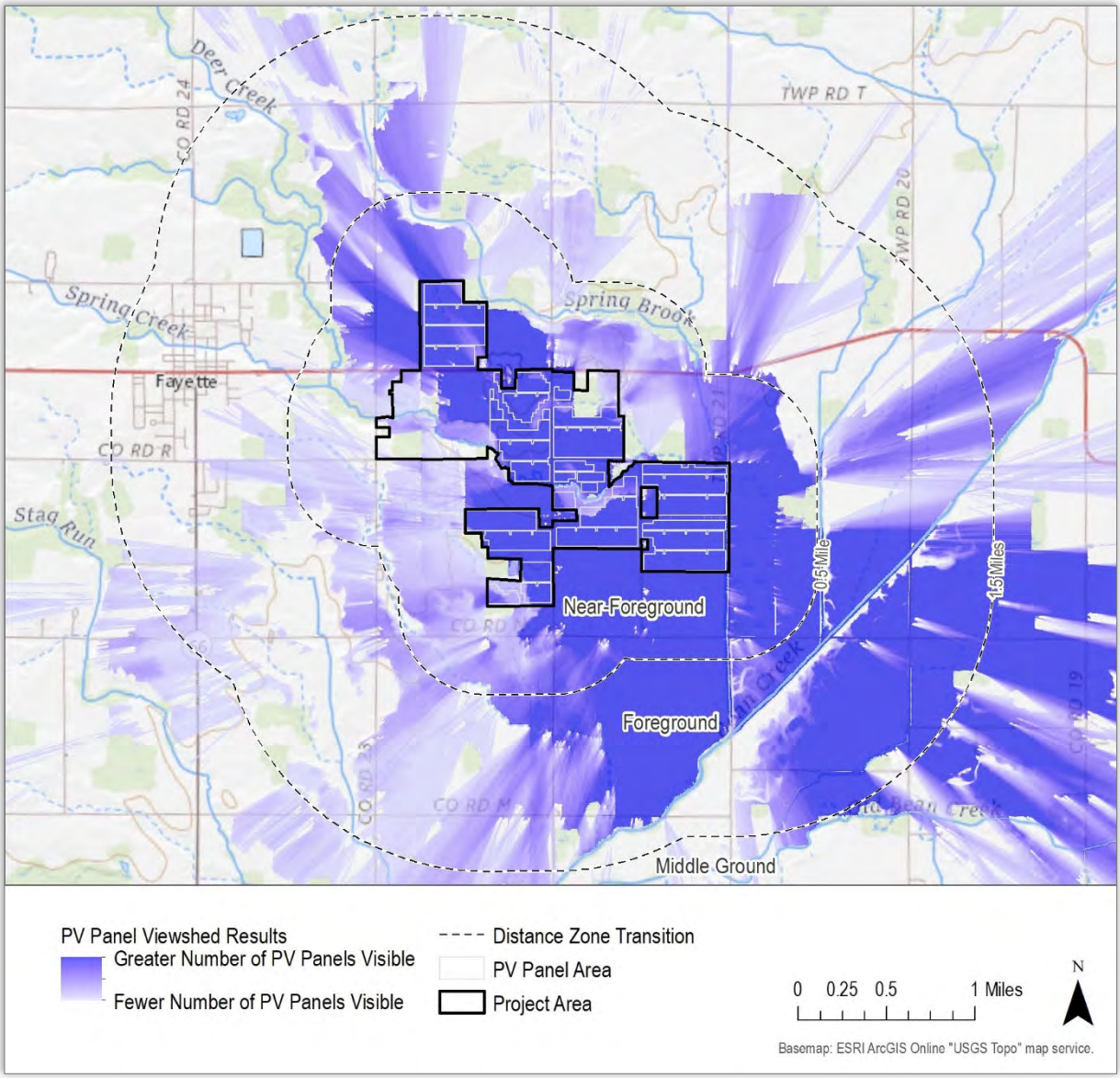

Figure 2.2. PV Panel Viewshed Analysis Results Within the Foreground Distance Zone

Above-Ground Electrical Component Viewshed Analysis

Potential visibility of the above-ground electrical components, as indicated by the viewshed analysis, is illustrated in Figure 2.3, and summarized in Table 2.3, below. As indicated by this analysis, these Project components will be screened from approximately 83.9% of the VSA by intervening landforms, vegetation, and structures.

Table 2.3. Above-Ground Electrical Component Viewshed Analysis Results

Analysis	VSA	Distance from Project			
		Near-Foreground 0-0.5 Mile	Foreground 0.5-1.5 Miles	Middle Ground 1.5-4.0 Miles	Background 4.0-5.0 Miles
Total Area (mi^2)	88.9	6.1	12.6	46.8	23.3
DSM Viewshed Visibility (mi^2)	15.3 (17.2%)	3.2 (52.2%)	4.4 (34.8%)	6.2 (13.3%)	1.5 (6.2%)

[1]The calculations used to generate this table were based on unrounded numbers; therefore, the rounded results may not add up precisely.

Potential above-ground electrical component visibility is indicated in areas similar to what was described for the PV panels, with tributaries to the Tiffin River including Spring Creek, Deer Creek, and Bean Creek playing a significant role in limiting potential visibility within the VSA. However, potential visibility to the south, in the drainage area between Bean Creek and the Tiffin River, is more pronounced, and visibility is more uniformly distributed for these Project components, as compared to the PV panels. The majority of visibility is still located within 1.5 miles of the above-ground electrical components, with views concentrated from the northwest through the southeast; and again, with more pronounced visibility southward. The viewshed analysis shows more areas of potential visibility in the background distance zone where the height of the lightning masts and gen-tie structures would allow views of these Project components where the lower solar panels will generally be well screened. The above-ground electrical components will be most visible to travelers along County Road 23 where it passes the proposed collection substation site. This visibility diminishes quickly with distance and will be minimal to negligible in the background distance zone.

It is important to keep in mind that the above-ground electrical component viewshed analysis presents theoretical visibility. It ignores the narrow profile and neutral color of the masts, gen-tie, and overhead collection line structures. These features will likely make these structures difficult to discern at distances beyond the foreground.

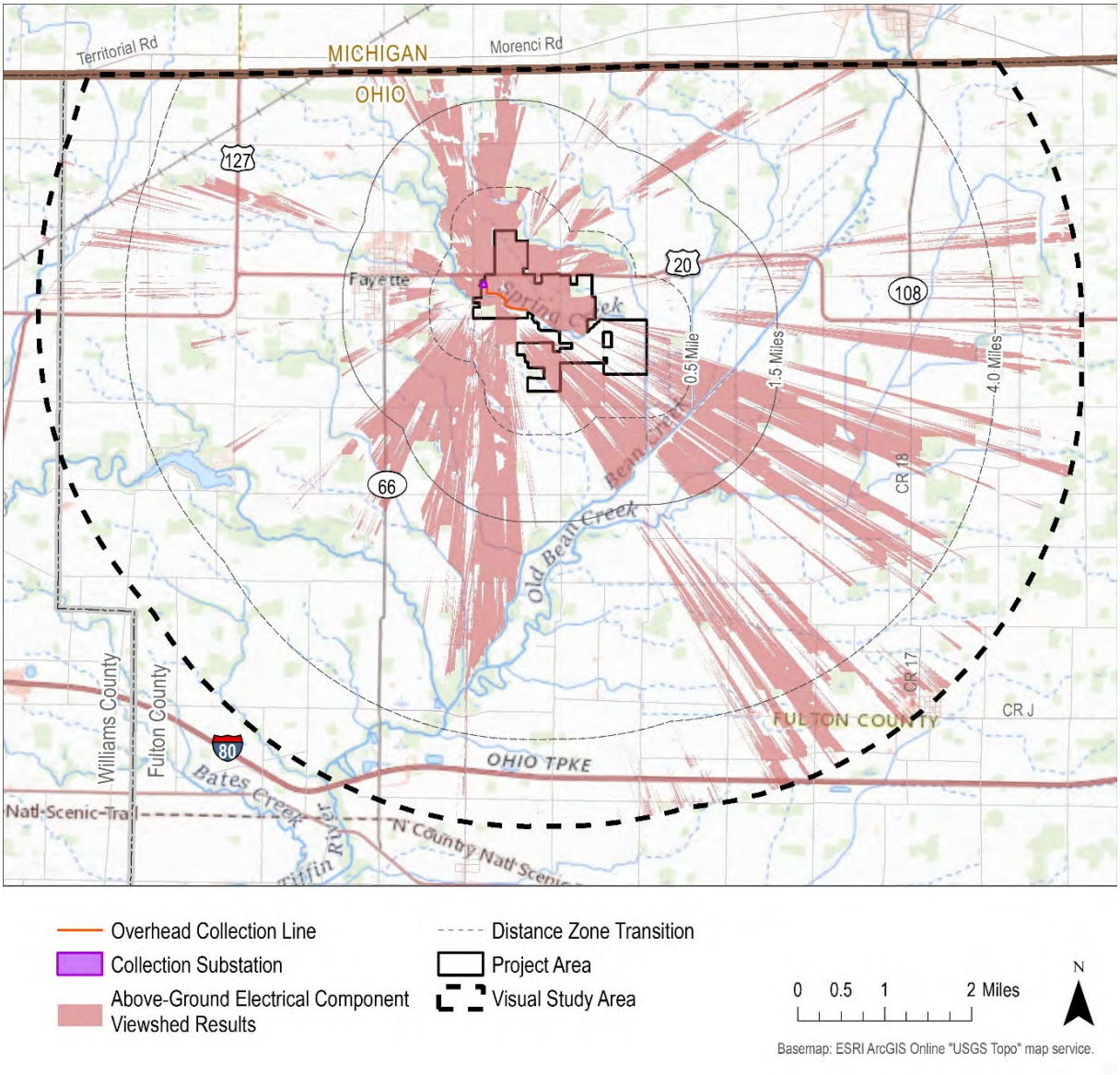

Figure 2.3. Above-Ground Electrical Component Viewshed Analysis Results

2.1.3 Visibility Results from Visually Sensitive Resources

The DSM viewshed analysis suggests that 32 of the 174 VSRs identified within the VSA (18%) may have some level of PV panel visibility (see Table 2.4).

Table 2.4. Visually Sensitive Resources in the PV Panel Viewshed

Visually Sensitive Resources	Total Number of Resources within the VSA	Total Number of Resources with Visibility
Properties of Historic Significance	**Total 146**	**Total 15**
National/State Historic Landmarks	0	0
National/State Historic Sites	0	0
Sites Listed on National or State Registers of Historic Places (NRHP/SRHP)	0	0
Sites Eligible for Listing on NRHP or SRHP	0	0
Ohio Historic Structures	138	11
Historic Bridges	0	0
OGS Cemeteries	7	4
Ohio Historic State Markers	1	0
Designated Scenic Resources	**Total 0**	**Total 0**
Rivers Designated as National or State Wild, Scenic or Recreational	0	0
Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic	0	0
Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks)	0	0
Public Lands and Recreational Resources	**Total 21**	**Total 12**
National Parks, Recreation Areas, Seashores, and/or Forests	0	0
National Natural Landmarks	0	0
National Wildlife Refuges	0	0
Heritage Areas	0	0
State Parks	1	1
State Nature Preserves	0	0
Wildlife Areas	1	1
State Forests	0	0
State Fishing/Waterway Access	3	0
Other State Lands	0	0
Trails	3	0
Local Parks and Recreation Areas	2	2
Publicly Accessible Conservation Lands/Easements	0	0
Rivers and Streams with Public Fishing Access	10	8
Named Lakes, Ponds, and Reservoirs	1	0
High-Use Public Areas	**Total 7**	**Total 5**
State, US, and Interstate Highways	4	2
Schools	2	2
Cities, and Villages	1	1
Total	**174**	**32**

The section below describes the individual VSRs with potential PV panel visibility that occur within the VSA, their distance from the Project, and potential views of the proposed PV panels based on the DSM viewshed results.

Properties of Historic Significance

Ohio Historic Structures

Of the 138 Ohio Historic Structures within the VSA, 11 are indicated as having potential Project visibility, primarily within the near-foreground and foreground distance zones. Much of these zones are open agricultural fields and proposed mitigation screen plantings are not taken into consideration in the viewshed analysis. Resources in the foreground distance zones anticipated to have views of the greatest number of panel arrays are located to the northwest of the Project Area, primarily along the eastern edge of the Village of Fayette. Three Ohio Historic Structures are located in the middle ground distance zone and one in the background distance zone. However, at these distances the effects of visibility will be softened, and vegetation on the horizon will make distinguishing individual components of the Project more difficult. Resources anticipated to have PV panel visibility, along with their distance from the Project, are listed below:

Near-foreground Distance Zone:

- Brehm Farm; 0.06 mile
- Keefer Farm; 0.01 mile
- Kunkle Farm; 0.03 mile

Foreground Distance Zone:

- Fayette High & Elementary Schools; 1.01 miles
- Daryl Hayward House; 1.13 miles
- Star Dog Food Building; 1.14 miles
- Harold Weber St; 1.22 miles
- Amos Woolace House; 1.50 miles

Middle Ground Distance Zone:

- Howard Residence; 2.61 miles
- Vivian Farm; 2.89 miles
- Edward Eisel Farm; 3.45 miles

Background Distance Zone:

- Perlatti Residence; 4.60 miles

OGS Cemeteries

Of the seven OGS Cemeteries within the VSA, four are indicated as having potential Project visibility. The viewshed analysis predicts that Coffin Cemetery, located in the near-foreground distance (<0.5 mile) zone, will have open and direct visibility of PV panels. The near-foreground distance zone is primarily characterized by open agricultural fields. Resources located within the foreground distance zone (>0.5 mile and <1.5 mile) will have pockets of visibility. Full views of the Project are limited by existing vegetative screening. Clark Cemetery, located in the background distance zone, will have extremely limited pockets of visibility. Visibility is softened at this distance and vegetation on the horizon will make distinguishing individual components of the Project difficult. Cemeteries anticipated to have visibility along with their distance from the Project are listed below:

Near-foreground Distance Zone:

- Coffin Cemetery; 0.01 mile[1]

Foreground Distance Zone:

- Snow Union Cemetery; 1.03 miles

Background Distance Zone:

- Ayers Cemetery, 4.73 miles
- Smith Cemetery; 4.69 miles

<u>Public Lands and Recreational Resources</u>

State Parks

Harrison Lake State Park, a popular area for swimming, fishing, camping, and canoeing, is located approximately 3.42 miles from the nearest Project component within the middle ground distance zone. Visibility of the PV panels would likely occur through intermittent breaks in existing vegetative screening, or at the edge of the densely forested perimeter of the park. Considering the distance between the Project and these areas where the Project is anticipated to be visible, it will be difficult for a viewer to distinguish Project components from existing landscape features.

Wildlife Areas

Tiffin River Wildlife Area is a non-contiguous 465-acre State Wildlife Management Area (WMA) located approximately 1.7 miles southwest of the Project. Visibility of the PV panels is anticipated along the northern edges of the WMA across open agricultural fields. Views are not anticipated interior to these densely wooded areas.

[1] Indicated to have been relocated

Local Parks and Recreation Areas

Normal Park is located approximately 0.93 mile northwest of the closest Project component. Visibility from the majority of this site is obscured by topography and intervening vegetation with narrow corridors of potential visibility softened by intervening vegetation and visual distractions along the horizon. Actual Project visibility at these locations is likely to require sustained viewing time at specific locations on site. 4-H Camp Palmer is located 3.62 miles from the Project in the far middle ground distance zone. Small pockets of visibility are anticipated from the eastern perimeter of this densely wooded area, but not from the interior of the camp.

Rivers, Streams, and Public Fishing Access

Potential visibility from rivers, streams, and public fishing access areas varies considerably based on proximity to the Project, elevation, and the orientation of the water body. Water resources within the near foreground distance zone have the greatest potential for views of PV panels, although streamside vegetation will often provide some level of screening. Resources located within the foreground distance zone (>0.5 miles and <1.5 mile) will have pockets of visibility. Full views of the Project are limited by intervening vegetative screening. Resources located in the middle ground distance zone (>1.5 mile and <5 miles) will have limited pockets of visibility where breaks in streamside vegetation occur. Views at these locations are anticipated to be relatively narrow/enclosed and softened by intervening vegetation and visual distractions along the horizon. From Clear Creek, located 4.81 miles from the Project, where visibility is anticipated, it will be difficult for a viewer to distinguish Project components from existing landscape features. Rivers and streams with potential PV panel visibility are listed below along with their respective distance zone:

Near-foreground Distance Zone:

- Deer Creek; 0.00 mile
- Spring Brook; 0.02 mile
- Spring Creek; 0.43 mile

Foreground Distance Zone:

- Bean Creek; 0.67 mile
- Iron Creek; 1.27 miles

Middle Ground Distance Zone:

- Old Bean Creek, 1.53 miles
- Stag Run, 1.85 miles
- Mill Creek, 2.58 miles

Background Distance Zone:

- Clear Creek; 4.81 miles

High-Use Public Areas

State, US, and Interstate Highways

Visibility at roadways throughout the VSA varies considerably based on proximity to the Project and roadway orientation. US Route 20 travels for approximately 2.4 miles east/west through the near foreground distance zone. The viewshed analysis predicts open and direct PV panel visibility from within the near-foreground and foreground distance zones from US Route 20.

US Route 127 travels through the middle and background distance zones and is outside of the viewshed. Interstate Route 80/90 (Ohio Turnpike) travels for approximately 5.4 miles through the background distance zone, and less than 1 mile is within the viewshed. Along high-speed roadways such as the Ohio Turnpike, viewer attention is focused on the roadway and views to the surrounding landscape are typically peripheral and fleeting. This, along with distance from the Project, will minimize potential PV panel visibility from these roadways.

Cities and Villages

The Village of Fayette is located approximately 0.76 mile from the Project Area. Visibility is anticipated to be limited to areas on the eastern and southeastern edges of the Village that have open views across active agricultural land, roadways, and other cleared areas. Visibility of the Project is not anticipated within the central business district or other more densely populated portions of the Village.

Schools

Fayette High School (0.75 mile) and Fayette Elementary School (1.03 miles) are located within the foreground distance zone near the southeastern edge of the Village of Fayette. Visibility from these facilities is anticipated across active agricultural land and cleared areas adjacent to the schools.

2.1.4 Field Verification Methodology

EDR conducted a site visit to the VSA on May 27, 2020. The purpose of this field review was to verify 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, EDR staff members drove public roads and visited public vantage points within the VSA, and obtained photographs from 57 individual viewpoints utilizing a digital SLR camera with a lens setting between 29 and 35 mm (equivalent to between 45 and 55 mm on a standard 35 mm full frame camera). Viewpoint locations were recorded using hand-held global positioning system (GPS) units, and all field notes, GPS points, focal length parameters, times, and dates were documented electronically. Those viewpoint locations are shown in Appendix A. A photolog, including a representative photograph toward the Project Area from each viewpoint, is included in Appendix B.

2.1.5 Field Verification Results

Field verification generally confirmed the results of the DSM viewshed analysis. Open views toward the Project were largely restricted to areas adjacent to the Project Area where public roads are bordered by open agricultural fields. These roads include US Route 20, County Road 23 (Meyerholtz Highway), County Road 22, County Road 21-2, (Glade Run Road), and County Road N. Field review confirmed that views of the Project from more distant portions of the VSA (beyond 1 mile) to the east, south, and west will be largely screened by the mature vegetation associated with Spring Creek, Deer Creek, and the Tiffin River, as well as portions of Bean Creek. Increased opportunities for views of portions of the Project are available to the southeast and spread along the northwestern side of Bean Creek due to the lack of topographical change and limited intervening forest vegetation. 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 crop (corn) growth in the foreground agricultural fields. The combination of relatively low panel height, along with existing streamside vegetation, hedgerows, gently rolling topographic relief, and the atmospheric effects of distance, will limit visibility of the Project from the majority of the VSA, confirming the results of the viewshed analysis.

2.2 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 locations of the viewpoints selected for the production of visual simulations are illustrated in Figure 2.4.

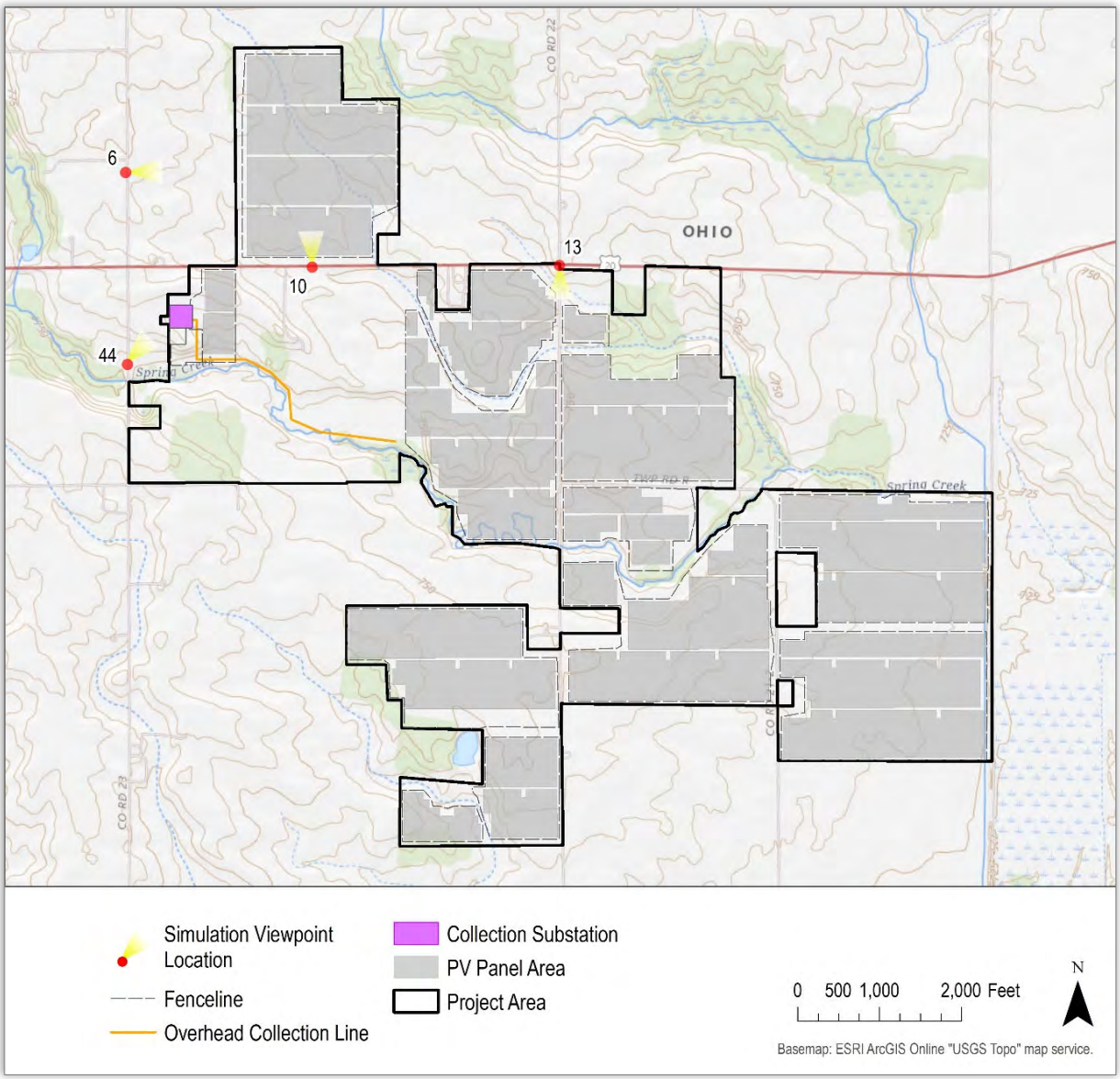

Figure 2.4. Visual Simulation Viewpoint Location Map

2.2.1 Visual Simulation Methodology

Visual simulations of the proposed Project were developed by constructing a three-dimensional (3D) computer model of the proposed PV arrays and full Project layout based on specifications, dimensions, and locations provided by the Applicant. Next, the camera specifications used to take the selected photograph in the field were replicated in the 3D model. This is done 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 is then aligned and the camera's target position (view direction) adjusted until the modeled 3D elements align exactly with the elements in the

photograph. Once this step is complete, the Project is included in the photograph at the correct location, perspective, and scale. At this point, the appropriate sun angle is simulated based on the specific date, time, and location (latitude and longitude) at which the photograph was taken. This information allows the program to realistically illustrate highlights, shading, and shadows for all Project components shown in the view. All PV panel simulations include single-axis tracker arrays with the panels oriented perpendicular to the sun, on an east-west axis, on north-south aligned arrays.

At viewpoints where mitigation plantings are proposed (see Appendix C), vegetative screening is included in the simulations and represented at a height that would be achieved during the first year and approximately 5-7 years after installation.

2.2.2 Visual Simulation Results

The visual simulations and a discussion of the potential visual effects associated with the Project are summarized below. Full-sized images are presented in Appendix D.

Viewpoint 06 – County Road 23 (Meyerholtz Highway)

Figure 2.6. Left: Existing Conditions. Right: Visual Simulation

Existing Conditions

Viewpoint 06 is located on County Road 23 (Meyerholtz Highway), approximately 1,360 feet from a proposed solar array. The existing view to the east features a large, flat, harvested corn field that extends uninterrupted to a tree line that defines the background in this view. The line of trees at the far edge of the field blocks views of more distant landscape features and creates a strong horizontal line that angles across the view, from the middle ground on the left to the background in the center of the view. On the right side, a cluster of farm buildings and a line of distant overhead

transmission poles are visible at the far edge of the field. These structures, and an associated clump of evergreens, present contrast in color and form with the level topography and tan/brown color of the open field and tree line. Consequently, they serve as focal points in this view. The view has a strong working agricultural character, but lack of variability in topography and vegetation, and the distance of landscape features from the viewer, result in relatively low scenic quality.

Proposed Project

With the proposed Project in place, an array of solar panels is now visible between the far edge of the field and the background tree line. Because of its distance from the viewer, the array appears as a relatively narrow gray/silver horizontal band that extends across the full field of view. This band separates the field from the woodlot, as well as the cluster of farm structures on the right. Distance, in combination with the relatively low height of the panels, limits the screening created by the array, with most background trees and the upper portions of structures still visible above the panels. The array reinforces the strong horizontal line of trees, and although it adds a significant new built facility, does not substantially alter the existing scenic quality or visual character of the view.

Figure 2.7. Left: Mitigation Year 1. Right: Mitigation 5-7 Years

Plantings around the perimeter of the array in this view consist of pollinator species that do little to screen or integrate the panels into the landscape, other than breaking up the lower horizontal line created by the panels and fence line. Following 5 to 7 years of growth, mitigation plantings on the far side of the array along US Route 20 are visible above the panels on the right side of the photo. These plantings are designed to screen views from US Route 20, and do not substantially change views of the Project from this viewpoint.

Viewpoint 10 – US Route 20

Figure 2.8. Left: Existing Conditions. Right: Visual Simulation

Existing Conditions

Viewpoint 10 is located on US Route 20, directly adjacent to a proposed solar array. The existing view to the north from this location features the paved surface of the road and the road shoulder in the immediate foreground, backed by a harvested agricultural field. The field is level and extends to a woodlot and hedgerow in the middle ground. A farmstead with a red barn and yard trees, including a clump of conifers, also appears in the middle ground on the right side of the view. The farmstead, and a roadside sign in the middle of the view, serve as focal points that draw viewer attention. Beyond the middle ground hedgerow in the center of the view, a more distant wooded ridgeline defines the background. The large open field and lack of foreground trees result in a broad expanse of uninterrupted sky, which gives the view an open feel. The view also has a strong rural agricultural character, but lacks variability in topography and vegetation, resulting in moderate scenic quality.

Proposed Project

With the proposed Project in place, the open field is now fully occupied by solar panels and enclosed within a chain link fence. The panels and fence create a strong horizontal line across the view, and screen significant portions of the background hedgerow and woodlot. Due to the panels' height, the upper portion of the red barn and trees associated with the farmstead on the right are still visible, although the background ridge is completely obscured. The barn and roadside sign still serve as focal points, but the solar array becomes the dominant character-defining feature of the view. Although clearly representing a change in land use, the organized rows of solar panels are consistent with rows of crops typically found in a production landscape such as this.

Figure 2.9. Left: Mitigation Year 1. Right: Mitigation 5-7 Years

Upon installation, perimeter mitigation plantings start to suggest a band of volunteer vegetation along the roadside that creates periodic breaks in the horizontal line of the fencing and panels. After 5 to 7 years of growth, portions of the array are still visible, but now appear to be integrated into the vegetation that occurs in front of them. The view has lost its openness and feels more enclosed. Its working production character has transitioned to a landscape dominated by more natural successional vegetation. The variety of colors and forms provided by the mitigation plantings enhance scenic quality and, along with windows of Project visibility, add elements of interest to the view.

Viewpoint 13 – US Route 20

Figure 2.10. Left: Existing Conditions. Right: Visual Simulation

Existing Conditions

Viewpoint 13 is located along the eastbound shoulder of US Route 20, approximately 500 feet from the nearest proposed solar array. The existing view to the west from this location features the paved surface of the road on the right and a line of overhead transmission/distribution poles in the

center of the view. Both the road and the poles proceed away from the viewer, from the immediate foreground, up a gentle rise, into the background. The road and overhead line are flanked on both sides by open plowed fields. A farmstead, including barns, a silo, and a farmhouse, is a prominent focal point on the left side of the road in the middle ground. A somewhat more distant barn and clump of trees, representing a second farmstead on the right side of the road, provides an additional middle ground focal point. Where visible beyond these farmsteads, distant fields can be seen on the right and a band of trees form the horizon line along the full field of view in the background. The existing view has a strong working agricultural character. The presence of the farmsteads and the gentle undulation of the land add interest to the view, but the dominance of the road and overhead transmission/distribution line result in moderate to low scenic quality.

Proposed Project

With the proposed Project in place, an array of solar panels now occupies the foreground field on the left, and a more distant field beyond the middle ground barn on the right. The panels add significant built features to the landscape, but do not substantially alter the composition or character of the view. Although the panels partially screen the farmstead on the left, the major structures of that complex remain visible, as do the farmstead on the right and the background tree line. This, along with the continued presence of open crop fields, maintain the agricultural character of the view. Although scenic quality may be somewhat reduced, the panels do not look particularly out of place in this working production landscape.

Figure 2.11. Left: Mitigation Year 1. Right: Mitigation 5-7 Years

Perimeter mitigation plantings at first do little to screen or integrate the panels into the landscape, beyond providing a visual extension of middle ground vegetation into the foreground. However, following 5 to 7 years of growth, this effect is enhanced, with the perimeter plantings and the

existing vegetation appearing to enclose both the farmstead and the panel array on the left as a unified built facility. On the right, the plantings in front of the solar array in the background served to break up its horizontal line and better integrate it into the background woods line.

Viewpoint 44 – County Road 23 (Meyerholtz Highway)

Figure 2.12. Left: Existing Conditions. Right: Visual Simulation

Existing Conditions

Viewpoint 44 is located on County Route 23, approximately 0.2 mile from the nearest proposed Project component. The existing view to the northeast from this location features an open agricultural field in the immediate foreground that rises to the crest of a low hill. The field is backed by a substation and transmission line that occur at the top of the hill in the middle ground, along with some scattered hedgerow vegetation. This low hilltop contains the view and blocks visibility of more distant landscape features. Because the substation and transmission line occupy the high ground, they are clearly visible against the open sky. As such, they serve as focal points in this view. The abundance of electrical infrastructure and the limited variability in existing vegetation, topography, and distance zone visibility result in a view with relatively low scenic quality.

Proposed Project

With the proposed Project in place, the new collection substation, associated overhead electrical lines, and an adjacent operations and maintenance (O&M) building have been added to the crest of the hill in the middle of the view. The array appears as a relatively narrow gray/silver horizontal band located behind the collection substation extending toward the O&M building. The new station is directly adjacent to the existing substation, and similar in line, color, and form. The new O&M building is neutral in color and similar in style to other modern agricultural/utilitarian structures present in the landscape. These new features partially obscure the existing transmission line that

runs behind them and become new focal points in the view. Due to the presence of the existing utility infrastructure, the new structures appear to be extensions/additions to the existing facilities, rather than new discordant features. Although the proposed Project components add visual clutter to the view, their effect on scenic quality and landscape character is minimized due to the presence of the existing transmission line and substation.

Figure 2.13. Left: Mitigation Year 1. Right: Mitigation 5-7 Years

Proposed landscape plantings do relatively little to screen views of the collection substation and O&M building from this viewpoint. However, after 5 to 7 years of growth, the planted trees supplement the existing broken hedgerow vegetation, and start to integrate the built facilities into the line of woody vegetation that runs along the hilltop.

Summary

In summary, the visual simulations illustrate that visibility of the solar panels from distances greater than 1,000 – 1,500 feet will generally result in limited visual impacts. In locations where panels are directly adjacent to roads and residences, it is likely that the proposed PV arrays could have an adverse effect on the scenic quality or existing landscape character. However, as demonstrated in the simulations, installation of mitigation plantings along the perimeter of the PV arrays lessens the visual impact of the Project in these near-foreground views. The plantings provide significant screening and break up the horizontal lines created by the PV arrays and fence line. This helps the Project blend with the new and existing vegetation rather than stand out as a discordant element in the landscape.

The above-ground electrical facilities and O&M building are likely to result in visual effects from foreground viewpoints along County Road 23 (Meyerholtz Highway). However, the visual impact is limited by being co-located with an existing substation and overhead transmission line.

2.3 Reflectivity and Glare

Glare is frequently raised as a possible concern for solar PV installations. Glare is defined as a continuous source of bright light and is a common phenomenon in our everyday lives. Both the sun and artificial light sources can cause glare either directly (such as from a sunset when driving westbound) or indirectly (such as from the sun's reflections off a lake or glass window). Potential impacts associated with glare may include the following:

- Operator safety impacts, such as the potential to disorient motorists when driving or pilots when taking off or landing near the Project; and

- Annoyance impacts, such as distraction, after-image in the viewer's vision, or temporary avoidance of a view due to the presence of reflected light.

PV panels such as those proposed for the Project are designed to absorb as much sunlight as possible and, in most conditions, reflect very little light. Most PV panels include anti-reflective coatings to maximize energy absorption. However, the front surfaces of PV modules are smooth, specular surfaces, which can still reflect sunlight at high incident angles, like glass windows on a building.

To address potential glare impacts, the Applicant performed a Glint and Glare Analysis using the Solar Glare Hazard Analysis Tool (SGHAT) (available through ForgeSolar) in order to identify any potential impacts on residences and vehicles on roads adjacent to the Project. Based on the results of this analysis, no Project-related glare is predicted for residences with an estimated first story viewing height of 8 feet or a second story viewing height of 16 feet. There is also no predicted glare from the solar arrays along adjacent roads for cars with an estimated viewing height of 4 feet and for large trucks with an estimated viewing height of 8 feet. The full glare analysis report is included as Exhibit O of the Certificate Application.

3.0 CONCLUSIONS

3.1 Visual Resource Assessment Summary

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

The PV panel viewshed analysis indicates that the proposed solar arrays will be screened from view in approximately 73.3% of the 5-mile radius VSA (within the state of Ohio). Visibility of significant portions of the Project is concentrated within the Project Area itself and the open fields located immediately adjacent to the Project. PV panel visibility is highest within the near-foreground, distance zone (up to 0.5 mile), and diminishes at foreground and middle ground distances. Potential visibility extends out to 4 miles in a southeasterly direction, with less pronounced visibility extending southwest toward the Tiffin River.

PV panel viewshed analysis of the 174 identified VSRs within the VSA indicates that 32 (18%) have potential Project visibility. Of the 32 resources with potential PV panel visibility, 23 (72%) are located beyond of the near-foreground (>0.5 mile). Viewshed results suggest that areas of potential visibility from VSRs in the middle ground and background will generally be small and/or include only a limited number of PV panel arrays.

The above-ground electrical component viewshed analysis indicates that the tallest structures associated with these Project components will have potential visibility from 17.2% of the VSA. Actual visibility of these components from middle ground and background locations will be diminished due to the narrow profile and neutral color of these components, which will blend with the background vegetation and sky.

Field review generally confirmed the results of the viewshed analysis and further suggests that visibility of the Project will be largely restricted to areas within the near-foreground distance zone. Beyond 0.5 mile, screening provided by woodlots, hedgerows, and wooded stream corridors, in combination with the low height of the solar panels, will significantly limit Project visibility. The PV panel viewshed analysis suggested that a section of the Bean Creek corridor where shoreline vegetation is lacking would allow for Project visibility from the southeastern portion of the VSA. However, field review indicated that the lack of elevated vantage points in this portion of the VSA,

combined with low panel height and the effects of distance, will limit potential visibility in these areas.

As illustrated in the visual simulations, the Project will result in varying levels of visual impact when viewed from adjacent roads and residences. This impact may be somewhat mitigated by the presence of seasonal crops in actively farmed fields, but during the rest of the year, the Project will introduce substantial areas of utilitarian structures that will alter the scenic quality and/or existing agricultural character of the landscape. However, as demonstrated in Viewpoint 06, this visibility and potential visual impact diminishes rapidly as the Project is viewed from greater distances. Consequently, it is anticipated that impacts will be largely limited to areas directly adjacent to the Project.

As discussed in Section 2.2.2 of this VRA, the introduction of mitigation plantings along the perimeter of the PV arrays lessens the visual impact of the Project when viewed at near-foreground distances. The plantings provide significant screening and serve to break up the horizontal lines created by the PV panels and fence line. This helps the Project blend with the new and existing vegetation rather than stand out as a discordant element of the landscape. Vegetative mitigation will minimize the visual impact on adjacent roadways and residences, and provides aesthetic as well as ecological benefits.

Glare from the proposed Project will not have an adverse impact on adjacent residences or roadways.

3.2 Mitigation

The Applicant is proposing perimeter plantings intended to screen or soften views of the solar arrays. The conceptual mitigation plan developed for this Project is based on the philosophy that 100% opaque screening is not necessary, and that introduction of native materials in clumps and hedgerows will better mimic the existing screening found on and around the Project Area (see Appendix C: Landscape Mitigation Plan for additional details). As shown in the visual simulations, the conceptual planting plan softens the horizontal line created by the installation of the PV panels and aids in blending the Project into the surrounding landscape. Although the mitigation represented in the visual simulations is conceptual at this time, the design approach and goals for the visual mitigation will not change, even if plant material in certain locations may need to be adjusted.

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Appendix A

Viewpoint Location Map

Arche Solar

Gorham Township, Fulton County, Ohio

Visual Resource Assessment

Appendix A: Viewpoint Location Map

- Viewpoint Location
- Simulation Viewpoint Location
- Viewpoint COV
- 5-Mile Study Area
- Project Area
- Township Boundary
- County Boundary

PV Panel Viewshed Results

- Greater Number of Panels Visible
- Fewer Number of Panels Visible

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service. 2. This map was generated in ArcMap on July 27, 2020. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

7x.energy

Appendix B

Viewpoint Photolog

Viewpoint 1

VP 1 | View looking East from US Route 20 in the Township of Gorham, Fulton County.

Viewpoint 2

VP 2 | View looking East from Intersection of US Route 20 and County Road 23 in the Township of Gorham, Fulton County.

Viewpoint 3

VP 3 | View looking Southeast from County Road 23 in the Township of Gorham, Fulton County.

Viewpoint 4

VP 4 | View looking Southeast from Intersection of Township Road S and County Road 23 in the Township of Gorham, Fulton County.

Viewpoint 5

VP 5 | View looking East from County Road 23 in the Township of Gorham, Fulton County.

Viewpoint 6

VP 6 | View looking East from County Road 23 in the Township of Gorham, Fulton County.

VP 7 | View looking East from US Route 20 in the Township of Gorham, Fulton County.

VP 8s | View looking South from US Route 20 in the Township of Gorham, Fulton County.

VP 8n | View looking North from US Route 20 in the Township of Gorham, Fulton County.

VP 9 | View looking East Southeast from US Route 20 in the Township of Gorham, Fulton County.

VP 10s | View looking South from US Route 20 in the Township of Gorham, Fulton County.

VP 10n | View looking North from US Route 20 in the Township of Gorham, Fulton County.

VP 11s | View looking South from US Route 20 in the Township of Gorham, Fulton County.

VP 11n | View looking North from US Route 20 in the Township of Gorham, Fulton County.

VP 12 | View looking East Southeast from US Route 20 in the Township of Gorham, Fulton County.

VP 13 | View looking South from Intersection of US Route 20 and County Road 22 in the Township of Gorham, Fulton County.

VP 14 | View looking South from County Road 22 in the Township of Gorham, Fulton County.

VP 15 | View looking South from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 16

VP 16 | View looking South from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 17

VP 17 | View looking North from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 18

VP 18 | View looking North from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 19

VP 19 | View looking North from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 20nnw

VP 20nnw | View looking North Northwest from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 20e

VP 20e | View looking East from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 21

VP 21 | View looking North Northwest from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 22n

VP 22n | View looking North from Intersection of County Road R and County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 22e

VP 22e | View looking East from Intersection of County Road R and County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 23nnw

VP 23nnw | View looking North Northwest from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 23ssw

VP 23ssw | View looking South Southwest from County Road 22 in the Township of Gorham, Fulton County.

Viewpoint 24w

VP 24w | View looking West from County Road 22 in the Township of Gorham, Fulton County.

VP 24ne | View looking Northeast from County Road 22 in the Township of Gorham, Fulton County.

VP 25 | View looking Southeast from US Route 20 in the Township of Gorham, Fulton County.

VP 26 | View looking Southeast from US Route 20 in the Township of Gorham, Fulton County.

VP 27 | View looking West from County Road 21 in the Township of Gorham, Fulton County.

VP 28 | View looking South from County Road 21 in the Township of Gorham, Fulton County.

VP 29 | View looking Southwest from County Road 21 in the Township of Gorham, Fulton County.

VP 30 | View looking West from County Road 21 in the Township of Gorham, Fulton County.

VP 31 | View looking North Northwest from Intersection of County Road 21 and Co Road N in the Township of Gorham, Fulton County.

VP 32 | View looking Northwest from County Road N in the Township of Gorham, Fulton County.

VP 33 | View looking North from County Road N in the Township of Gorham, Fulton County.

VP 34 | View looking North from County Road 21-2 in the Township of Gorham, Fulton County.

VP 35 | View looking North from County Road 21-2 in the Township of Gorham, Fulton County.

VP 36nne | View looking North Northeast from County Road 21-2 in the Township of Gorham, Fulton County.

VP 36sse | View looking South Southeast from County Road 21-2 in the Township of Gorham, Fulton County.

VP 37ene | View looking East Northeast from County Road R in the Township of Gorham, Fulton County.

VP 37w | View looking West from County Road R in the Township of Gorham, Fulton County.

VP 38w | View looking West from County Road R in the Township of Gorham, Fulton County.

VP 38e | View looking East from County Road R in the Township of Gorham, Fulton County.

Viewpoint 39

VP 39 | View looking North Northeast from County Road N in the Township of Gorham, Fulton County.

Viewpoint 40

VP 40 | View looking Northeast from County Road N in the Township of Gorham, Fulton County.

Viewpoint 41

VP 41 | View looking East from County Road 23 in the Township of Gorham, Fulton County.

Viewpoint 42

VP 42 | View looking East Northeast from Intersection of County Road 23 and County Road R in the Township of Gorham, Fulton County.

Viewpoint 43

VP 43 | View looking East from County Road 23 in the Township of Gorham, Fulton County.

Viewpoint 44

VP 44 | View looking Northeast from County Road 23 in the Township of Gorham, Fulton County.

VP 45 | View looking East from US Route 20 (East Main Street) in the Village of Fayette, Fulton County.

VP 46 | View looking East from US Route 20 (East Main Street) in the Village of Fayette, Fulton County.

VP 47 | View looking West from County Road N in the Township of Gorham, Fulton County.

VP 48 | View looking Northwest from County Road Mn in the Township of Gorham, Fulton County.

VP 49 | View looking West from County Road 20 and Bean Creek in the Township of Gorham, Fulton County.

VP 50 | View looking West from US Route 20 in the Township of Gorham, Fulton County.

Viewpoint 51

VP 51 | View looking North from County Road 21-2 in the Township of Gorham, Fulton County.

Viewpoint 52

VP 52 | View looking South from County Road T in the Township of Gorham, Fulton County.

Viewpoint 53

VP 53 | View looking Southwest from County Road T in the Township of Gorham, Fulton County.

Viewpoint 54

VP 54 | View looking East from US Route 20 (East Main Street) in the Village of Fayette, Fulton County.

Viewpoint 55

VP 55 | View looking Northeast from Off of County Road R at Fayette Elementary and High Schools in the Township of Fayette, Fulton County.

Viewpoint 56

VP 56 | View looking Northeast from State Route 66 in the Township of Gorham, Fulton County.

Viewpoint 57

VP 57 | View looking North from County Road M in the Township of Gorham, Fulton County.

Appendix C

Landscape Mitigation Plan

Arche Solar

Landscape Mitigation Plan

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Table of Contents

1.0 | INTRODUCTION

Minimization and mitigation of visual impacts are important considerations when siting and designing solar facilities. This conceptual mitigation plan will focus on the use of vegetation to help screen views of the proposed solar facility, improve the aesthetics of the project, and provide ecological and wildlife habitat benefits to the community as a whole. This approach is becoming well-established as the preferred method of mitigating visual impacts for solar facilities throughout the country (e.g., Scenic Hudson, 2018; Sullivan and Abplanalp, 2013; Walston, et al. 2018).

The first step in the successful use of native vegetation to mitigation a proposed solar project is to incorporate retention of existing vegetative material into the early design. Removing vegetation from a facility site can result in a strong visual contrast between the project and the surrounding environment (Sullivan and Abplanalp, 2013). Retaining existing vegetation wherever feasible, particularly along roadways and property lines, allows a more thoughtful and complete mitigation strategy that preserves the visual and ecological character of the surrounding landscape.

A project may have some locations where there is no existing woody vegetation, or it may be necessary to selectively remove vegetation. In these areas, adding new native trees and shrubs can help to create visual continuity while reducing visibility of the project. While the use of native shrubs and trees will not necessarily result in plantings that completely screen views of the project (see Design Methodology below), it will serve to soften the overall visual effect and help to better integrate the PV arrays into the surrounding landscape. In addition, use of native plant species provides ecological benefits, such as food and cover for local wildlife communities.

Arche Solar, in consultation with Environmental Design and Research, Landscape Architecture, Engineering & Environmental Services, D.P.C (EDR), has worked to develop this plan, which is designed to suit the climate and match the existing natural and vernacular landscapes present in the area surrounding the Arche Solar Site. The conceptual planting strategies, or "modules", included use native species and intentionally mimic the character of the adjacent landscape in order to minimize and mitigate the project's visual impact. These strategies have been developed to provide flexible solutions that fit both the scale of the Arche Solar Facility and the visual character of specific settings.

2.0 | DESIGN METHODOLOGY

Design of a visual mitigation strategy is not simply an exercise in creating walls to obscure views of a solar facility. It is also necessary to minimize visual disruption and discontinuity. This can be done by taking design cues from the existing landscape so that newly introduced elements resemble their surroundings and do not needlessly call attention to themselves.

The design methodology presented in this plan uses conceptual planting modules based on typical situations found throughout the facility area. These are intended to be broadly repeatable, yet flexible in design so that they can respond to the specific conditions at each planting location. While the planting modules are not designed to completely screen all views of the proposed project, the introduction of mixed native trees and shrubs interspersed with pollinator-friendly herbaceous plants along roadsides and at sensitive property boundaries will soften the visual effect of the project with natural forms and colors that divert attention from the modern materials and inorganic forms of the PV panel arrays.

These strategies were developed using the following methodology:

- Review local zoning requirements or guidelines.
- Document existing visual character and vegetation within the project site and surrounding area.
- Maintain open roadsides and vistas where possible.
- Maintain existing vegetation/hedgerows where feasible.
- Soften the appearance of the perimeter fences and PV arrays so that they blend into the existing landscape.
- Install native, noninvasive species that provide ecological benefits.
- Take design and material cues from the existing surrounding landscape.

Berms, Opaque Enclosures, and Evergreen Hedges

Visual mitigation for solar facilities can include installing earthen berms, opaque enclosures (such as vinyl fencing or similar), and/or a screening hedge made up of evergreen trees. These approaches can be effective in fully screening views of a project and may be appropriate in certain urban or suburban settings. In a rural/agricultural setting, however, the use of berms, opaque enclosures, or evergreen hedges would introduce new visual elements into the landscape that would be inconsistent with the character of the existing visual environment and therefore result in unnecessary visual impacts. In this sense, such interventions would not achieve the goal of minimizing visual discontinuity resulting

from the project. In addition, there are no design configurations or solutions using these types of screening measures that would allow the project to be fully screened from view without resulting in additional environmental impacts. For example, the construction of berms would require large areas of soil disturbance, which is contrary to the Arche Solar design objective of minimizing soil disturbance to the greatest extent practicable, and could interfere with current or future agricultural uses of the site. Consequently, no such treatment is proposed as visual mitigation in this plan. As indicated in the description of the proposed planting modules (see Section 4.0), the proposed installation of evergreens will be intermittent, which is in keeping with the existing visual character of the study area.

Pollinator-Friendly Grasses and Wildflowers

Planting pollinator-friendly species can aid in the aesthetics of a solar facility while also providing habitat for wildlife such as hummingbirds, butterflies, and bees (Eskew, 2018; NYSERDA, 2019; Scenic Hudson, 2018; Walston, et al., 2018). In agricultural settings, which include areas characterized by open fields and unimpeded long-distance views, the use of tall native grasses and wildflowers along selected roadsides can soften the appearance of a project and match the character of these open areas, better integrating the project into the landscape. Seed mixes designed to promote pollinator habitat also provide the aesthetic benefit of colorful flowers, particularly in the late spring, summer, and fall months. In addition to softening the appearance of the project, leaving these plants largely un-mowed provides habitat for ground nesting/feeding birds, and cover for small mammals. The conceptual planting modules proposed in this plan each include regionally appropriate herbaceous plantings to provide habitat for pollinator species around the periphery of the site and/or in locations on site where mowing can be restricted during the summer months.

Native Shrubs and Trees

The use of native shrub and tree plantings between adjacent roads/resources and the fencing that encloses the solar arrays is an appropriate alternative to berms and evergreen hedges, which may not appear natural or appropriate in many settings. Native woody species can be chosen based upon existing natural vegetation so that new plantings appear "normal" and become part of a continuous regional landscape that surrounds and includes the project area. This is of particular importance in locations where adjacent properties or highly traveled roadways may be impacted by the project. The selection of plant materials is an important consideration not only for aesthetics but also for ecological value (Eskew, 2018; Walston, et al., 2018). Locally native species provide particularly suitable habitat for pollinators and other wildlife.

3.0 SELECTION OF VEGETATIVE MATERIALS

When designing a conceptual planting plan, it is important to propose a site-specific selection of plant materials that will provide the appropriate level of vegetative screening, match the vegetation and visual character of the existing landscape, and prioritize the use of native species. To create the master plant list for Arche Solar, EDR began with field reconnaissance to document existing vegetation along roadsides, within hedgerows, and installed around residential properties within the project area. These on-site observations, combined with information from The Ohio State University's Department of Plant Pathology website, the USDA PLANTS website, the Selected Ohio Native Plants for Landscape and Restoration Use guides provided by the Ohio Department of Natural Resources (DNR), the Ohio Department of Transportation's Statewide Roadside Pollinator Habitat Program Restoration Guidelines and Best Management Practices, and the Ohio Department of Agriculture's Prohibited Invasive Plant list provided the basis for the plant material to be included in the modules.

Existing vegetation in the visual study area consists largely of agricultural crops, including row crops such as corn and soybeans. Forested areas also occur throughout the visual study area. These areas range from small woodlots and hedgerows, which divide agricultural fields, to more substantial forested areas that occur primarily along stream corridors. Forest vegetation is primarily deciduous (maple, oak, walnut, beech, sycamore, dogwood, and hickory) mixed with some conifers.

The project is not far from the Oak Openings region of Ohio, which is characterized by oak savanna.

Examples of potential plant species to be used at Arche Solar


Eastern Red-Cedar


Eastern White Pine


Bur Oak


Sweet Gum


Black Chokeberry


Downy Serviceberry


Eastern Redbud


Gray Dogwood


Common Milkweed


White Wild Indigo


Purple Coneflower


Prairie Dock


Rattlesnake Master


Dense Blazing Star


Wild Bergamot


Common Mountain Mint


Showy Goldenrod


New England Aster


Ohio Spiderwort


Butterflyweed

4.0 | PLANTING MODULES

Arche Solar, in coordination with EDR, has developed three individual planting modules, each designed to apply to a specific circumstance within the project, as described below.

Module 1 - Pollinator Habitat
This module is designed to go in areas with potentially high visibility, but a limited number of viewers. This includes the setback area along small roads and similar locations throughout the project site. A special seed mix of native pollinator habitat plants will be used for this module. The goal of Module 1 is to provide both an ecological benefit and visual screening along the proposed fence line in areas of potentially high visibility but low viewership.

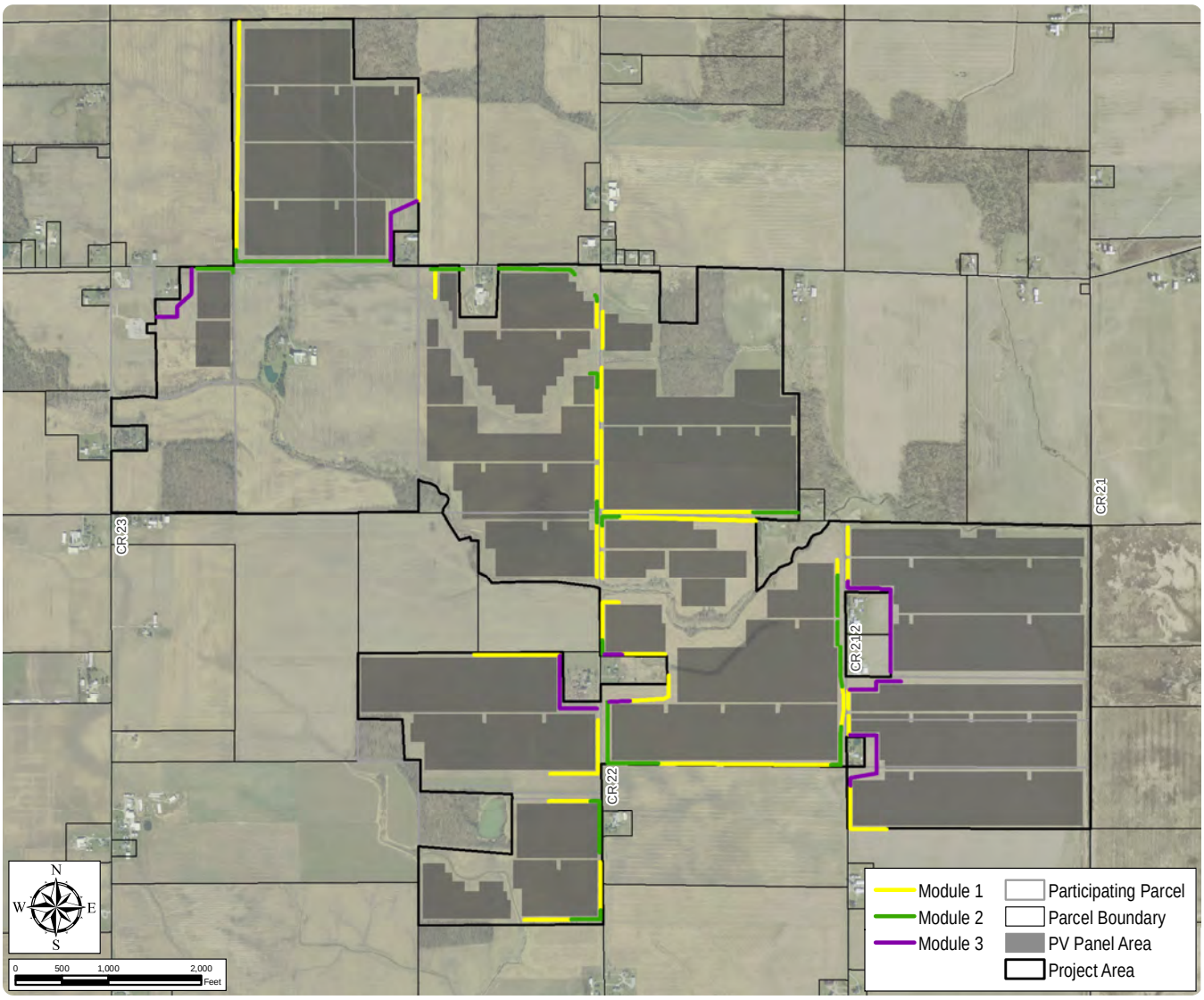
Module 2 - Vertical Softening
This module is designed to be used in areas where there is both potential for visibility and a significant number of viewers present, but where these viewers are not typically stationary or partaking in passive recreational activities. This occurs along major roadways and along select fencelines. The goal of Module 2 is to visually break up the Project's introduced horizontal line of man-made material and allow the vegetation and the Project to blend into the vegetated background. The diagram below illustrates the concept of vertical softening.

Module 3 - Adjacent Resource (Residence)
This module is designed to be used where stationary adjacent uses are impacted by the installation of the PV arrays. It provides the greatest amount of screening in both summer and winter conditions by incorporating more evergreen material and using native multi-stem trees and thick deciduous shrubs. The goal of Module 3 is to screen the majority of the project for an adjacent viewer. A 100% opaque screen is not the intent, but rather a living and changing vegetative buffer that allows light to transfer through and does not inappropriately enclose a property.

Please see Conceptual Planting Module design sheets below for further detail.

5.0 | LOCATION OF PLANTING MODULES

EDR landscape architects used desktop and field analysis, municipal regulations, and outreach responses to guide delineation of proposed planting areas around facility components. The goal in selecting locations for plantings is to prioritize locations where otherwise open or uninterrupted views of the PV arrays had the potential to result in substantial visual effects. These areas include open fields adjacent to roadsides, thin/partial hedgerows abutting neighboring residences, and areas adjacent to residences and/or resources throughout the project area.



6.0 | CONCLUSIONS

While the conceptual planting plan described here is not designed to completely screen views of a proposed project, the introduction of native tree and shrub mixes interspersed with pollinator plants along the roadsides/resources adjacent to the project will provide a visual buffer of natural vegetation between the project and the viewer. These natural forms and colors are intended to divert attention from the modern materials and inorganic forms of the PV panel arrays. As demonstrated in the visual simulations included in the Arche Solar OPSB Application, the installation of a proposed planting plan, upon reaching maturity, would better integrate the PV arrays into the character of the existing landscape.

Module 1 - Pollinator Habitat

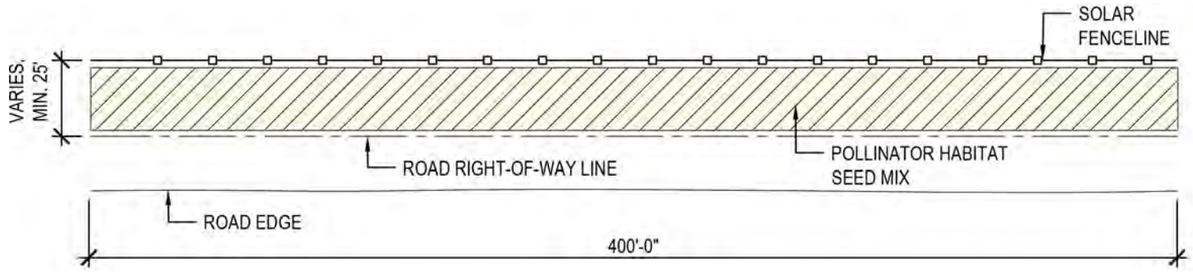
Existing Conditions: Agricultural field, no existing hedgerow or vegetation

View: Open views towards agricultural field with solar panel arrays

Treatment: Create buffer of perennial prairie plants to soften view of solar panels within landscape and create additional pollinator habitat

A Mowed Shoulder or Open Field | Pollinator Habitat Seed Mix | Fence | Access Road | PV Panel | A'

POLLINATOR HABITAT SEED MIX EXAMPLE PLANT LIST			
BOTANICAL NAME	COMMON NAME	BLOOM TIME	MATURE HEIGHT
Asclepias tuberosa	Butterflyweed	Summer	1-2 ft
Asclepias syriaca	Common Milkweed	Summer	2-3 ft
Baptisia alba	White Wild Indigo	Spring	2-3 ft
Echinacea purpurea	Purple Coneflower	Summer	2-3 ft
Eryngium yuccifolium	Rattlesnake Master	Summer	2-6 ft
Liatris spicata	Dense Blazing Star	Summer	2-4 ft
Monarda fistulosa	Wild Bergamot	Summer	2-4 ft
Pycnanthemum virginianum	Common Mountain Mint	Summer	2-3 ft
Schizachyrium scoparium	Little Bluestem	Autumn (grass)	1-3 ft
Silphium terebinthinaceum	Prairie Dock	Late Summer	2 ft, flowers to 10 ft
Solidago speciosa	Showy Goldenrod	Late Summer	2-3 ft
Sorghastrum nutans	Indian Grass	Autumn (grass)	3-5 ft
Symphyotrichum novae-angliae	New England Aster	Autumn	3-6 ft
Tradescantia ohiensis	Ohio Spiderwort	Spring	2-3 ft
Zizia aurea	Golden Alexanders	Spring	2-3 ft



Arche Solar
Gorham Township, Fulton County, Ohio
Visual Resource Assessment | Appendix C: Landscape Mitigation Plan - Modules

North

Module 1:
Pollinator Habitat

Date: 6/1/2020

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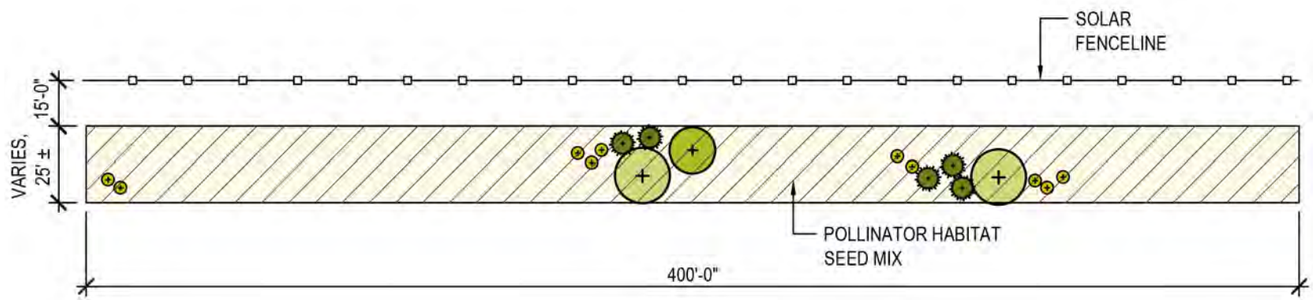
Module 2 - Vertical Softening

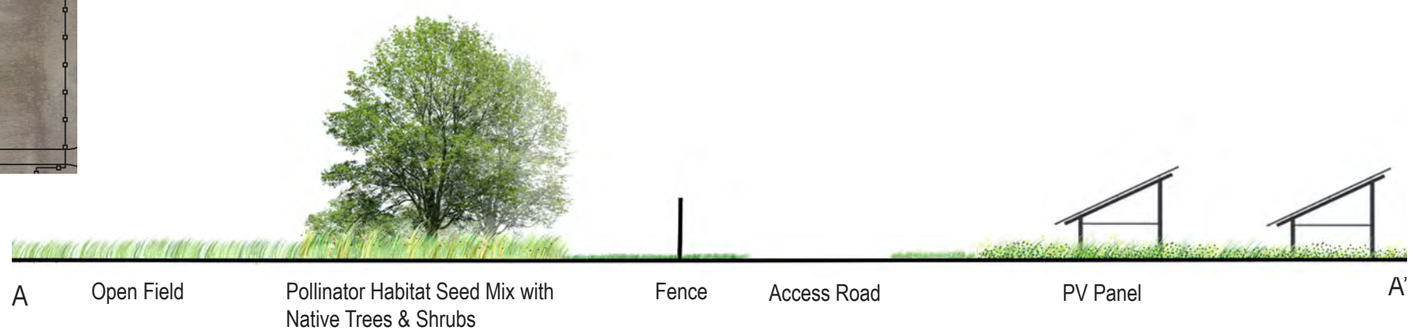
Existing Conditions: Agricultural fields, no existing hedgerow

View: Open views towards agricultural field with solar panel arrays

Treatment: Create buffer of prairie plants and native trees to soften view of solar panels within landscape

VERTICAL SOFTENING PLANT LIST					
KEY	BOTANICAL NAME	COMMON NAME	INITIAL SIZE	TYPE	MATURE SIZE
	Acer rubrum	Red Maple	1 3/4" cal.	B&B	40-70' H x 30-50' W
	Aesculus glabra	Ohio Buckeye	2" cal.	B&B	20-40' H x 20-40' W
	Cornus racemosa	Grey Dogwood	24" ht	#3 Cont.	8-15'' H x 8-15' W
	Juniperus virginiana	Eastern Red-Cedar	5' ht	B&B	30-65' H x 8-25' W
	Pollinator Habitat Seed Mix		10 lbs per acre		Average 36" H





Arche Solar

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Visual Resource Assessment | Appendix C: Landscape Mitigation Plan - Modules

Sheet 2 of 3

North

Module 2: Vertical Softening

Date: 6/1/2020

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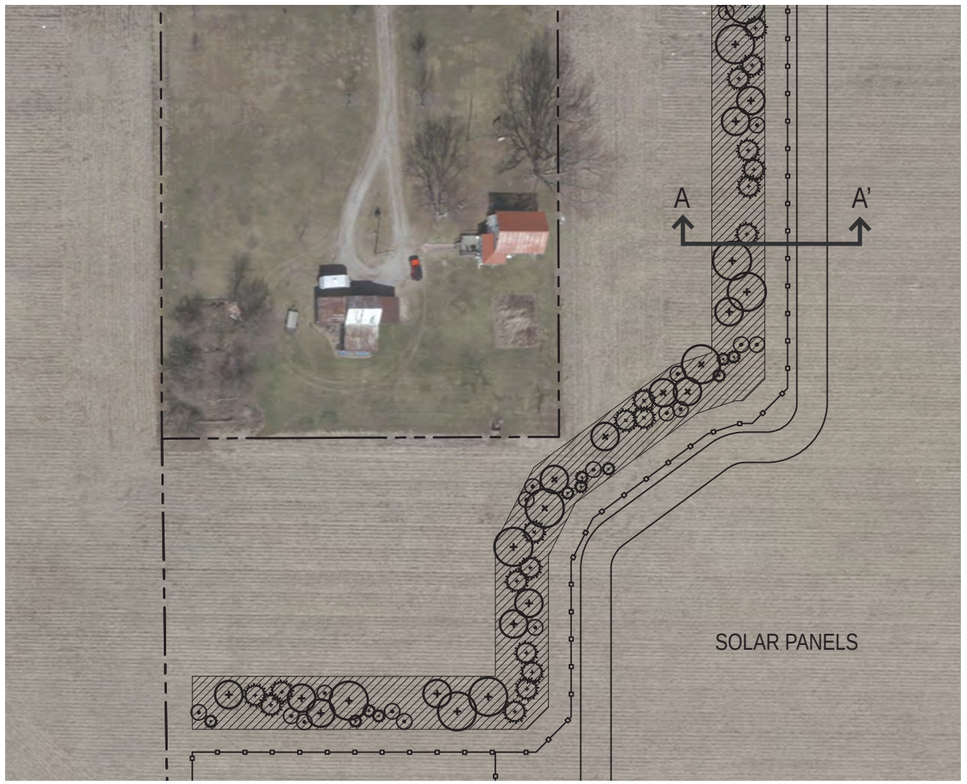
Module 3 - Adjacent House Hedgerow

Existing Conditions: Residence adjacent to proposed solar array field, no existing hedgerow

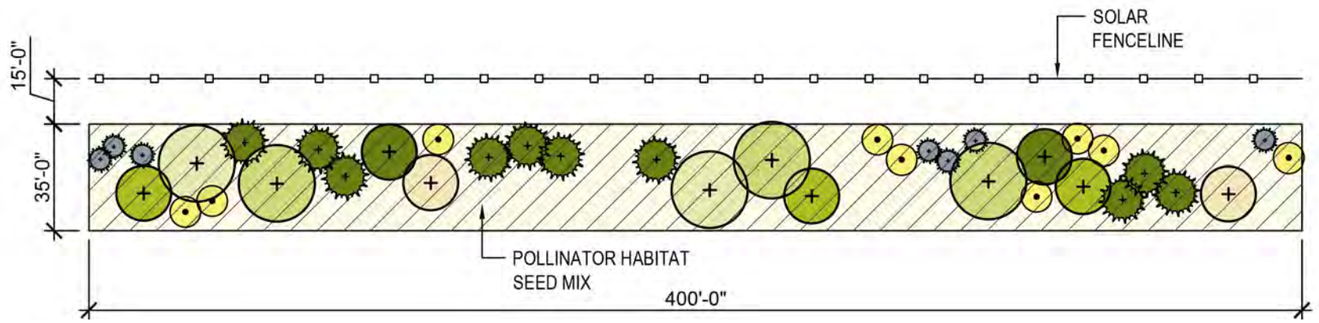
View: Open views towards agricultural field with solar panel array

Treatment: Create buffer to soften view of solar panels within landscape



MODULE 3 PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	INITIAL SIZE	TYPE	MATURE SIZE
	Acer rubrum	Red Maple	2" cal.	B&B	40-70' H x 30-50' W
	Acer saccharum	Sugar Maple	2" cal.	B&B	50-80' H x 35-40' W
	Amelanchier arborea	Downy Serviceberry	6' ht.	B&B	15-25' H x 15-25' W
	Cercis canadensis	Eastern Redbud	6' ht.	#5 cont.	20-30' H x 25-35' W
	Cornus racemosa	Grey Dogwood	4' ht.	B&B	8-15' H x 8-15' W
	Juniperus virginiana	Eastern Red-Cedar	5' ht.	B&B	30-65' H x 8-25' W
	Ostrya virginiana	American Hop Hornbeam	1 3/4" cal.	B&B	25-40' H x 20-30' W
	Picea glauca	White Spruce	5' ht	B&B	40-60' H x 10-20' W
	Pinus strobus	Eastern White Pine	5' ht	B&B	70-80' H x 20-35' W
	Quercus rubra	Northern Red Oak	2" cal.	B&B	50-75' H x 50-75' W
	Pollinator Habitat Seed Mix		10 lbs per acre		Average 36" H



Appendix E

Visually Sensitive Resources Analysis

Visually Sensitive Resource	Location		VP Number[1]	Distance[2]	Project Visibility (Viewshed Results)	
					+ Visible - Not Visible +/- Partially Visible	
	Town	County		Miles from Nearest PV Array	DEM Viewshed (Topography Only)	DSM Viewshed (Topography, Structures, Vegetation)
Properties of Historic Significance						
National/State Historic Landmarks						
None in VSA						
National/State Historic Sites						
None in VSA						
Sites Listed on National or State Registers of Historic Places (NRHP/SRHP)						
None in VSA						
Sites Eligible for Listing on NRHP or SRHP						
None in VSA						
OHI Historic Structures						
Keefer Farm	Gorham Township	Fulton	50, 51	0.01	+/-	+/-
Kunkle Farm	Gorham Township	Fulton	27	0.03	+	+/-
Brehm Farm	Gorham Township	Fulton	7	0.06	+	+/-
Smith House	Village of Fayette, Gorham Township	Fulton	54	0.81	+	-
Blosser House	Village of Fayette, Gorham Township	Fulton		0.83	+	-
Armstrong House	Village of Fayette, Gorham Township	Fulton		0.86	+	-
Trowbridge House	Village of Fayette, Gorham Township	Fulton		0.91	+	-
Roberts House	Village of Fayette, Gorham Township	Fulton		0.92	+	-
Snow House	Village of Fayette, Gorham Township	Fulton		0.92	+	-
Our Lady of Mercy Cath Church	Village of Fayette, Gorham Township	Fulton		0.94	+	-
Cordy House	Village of Fayette, Gorham Township	Fulton		0.96	+	-
Ford House	Village of Fayette, Gorham Township	Fulton		0.96	+	-
Wilson House	Village of Fayette, Gorham Township	Fulton		0.98	+	-
Perry House	Village of Fayette, Gorham Township	Fulton		1.00	+	-
Gorham-Fayette High School & Norm	Village of Fayette, Gorham Township	Fulton		1.01	+	+/-
Buskirk House	Village of Fayette, Gorham Township	Fulton		1.01	+	-
Fayette United Methodist Church	Village of Fayette, Gorham Township	Fulton		1.02	+	-
Max H & Norma Hibbard House	Village of Fayette, Gorham Township	Fulton		1.02	+	-
Ardith Reinking (Trustee) House	Village of Fayette, Gorham Township	Fulton		1.03	+	-
Unnamed	Village of Fayette, Gorham Township	Fulton		1.03	+	-
Bird House	Village of Fayette, Gorham Township	Fulton		1.04	+	-
Union Service Station	Village of Fayette, Gorham Township	Fulton		1.05	+	-

Visually Sensitive Resource	Location		VP Number[1]	Distance[2]	Project Visibility (Viewshed Results)	
					+ Visible - Not Visible +/- Partially Visible	
	Town	County		Miles from Nearest PV Array	DEM Viewshed (Topography Only)	DSM Viewshed (Topography, Structures, Vegetation)
Ardith Reinking House	Village of Fayette, Gorham Township	Fulton		1.05	+	-
Dellia M Hutchinson House	Village of Fayette, Gorham Township	Fulton		1.06	+	-
Marvin Thorp House	Village of Fayette, Gorham Township	Fulton		1.06	+	-
Ida Maude Graham House	Village of Fayette, Gorham Township	Fulton		1.06	+	-
James & Nancy Myers House	Village of Fayette, Gorham Township	Fulton		1.08	+	-
Franks House	Village of Fayette, Gorham Township	Fulton		1.08	+	-
Short House	Village of Fayette, Gorham Township	Fulton		1.09	+	-
Borton House	Village of Fayette, Gorham Township	Fulton		1.10	+	-
Daniel & Cynthia Barron House	Village of Fayette, Gorham Township	Fulton		1.11	+	-
Lamb House	Village of Fayette, Gorham Township	Fulton		1.12	+	-
Potter House	Village of Fayette, Gorham Township	Fulton		1.12	+	-
Daryl Hayward House	Village of Fayette, Gorham Township	Fulton		1.13	+	+/-
Star Dog Food Bldg	Village of Fayette, Gorham Township	Fulton		1.14	+	+/-
Fayette Grain & Feed Inc	Village of Fayette, Gorham Township	Fulton		1.14	+	-
Fire Dept	Village of Fayette, Gorham Township	Fulton		1.14	+	-
Merillat House	Village of Fayette, Gorham Township	Fulton		1.14	+	-
Shelby Wilson House	Village of Fayette, Gorham Township	Fulton		1.15	+	-
Terry & Diana Moor House	Village of Fayette, Gorham Township	Fulton		1.15	+	-
Matthews Factory Outlet	Village of Fayette, Gorham Township	Fulton		1.15	+	-
Ford House	Village of Fayette, Gorham Township	Fulton		1.15	+	-
Richard & June Franks House	Village of Fayette, Gorham Township	Fulton		1.16	+	-
Marjorie Kast House	Village of Fayette, Gorham Township	Fulton		1.16	+	-
Gregory & Patricia Grover House	Village of Fayette, Gorham Township	Fulton		1.16	+	-
Carl Russell House	Village of Fayette, Gorham Township	Fulton		1.16	+	-
Kuhn's Apts	Village of Fayette, Gorham Township	Fulton		1.16	+	-
Myland Stahl Trustees House	Village of Fayette, Gorham Township	Fulton		1.16	+	-
Olive Treat House	Village of Fayette, Gorham Township	Fulton		1.17	+	-
Ziegler Bldg	Village of Fayette, Gorham Township	Fulton		1.17	+	-
Clyde & Deloris Mohr House	Village of Fayette, Gorham Township	Fulton		1.17	+	-
Radio Supply	Village of Fayette, Gorham Township	Fulton		1.18	+	-
Richard & Martha Dominique House	Village of Fayette, Gorham Township	Fulton		1.18	+	-
Roger & Grace Dopp House	Village of Fayette, Gorham Township	Fulton		1.18	+	-

Visually Sensitive Resource	Location		VP Number[1]	Distance[2]	Project Visibility (Viewshed Results)	
					+ Visible - Not Visible +/- Partially Visible	
	Town	County		Miles from Nearest PV Array	DEM Viewshed (Topography Only)	DSM Viewshed (Topography, Structures, Vegetation)
Phil's 5 & 10 Cent Store	Village of Fayette, Gorham Township	Fulton		1.19	+	-
Bentley House	Village of Fayette, Gorham Township	Fulton		1.19	+	-
John Dale Post-Amer Legion H	Village of Fayette, Gorham Township	Fulton		1.20	+	-
Fayette Antiques/Bar	Village of Fayette, Gorham Township	Fulton		1.20	+	-
Durwood & Vera Hibbard House	Village of Fayette, Gorham Township	Fulton		1.21	+	-
Betty Storrs House	Village of Fayette, Gorham Township	Fulton		1.21	+/-	-
Antonio & Maria Rosales House	Village of Fayette, Gorham Township	Fulton		1.22	+	-
Pizza Place	Village of Fayette, Gorham Township	Fulton		1.22	+	-
James Tyson House	Village of Fayette, Gorham Township	Fulton		1.22	+	-
Susan Beaverson House	Village of Fayette, Gorham Township	Fulton		1.22	+/-	-
Harold Weber St	Village of Fayette, Gorham Township	Fulton		1.22	+	+/-
Fayette Review Trim Shop	Village of Fayette, Gorham Township	Fulton		1.23	+	-
Rita J Patterson House	Village of Fayette, Gorham Township	Fulton		1.23	+	-
Larry & Louise Frederick House	Village of Fayette, Gorham Township	Fulton		1.23	+/-	-
Village Bldg	Village of Fayette, Gorham Township	Fulton		1.24	+	-
Robert W Nuy House	Village of Fayette, Gorham Township	Fulton		1.24	+	-
Stein House	Village of Fayette, Gorham Township	Fulton		1.24	+/-	-
Quackenbush House	Village of Fayette, Gorham Township	Fulton		1.25	+/-	-
Roy & Eula Ferguson House	Village of Fayette, Gorham Township	Fulton		1.25	+	-
Ewers House	Village of Fayette, Gorham Township	Fulton		1.26	+	-
Damon Shaffer House	Village of Fayette, Gorham Township	Fulton		1.26	+	-
Glamerette Beauty Shop	Village of Fayette, Gorham Township	Fulton		1.26	+	-
Martha Jane Mitton House	Village of Fayette, Gorham Township	Fulton		1.26	+	-
Leona M Lippens House	Village of Fayette, Gorham Township	Fulton		1.27	+	-
Marvel Industries (Div of Dayt)	Village of Fayette, Gorham Township	Fulton		1.27	+	-
Christian Church Disciples	Village of Fayette, Gorham Township	Fulton		1.27	+	-
Beatrice Wilson House	Village of Fayette, Gorham Township	Fulton		1.28	+	-
Merillat House	Village of Fayette, Gorham Township	Fulton		1.28	+	-
Roger Kessler & Kim Merillat H	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Harold & Lucinda Brown House	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Thomas & Cherylynn Speiss House	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Unnamed	Village of Fayette, Gorham Township	Fulton		1.29	+	-

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Parsonage of Church of Christ	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Cloyce E & Betty Storrs House	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Ralph & Maxine Powers House	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Robert E Esterline House	Village of Fayette, Gorham Township	Fulton		1.29	+	-
Michael G Beaverson House	Village of Fayette, Gorham Township	Fulton		1.30	+	-
Deforest C & Max Cavette House	Village of Fayette, Gorham Township	Fulton		1.30	+	-
Rosel & Nina Martin House	Gorham Township	Fulton		1.30	+	-
Marion Garrison House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Guy & Vivian McKinney House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Harvey & Dee Ann Potter House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Vivian L & Paul Ford House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
James & Mary Heath House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Walter L Griffin House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Viola & Rosa Crittendon House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Unnamed	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Elwyn E & Nancy B Bates House	Village of Fayette, Gorham Township	Fulton		1.32	+	-
Unnamed	Village of Fayette, Gorham Township	Fulton		1.33	+	-
Unnamed	Village of Fayette, Gorham Township	Fulton		1.33	+	-
William Acker Steinem House	Village of Fayette, Gorham Township	Fulton		1.33	+	-
Harvey & Dee Ann Potter House	Village of Fayette, Gorham Township	Fulton		1.35	+	-
Fayette Wesleyan Mission Church	Village of Fayette, Gorham Township	Fulton		1.35	+	-
John Garlton Brenda Magin House	Village of Fayette, Gorham Township	Fulton		1.35	+	-
Virginia & Leslie Colgrove House	Village of Fayette, Gorham Township	Fulton		1.36	+	-
Lugbill Bros Inc	Village of Fayette, Gorham Township	Fulton		1.37	+/-	-
McKinley House	Village of Fayette, Gorham Township	Fulton		1.37	+/-	-
Marcus D & Elida Molina House	Village of Fayette, Gorham Township	Fulton		1.38	+	-
Myrl L & Shirley Meller House	Village of Fayette, Gorham Township	Fulton		1.38	+	-
Unnamed	Village of Fayette, Gorham Township	Fulton		1.38	+	-
Denzil R & Louise Sines House	Village of Fayette, Gorham Township	Fulton		1.38	+	-
Harvey & Dee Ann Potter House	Village of Fayette, Gorham Township	Fulton		1.38	+/-	-
Larry & Louise Frederick House	Village of Fayette, Gorham Township	Fulton		1.39	+/-	-
Ula B Johnson House	Village of Fayette, Gorham Township	Fulton		1.40	+/-	-

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Edward A & Adeline Green House	Village of Fayette, Gorham Township	Fulton		1.41	+/-	-
Claude & Mildred Robinson	Village of Fayette, Gorham Township	Fulton		1.42	+/-	-
Donald & Arlene Wilson House	Village of Fayette, Gorham Township	Fulton		1.43	+/-	-
James Canfield House	Village of Fayette, Gorham Township	Fulton		1.45	+	-
Mary M Carncross House	Village of Fayette, Gorham Township	Fulton		1.45	+/-	-
Harvey & Dee Ann Potter House	Village of Fayette, Gorham Township	Fulton		1.46	+	-
Regina M Allen House	Village of Fayette, Gorham Township	Fulton		1.46	+/-	-
Eagle Funeral Home	Village of Fayette, Gorham Township	Fulton		1.48	+	-
E & E Enterprises	Village of Fayette, Gorham Township	Fulton		1.48	+	-
Susan B Paxton House	Village of Fayette, Gorham Township	Fulton		1.49	+	-
Deloss C & Helen Magin House	Village of Fayette, Gorham Township	Fulton		1.49	+	-
Amos Woolace House	Gorham Township	Fulton	56	1.50	+/-	+/-
William Steinem House	Village of Fayette, Gorham Township	Fulton		1.54	+	-
Wilma H Meller House	Village of Fayette, Gorham Township	Fulton		1.55	+/-	-
William Acker Steinman House	Village of Fayette, Gorham Township	Fulton		1.58	+/-	-
Evah M Gable House	Village of Fayette, Gorham Township	Fulton		1.66	+	-
Howard Residence	Franklin Township	Fulton		2.61	+/-	+/-
Runyon Residence	Franklin Township	Fulton		2.85	+	-
Vivian Farm	Chesterfield Township	Fulton		2.89	+	+/-
Edward Eisel Farm	Gorham Township	Fulton		3.45	+/-	-
Perlatti Residence	Franklin Township	Fulton		4.60	V	+/-
Historic Bridges						
None in VSA						
OGS Cemeteries						
Coffin Cemetery	Gorham Township	Fulton	8, 10	0.01	+/-	+/-
Snow Union Cemetery	Gorham Township	Fulton	53	1.03	+/-	+/-
Fayette Cemetery	Village of Fayette, Gorham Township	Fulton		1.38	+	-
Ely-Mount Salem-Presbyterian Cemetery	Franklin Township	Fulton		4.91	+/-	-
Ayers Cemetery	Dover Township	Fulton		4.73	+/-	+/-
Smith Cemetery	Dover Township, Franklin Township	Fulton		4.69	+/-	+/-
Butler Cemetery	Chesterfield Township	Fulton		4.99	+	-

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Ohio Historic State Marker						
4-26 1815 Michigan Meridian	Gorham Township	Fulton		3.45	+/-	-
Designated Scenic Resources						
Rivers Designated as National or State Wild, Scenic or Recreational						
None in VSA						
Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic						
None in VSA						
Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks)						
None in VSA						
Public Lands and Recreational Resources						
National Parks, Recreation Areas, Seashores, and Forests						
None in VSA						
National Natural Landmarks						
None in VSA						
National Wildlife Refuges						
None in VSA						
Heritage Areas						
None in VSA						
State Parks						
Harrison Lake State Park	Gorham Township	Fulton		3.42	+/-	+/-
State Nature Preserves						
None in VSA						
Wildlife Areas						
Tiffin River Wildlife Area	Franklin Township	Fulton		1.70	+/-	+/-
State Forests						
None in VSA						
State Fishing/Waterway Access						
Harrison Lake State Park ADA Friendly Fishing Pier	Gorham Township	Fulton		3.72	-	-
Harrison Lake State Park ADA Friendly Boat Ramp	Gorham Township	Fulton		4.12	-	-
Dock	Gorham Township	Fulton		4.11	-	-
Other State Lands						
None in VSA						

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Trails						
State and Federal Trails						
No stand-alone state/federal trails were identified. However, state trails occur within (and are evaluated as part of) state lands identified elsewhere in this table.						
Red Trail	Franklin Township, Gorham Township	Fulton		3.54	+/-	-
Blue Trail	Gorham Township	Fulton		3.61	+	-
Harrison Lake Trail (1)	Gorham Township	Fulton		3.68	+	-
Snowmobile/ATV Trails						
None in VSA						
Bike Trails/Routes						
None in VSA						
Other Trails						
None in VSA						
Local Parks and Recreation Areas						
Normal Park	Village of Fayette, Gorham Township	Fulton		0.93	+	+/-
4-H Camp Palmer	Gorham Township	Fulton		3.62	+/-	+/-
Publicly Accessible Conservation Lands/Easements						
None in VSA						
Rivers and Streams with Public Fishing Access						
Deer Creek	Gorham Township	Fulton	28-31	0.00	+/-	+/-
Spring Brook	Gorham Township	Fulton	14	0.02	+/-	+/-
Spring Creek	Village of Fayette, Gorham Township	Fulton	1, 43	0.43	+/-	+/-
Bean Creek	Chesterfield, Franklin, Gorham townships	Fulton	49	0.67	+/-	+/-
Iron Creek	Gorham Township	Fulton		1.27	+/-	+/-
Old Bean Creek	Chesterfield, Dover, Franklin, Gorham townships	Fulton		1.53	+/-	+/-
Stag Run	Franklin, Gorham townships	Fulton		1.85	+/-	+/-
Mill Creek	Franklin, Gorham, Mill Creek townships	Fulton, Williams		2.58	+/-	+/-
Tiffin River	Franklin Township	Fulton		3.81	+/-	-
Clear Creek	Franklin Township	Fulton		4.81	-	-
Named Lakes, Ponds, and Reservoirs						
Harrison Lake	Gorham Township	Fulton		3.55	+/-	-

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High-Use Public Areas						
State, US, and Interstate Highways						
US-20	Village of Fayette, Chesterfield, Gorham, Mill Creek townships	Fulton, Williams	1, 2, 7-13, 25, 26	0.00	+/-	+/-
MAIN ST	Village of Fayette, Gorham Township	Fulton	45, 46, 54	0.81	+/-	-
US-127	Gorham Township	Fulton		2.87	+/-	-
I-80	Franklin Township	Fulton		4.42	+/-	+/-
Schools						
Fayette High School	Village of Fayette, Gorham Township	Fulton	55	0.75	+	+/-
Fayette Elementary School	Village of Fayette, Gorham Township	Fulton	55	1.03	+	+/-
Cities and Villages						
Village of Fayette	Village of Fayette, Gorham Township	Fulton	45, 46, 54	0.76	+/-	+/-

[1] If no viewpoint (VP) number is indicated, no photo was obtained during fieldwork.

[2] For large areas and linear sites, approximate distance to the nearest PV panel array was measured from the respective area's closest point.