# Exhibit U
# Visual Resources Technical Report

## Stantec

## February 4, 2021

DICKINSON WRIGHT PLLC

# Birch Solar Project

Visual Resources Technical Report

February 4, 2021

Prepared for:

Lightsource bp

Prepared by:

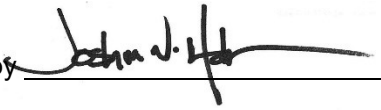
Stantec Consulting Services, Inc.

## Sign-off Sheet

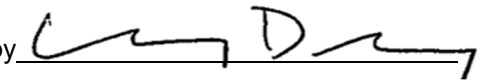
This document entitled Visual Resources Technical Report was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of Lightsource bp (the “Client”). The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes.

Prepared by 

**Kaela Johnson – Visual Resources Specialist**

Technical Review by 

**Josh Hohn, AICP - Visual Resources Practice Lead**

Independent Review by 

**Courtney Dohoney – Project Manager**

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# 1.0 INTRODUCTION

Lightsource bp (Applicant) has retained the services of Stantec Consulting Services Inc. (Stantec) to prepare this technical report assessing potential changes to the visual landscape resulting from the development of the Birch Solar Project (Project). The Project would occupy a 1,410-acre portion of the 2,345-acre Project area, located mostly on farmlands just southwest of Lima, Ohio with portions placed within Shawnee Township in Allen County and Logan Township in Auglaize County (see Figure 1; all figures are attached here as Appendix A). In this technical report, “Project area” refers to all of the land within the 2,345-acre Project boundary. The “Project site” refers to the 1,410-acre designed layout within the Project area.

The Project would consist of an east-west tracking solar panel system and associated facilities, with a nameplate capacity of 300 megawatts alternating current. The power generated by the Project would be transmitted via an overhead generation tie-line (gen-tie) that connects to the Lima Substation, which connects into the regional transmission grid.

The major components of the Project would include solar modules, inverters, access roads, and perimeter fencing. Thin-film or mono-crystalline photovoltaic (PV) solar modules would be connected to a single-axis tracking system, which would be attached to steel piles driven into the ground.

This technical report supports the Applicant’s application to the Ohio Power Siting Board (OPSB) for a Certificate of Environmental Compatibility and Public Need (Certificate) per Ohio Administrative Code (OAC) Chapter 4906-4-08(D)(4), which states that project applicants shall evaluate the potential visual impacts of proposed facilities within at least a 10-mile radius from the project area. Specifically, the Applicant shall:

a) Describe the visibility of the project, including a viewshed analysis and corresponding map of the study area.

b) Describe the existing landscape and evaluate its scenic quality.

c) Describe the alterations to the landscape caused by the facility and evaluate the impact of those alterations to the scenic quality of the landscape.

d) Evaluate the visual impacts to the resources identified in paragraph (D)(I) of this rule, and any such resources within 10 miles of the project area that are valued specifically for their scenic quality.

e) Provide photographic simulations or artist's pictorial sketches of the proposed facility from public vantage points that cover the range of landscapes, viewer groups, and types of scenic resources found within the study area. The applicant should explain its selection of vantage points, including any coordination with local public officials and historic preservation groups in selecting these vantage points.

f) Describe measures that will be taken to minimize any adverse visual impacts created by the facility, including, but not limited to, project area location, lighting, layout, visual screening, and facility coloration. In no event shall these measures conflict with relevant safety requirements.

Section 2.0 of this report, Existing Conditions, describes the existing landscape of the Project area and its visual character. Section 3.0, Methods, describes the approaches taken to satisfy the OAC requirements, including: the viewshed analysis (Figure 2) in Section 4.0; the visual resources inventory (Figure 3) in Section 5.0; and the alterations to the landscape and their impacts to scenic quality discussed in Section 6.0, which are based on evaluation of photographic simulations. The conclusion and mitigation measures included as part of the Project are discussed in Section 7.0.

# 2.0 EXISTING CONDITIONS

The Project is in the northwestern part of Ohio, within the Township of Shawnee in Allen County and the Township of Logan in Auglaize County, about 5 miles southwest of the City of Lima. Nearby communities include the Village of Fort Shawnee (about 2 miles east), the Village of Cridersville (about 1 mile southwest), the Village of Buckland (about 3 miles south), and the Village of Spencerville (about 6.5 miles west). Interstate 75 is about 2 miles east of the Project site. The Project's regional setting is shown in Figure 1.

Agricultural activity is the dominant feature in this flat to gently sloping till plain. The Project area's visual character is defined by the contrast between the predominantly flat farmlands and clusters of vegetation that abut suburban development. The transition of suburban development and agricultural uses is separated by W. Breese Road, which is the primary travel route in this part of Allen County and in the northern part of the Project area (see Figure 4a, Character View A[1]). Beyond W. Breese Road, low-density residences and structures associated with the farmlands are dispersed throughout the Project area and visible in most foreground (within 0.25 mile) and middleground views (0.25 to 3-5 miles away). The flat farmlands allow for open views within the Project area. However, during the growing season background views (beyond 3-5 miles away) are often limited by crops on the adjacent properties (see Figure 4b, Character View B). Longer-distance views of the Project area are also further limited by existing developments and the surrounding vegetation (see Figure 4c, Character View C; and Figure 4d, Character View D).

The Project area consists of segments of farmland mostly used for row-crop agriculture that are bordered by large clusters of mature trees and vegetation. It generally extends west to east from Bowsher Road to Beeler Road, respectively. The western and eastern portions of the Project area are also generally defined by the R.J. Corman railroad, which extends southwest to the Village of Buckland and northeast to the City of Lima. Low-density residences and farm structures are aligned with the surrounding roadway network, including the east/west routes of W. Breese Road, Bowsher Road, W. Hume Road, and Zerkle Road; and the north/south routes of S. Kemp Road, State Route 501, and Sellers Road. The residential development, structures, and equipment associated with the farmlands are visible throughout the Project

[1] Character views are included to support descriptions of existing conditions. They are described in greater detail in Section 3.0.

area, and contribute to the Project area's agricultural character. There are also non-agricultural and non-residential land uses within the Project area, such as the Winona Lake Water Park and Campground (Figure 1). Additionally, the Lima substation is located within the eastern portion of the Project area on Sellers Road.

There is no regional or local Comprehensive Plan available for Allen County, Auglaize County, or Logan Township. The only available Comprehensive Plan is for Shawnee Township, which includes several references to the preservation of the rural and scenic quality of the landscape and farmland, mainly within the context of clustering residential development. It also discusses the preservation of existing scenery and views in areas such as parks and green space by maintaining landscaping at focal points, such as gateways and scenic river views of the Ottawa River (Shawnee Township 2009). The three most prominent gateways within Shawnee Township, include Shawnee Road at the City of Lima boundary, Fort Amanda Road, and Breese Road at the Interstate 75 intersection (Shawnee Township 2009). Additionally, Shawnee Road, Fort Amanda Road, Breese Road, Spencerville Road, and State Route 501 are identified by the Shawnee Township Comprehensive Plan as significant corridors (Shawnee Township 2009).

The Project site is not located near any of the important gateways identified by the Shawnee Township Comprehensive Plan, but is located along segments of W. Breese Road and State Route 501. There are no officially designated wild, scenic, or recreational rivers near the Project area or within 10 miles (ODNR 2020). There are three scenic byways within 10 miles of the Project area, including the Miami and Erie Canal Scenic Byway in Allen County (6.5 miles west), Neil Armstrong Scenic Byway in Auglaize County (6.5 miles south), and the Ohio Lincoln Highway Historic Byway in the City of Lima (5 miles north) (ODOT 2020). However, due to the flat topography, intervening vegetation, and distance from the Project site, the Project is unlikely to be visible from any of these scenic byways.

# 3.0 METHODS

The evaluation of potential visual impacts of proposed facilities relied on three main exercises: 1) preparation of a viewshed analysis, which shows the areas of potential Project visibility within a 10-mile radius based on topography and the height of Project infrastructure; 2) a visual resources inventory, which identifies resources within 10 miles of the Project area that are valued specifically for their scenic quality; and 3) production of visual simulations based on selected photographs of the Project site and which, as a set, provide a basis by which existing visual conditions can be compared to the conditions with the Project in place. The approach taken for each is described below.

Project components evaluated here are limited to the solar modules, racking system, and inverters that are distributed within the fenced Project site. The overhead gen-tie that would connect to the Lima substation has not yet been designed for the Project. As such, potential visual effects identified here focus on the solar modules and their visibility from throughout the surrounding landscape. This technical report evaluates the effects of the solar panel under consideration, mounted to result in maximum potential profile, and with the assumption that the Project would include a single-axis tracking system. Solar modules modeled are 7 feet in length and 3.5 feet in width, with a maximum height of 10 feet. The assumed height of the inverters modeled is 7 feet. The Project would include two types of perimeter fence

– chain link and cedar post farm fencing. Cedar post farm fencing will be around the external facing areas. Chain link fencing will only be used where required, particularly around the substation. For the locations simulated within this report, all fencing is proposed to be the cedar post farm fencing. The model assumed the height of the cedar post farm fencing would be 6 feet.

The viewshed analysis described in Section 4.0 reflects the above assumptions. A viewshed analysis is a Geographic Information Systems (GIS) raster model output that shows a project's theoretical visibility in its surrounding vicinity based on topography and the dimension of project components. Viewshed analyses do not account for the obstructing effects of vegetation, structures, or other objects in the landscape aside from topography. Because a solar project is a polygon and not a single feature, Stantec GIS specialists digitized the Project layout and created a model of points, spaced 500 feet apart, with heights of 10 feet. They ran the model relative to an imported digital elevation model (DEM) based on available data for topography within 10 miles of the Project area. Data in Figure 2 indicate by shade of color along a single spectrum the approximate, theoretical degree of visibility from areas within 10 miles of the Project site (ranging from "more visible" to "less visible").

The visual resources inventory described in Section 5.0 indicates the location of resources valued for scenic quality within a 10-mile radius of the Project area. Additional potentially sensitive receptors or places where people are presumed to gather—including Ohio Department of Natural Resources lands, churches, schools, locations on the National Register of Historic Places, and recreation areas—were inventoried and are included in Figure 3.

Stantec visual resources specialists reviewed aerial imagery, data, and applicable plans to identify potential viewpoints for the simulations. Potential photo points were discussed with the Applicant prior to simulation. Field surveys were conducted by Stantec on November 4, 2020 to photo-document existing visual conditions and views toward the Project site. The view from each Key Observation Point (KOP) was photographed using a 35-millimeter (mm), 18-megapixel, single lens reflex camera equipped with an 18- to 55-mm focal length lens set to 31-mm. This configuration allows for a 50-mm focal length, the industry-accepted standard for approximating the field of vision in a static view of the human eye. The camera positioning was determined with a sub-meter, differentially-corrected global positioning system (GPS). The camera was positioned at eye-level for each photograph. The time at which each viewpoint was photographed was documented to allow for accurate matching between the sun's position in the sky and the orientation of the tracking modules in the simulations.

Stantec selected a representative subset of photographed viewpoints for use as KOPs, which collectively served as the basis for this assessment. This selection reflected results of the viewshed analysis and was done in coordination with the Applicant. Assessments of existing visual conditions were made based on professional judgment that took into consideration sensitive receptors and sensitive viewing areas in the vicinity of the Project area. The locations of the five KOPs in relation to the Project site are presented on Figure 1. In addition, three "character views" were selected to further support discussions of existing visual conditions surrounding the Project area. Character views are views used to support descriptions of existing visual character or discuss a project's potential visibility. They are not used in visual simulations or as the basis for evaluation of potential effects.

The photographs from the KOPs were used to generate a photo-realistic simulation of the Project as proposed. Visual simulations provide clear before-and-after images of the location, scale, and visual appearance of the features affected by and associated with the Project. The simulations were developed through an objective analytical and computer-modeling process and are accurate within the constraints of the available site and alternative data (3-dimensional computer model was created using a combination of AutoCAD files and GIS layers and exported to Autodesk's 3-dimensional Studio Max for production). Design data—consisting of site engineering data, assumed elevations based on solar module and inverter specifications, site and topographical contour plans, concept diagrams, and reference pictures—were used as a platform from which digital models were created. In cases where detailed design data were unavailable, more general descriptions about alternative facilities and their locations were used to prepare the digital models.

# 4.0 VIEWSHED ANALYSIS

The Project viewshed shown in Figure 2 reflects the assumptions described in Section 3.0 and provides a theoretical understanding of both the Project's visibility throughout the surrounding landscape and the intensity of its visibility, based on whether more or less of the entire Project site would be visible. Because the viewshed model does not account for intervening vegetation or structures, and because of the flat terrain upon which the model was based, potential visibility of the Project appears to be high, and there are few areas within a 10-mile radius of the Project area that would not theoretically have visibility of the Project. Because of vegetation, structures, atmospheric conditions, and distance decay associated with the declining visibility of 10-foot-tall structures over long distances, the subsequent evaluation in this report focuses on views within a 2-mile radius of the Project site.

# 5.0 VISUAL RESOURCES INVENTORY

The visual resources inventory shown in Figure 3 reflects the assumptions described in Section 3.0 and shows the spatial relationship between resources valued for scenic quality and other potentially sensitive receptors surrounding the Project area. Sites within the 2-mile radius of the Project area are listed in Figure 3; others between 2 and 10 miles from the Project area are indicated by general type. The sites within 2 miles of the Project area include the Winona Lake Water Park and Campground, the R.J. Corman Railroad, the Fort Amanda Site, the Wheeler Cemetery, and several churches and schools.

# 6.0 DESCRIPTION OF POTENTIAL VISUAL EFFECTS

This section describes views from each KOP, first under existing conditions, and then with the proposed Project simulated. The visual simulations of views illustrate the location, scale, and conceptual appearance of the Project, as seen from each KOP; they allow for comparison of pre-project and post-project conditions as discussed qualitatively below. Existing and simulated images are included in Figures 5 through 9, attached as Appendix A.

## 6.1 KOP 1 – W. BREESE ROAD (WESTBOUND)

### 6.1.1 Existing View

KOP 1 is located along the westbound lane of W. Breese Road (see Figure 1). This KOP was selected to approximate views of the eastern edge of the Project from the nearby residential subdivision. It also represents the views of drivers travelling west, who would first encounter the eastern edge of the Project. The view looks across farmland used for row crop agriculture and toward the Lima substation. The substation consists of several electric transmission structures that vary in form, height, and scale. They are mostly concentrated in the center of the view, but extend in multiple directions over the farmlands to the southeast and southwest. A portion of the R.J. Corman railroad is also visible in the view, as evidenced by the three railroad cars in the left side of the view. A few residences and farm structures located along Sellers Road are also detectable in the right side of the view, between the rows of mature trees that define the view's horizon and limit distant views.

### 6.1.2 View with Project

Figure 5b shows the view from KOP 1 with the Project simulated. From this location, the Project would be about 0.2 mile away. The solar modules would become one of the view's dominant features but would visually relate to the existing industrial character of the Lima substation. The Project would appear as a smooth, blue, horizontal band across the view's middleground. It would be set back and occupy a portion of the undeveloped farmland visible in the view; however, the farmland visible in the foreground would remain a prominent visual feature. As such, the Project would appear contained within the existing agricultural and industrial landscape and would not substantially alter the visual character.

## 6.2 KOP 2- W. HUME ROAD

### 6.2.1 Existing View

KOP 2 is located along W. Hume Road, near the southeastern edge of the Project site (see Figure 1). This KOP represents viewers that are travelling west from the nearby suburban residential developments and would first encounter the Project. The view shown in Figure 6a is to the northeast, looking across Beeler Road, which is bordered by segments of flat farmland and distribution lines. In this view, various forms of electric transmission and distribution infrastructure are prominently visible, particularly within the skyline and in the right side of the view where the Lima substation is located. The background is lined with large stands of trees and taller crops that provide some variation in form, color, and texture to the mostly flat farmlands. Large farm structures and residences, surrounded by trees and vegetation, are also partially visible in the background.

### 6.2.2 View with Project

Figure 6b shows the view from KOP 2 with the Project simulated. In this view, the solar modules, cedar post farm fencing, and access road would be visible from about 0.1 mile away. The Project—in particular the cedar fence posts and tracker support posts—would add a band of vertical structures to the view in

the area just beyond Beeler Road. These structures would alter the horizontal form of the undeveloped farmland. However, because they would be set back from the viewpoint, they would not obstruct views of the electric transmission lines, which would remain visible across the skyline. The solar modules, tracker posts, and cedar fence posts would visually relate to the infrastructural character and vertical forms of these features, and would appear as consistent with the broader visual landscape.

## 6.3 KOP 3 – S. KEMP ROAD (NORTHBOUND)

### 6.3.1 Existing View

KOP 3 is located along S. Kemp Road in the western portion of the Project site (see Figure 1). This KOP represents nearby residential views and viewers travelling on S. Kemp Road. The view to the north consists of flat farmlands on both sides of the road. The farmlands surrounding the road are at different stages in the growing season, and therefore somewhat contrast as they differ in color and texture. Farm structures and residences associated with the farmlands occupy the view's middleground and are surrounded by mature trees and vegetation, obstructing distant views. There is also a distribution line that parallels the left side of S. Kemp Road in the photo. The distribution line consists of single wooden poles that extend into the skyline and appear as the tallest features in the landscape.

### 6.3.2 View with Project

Figure 7b shows the view from KOP 3 with the Project simulated. The Project would be placed on both sides of S. Kemp Road, occupying most of the undeveloped farmlands. The placement of the solar modules and cedar post farm fencing on both sides of the road would provide symmetry to the view; however, this symmetry would only be observed in midday hours, when the modules on both sides of the road are facing upwards to capture midday light. The panels in this view are currently tilted to the west for afternoon light. The panels in the left side of the view would appear darker compared to the panels in the right side. This effect would be similar to the current conditions of the farmland, which contrast in color and texture. With the addition of the solar arrays, the view would become mechanized as solar modules would be the most prominent features.

## 6.4 KOP 4 – S. KEMP ROAD (SOUTHBOUND)

### 6.4.1 Existing View

KOP 4 is located along the southbound lane of S. Kemp Road (see Figure 1). This KOP represents viewers travelling south on S. Kemp Road, likely from the nearby residential area or Fort Amanda Road (a primary travel route). The view to the southeast consists mostly of flat farmland as distant views are blocked by the large trees and vegetation that extend across the entire view. Other than the trees and vegetation in the foreground and middleground, the flat farmland has little variation in color and texture. Several farm structures and residences associated with the farmland are visible in the left side of the view and are representative of a working agricultural landscape.

### 6.4.2 View with Project

Figure 8b shows the view from KOP 4 with the Project simulated. The Project would be about 0.4 mile away and appear as a thin blue line in the center of the view. From this distance, the Project would be barely detectable and would not alter the existing visual character of the landscape features visible in this portion of the Project area. The flat farmland, farm structures, and rows of trees would remain the dominant visual features in the view.

## 6.5 KOP 5 – W. BREESE ROAD (EASTBOUND)

### 6.5.1 Existing View

KOP 5 is located along the eastbound lane of W. Breese Road (see Figure 1). This KOP represents viewers travelling on W. Breese Road and turning to enter the Winona Lake Swim and Tennis Club, a public swimming lake and recreation area. The view to the southwest looks across the flat farmland located beyond the wire fencing. A distribution line consisting of single, wooden poles defines the view's middleground. The structures run north to south, parallel to a private driveway that bisects the farmlands. The linear path of the private driveway is further defined by the taller rows of crops that are visible in the distance. The taller crops extend into the background and partially obscure views of the farm structures located in the right side of the view.

### 6.5.2 View with Project

Figure 9b shows the view from KOP 5 with the Project simulated. From this location, the solar modules would be about 0.1 mile away. The solar modules would appear beyond the cedar post farm fencing, which would be the tallest feature in the view and extend into the skyline. The grid pattern of the farm fence and cedar posts would be prominently visible at this distance and somewhat diminish the presence of the solar modules extending across the view. The panels are angled for morning light in this view and would allow for partial visibility of the nearby structures and vegetation. However, such visibility may vary as the panels rotate over the course of a day and would alter the existing character.

# 7.0 CONCLUSION AND MITIGATION MEASURES

The Birch Solar Project would place solar modules and other associated infrastructure across approximately 1,410 acres of current farmland. The presence of the Project would be visually unique to the local landscape and would alter the existing visual character, which is defined by the transition from flat agricultural lands to suburban development.

The solar modules would be highly visible and identifiable to viewers. As shown in the simulated views from KOP 1 through KOP 5, the Project would be evident to varying degrees to viewers travelling along the surrounding roadway network to and from the nearby residential and recreational uses. Views of mechanical structures, such as those associated with the Lima Substation, are already prevalent throughout the Project area, particularly in the eastern portion of the Project area near the residential subdivisions. The construction of the Project would increase the presence of such structures in the Project area. The Applicant proposes to place vegetation in strategic locations along the perimeter of the Project area to partially screen the Project in views from the nearby residences and roadways. Figures 10 and 11 provide representative views of the Project from KOP 1 and KOP 2 with the vegetation at 6 feet tall at the time of planting and full grown at 8 feet tall. The Project would be partially obscured in direct views from the nearby residences with the addition of the vegetation; however, the color and form of the solar modules would remain detectable between the vegetation. The Applicant proposes 300-foot panel setbacks from residences and highly traveled roadways to further reduce visibility. The area within these setbacks will be used as agricultural land further reducing visibility of panels when row crops are present.

Visibility of the Project would decrease over relatively short distances. As shown in the view from KOP 4, the Project would be barely detectable from about 0.4 mile away. The Project would also be segmented across the 2,345-acre Project area and separated by the surrounding roads, vegetation, and existing structures. These features would further limit visibility of the Project in long distance views, as shown in Character Views C and D (see Figures 4c and 4d), which are located about 0.3 and 1 mile away, respectively. This decrease in visibility defines the outer extent of the Project's actual viewshed as the Project would be less visible in views from distances further away, including views from the sensitive receptors located about 2 miles from the Project site. Additionally, views of the Project would be further limited by the flat topography of the Project area, proposed vegetation plantings, and crops on adjacent lands during the growing season. Therefore, the Project would not be prominently visible in broader, more long-distance views and affirms the decision to focus this evaluation on views no further than 2 miles from the Project area.

# 8.0 REFERENCES

Ohio Department of Natural Resources (ODNR). 2020. Ohio's Scenic Rivers Program. https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/land-water/rivers-streams-wetlands/scenic-rivers-program. Accessed November 23, 2020.

Ohio Department of Transportation (ODOT). 2020. Transportation Information Mapping System, Ohio Scenic Byways. https://gis.dot.state.oh.us/tims/map?center=-82.3957249258472,40.30740586131881&level=8&visiblelayers=Assets:-1%7CBoundaries:-1%7CEnvironmental:-1%7CProjects:-1%7CRoadway%20Information:13. Accessed November 23, 2020.

Shawnee Township. 2009. Shawnee Township Comprehensive Plan, October 2009. https://www.lacrpc.com/wp-content/uploads/2020/08/Shawnee-Township-Comprehensive-Plan.pdf. Accessed November 23, 2020.

# Appendix A FIGURES

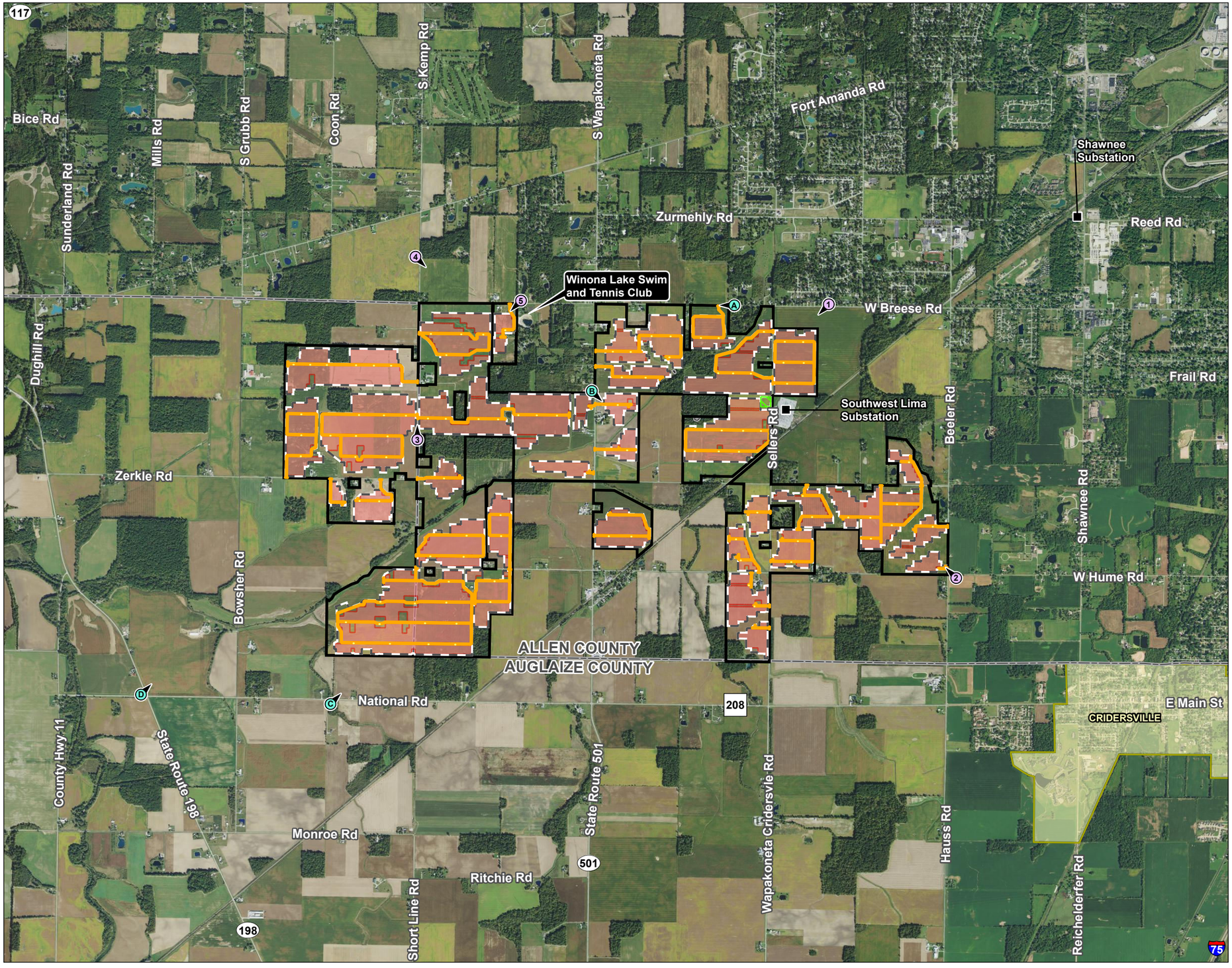



*Figure No.*

**1**

*Title*

## Project Location, Key Observation Points, and Character Views Map

*Client/Project* 2028113238

Lightsource bp
Birch Solar Project

*Project Location*
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2020-11-11
TR by CMD on 2021-02-04
IR by KJ on 2021-02-04

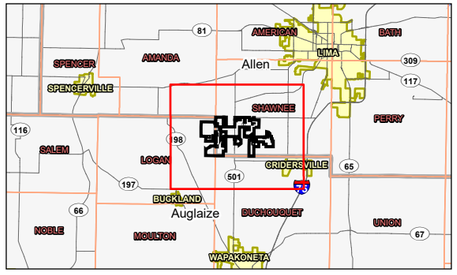
N

0 1,500 3,000 Feet

(At original document size of 11x17)
1:36,000

Legend

- Project Area
- Solar Array
- Inverter
- Substation
- Security Fence Boundary
- Access Road
- Existing Substation
- Key Observation Point
- Character View




***Notes***

**1.** Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
**2.** Data Sources: Stantec, Lightsource, USGS, NADS
**3.** Orthophotography: 2019 NAIP

Stantec

*Figure No.*
**2**

*Title*
## Project Viewshed Map

*Client/Project*
Lightsource bp
Birch Solar Project

2028113238

*Project Location*
Allen and Auglaize Counties, Ohio

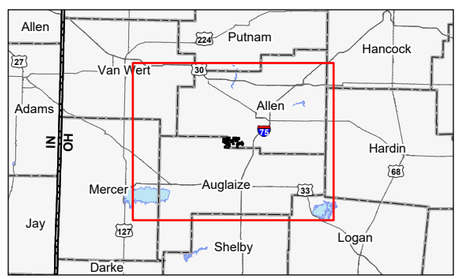
Prepared by JLH on 2020-11-11
TR by CMD on 2021-02-04
IR by KJ on 2021-02-04

N

0 1.5 3 Miles
(At original document size of 11x17)
1:190,080

Legend
- Security Fence Boundary
- Radius from Project Boundary
- Key Observation Point

Visibility Assessment[4]
- More Visible
- Less Visible




***Notes***
**1.** Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
**2.** Data Sources: Stantec, Lightsource Renewable Energy, USGS, NADS
**3.** Orthophotography: Esri**4.** Visibility indicates the theoretical visibility of solar panels 15 feet in height above the existing terrain to a 6 foot observer height. 3 meter elevation data was used for this analysis.

Stantec

*Figure No.*

**3**

*Title*

## Visual Resources Inventory Map

*Client/Project* 2028113238

Lightsource bp
Birch Solar Project

*Project Location*
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2020-11-11
TR by CMD on 2021-02-04
IR by KJ on 2021-02-04

N

0 1.25 2.5 Miles

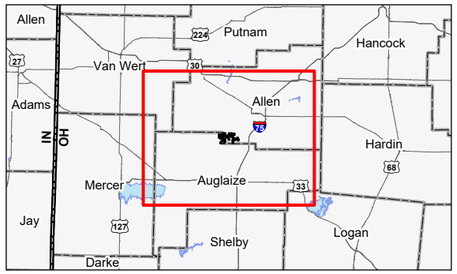
(At original document size of 11x17)
1:162,000

Legend

- Security Fence Boundary
- Radius from Project Boundary
- NRHP Listed Property
- College/University/ School
- Place of Worship
- Cemetery
- Scenic Byway
- Railroad
- ODNR Land
- Recreation Area

**VRI Label (within 2-miles)**

1: Fort Amanda Site
2: R.J. Corman Railroad
3: Wheeler Cemetery
4: Hume United Methodist Church
5: Maplewood Intermediate School
6: Shawnee First Church of God
7: Shawnee High School
8: Shawnee Middle School
9: Shawnee United Methodist Church
10. Heritage Park
11. Apollo Career Center
12. St Stephen The First Martyr Orthodox Church
13. Pilgrim Holiness Church
14. Meadowbrook Baptist Church
15. Elmwood Primary School
16. Shawnee Alliance Church
17. St Matthew Lutheran Church
18. Westview United Methodist Church
19. Cridersville Elementary School
20. Cridersville Independent Baptist Church
21. Cridersville United Methodist Church
22. Cridersville Church of The Nazarene
23. CSX Railroad
24. Winona Lake Swim and Tennis Club




***Notes***

**1.** Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
**2.** Data Sources: Stantec, Lightsource, Esri, USGS, ODNR, NPS, NADS
**3.** Orthophotography: 2019 NAIP

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4a) View to the north from Character View A. This view is to the west along W. Breese Road, a primary travel route that defines the transition from suburban development to agricultural uses. From this location, the Project would be visible on both sides of the road.

4b) View to the north from Character View B. This viewpoint is located along State Route 501 and is representative of the active agricultural lands that define this region. The Project would extend across the view within 300 feet from the road.

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*Project Location*
Allen and Auglaize Counties, Ohio

*Client/Project*
Lightsource bp
Birch Solar Project

*Figure No.*
**4**

*Title*
**Character Views**

4c) View to the northeast from Character View C. This viewpoint provides a narrow view of the Project, which would be located in the left side of the view about 0.3 mile away. Due to the distance, flat topography, and intervening vegetation the Project would be barely detectable in the view's background.

4d) View to the northeast from Character View D. The viewpoint is located along Highway 198, located about 1 mile away. This view demonstrates limited visibility of the Project, which would be located in the left side of the view beyond the rows of vegetation and existing development.

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*Project Location*
Allen and Auglaize Counties, Ohio

*Client/Project*
Lightsource bp
Birch Solar Project

*Figure No.*
**4**

*Title*
**Character Views**

a) View to the southwest from KOP 1. The view is from the westbound lane of W. Breese Road about 0.60 mile from the Lima substation. A portion of the R.J. Corman railroad is also visible in the view, as evidenced by the three railroad cars in the left side of the view.

b) View from KOP 1 with the Project simulated.

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*Project Location*
Allen and Auglaize Counties, Ohio

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Lightsource bp
Birch Solar Project

*Figure No.*
**5**

*Title*
**Key Observation Point 1**

a) View to the northeast from KOP 2. This viewpoint is located along W. Hume Road, near the southeastern edge of the project site. The Lima substation is visible in the right side of the view about 1.25 miles away.

b) View from KOP 2 with the Project simulated.

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*Project Location*
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Birch Solar Project

*Figure No.*
**6**

*Title*
**Key Observation Point 2**

a) View to the north from KOP 3. This KOP is located along S. Kemp Road in the western portion of the project site. The Project would be visible to viewers on both sides of the road.

b) View from KOP 3 with the Project simulated.

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*Project Location*
Allen and Auglaize Counties, Ohio

*Client/Project*
Lightsource bp
Birch Solar Project

*Figure No.*
**7**

*Title*
**Key Observation Point 3**

Summary: Application - 27 of 31 (Exhibit U – Part 1 of 2 - Visual Resources Technical Report) electronically filed by Christine M.T. Pirik on behalf of Birch Solar 1, LLC