

Appendix H
Visual Impact Assessment for the Buckeye
Wind Project

Visual Impact Assessment

Buckeye Wind Project Champaign County, Ohio

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1.0 Introduction

Environmental Design & Research, Landscape Architecture, Planning, Environmental Services, Engineering and Surveying, P.C. (EDR) was retained by Buckeye Wind LLC, a wholly owned subsidiary of EverPower Wind Holdings, Inc., (“Project Sponsor”) to prepare a Visual Impact Assessment (VIA) for the proposed Buckeye Wind Project (the Project) located in Champaign and Logan County, Ohio. The purpose of this VIA is to:

- Describe the appearance of the visible components of the proposed Project.
- Define the visual character of the Project study area.
- Inventory and evaluate existing visual resources and viewer groups.
- Evaluate potential Project visibility within the study area.
- Identify key views for visual assessment.
- Assess the visual impacts associated with the proposed action.

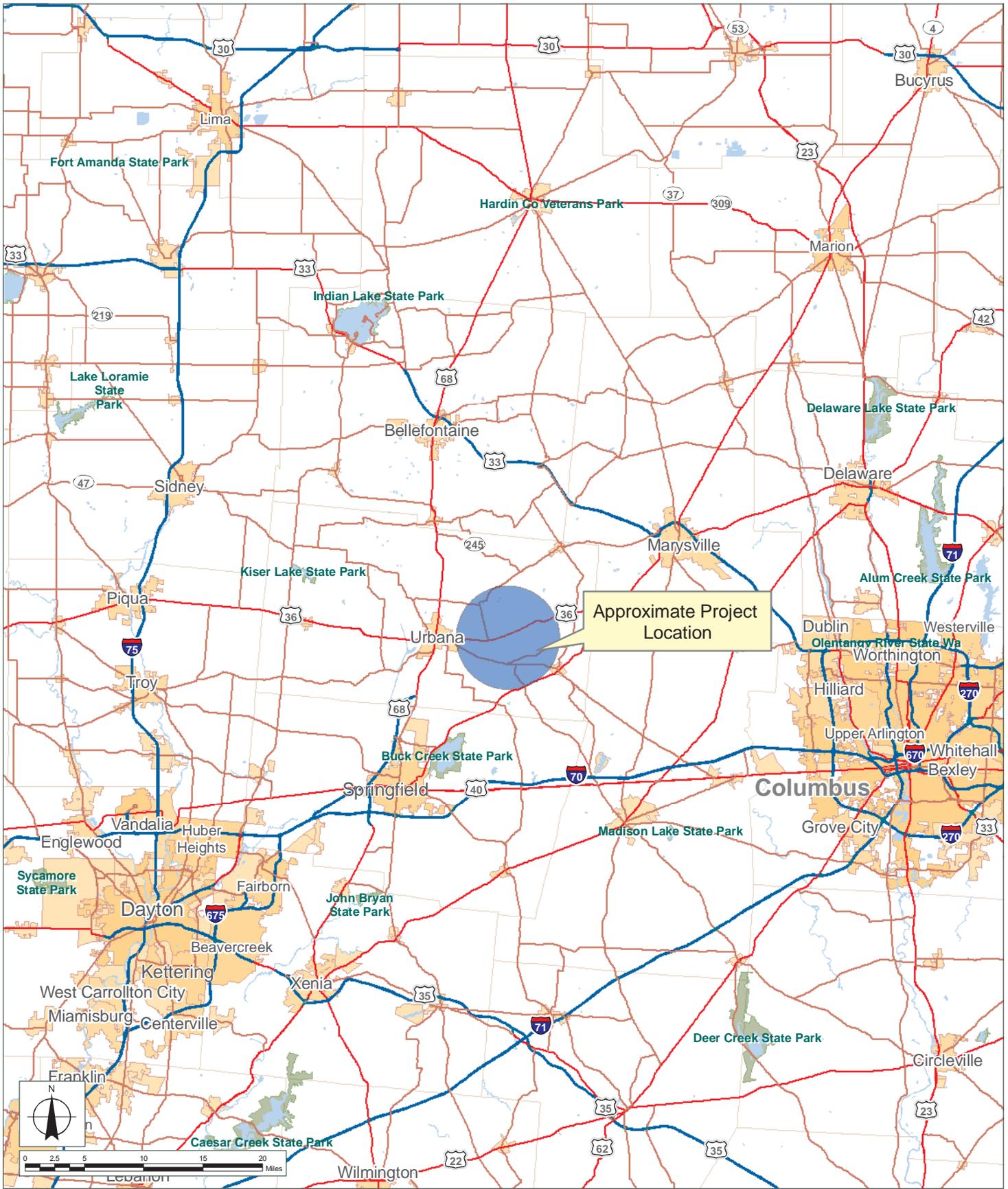
This VIA was prepared under the direct guidance of a registered landscape architect experienced in the preparation of visual impact assessments. It is also consistent with the policies, procedures, and guidelines contained in established visual impact assessment methodologies (see Literature Cited/References section).

2.0 Project Description

2.1 Project Site

The Project site includes approximately 9,000 acres of leased private land in the Towns of Salem, Wayne, Rush, Goshen, Urbana, and Union in Champaign County, Ohio (Figure 1). The site is roughly bounded by State Route 245 to the north, State Route 559 to the east, State Route 4 to the south, and State Route 54 and U.S. Route 68 to the west. The site is located approximately 0.5 mile east of the City of Urbana, 0.5 mile northwest of the Village of Mechanicsburg, 4 miles southwest of the Village of North Lewisburg, 6 miles northeast of the City of Springfield, and 6 miles southeast of the Village of West Liberty. It is approximately 21 miles west of Columbus, and 20 miles northeast of Dayton (as measured to the nearest turbine).

The Project site is located on an elevated plateau that is characterized by level to gently-rolling topography with elevation ranging from approximately 1,080 feet above mean sea level (amsl) in the eastern, southern and western portions of the Project site to 1,335 feet amsl at the central portion of the Project site. Land use within the Project site is dominated by active agriculture, with farms and single-family rural residences generally occurring along the road frontage (see representative photos in Appendix C).



■ Buckeye Wind Project
 Champaign County, Ohio

Figure 1: Regional Project Location



Notes:
 Base Map: ESRI StreetMap North America, Year 2008.

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2.2 Proposed Project

The proposed Project evaluated in this VIA is a wind-powered electric generating facility, consisting of 70 wind turbines and associated support facilities (roads, overhead/buried electrical interconnect cable, meteorological towers, substation, and operations and maintenance building). Project configuration/layout is illustrated in Figure 2. The major components of the proposed Project are described below:

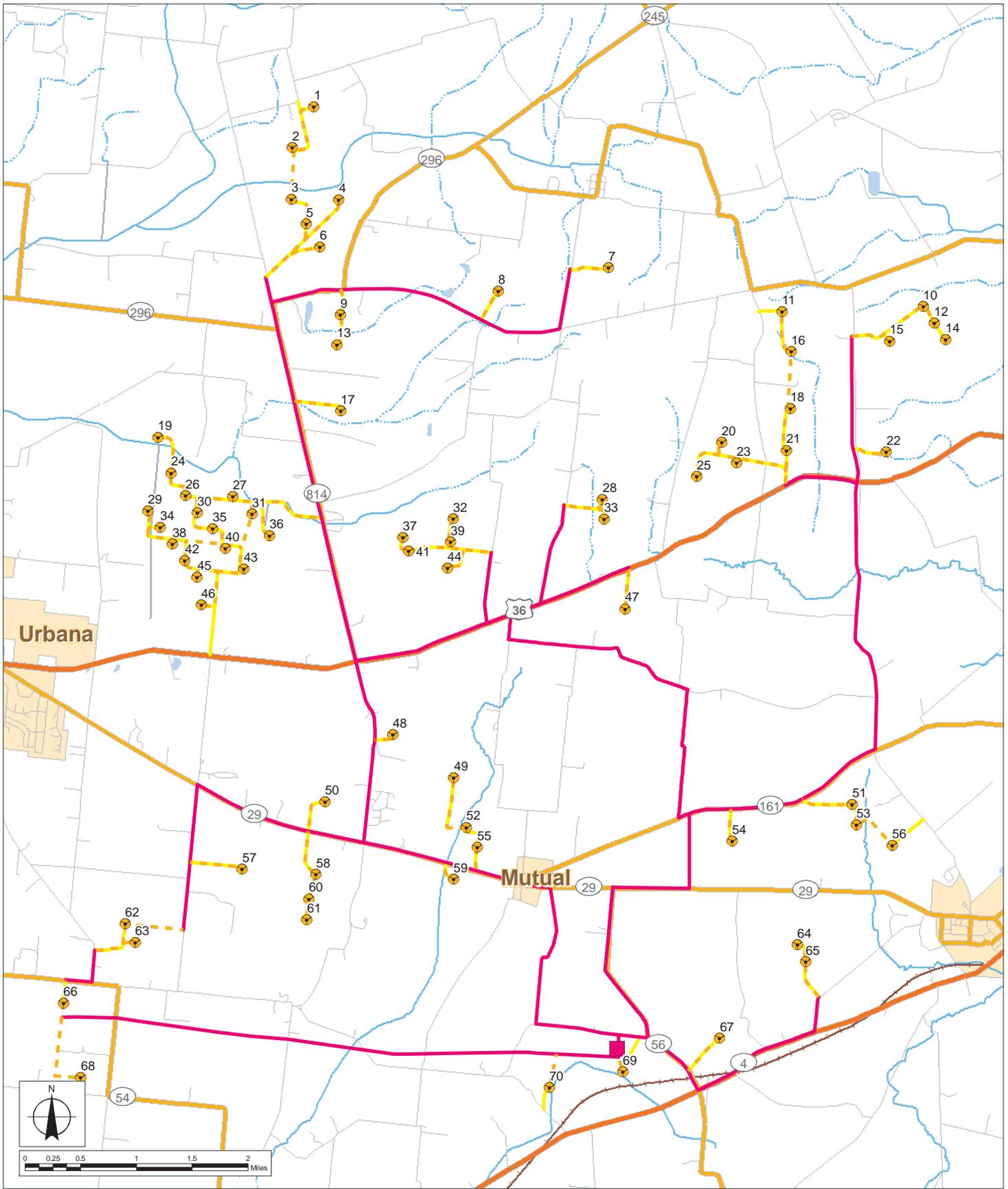
2.2.1 Wind Turbines

The wind turbines proposed for this Project will be in the 1.8-2.5 MW range, (total project size approximately 126-175 MW). Although several turbine models are being considered, for the purpose of the VIA, it was assumed that the Nordex N100 turbine will be utilized on the Project. This turbine is larger than others being considered (e.g., Repower MM92) and therefore presents a worst case assessment of Project visibility. Each wind turbine consists of three major components; the tower, the nacelle, and the rotor, all of which will be white in color. The height of the tower, or “hub height” (height from foundation to top of tower) will be approximately 328 feet (100 m). The nacelle sits atop the tower, and the rotor hub is mounted to the nacelle. Assuming a 100 m rotor diameter, the total turbine height (i.e., height at the highest blade tip position) will be approximately 492 feet (150 m). A computer model illustrating the appearance of the proposed turbine is shown in Figure 3. Descriptions of each of the turbine components are provided below.

Tower: The towers used for this Project are conical steel structures manufactured in multiple sections. The towers have a base diameter of approximately 13 feet and a top diameter of approximately 9.5 feet. Each tower will have an access door and an internal safety ladder to access the nacelle.

Nacelle: The main mechanical components of the wind turbine are housed in the nacelle. These components include the drive train, gearbox, and generator. The nacelle is approximately 35 feet long, 13 feet tall, and 11.5 feet wide. Attached to the top of up to approximately half of the nacelles, per specifications of the Federal Aviation Administration (FAA), will be a single aviation warning light. These will be medium intensity flashing red lights (L864) and operated only at night. For the purposes of this study, it is assumed that the nacelle will include no obvious lettering, logo, or other exterior marking.

Rotor. A rotor assembly is mounted to the nacelle to operate upwind of the tower. Each rotor consists of three composite blades, each approximately 164 feet (50 m) in length (total rotor diameter = 328 feet or 100 m). The rotor blades are rotated along their axis or “pitched” to enable them to operate efficiently at varying speeds. Also, the rotor can spin at varying speeds (between 9.6 and 14.9 revolutions per minute) to operate more efficiently at lower wind speeds.

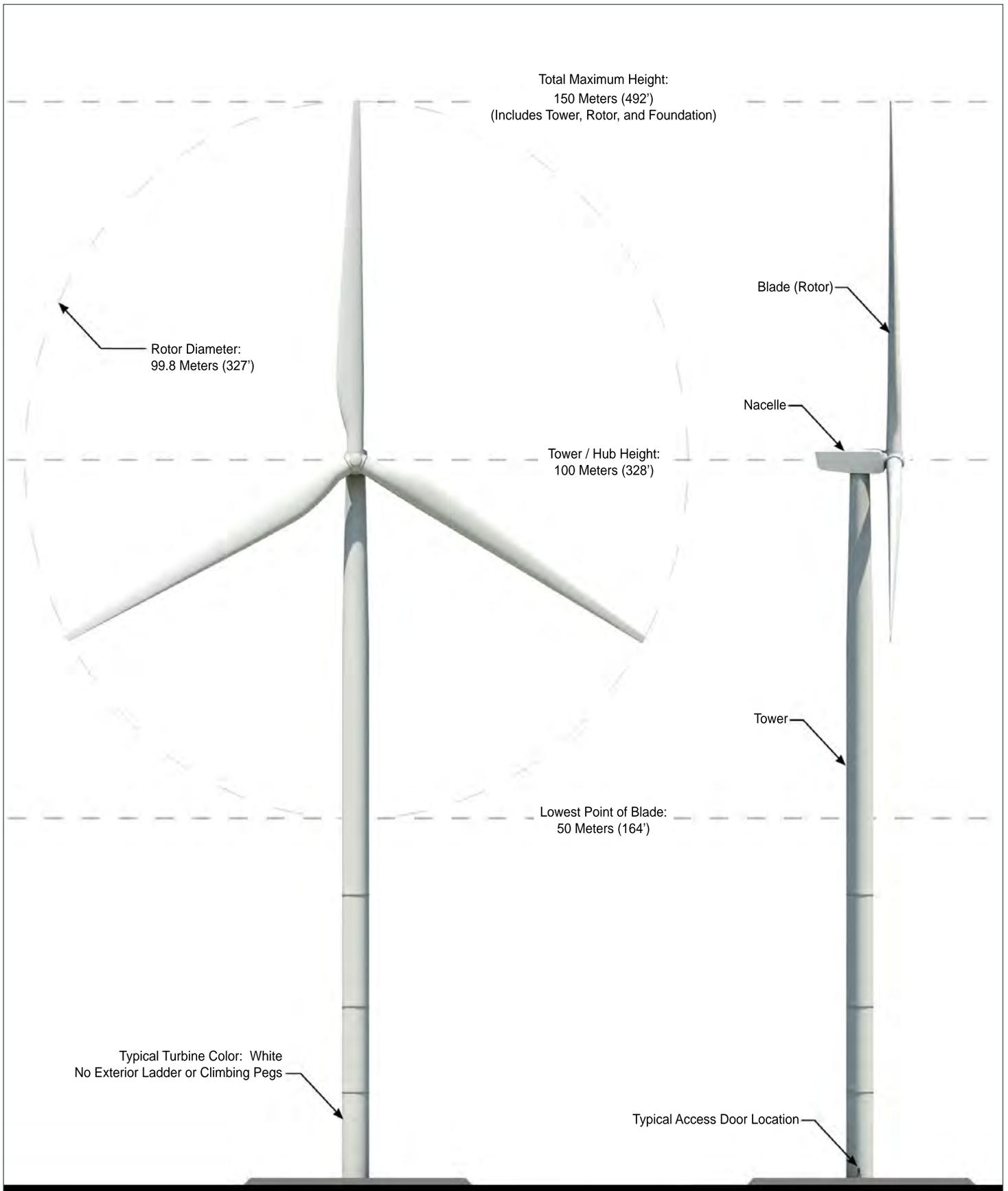


Buckeye Wind Project
 Champaign County, Ohio
 Figure 2: Proposed Project Layout

- Substation
- Turbines
- Buried Interconnect
- Overhead Interconnect
- Access Roads

Notes:
 Base Map: ESRI StreetMap USA, Year 2006.





■ Buckeye Wind Project

Champaign and Logan Counties, Ohio

Figure 3: Computer Model of Proposed Turbine

Notes: Nordex N100

2.2.2 Electrical System

The proposed Project will have an electrical system that consists of 1) a system of buried and above-ground 34.5 kilovolt (kV) cables that will collect power from each wind turbine, and 2) a substation that transfers the power from the 34.5 kV cables to the existing Urbana-Mechanicsburg-Darby 138 kV transmission line and regional power grid. Each of these components is described below.

Collection System: A transformer located in the nacelle or adjacent to the base of each turbine raises the voltage of electricity produced by the turbine generator up from roughly 690 volts to the 34.5 kV voltage level of the collection system. From each turbine transformer, the electricity will flow into the collector circuit, which along with the turbine communication cables will run between the turbines and overhead to the substation. A total of approximately 65.4 miles of cable will be installed (39.8 miles overhead and 25.6 miles underground). Of the 25.6 miles of buried cable, 21.4 miles (84%) is collinear with Project access roads, and the location of these lines is indicated in Figure 2. The overhead collection lines are anticipated to run along public roads within the study area to the proposed substation site. The Applicant has signed a Letter of Intent with Dayton Power and Light (DPL), and is currently working to finalize the engineering and design of the overhead portions of the collection system. However, the exact location and appearance of the overhead lines have yet to be determined. Compared to the wind turbine, these lines are a very minor visual component of the Project. In addition, 34.5 kV lines often run along rural roadways and will generally not appear out of place in this setting (see examples of typical 34.5 kV lines in Appendix E). Consequently, this component of the Project is not the subject of further evaluation in this study.

Substation: The substation will be located on private land near the intersection of Pisgah Road and Route 56 in the Town of Union, adjacent to the Givens to Mechanicsburg section of the Urbana-Mechanicsburg-Darby 138 kV transmission line. The station terminates the 34.5 kV collection cables and steps the voltage up to 138 kV prior to connection with the transmission system. The substation will encompass up to 1.6 acres and will be enclosed by a chain link fence and accessed by a new gravel access road. The substation control building will require utility service (phone and electrical) that will be run from the nearest existing local utility lines. Design of the proposed substation has not yet been finalized, but examples from other wind power projects showing the typical appearance of such facilities

are included in Appendix E. As these examples illustrate, although they present contrast with the existing landscape in line, color, texture and form, substation components are relatively low in height and have limited solid mass. Consequently, they are generally only visible from foreground locations (i.e., within 0.5 mile) where natural screening is lacking. Their visual impact is thus limited, and is not the subject of further evaluation in this report.

2.2.3 Access Roads

The Project site includes an extensive network of existing state, county and local roads. Therefore, existing roads will be used to access the proposed Project in a way that minimizes the number of public roads used and the amount of Project related traffic. However, it is possible that some existing public roads will need to be improved to facilitate Project construction. Although the location and extent of these public road improvements is currently unknown, they are not anticipated to significantly change the character of the roads, and therefore are not evaluated in this study.

In addition to using the existing public roads, the Project will require the construction of new or improved private roads to access individual turbine sites. The proposed location of Project access roads is shown in Figure 2. The total length of access roads required to service all proposed wind turbine locations is approximately 23.3 miles, the majority of which will be upgrades to existing farm lanes. The roads will be gravel-surfaced and typically 36 to 40 feet in width including side slopes. Each road will be individually designed for site-specific engineering and environmental constraints, therefore as-built road widths may vary. Following construction, Project access roads will be reduced in width to 16-20 feet, and will receive very limited use. Although included in any simulations where they may be visible, these access roads take on the appearance of farm lanes, and generally do not have a significant long-term visual impact. Consequently, the visibility and visual impact of Project access roads, on their own, are not evaluated in this study.

2.2.4 Meteorological Towers

One or more 328-foot (100 m) tall meteorological towers will be installed to collect wind data and support performance testing of the turbines. The Project Sponsor anticipates that these towers will be galvanized steel structures, with wind monitoring instruments suspended at the end of booms attached perpendicular to the tower. It is assumed that red aviation warning lights will be mounted at the top of the meteorological towers. The towers will be sited upwind of the prevailing wind direction

within the larger Project area, but the final design and location of these towers have yet to be determined. In addition, meteorological towers typically have limited visibility and visual impact relative to the adjacent turbines. Consequently, this component of the Project is not addressed in this study.

2.2.5 Operations and Maintenance Facility

An operations and maintenance (O&M) building will house the command center of the Project's supervisory control and data acquisition (SCADA) system. A storage yard adjacent to the O&M building will house equipment and materials necessary to service the Project. At this time, it is anticipated that an existing structure in the vicinity of the proposed Project will be purchased and refurbished for use as the O&M facility. However, if a new building is needed, it is not expected to exceed 6,000 square feet in size. The O&M building and storage yard will utilize up to 2 acres of land. The Project Sponsor will incorporate motifs and design elements into the construction of the O&M building to ensure that it blends with the area's agricultural landscape. Likewise, if necessary, the Project Sponsor will provide visual screening (e.g. vegetation, berms, etc.) to reduce the visual impact of the associated storage yard. Consequently, the O&M facility should be compatible with the existing landscape, and is not evaluated as part of this study.

3.0 Existing Visual Character

Based on established visual assessment methodology the visual study area for the Project was defined as the area within a 5-mile radius of each of the proposed turbines, and includes approximately 268 square miles in Champaign County. This area includes all or portions of the City of Urbana, the Villages of North Lewisburg, Woodstock, Mechanicsburg, Mutual and Catawba, and the hamlets of Middletown, Fountain Park, Kennard, Cable, and Mingo. The location of the visual study area is illustrated in Figure 4.



Buckeye Wind Project

Champaign County, Ohio

Figure 4: Visual Study Area

- Turbines
- 5 Mile Study Area

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Notes:
USGS 1:100000 Bellefontaine and Springfield Quadrangles.



3.1 Physiographic/Visual Setting

3.1.1 Landform and Vegetation

The visual study area is in the Bellefontaine Uplands physiographic sub-region of the Central Ohio Till Plains. This area is distinguished by gently rolling hills and moderate slopes formed as a result of glacial processes. Elevations within the study area range from approximately 950 to 1,400 feet amsl. Higher elevation land occurs along a dissected plateau that is oriented in a north-south direction through the central portion of the study area. Level, lower elevation plains occur to the east and west, and broad valleys associated with the Mad River and Buck Creek occur to the southwest and south, respectively.

Vegetation in the study area is dominated by active agricultural land (pasture and active crop fields) with scattered areas of upland and riparian forest and some successional shrub land. Open fields are often interspersed with and bordered by hedgerows and small woodlots. Significant blocks of forest (upland and riparian) occur primarily on steeper slopes and in stream valleys in the central and eastern portion of the study area. Forest vegetation is primarily deciduous (oak-hickory and northern hardwoods).

3.1.2 Land Use

Land use within the 5 mile-radius visual study area is dominated by agricultural land, farms, and rural and suburban style residences. Farms in the area are typically large (average size over 200 acres), with soybeans, corn wheat and hay being the primary agricultural crops grown in the area. Higher density residential and commercial development is concentrated in the City of Urbana, the Villages of North Lewisburg, Woodstock, Mechanicsburg, Catawba, and Mutual, and several small settlements including the hamlets of Mingo, Kennard, Fountain Park, Cable, and Middletown. The study area also includes a portion of Northridge, which is a suburb located immediately north of the City of Springfield. The city and villages are generally characterized by a main street business district, surrounded by traditional residential neighborhoods, with some commercial frontage development along the outskirts. Hamlets within the study area are relatively small pockets of development within a primarily rural/agricultural landscape. Suburban residential and commercial development occurs outside the cities and villages, primarily in the southwestern portion of the study area. Outside the areas of concentrated human settlement, commercial/industrial uses within the

study area occur along certain portions of state and county highways in the area. These include automobile dealerships, retail/convenience stores, farm suppliers, and equipment yards.

3.1.3 Water Features

Water features within a 5-mile radius of the Project site are primarily the headwaters and tributaries of Big Darby Creek, Mad River, and Deer Creek. The study area also includes Muzzy's Lake, located just west of the City of Urbana, as well as the C.J. Brown Reservoir within Buck Creek State Park, in the southern portion of the visual study area. The majority of the water features within the study area are small streams and ponds that occur on private land, and therefore receive very limited recreational use. However, public access to the C.J. Brown Reservoir is available, and this water body receives considerable recreational use, including boating, swimming, and fishing. Most of the streams within the study area are not major visual components of the landscape, and typically can only be seen at, or in proximity to public road crossings.

3.2 Landscape Similarity Zones

Within the 5-mile radius visual study area, four major landscape similarity zones (LSZ) were defined. The USGS Land Cover Data used to help define the location of these zones is illustrated in Figure 5 (Sheet 1), along with representative photos of each (Sheets 2 and 3). The general landscape character, use, and potential views to the proposed Project within each of the LSZs that occur within the study area are described below.

3.2.1 Zone 1: Rural Residential/ Agricultural Zone

The Rural Residential/ Agricultural landscape similarity zone (LSZ) is the dominant landscape type, and occurs throughout the study area. The landscape is characterized by level to gently rolling topography with a mix of farms and rural residences, open fields, hedgerows, and small woodlots. Open fields tend to occur on the more level ground, while woodlots and bands of forest vegetation occur more commonly on steeper slopes and poorly drained areas. Dominant agricultural uses include crop farming (primarily soybeans, corn, wheat and hay) along with pasture. Due to the presence of open fields, views within this LSZ are more open and long distance than those available in other zones within the study area. These views typically include a level to gently sloping foreground landscape, with woodland vegetation in the background, and, in places, crossing or framing the view. Views in the Rural Residential/Agricultural LSZ include widely scattered homes,

barns and silos, with working farm equipment occasionally seen in the fields. Due to the location of the turbines on an elevated plateau, the abundance of open fields, and the proposed location of turbines exclusively within this zone, foreground (0-0.5 mile), midground (0.5-3.5 miles), and background (>3.5 miles) views of the proposed Project will be available from many areas within the Rural Residential/Agricultural LSZ.

3.2.2 Zone 2. City/Village Zone

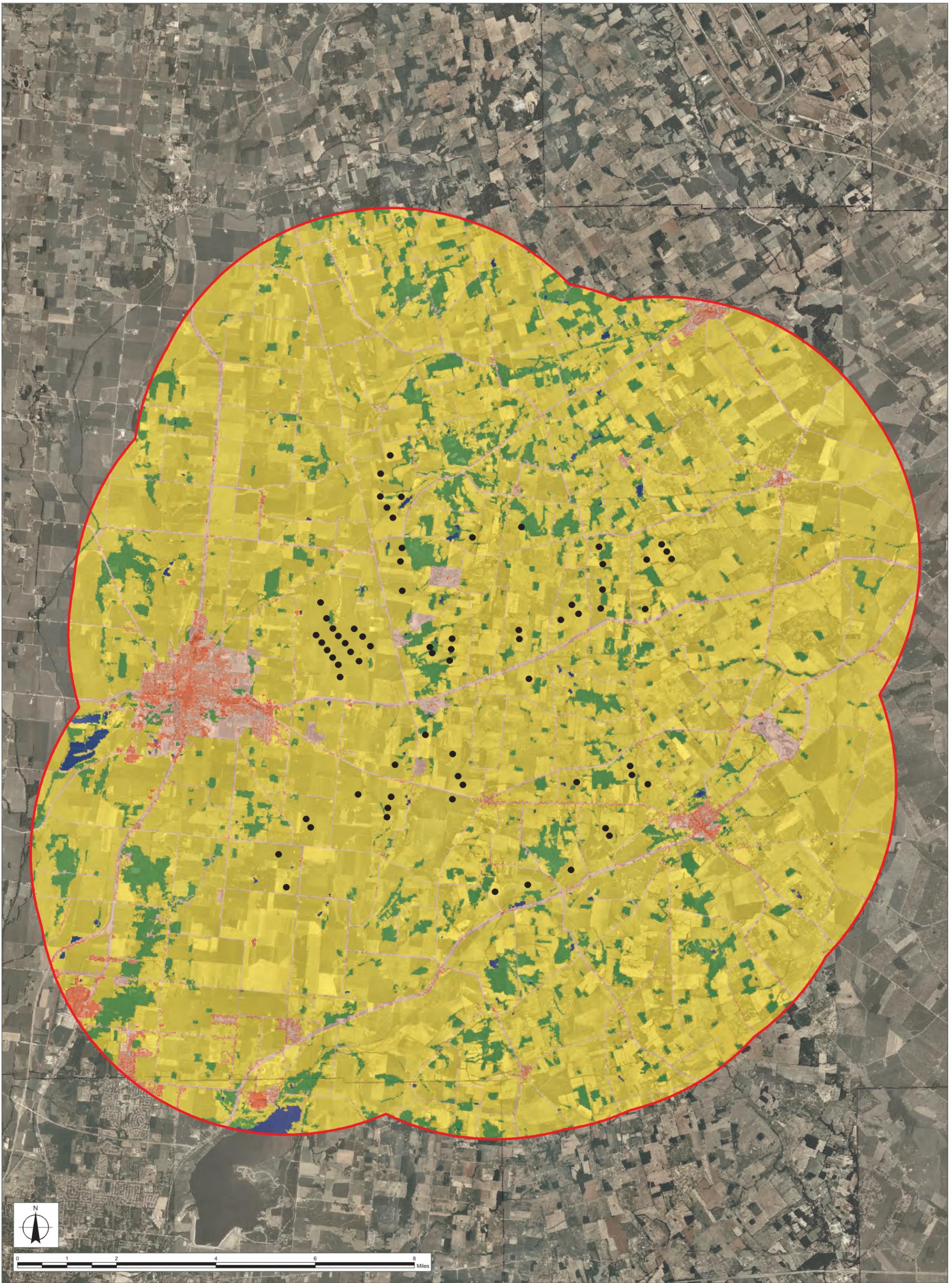
This LSZ includes the City of Urbana and the various villages within the visual study area. This zone is characterized by high to moderate-density residential and commercial development. Vegetation and landform contribute to visual character in the city and village areas, but within the majority of this zone, buildings (typically 2-3 stories tall) and other man-made features dominate the landscape. These features are highly variable in their size, architectural style, and arrangement. Activities within this zone are primarily associated with business and residential uses, as well as local travel. Views within this zone are typically focused on the roadways and adjacent structures, although outward views across yards and adjacent fields are also available at the outskirts of these areas. Views are most likely from open road corridors and the edges of the city/village zone, where structures and vegetation density decrease and therefore screening is reduced.

3.2.3 Zone 3. Suburban Residential Zone

This zone is dominated by low to medium-density residential neighborhood development that typically occurs along the main road frontage or in cul-de-sacs spurring off the main roads. Buildings tend to be relatively new construction, 1-2 stories in height, and more spread out than in a village setting. Consequently, open views to the surrounding landscape are generally more restricted than in open agricultural areas, but more available than in areas of more concentrated human settlement. The effect of vegetation on visibility is highly variable in this LSZ, with adjacent agricultural fields offering open views in some areas, and hedgerows, woodlots and yard trees significantly blocking views in others. Land use in this zone is almost exclusively residential, suggesting a relatively high sensitivity to visual quality and visual change. Examples of this zone can be found on the outskirts of the City of Urbana and in Northridge.

3.2.4 Zone 4. Hamlet Zone

This zone includes the hamlets of Middletown, Fountain Park, Kennard, Cable and Mingo. The hamlets generally consist of a cluster of residential and municipal structures, often at the intersection of two or more highways. Houses are a mix of traditional and more modern architectural styles, with spacing similar to that in a village setting. However, they also tend to have larger backyards and may border on active or inactive agricultural land and/or woodlots. Occasional commercial establishments, churches, and historic structures are found in some of these areas. Activities are primarily associated with residential use and local travel, although some small scale commercial businesses and limited agricultural activity also occur in some areas. Views within this zone are typically focused on the highway and adjacent structures, although outward views across yards and adjacent fields are also available. Views are most likely from the edges of the hamlet zone, where housing and vegetation density decrease and therefore screening is reduced. Potential project visibility will vary based on distance between the hamlets and the proposed project.



■ Buckeye Wind Project

Champaign County, Ohio

Figure 5: Landscape Similarity Zones

Sheet 1 of 3 - Land Cover Mapping

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- Turbines
- 5 Mile Study Area
- Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Open/Agriculture
- Forest

Notes:
 Base Map: NAIP Orthoimagery, 1 meter resolution, Year 2004.
 Source: USGS National Land Cover Data Set, Year 2001.



Photo 1.



Rural Residential / Agriculture Zone

Photo 2.



City / Village Zone

Buckeye Wind Project
Champaign County, Ohio

Figure 5: Landscape Similarity Zones
Sheet 2 of 3 - Representative Photos

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Photo 3.



Suburban Residential Zone

Photo 4.



Hamlet Zone

Buckeye Wind Project
Champaign County, Ohio

Figure 5: Landscape Similarity Zones
Sheet 3 of 3 - Representative Photos

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3.3 Viewer/User Groups

Three categories of viewer/user groups were identified within the visual study area. These include the following:

3.3.1 Local Residents

Local residents include those who live and work within the visual study area. They generally view the landscape from their yards, homes, local roads and places of employment. Residents are concentrated in and around the City of Urbana, and the various villages and hamlets, but occur throughout the visual study area. Except when involved in local travel, residents are likely to be stationary, and have frequent or prolonged views of the landscape. Local residents may view the landscape from ground level or elevated viewpoints (typically upper floors/stories of homes). Residents' sensitivity to visual quality is variable, however, it is assumed that some residents may be very sensitive to changes in particular views that are important to them.

3.3.2 Through Travelers/Commuters

Commuters and travelers passing through the area view the landscape from motor vehicles on their way to work or other destinations. Commuters and through travelers are typically moving, have a relatively narrow field of view, and are destination oriented. Drivers on major roads in the area (e.g., U.S. Routes 36 and 68, and State Routes 559, 507, 245, 296, 814, 187, 161, 29, 56, 54, 55, and 4) will generally be focused on the road and traffic conditions, but do have the opportunity to observe roadside scenery. Passengers in moving vehicles will have greater opportunities for prolonged off-road views than will drivers, and accordingly, may have greater perception of changes in the visual environment.

3.3.3 Tourists/Recreational Users

Recreational users and tourists include local residents and out-of-town visitors involved in cultural and recreational activities at parks, recreational facilities, and historic sites, as well as in undeveloped natural settings such as forests and fields. These viewers are concentrated in the recreational facilities/cultural sites located within and adjacent to the visual study area, including the Ohio Caverns, Buck Creek State Park, C.J. Brown Reservoir, various local parks and golf courses, as well as historic sites in Urbana and Mechanicsburg. Members of this group may view the

landscape from area highways while on their way to these destinations, or from the sites themselves. This group includes, bicyclists, hikers, recreational boaters, hunters, fishermen and those involved in more passive recreational activities (e.g., picnicking, sight seeing, or walking). Visual quality may or may not be an important part of the recreational experience for these viewers. However, for some, scenery will be a very important part of their experience, and in almost all cases enhances the quality of recreational experiences. Recreational users and tourists will often have continuous views of landscape features over relatively long periods of time. However, there is not a significant concentration of recreational areas in the visual study area, and most recreational viewers and tourists will only view the surrounding landscape from ground-level vantage points.

3.4 Visually Sensitive Resources

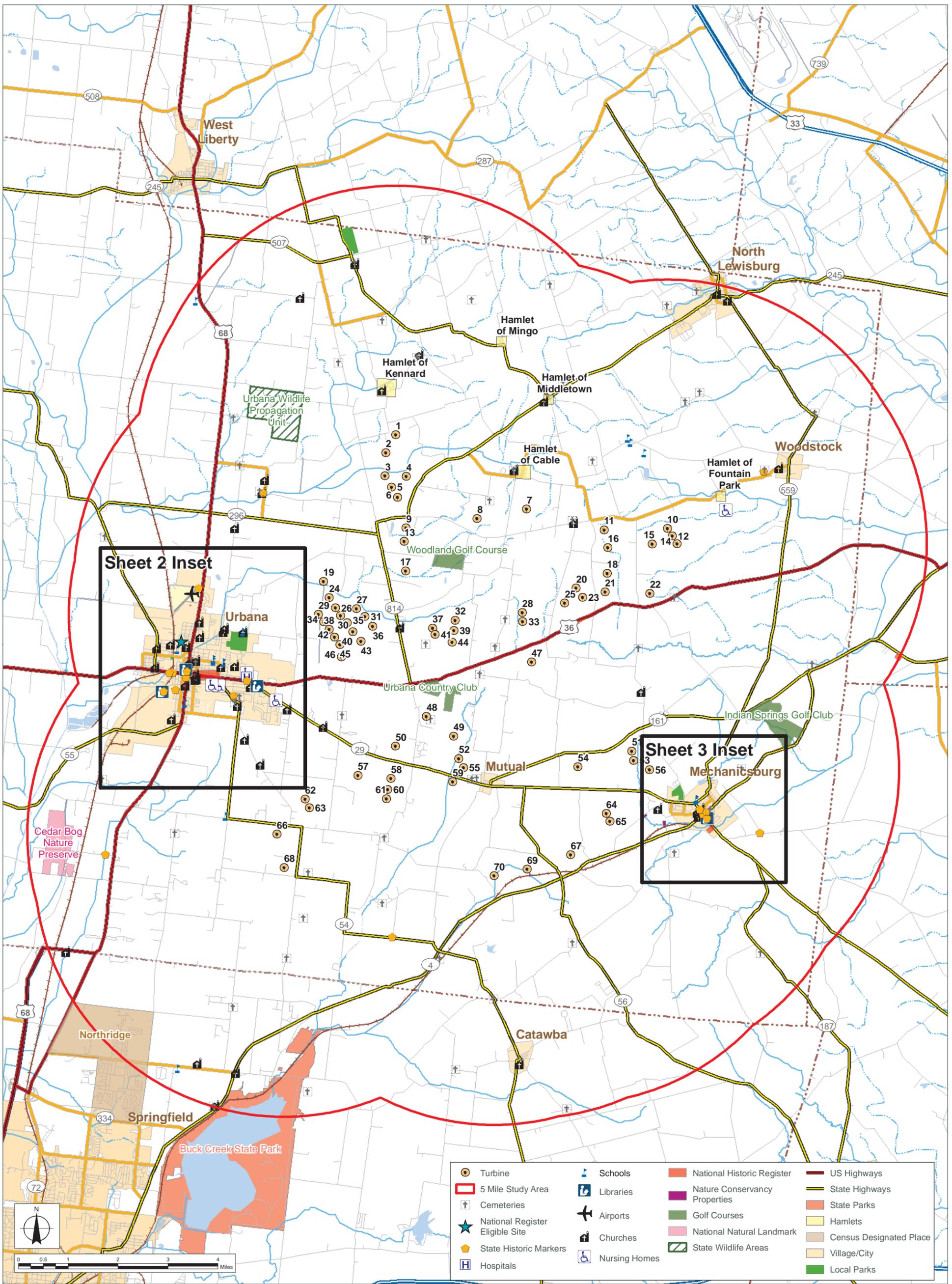
The 5-mile radius visual study area includes several sites that could be considered scenic resources of statewide significance. These include 31 sites/districts listed on the National Register of Historic Places (including 21 in Mechanicsburg and eight in Urbana), plus one additional site in Urbana that has been determined eligible for listing. Within the study area, there are also 19 state historic markers, one State Park (Buck Creek State Park), one State Wildlife Management Area (Urbana Wildlife Propagation Unit), one State Nature Preserve (Prairie Road Fen), one parcel of Nature Conservancy land (Darby Wetlands Reserve), and one National Natural Landmark (Cedar Bog Nature Preserve). There are no State Forests, National Wildlife Refuges, National Park Service Lands, designated State or Federal trails, or designated scenic roads or overlooks.

There are also no state or federally designated wild, scenic, or recreational rivers within the visual study area. However, outside of the 5-mile radius study area, portions of both Big and Little Darby Creek are designated as state and national scenic rivers. The Little Darby Creek designation starts at the Lafayette-Plain City Road Bridge (approximately 9.3 miles from the nearest proposed turbine), while the Big Darby Creek designation starts at the Champaign-Union County line (approximately 6 miles from the nearest proposed turbine). However, the National Park Service also maintains the National Rivers Inventory (NRI), a national listing of “potentially eligible river segments,” as required by the Wild and Scenic Rivers Act of 1968. A river segment may be listed on the NRI if it is free-flowing and has one or more “outstandingly remarkable values” (ORVs). The kinds of ORVs that can qualify a river for listing include: exceptional scenery, fishing or boating, unusual geological formations, rare plant and animal life, and cultural or historical artifacts that are judged to be of more than local or regional significance. The NRI website for Ohio (<http://www.nps.gov/ncrc/programs/rtca/nri/states/oh.html>) indicates that Big Darby Creek is listed as

potentially eligible from its source, with ORVs for recreation, fish, and wildlife. This segment of Big Darby Creek is approximately 9.5 miles north of the nearest proposed turbine. The next closest potentially eligible river segment is the Mad River in Clark County (only listed up to Tremont City), approximately 6.5 miles from the nearest turbine.

Beyond these scenic resources of statewide significance, the 5-mile radius study area also includes areas that are regionally or locally significant/sensitive, due to the type of land use they receive. These include Ohio Caverns, the C.J. Brown Reservoir, and various golf courses, local parks, schools, waterbodies, churches, cemeteries, areas of concentrated human settlement (City of Urbana and various villages and hamlets), and heavily traveled highways.

All inventoried scenic/sensitive resources are listed in Table B1 in Appendix B. The location of mapped visually sensitive resources within the visual study area is illustrated in Figure 6, and on the large-scale viewshed maps included in Appendix B.



Buckeye Wind Project

Champaign County, Ohio

Figure 6: Visually Sensitive Resources

Sheet 1 of 3

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Notes:
Base Map: ESRI Street Map USA, Year 2006.





Buckeye Wind Project

Champaign County, Ohio

Figure 6: Visually Sensitive Resources

Sheet 2 of 3

March 2009

Notes:
Base Map: ESRI Street Map USA, Year 2006.





Buckeye Wind Project

Champaign County, Ohio

Figure 6: Visually Sensitive Resources

Sheet 3 of 3

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Notes:
Base Map: ESRI Street Map USA, Year 2006.



4.0 Visual Impact Assessment Methodology

The Visual Impact Assessment (VIA) procedures used for this study are consistent with methodologies developed by the U.S. Department of the Interior, Bureau of Land Management (1980), U.S. Department of Agriculture, National Forest Service (1974), the U.S. Department of Transportation, Federal Highway Administration (1981), and the NYS Department of Environmental Conservation (not dated). The specific techniques used to assess potential Project visibility and visual impacts are described in the following section.

4.1 Project Visibility

An analysis of Project visibility was undertaken to identify those locations within the visual study area where there is potential for the proposed wind turbines to be seen from ground-level vantage points. This analysis included identifying potentially visible areas on viewshed maps, preparing technical cross sections, and verifying visibility in the field. The methodology employed for each of these assessment techniques is described below.

4.1.1 Viewshed Analysis

Topographic viewshed maps for the Project were prepared using USGS digital elevation model (DEM) data (7.5-minute series), the location and height of all proposed turbines (see Figure 2), and ESRI ArcView® software with the Spatial Analyst extension. Two 5-mile radius topographic viewsheds were mapped, one to illustrate “worst case” daytime visibility (based on a maximum blade tip height of 492 feet above existing grade) and the other to illustrate potential visibility of turbine lights (based on a nacelle height of 328 feet above existing grade).

The ArcView program defines the viewshed (using topography only) by reading every cell of the DEM data and assigning a value based upon visibility from observation points throughout the 5-mile study area. The resulting topographic viewshed maps define the maximum area from which any turbine within the completed Project could potentially be seen within the study area during both daytime and nighttime hours (ignoring the screening effects of existing vegetation and structures). Because the screening provided by vegetation and structures is not considered in this analysis, the topographic viewsheds represent a “worst case” assessment of potential Project visibility.

A turbine count analysis was performed to determine how many wind turbines are potentially visible from various locations within the viewshed. This analysis was based on blade tip height and utilizes the same topographic viewshed methodology described above. The results of this analysis are then grouped by number of turbines potentially visible. Three turbine count groups were defined to create an even distribution of turbines within each group, and to allow easy interpretation of the final map.

In addition, a vegetation viewshed analysis was also prepared to better illustrate the potential screening effect of forest vegetation. The vegetation viewshed utilized a base vegetation layer created with USGS National Land Cover Data (forests) with an assumed elevation of 40 feet. This layer was added to the digital elevation model to produce a base layer for the viewshed analysis, as described above (using the blade tip and nacelle heights as input data). Once the viewshed analysis was completed, the areas covered by the forest vegetation layer were designated as “not visible” on the resulting data layer to reflect the fact that views from within forested areas will be screened.

It is worth noting that because characteristics of the proposed turbines that influence visibility (color, narrow profile, distance from viewer, etc.) are not into taken consideration in the viewshed analyses, being within the viewshed does not necessarily equate to actual Project visibility.

4.1.2 Cross Section Analysis

To further illustrate the screening effect of vegetation and structures within the study area, four representative line-of-sight cross sections (ranging from 6.1 to 9.8 miles long) were cut through the study area. Cross section locations were chosen so as to include visually sensitive areas (e.g., villages, water bodies, and major roads) and cover the various landscape similarity zones occurring within the 5-mile radius study area. The cross sections are based on forest vegetation and topography as indicated on the 7.5-minute USGS quadrangle maps and digital aerial photographs. For the purposes of this analysis, a uniform 40-foot tree height was assumed. A 10 fold vertical exaggeration was used to increase the accuracy of the analysis and facilitate reader interpretation.

4.1.3 Field Verification

Visibility of the proposed Project was also evaluated in the field on January 24-25, 2008. The purpose of this exercise was to verify potential turbine visibility as indicated by viewshed analysis and to obtain photographs for subsequent use in the development of visual simulations. A mix of

clear skies and high clouds resulted in good visibility and a representative variety of sky/lighting conditions.

During the field verification, an EDR field crew drove public roads and visited public vantage points within the 5-mile radius study area to document points from which the turbines would likely be visible, partially screened, or fully screened. This determination was made based on the visibility of existing structures located in proximity to the proposed turbine sites (communication towers, silos, houses, roads, etc.), which served as locational and scale references. Photos were taken from 116 representative viewpoints within the study area. All photos were obtained using Nikon D200 digital SLR camera with a focal length between 28 and 35 mm (equivalent to between 45 and 55 mm on a standard 35 mm film camera). This focal length most closely approximates normal human eyesight relative to scale. Viewpoint locations were determined using hand-held global positioning system (GPS) units and high resolution aerial photographs (digital ortho quarter quadrangles). The time and location of each photo were documented on all electronic equipment (camera, GPS unit, etc.) and noted on field maps and data sheets (see Appendix C). Viewpoints photographed during field review generally represented the most open, unobstructed available views toward the Project.

4.2 Project Visual Impact

Beyond evaluating potential Project visibility, the VIA also examined the visual impact of the proposed wind turbines on the aesthetic resources and viewers within the Project study area. This assessment involved creating computer models of the proposed Project turbines and layout, selecting representative viewpoints within the study area, and preparing computer-assisted visual simulations of the proposed Project. These simulations were then used to characterize the type and extent of visual impact resulting from Project construction. Details of the visual impact assessment procedures are described below.

4.2.1 Viewpoint Selection

From the photo documentation conducted during field verification, EDR selected a total of 13 viewpoints for development of visual simulations. These viewpoints were selected based upon the following criteria:

1. They provide clear, unobstructed views of the Project (as determined through field verification).
2. They illustrate Project visibility from sensitive sites/resources with the visual study area.
3. They illustrate typical views from landscape similarity zones where views of the Project will be available.
4. They illustrate typical views of the proposed Project that will be available to representative viewer/user groups within the visual study area.
5. They illustrate typical views of different numbers of turbines, from a variety of viewer distances, and under different lighting conditions, to illustrate the range of visual change that will occur with the Project in place.

Location of the selected viewpoints is indicated in Figure 9. Locational details and the criteria for selection of each simulation viewpoint are summarized in Table 1, below:

Table 1. Viewpoints Selected for Simulations and Evaluation

| Viewpoint Number | Visually Sensitive Resource | LSZ Represented | Viewer Group Represented | Viewing Distance | View Orientation ¹ |
|------------------|-----------------------------|--------------------------------|--------------------------|------------------|-------------------------------|
| 14 | State Route 20 | Rural Residential/Agricultural | Travelers & Residents | 0.5 mile | NNE |
| 29 | State Route 296 | Rural Residential/Agricultural | Residents | 0.5 mile | ESE |
| 41 | U.S. Route 36 | Rural Residential/Agricultural | Travelers & Residents | 1.0 mile | NE |
| 45 | | Rural Residential/Agricultural | Residents | 1.0 mile | NW |
| 48 | | Rural & Suburban | Residents | 1.8 mile | NNE |
| 52 | U.S. Route 26 | Rural & Suburban | Travelers & Residents | 1.6 mile | WSW |
| 54 | Union Cemetery | Rural Residential/Agricultural | Residents | 0.9 mile | W |
| 61 | State Route 814 | Rural Residential/Agricultural | Residents | 0.9 mile | NNE |
| 95 | | Rural Residential/Agricultural | Residents | 4.7 mile | SSE |
| 119 | State Route 54 | Rural Residential/Agricultural | Residents | 0.6 mile | NE |
| 123 | State Route 4 & 56 | Rural Residential/Agricultural | Travelers & Residents | 0.5 mile | NNE |
| 128 | Darby Wetlands | Rural Residential/Agricultural | Residents | 0.7 mile | WSW |
| 131 | State Route 559 | Rural Residential/Agricultural | Residents | 3.5 mile | WSW |

¹N = North, S = South, E = East, W = West

4.2.2 Visual Simulations

To show anticipated visual changes associated with the proposed Project, high-resolution computer-enhanced image processing was used to create realistic photographic simulations of the completed turbines from each of the 13 selected viewpoints. The photographic simulations were developed by constructing a three-dimensional computer model of the proposed turbine and turbine layout based on turbine specifications and survey coordinates provided by the Project developer. For the purposes of this analysis, it was assumed that all new turbines would be Nordex N100 machines. Simulation methodology and accuracy is outlined in Appendix A, and the computer model used in this VIA is shown in Figure 3.

The next step in this process involved utilizing aerial photographs and GPS data collected in the field to create an AutoCAD 2004® drawing. The two dimensional AutoCAD data was then imported into AutoDesk 3ds MAX 9.0® and three-dimensional components (cameras, modeled turbines, etc.) were added. These data were superimposed over photographs from each of the viewpoints, and minor camera changes (height, roll, precise lens setting) made to align all known reference points within the view. This process ensures that Project elements are shown in proportion, perspective, and proper relation to the existing landscape elements in the view. Consequently, the alignment, elevations, dimensions and locations of the proposed structures will be accurate and true in their relationship to other landscape features in the photo (see Appendix A).

At this point, a “wire frame” model of the facility and known reference points is shown on each of the photographs. The proposed exterior color/finish of the turbines is then added to the model and the appropriate sun angle is simulated based on the specific date, time and location (latitude and longitude) at which each photo was taken. This information allows the computer to accurately illustrate highlights, shading and shadows for each individual turbine shown in the view. All simulations show the turbines with rotors oriented toward the southwest, which is generally the prevailing wind direction in the area. To illustrate the full expanse of the Project that may be perceived from certain viewpoints, panoramic simulations were created at Viewpoints 41 and 95. This image was created by stitching together two 50 mm photos to illustrate an approximately 60-degree field of view. To illustrate the motion of the turning rotor, animation was added to the simulations from Viewpoints 48 and 61 (see digital images in Appendix D).

4.2.3 Visual Impact Evaluation

To evaluate anticipated visual changes associated with the proposed Project, the photographic simulations of the completed Project (as described above) were compared to photos of existing conditions. These “before” and “after” photographs, identical in every respect except for the Project components shown in the simulated views, were printed on 11 x 17 inch format for every viewpoint selected in the previously described process. A licensed EDR landscape architect was then asked to determine the effect of the proposed Project on the existing visual conditions in terms of its contrast with existing components of the landscape.

5.0 Visual Impact Assessment Results

5.1 Project Visibility

Potential turbine visibility, as indicated by the viewshed analyses, is illustrated in Figure 7 and summarized in Table 3. As indicated by the topographic blade tip analysis, the proposed Project could potentially be visible in approximately 95.5% of the 5-mile study area. This "worst case" assessment of potential visibility indicates the area where any portion of any turbine could possibly be seen without considering the screening effect of existing vegetation and structures. Areas where there is no possibility of seeing the Project are generally limited to the backside of hills and some stream valleys, primarily in the vicinity of Mingo and Catawba, and on some slopes along the far western edge of the study area. Based on blade tip height and the screening effect of topography alone, the vast majority of the visually sensitive sites within the 5-mile study area are indicated as having potential views of the Project (see Table B-2 in Appendix B). As indicated by the turbine count analysis in Table 3, in most areas where potential blade tip visibility is indicated by the topographic viewshed analysis, views to the majority (37-70) of the proposed turbines could be available. Only about 15% of the 5-mile radius study area has the potential for views that include fewer than 19 turbines (if screening by trees is not considered).

Areas of potential nighttime visibility based on the topographic viewshed analysis (Figure 7, Sheet 2) cover approximately 92.7% of the 5-mile radius study area, and are indicated in roughly the same locations shown by the blade tip analysis. However, areas where over 55 turbines could potentially be visible are reduced from 59% to 34% of the study area, and areas where fewer than 19 turbines could be visible are increased from 15% to 22% of the study area.

Factoring vegetation into the viewshed analysis reduces potential Project visibility, and is a more accurate reflection of what the actual extent of Project visibility is likely to be (Figure 7, Sheet 3 and 4). Within a 5-mile radius, the vegetative viewshed analysis indicates that approximately 84.6% of the area will have potential views of some portion of the Project. Visibility will be eliminated in small areas throughout the study area where blocks of forest vegetation occur. These areas occur most commonly in a north-south band that runs through the central portion of the study area. Compared to the topographic blade tip viewshed, areas where fewer than 19 turbines could potentially be visible increases from 15% to 31% of the study area simply by factoring in the screening effect of vegetation. Roughly the same doubling of screening is true when comparing the vegetation and topographic viewshed analysis of the nacelle height (see Table 2). As indicated in Table B-2,

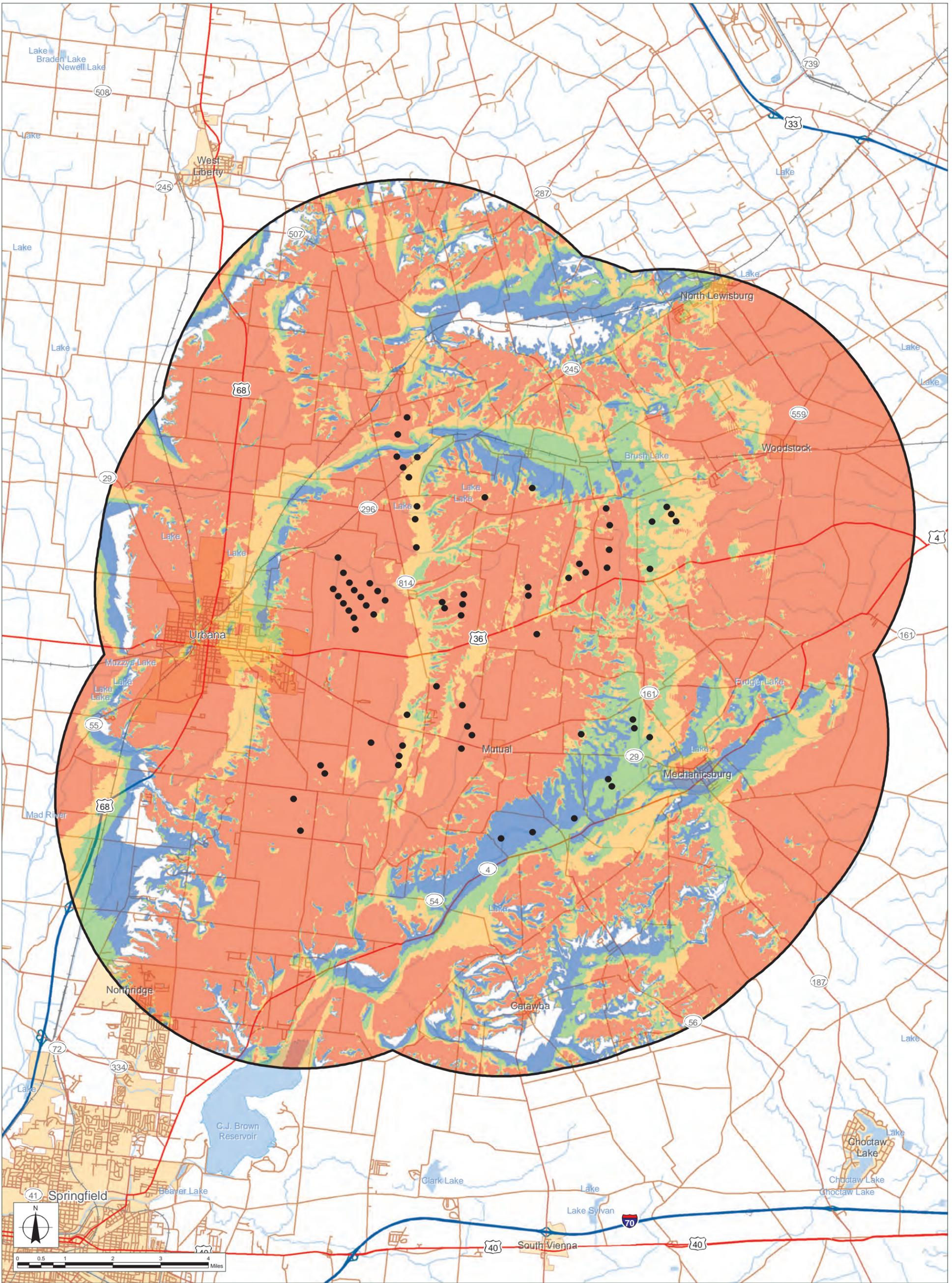
considering the screening effect of vegetation in the viewshed analysis reduces potential Project visibility from sensitive sites, but the majority of these sites are still indicated as having the potential for at least partial visibility of the Project.

As mentioned previously, areas of actual visibility are anticipated to be much more limited than indicated by the viewshed analysis, due to the slender profile of the turbines (especially the blade, which make up the top 160 feet of the turbine), the effects of distance, and screening from hedgerows, street trees and structures, which are not considered in the viewshed analysis.

Table 2. Viewshed Results Summary

| Type of Viewshed | 5-mile Radius Study Area | | |
|--------------------------------------|--------------------------|----------------------------|------|
| | Total Acres | Visible Acres ¹ | % |
| Blade Tip - Topo Only | 171,270 | 163, 519 | 95.5 |
| 0 Visible | 171,270 | 7,788 | 4.5 |
| 1-18 Turbines Visible | 171,270 | 17,505 | 10.2 |
| 19-36 Turbines Visible | 171,270 | 18,807 | 11.0 |
| 37-54 Turbines Visible | 171,270 | 26,140 | 15.3 |
| 55-70 Turbines Visible | 171,270 | 101,025 | 59.0 |
| Nacelle/Lighting - Topo Only | 171,270 | 158,815 | 92.7 |
| 0 Visible | 171,270 | 12,500 | 7.3 |
| 1-18 Turbines Visible | 171,270 | 25,144 | 14.7 |
| 19-36 Turbines Visible | 171,270 | 29,649 | 17.3 |
| 37-54 Turbines Visible | 171,270 | 45,388 | 26.5 |
| 55-70 Turbines Visible | 171,270 | 58,587 | 34.2 |
| Blade Tip - Topo & Vegetation | 171,270 | 144,853 | 84.6 |
| 0 Visible | 171,270 | 26,940 | 15.7 |
| 1-18 Turbines Visible | 171,270 | 26,292 | 15.4 |
| 19-36 Turbines Visible | 171,270 | 26,105 | 15.2 |
| 37-54 Turbines Visible | 171,270 | 33,451 | 19.5 |
| 55-70 Turbines Visible | 171,270 | 58,377 | 34.1 |
| Nacelle/Lighting - Topo & Vegetation | 171,270 | 139,028 | 81.2 |
| 0 Visible | 171,270 | 32,782 | 19.1 |
| 1-18 Turbines Visible | 171,270 | 36,819 | 21.5 |
| 19-36 Turbines Visible | 171,270 | 39,596 | 23.1 |
| 37-54 Turbines Visible | 171,270 | 38,966 | 22.8 |
| 55-70 Turbines Visible | 171,270 | 23,003 | 13.4 |

¹ Acreage for turbine count analysis may not be equal to study area acreage due to rounding and/or raster-to-vector conversion



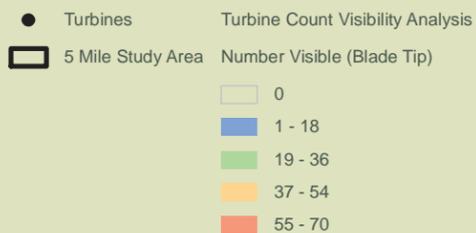
Buckeye Windpower Project

Champaign County, Ohio

Figure 7: Viewshed Analysis - Topographic Blade Tip (492 ft.) Visibility

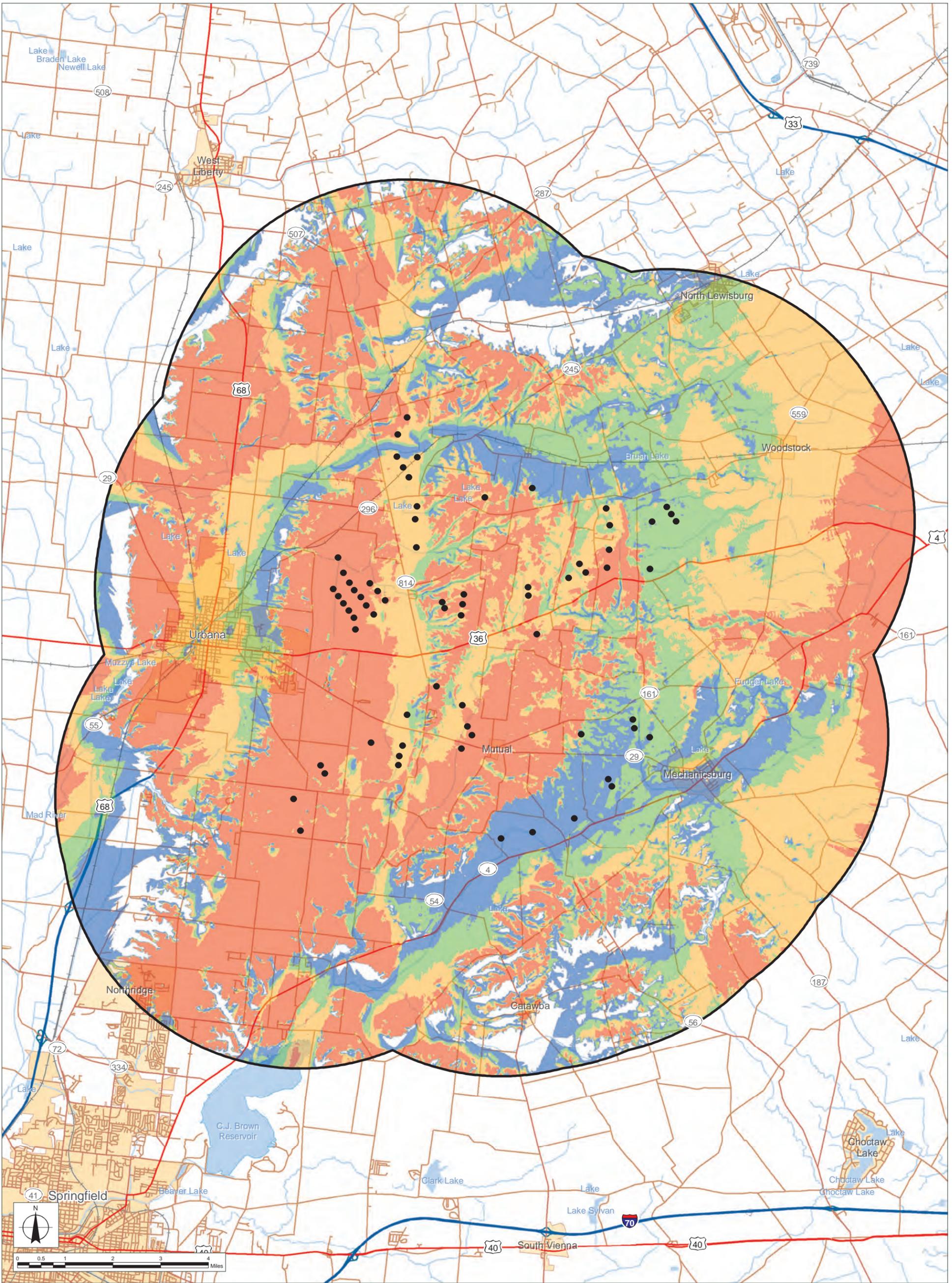
Sheet 1 of 4

March 2009



Notes:
Base Map: ESRI StreetMap North America 2008.





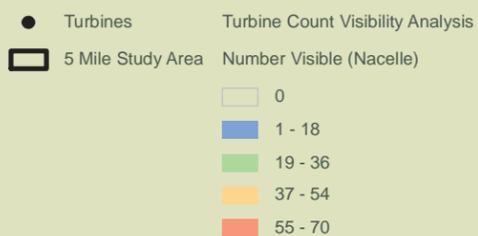
■ Buckeye Windpower Project

Champaign County, Ohio

Figure 7: Viewshed Analysis - Topographic Nacelle (328 ft.) Visibility

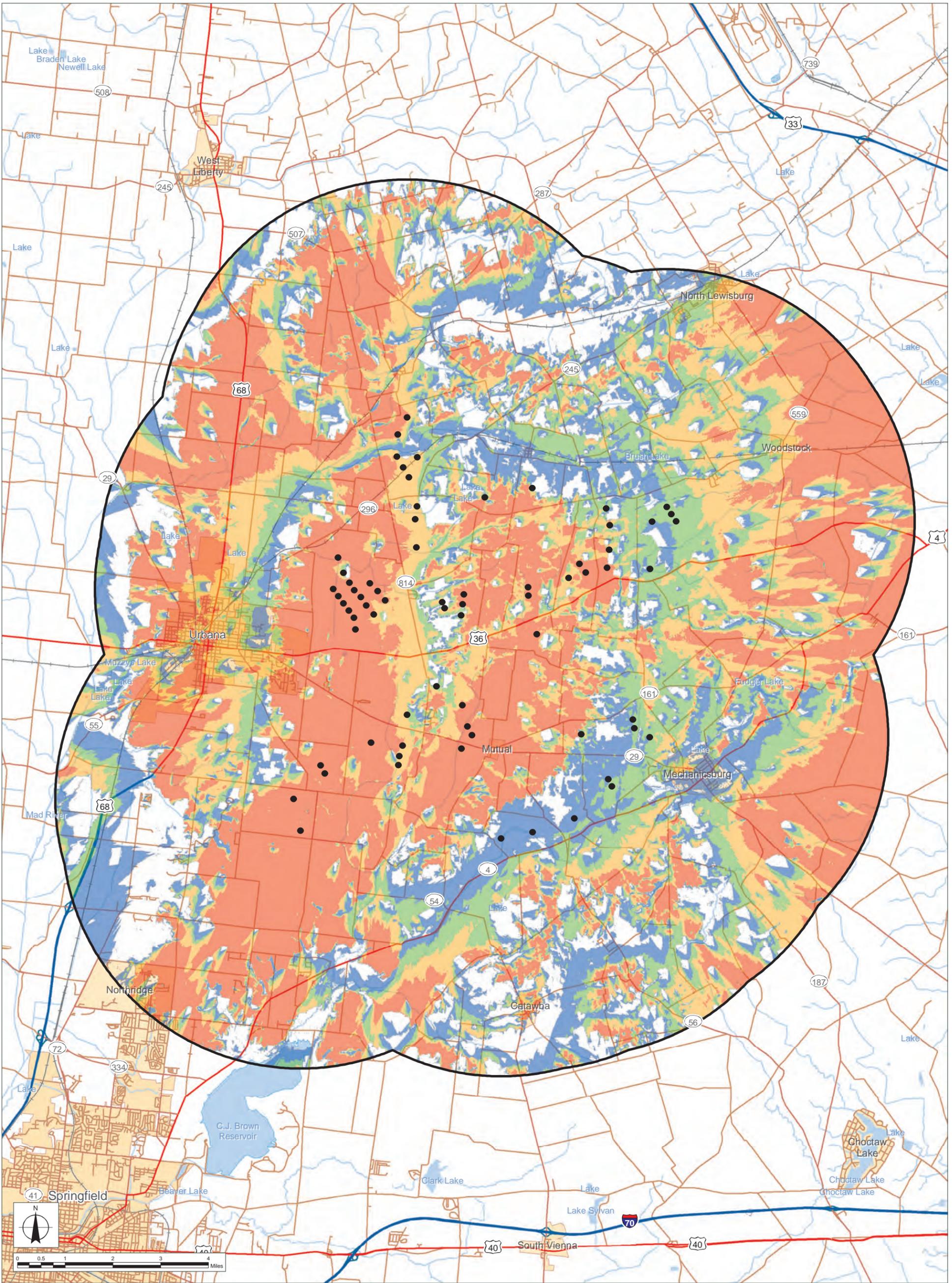
Sheet 2 of 4

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Notes:
Base Map: ESRI StreetMap North America 2008.





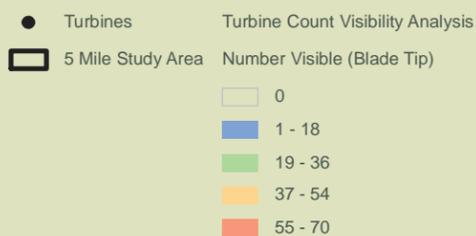
■ Buckeye Windpower Project

Champaign County, Ohio

Figure 7: Viewshed Analysis - Vegetation Blade Tip (492 ft.) Visibility

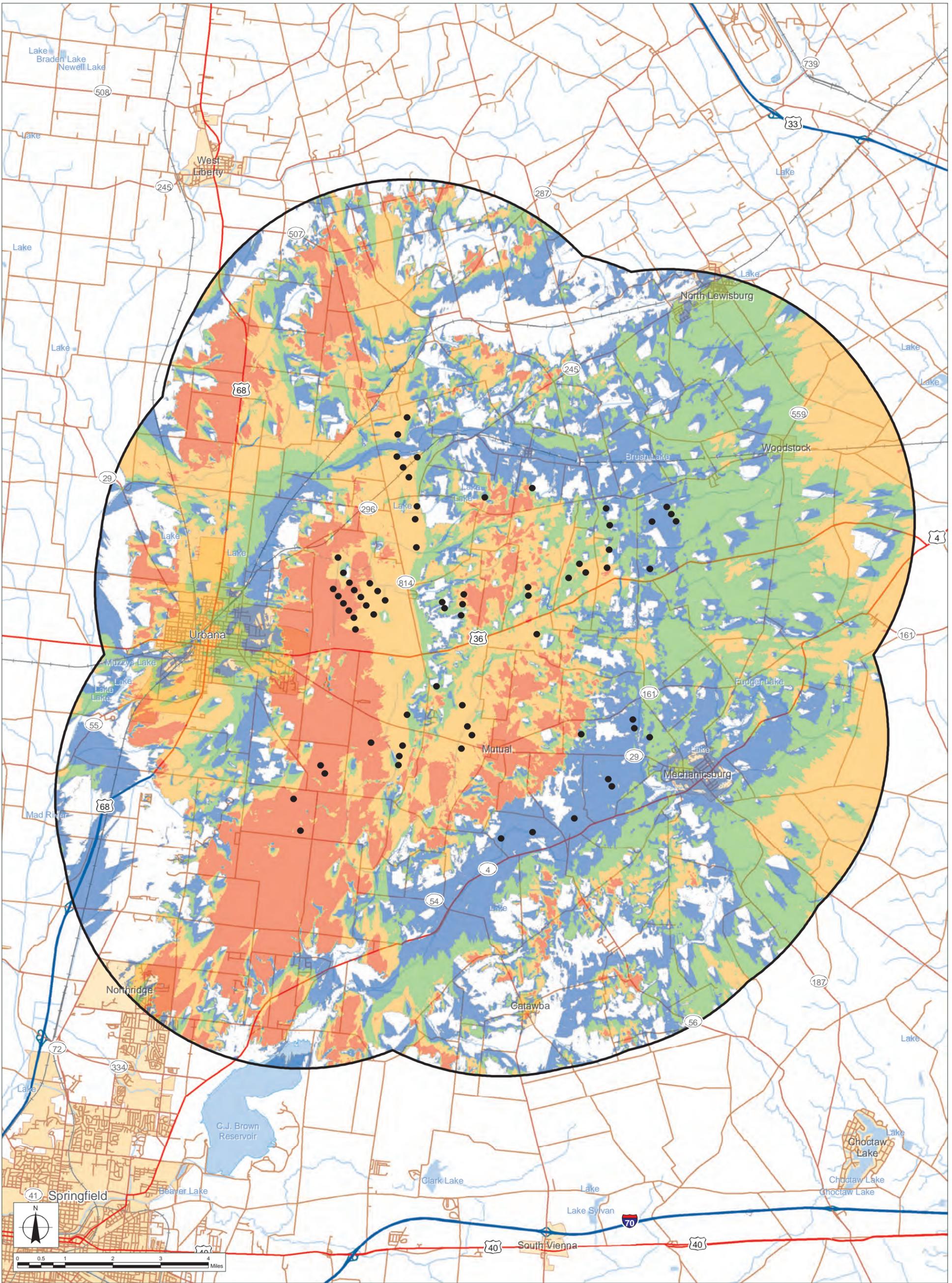
Sheet 3 of 4

March 2009



Notes:
Base Map: ESRI StreetMap North America 2008.





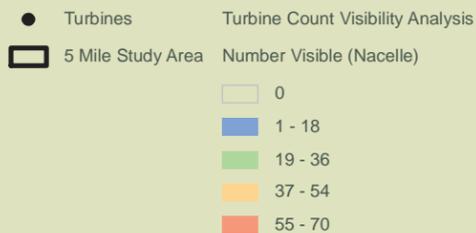
■ Buckeye Windpower Project

Champaign County, Ohio

Figure 7: Viewshed Analysis - Vegetation Nacelle (328 ft.) Visibility

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Notes:
Base Map: ESRI StreetMap North America 2008.

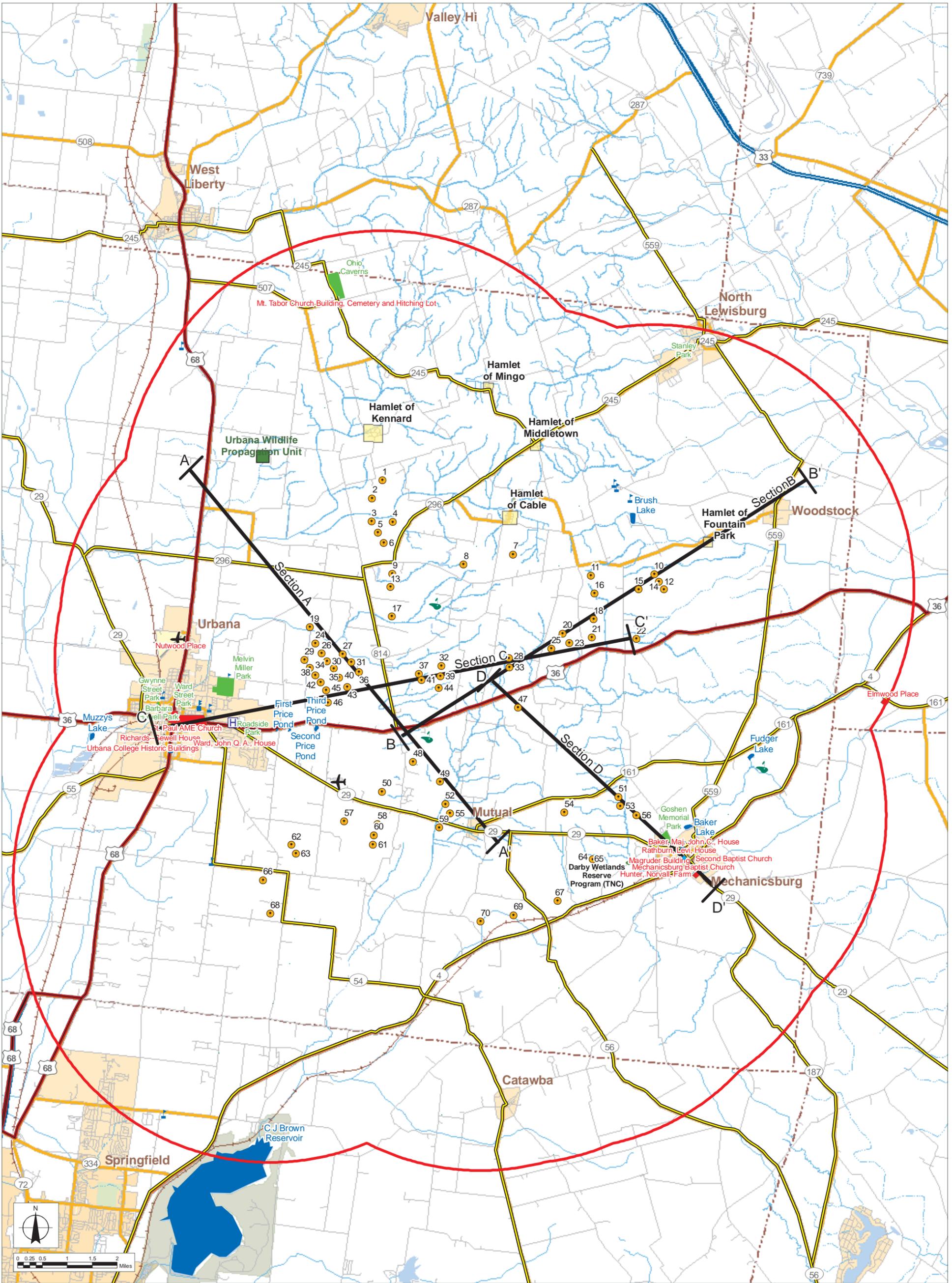


Cross section analysis (Figure 8) indicates that the Project will be visible from between 55% and 66% of the area along the selected lines of sight. Although this conclusion only applies to the specific lines of sight evaluated, analysis suggests that views of the Project from many of the visually sensitive sites within the study area are likely to be at least partially screened by buildings and trees. The cross sections indicate that views of turbines along the selected site lines will either not be available or will be partially screened from the Villages of Mutual and Woodstock, the City of Urbana, and most historic sites within that occur within the study area. It should be noted that views of other turbines, not located along the selected cross sections may be available from some of the sensitive receptors that are indicated as being screened along the selected section lines. The results of the cross section analysis are summarized in Table 3.

Table 3. Line-of-Sight (LOS) Summary

| Line-of-Sight A-A' | 55% Potential Project Visibility along 9.78-miles LOS | |
|--|---|------------------------------|
| <i>Visually Sensitive Resources in LOS</i> | <i>Location</i> | <i>Potential Visibility*</i> |
| U.S. Route 68 | Town of Salem, Champaign County | Visible |
| Kings Creek | Town of Salem, Champaign County | No |
| State Route 290 | Town of Salem, Champaign County | No |
| Dugan Run | Town of Salem, Champaign County | Visible |
| U.S. Route 36 | Town of Union, Champaign County | Visible |
| Buck Creek | Town of Union, Champaign County | No |
| State Route 161 | Town of Union, Champaign County | No |
| State Route 29 | Town of Union, Champaign County | No |
| Village of Mutual | Village of Mutual, Champaign County | No |
| Line-of-Sight B-B' | 56% Potential Project Visibility along 9.59-miles LOS | |
| <i>Visually Sensitive Resources in LOS</i> | <i>Location</i> | <i>Potential Visibility</i> |
| Urbana Country Club | Town of Union, Champaign County | No |
| U.S. Route 36 | Town of Union, Champaign County | No |
| Treacle Creek | Town of Union, Champaign County | Partial |
| Fountain Park | Town of Rush, Champaign County | Partial |
| Village of Woodstock | Village of Woodstock, Champaign County | Partial |
| Woodstock Cemetery | Village of Woodstock, Champaign County | No |
| Line-of-Sight C-C' | 66% Potential Project Visibility along 9.71-miles LOS | |
| <i>Visually Sensitive Resources in LOS</i> | <i>Location</i> | <i>Potential Visibility</i> |
| Scioto Street Historic District | City of Urbana, Champaign County | No |
| City of Urbana | City of Urbana, Champaign County | Partial |

| | | |
|---|---|-----------------------------|
| Township Highway 101 | Town of Urbana, Champaign County | Visible |
| State Route 814 | Town of Urbana, Champaign County | Visible |
| Line-of-Sight D-D' | 63% Potential Project Visibility along 6.11-miles LOS | |
| <i>Visually Sensitive Resources in LOS</i> | <i>Location</i> | <i>Potential Visibility</i> |
| U.S. Route 36 | Town of Union, Champaign County | Visible |
| State Route 161 | Town of Goshen, Champaign County | Visible |
| Memorial Park | Village of Mechanicsburg, Champaign County | Partial |
| State Route 29 | Village of Mechanicsburg, Champaign County | Partial |
| Hunter, Norvall Farm NRL Historic Site | Village of Mechanicsburg, Champaign County | Partial |
| St. Michael Catholic Church NRL Historic Site | Village of Mechanicsburg, Champaign County | Not Visible |



Buckeye Wind Project

Champaign and Logan Counties, Ohio

Figure 8: Line-of-Sight Cross Sections Section Map

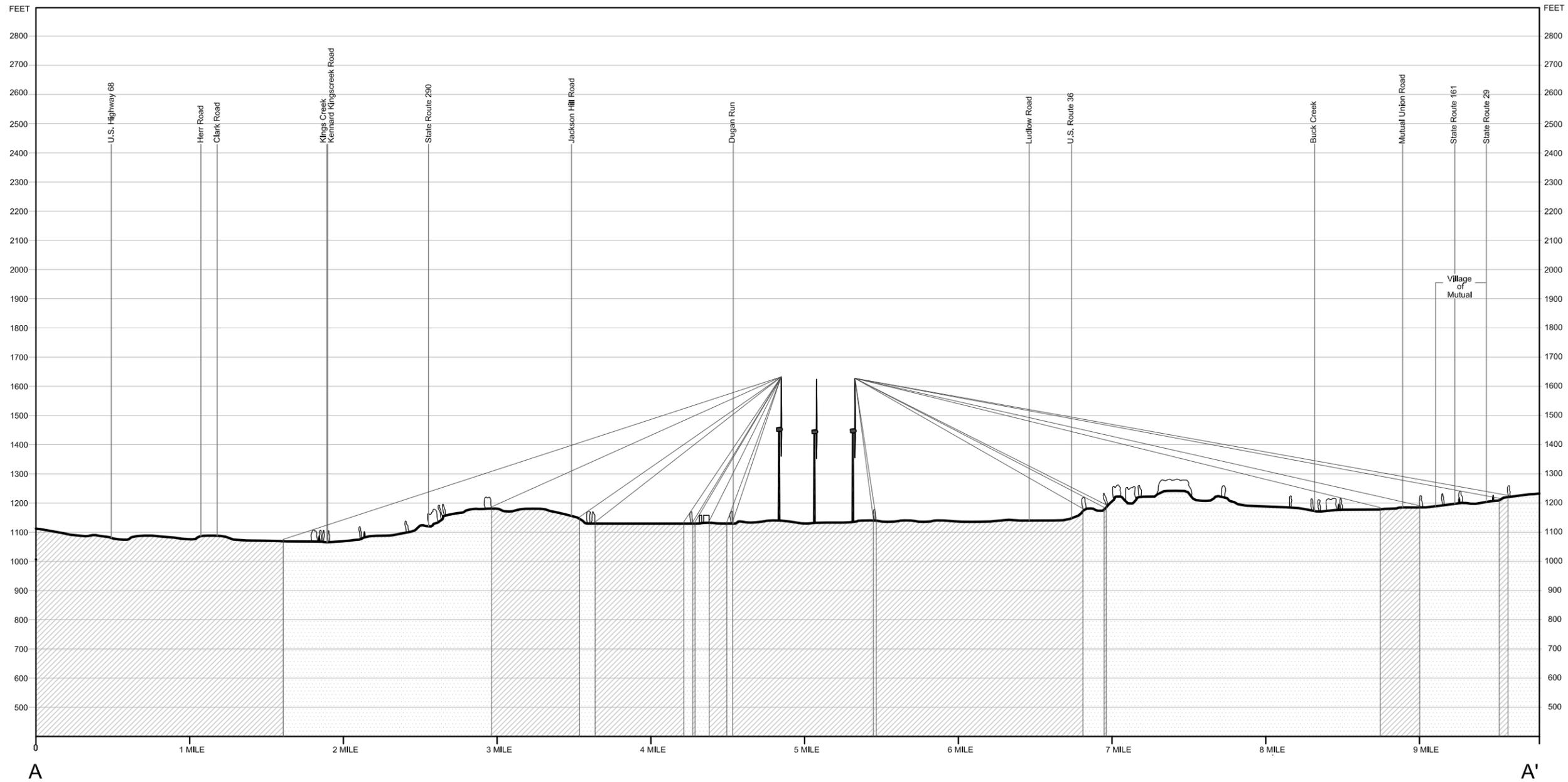
March 2009

Notes:
Base Map: ESRI Street Map USA, Year 2006.

- Turbines
- Line of Sight Cross Sections
- Village/City
- Hamlets
- Cemeteries
- 5 Mile Study Area
- Nature Conservancy Properties
- Local Parks
- National Register
- Lakes & Ponds
- Hospitals
- Airports
- Golf Courses
- US Highways
- State Highways
- Wildlife Areas



**Figure 8: Line-of-Sight
Cross Sections
Section A-A'**



Not Visible



Visible

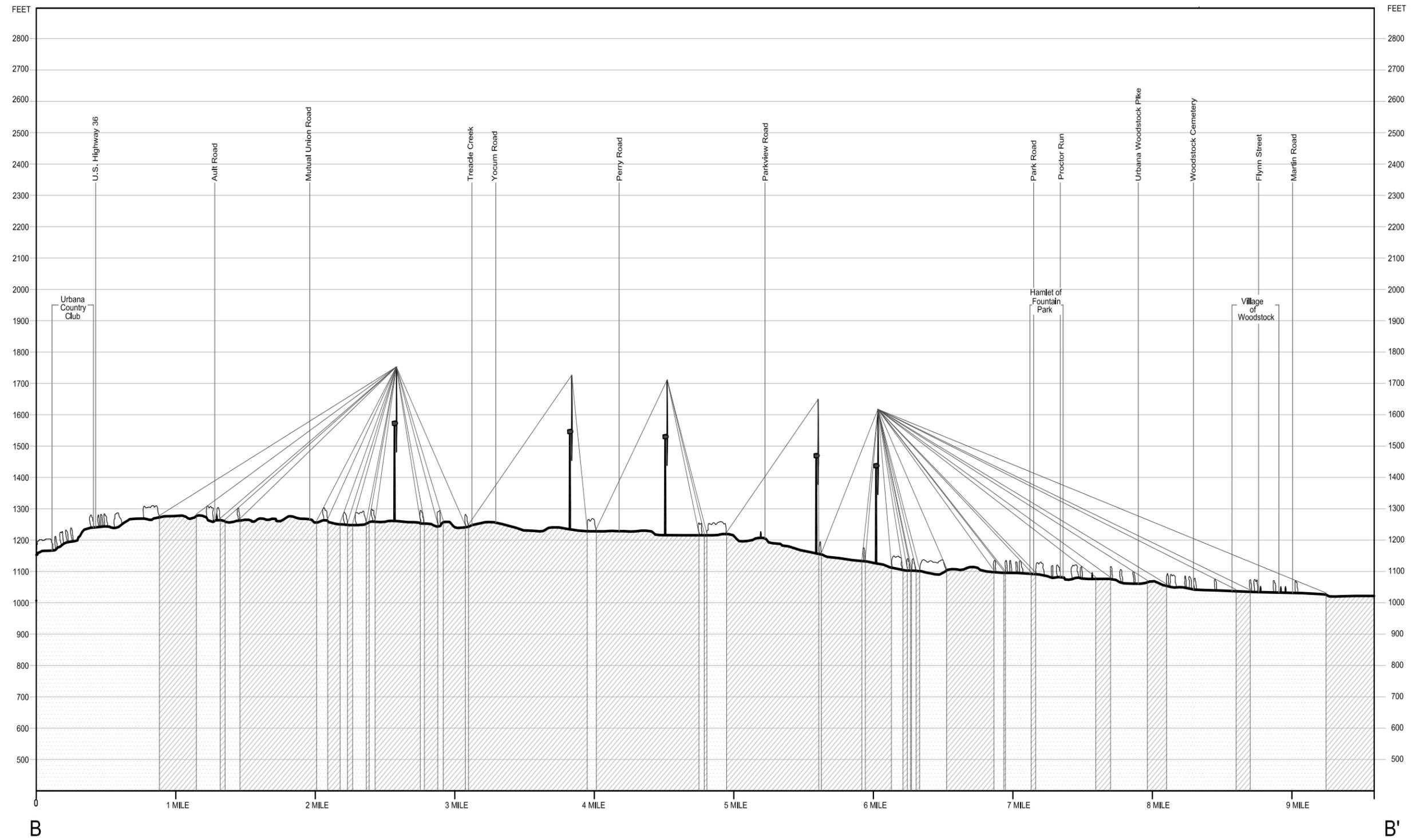


Trees

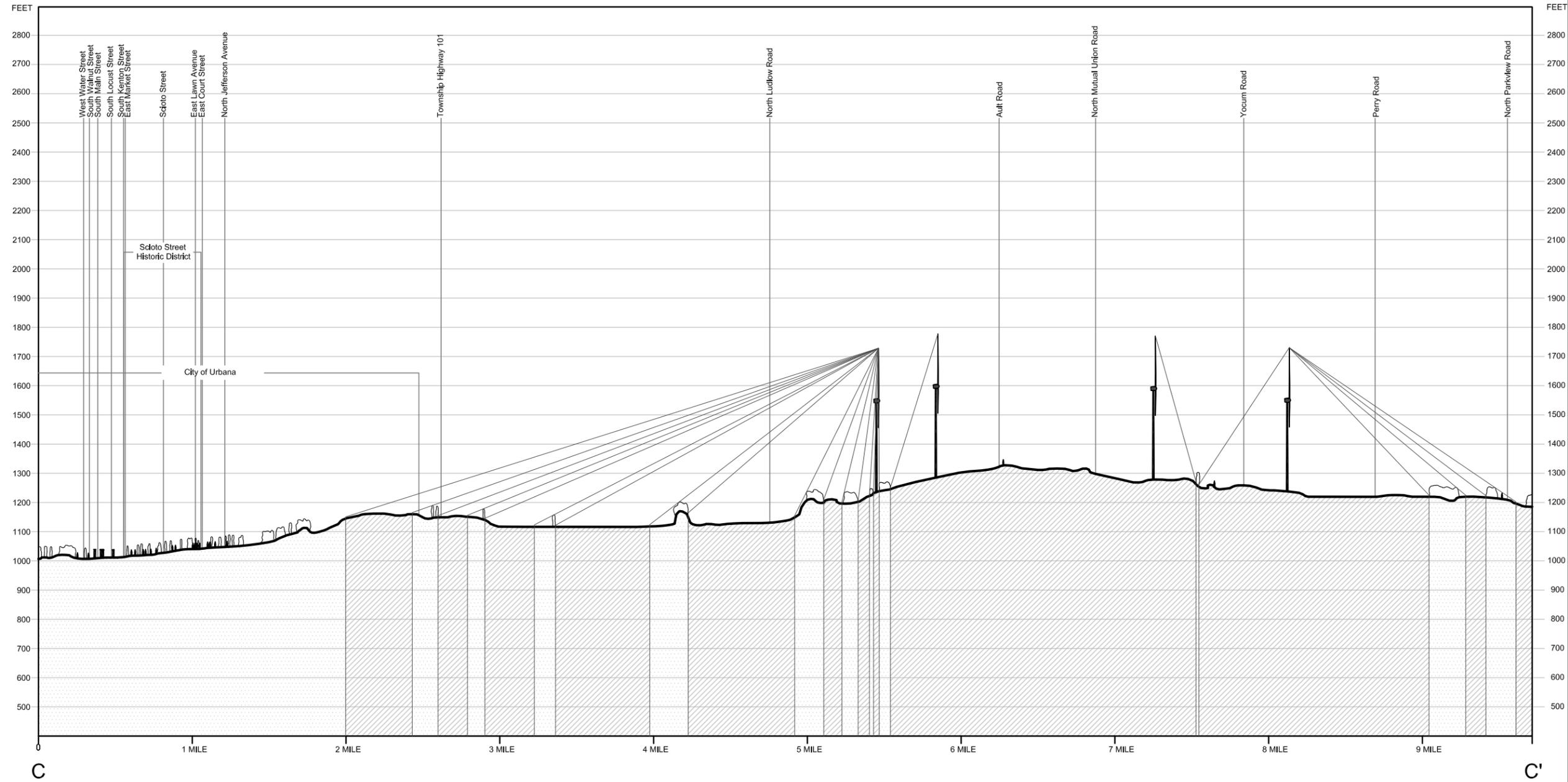


Structures

**Figure 8: Line-of-Sight
Cross Sections
Section B-B'**



**Figure 8: Line-of-Sight
Cross Sections
Section C-C'**



 Not Visible

 Visible

 Trees

 Structures

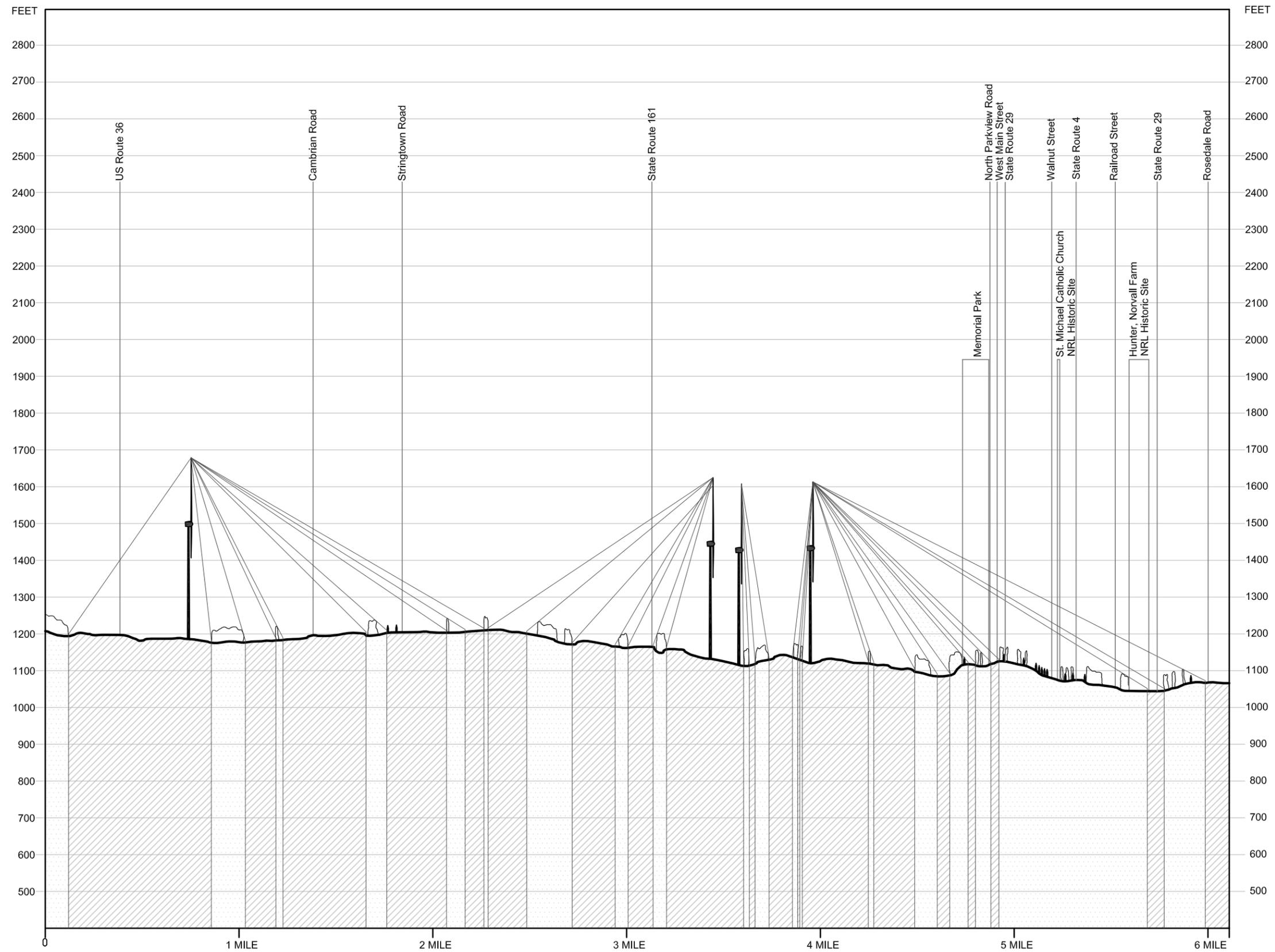
Buckeye Wind Project

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Figure 8: Line-of-Sight Cross Sections Section D-D'

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D

D'



Not Visible



Visible



Trees



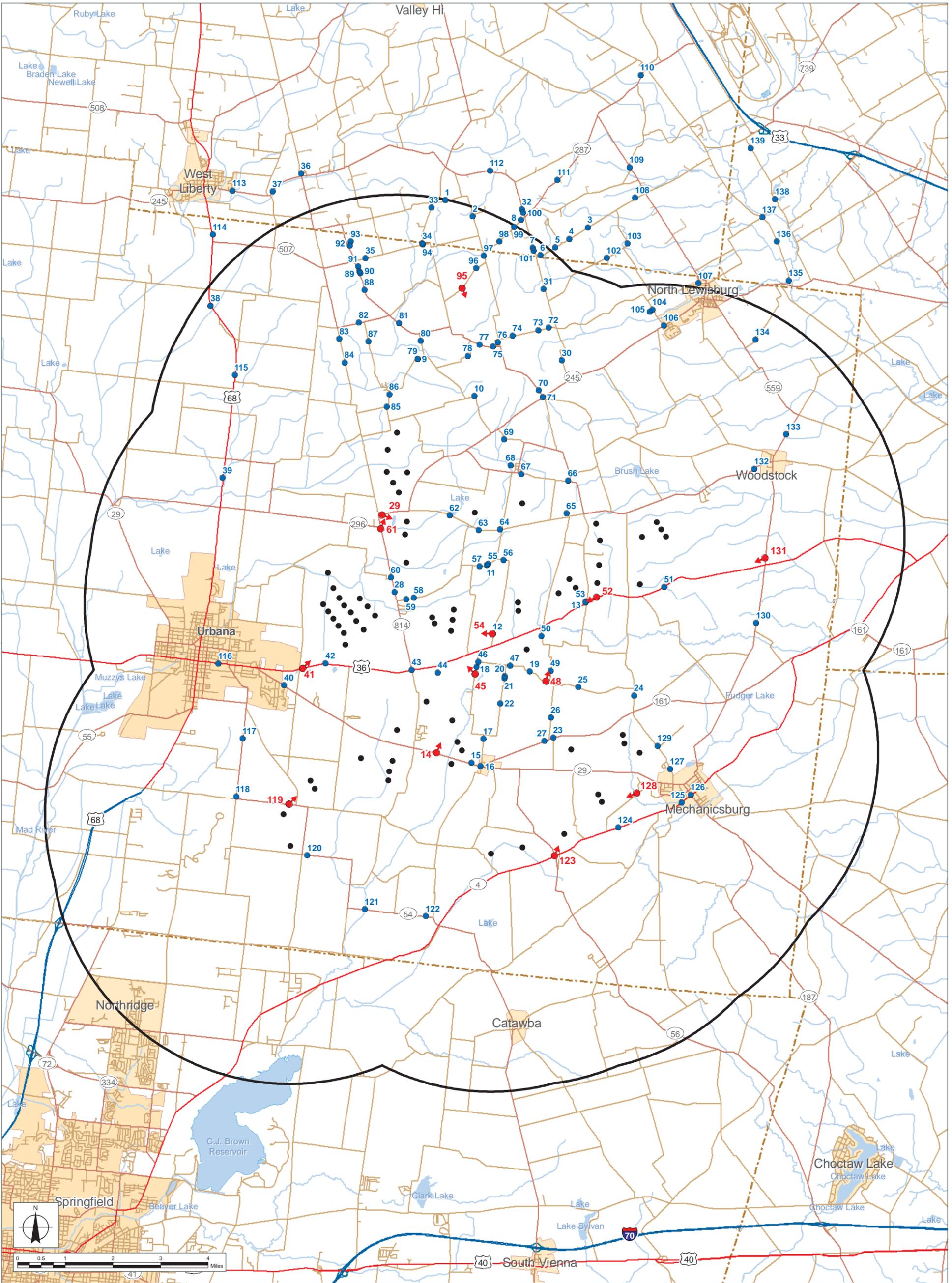
Structures

Field review also suggested that actual Project visibility is likely to be more limited than suggested by viewshed mapping. This is due to the fact that screening provided by buildings and trees within the study area is more extensive and effective than assumed in these analyses (e.g., vegetation is more extensive than indicated on the USGS maps, and often taller than 40 feet in height). The result is that certain sites/areas where "potential" visibility was indicated by viewshed mapping were actually well screened from views of the proposed Project. Field review confirmed a lack of visibility from areas that were screened by structures and trees, particularly developed areas such as the City Urbana and the various villages within the study area. Consequently, views of the Project from the majority of residences and historic sites within these areas are anticipated to be fully or partially screened. In general, only on the outskirts of these developed areas, where open fields adjoined residential areas, were open views available in the direction of the Project site. Even in the more rural/agricultural portions of the study area, hedgerows and trees not indicated on the USGS maps often blocked/interrupted views toward the Project site in many areas. However, open views that include at least some of the proposed turbines will be available from a broad range of distances/locations within the Rural Residential/Agricultural LSZ.

A comprehensive summary of potential Project visibility from sensitive sites is presented in the Table B-2 in Appendix B.

5.2 Analysis of Existing and Proposed Views

To illustrate anticipated visual changes associated with the proposed Project, photographic simulations of the completed Project from each of the 13 viewpoints indicated in Figure 9 were used to evaluate Project visibility and appearance. Review of these images, along with photos of the existing view, allowed for comparison of the aesthetic character of each view with and without the proposed Project in place. Results of this evaluation are presented below.



Buckeye Wind Project

Champaign County, Ohio

Figure 9: Viewpoint Locations

- Turbines
- Viewpoint
- ▲ Selected Viewpoint
- Direction of View
- 5 Mile Study Area

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Notes:
Base Map: ESRI StreetMap North America, Year 2008.



Viewpoint 14 (Figure 10)*Existing View*

This view from State Route 29 in the Town of Mutual features an agricultural landscape. It faces north-northeast and is approximately 0.5 from the nearest turbine that would be visible in this view. The foreground is extremely flat, with an intermittent line of structures, forest patches and low hills along the horizon. The roadway cuts diagonally across the immediate foreground, and on the opposite side, a cut cornfield dusted with snow stretches far back into the view. A line of wooden utility poles, of which four are visible, cross the view in the mid-ground. Light colored houses can be picked out in the distance, contrasting with the soft gray masses of vegetation behind them. The sky is mostly cloudy, with some blue faintly visible. Overall, this view appears very neutral in tone, open and horizontal.

Proposed Project

With the Project in place, two foreground turbines can be seen on either side of the view's center, and a third, more distant, turbine can be seen rising above the background ridge on the right hand side of the view. Details of the foreground turbines can be seen clearly, and their scale is in marked contrast to other built features in this view (e.g., houses, barns, utility poles). However, the turbines' scale contrast does not appear overwhelming due to the openness of the existing view. Their whiteness is consonant with the color of the snow, clouds, and houses and therefore compatible with the palette of the winter view. During the growing season, the color of the turbines will likely be favorably offset by the green or the foliage and corn, as well as the blue sky, giving a crisp freshness to the summer view. The turbines' vertical line contrasts with the horizontality of this view, yet they do not alter its clear agricultural character. For this particular viewpoint, the turbines complete the compositional balance of the landscape, adding focal elements and tension to the view. However, while the turbines appear appropriate, the overall contrast they create is appreciable.



Figure 10: Viewpoint 14



Figure 10: Viewpoint 14

Viewpoint 29 (Figure 11)*Existing View*

This view from State Route 296 in the Town of Salem faces east-southeast and is approximately 0.5 mile from the nearest turbine that would be visible in this view. This rural agricultural view is spatially well defined, with a clear delineation of foreground, mid-ground, and background. The coarse texture of the cut cornfield is evident in the foreground, its detail accentuated by the contrasting snow cover. A farm compound and a hedgerow partially screen the less distinct brown and white field in the mid-ground. The trees along the edge of the yard are large, and their coarse, bare branches stand out clearly against the sky. The background consists of a band of forest vegetation, whose upper branches appear soft and transparent. Large clouds provide some texture to an otherwise bright blue sky. The landform in this view is subtly undulating, and the late afternoon sun illuminates the mid-ground and casts the shadows of the trees onto the white farm structures.

Proposed Project

With the Project in place, two turbines of similar apparent size can be seen in this view. One is partially screened by structures and trees, while the other is more isolated and distinct on the opposite side of the view. The low sun angle results in a strong contrast of illuminated and shaded surfaces on both of the turbines, which makes them stand out against the sky. The turbine on the left of the view is compatible in color and scale with the composition of the house, outbuildings, and large trees that make up the farm compound. It is easy to imagine the greater screening effect the trees in the yard will have during the leaf-out season. The turbine on the right of the view is screened for about a third of its height by forest, with the rest of its tower, nacelle and blades distinct against the partially clouded sky. The proximity of these turbines to the viewer, and the measurable comparison between the turbine on the right and the background trees accentuates their scale contrast. However, the overall visual contrast is moderated by the existing man-made elements in this view.



Figure 11: Viewpoint 29



Figure 11: Viewpoint 29

Viewpoint 41-Panoramic (Figure 12)*Existing View*

This view from US Route 36 in the Town of Urbana (just beyond the Urbana City limits) faces northeast and is approximately 1.0 mile from the nearest turbine that would be visible in this view. A rural roadway occupies the near foreground, crossing diagonally to exit the view on the right. A post and wire fence, and a sign run along the road's shoulder in the foreground. A line of wooden utility poles, whose receding size gives this view a strong sense of perspective depth, accentuates the strong converging lines of the road. The rest of the view shows agricultural fields dusted with snow, separated by hedgerows of filigreed trees screening isolated rural structures. The distant horizon in this panoramic view is a low, even ridge that stretches across the entire view. The ridge is mostly in shadow, backlit by the pink light of the morning sun. The ridge, lines of mid-ground hedgerows, and flatness of the fields create strong horizontal lines in this view. The upper half of the view is open sky, interrupted only by the utility poles and the crowns of the bare trees.

Proposed Project

With the proposed Project in place, over 30 turbines can be counted in this view. Due to the low sun angle, they are back-lit, their forms appearing dark gray against the pink sky. The turbines are compatible with the existing agricultural land use, though they are clearly taller than the existing vegetation. However, at this distance their form appears both smaller and more delicate than the existing utility poles in the foreground. The number of turbines and the random, at times overlapping, orientation of their blades creates a certain degree of visual clutter, and they become the dominant feature of the view. Their principal source of contrast with the existing landscape lies in their unique form and the kinetic quality they lend to this otherwise static and placid view. Distance is the greatest moderator of contrast in this view.



Existing View



Simulated View

Viewpoint 45 (Figure 13)*Existing View*

This view from Mutual Union Road South in the Town of Union faces northwest and is approximately 1.0 mile from the nearest turbine that would be visible in this view. Hedgerows that follow the rises and dips accentuate the gentle undulations of the landform in this view. The low sun casts a patchwork of light and shadow across the landscape, and its orange glow contrasts with the clear blue sky. Except for a few evergreens, the vegetation appears russet in its bare-branched condition. A light layer of snow covers the ground of the cropped field. Two groupings of white rural structures are bright with reflected light, nestled among trees at the back of this view. The landscape appears to fall away in the background, making this view seem very broad and not as deep.

Proposed Project

With the Project in place, four turbines are visible beyond the ground and trees that form the horizon line in this view. All of the turbines are partially screened by vegetation and landform, although the two on the right appear closer and extend higher into the sky. The turbines are clearly grander in scale than the trees and structures in the view. However, the open character and broad scale of the view dilutes their number and apparent size. Moreover, the turbines appear compatible with the agricultural land use that characterizes this view. Their contrast with the horizontal lines of the landscape is also mitigated to some degree by the jagged line of vertical elements (trees and buildings) that straddle the horizon. Overall, their presence seems to be absorbed in this landscape, from this viewer position.



Figure 13: Viewpoint 45



Figure 13: Viewpoint 45

Sheet 2 of 2 - Simulated View from Mutual Union Road - Town of Union, Champaign County, OH
Facing Northwest, 1.0 Miles from Nearest Visible Turbine

Viewpoint 48 (Figure 14)*Existing View*

This view from Stringtown Road in the Town of Union faces north-northeast and is approximately 1.8 miles from the nearest turbine that would be visible in this view. This semi-rural landscape includes farm structures as well as new suburban residences along the road frontage and in small subdivisions. Background vegetation is abundant, stretching across the view and opening in some spots to reveal both residential and agricultural structures well into the distance. The mown field in the foreground has a light dusting of snow, giving a neutral brown and white texture to the ground plane. The emptiness in the center of the view appears transient, as if future residential development could be expected. Generally, the landscape looks more structured in the background than in the foreground. A broad, blue sky, and the apparent scale of the existing structures make this view seem expansive.

Proposed Project

Eight turbines can be seen in this view with the proposed Project in place. Two of them appear to overlap, while the rest are well distributed across the view. The turbines appear fairly compatible with the density of structures in this view, although the presence of the homes accentuates their contrast in terms of scale and land use. Low sun angle creates high contrast between portions of the turbines that are in sun and shadow. This in turn, heightens the contrast of their profile against the sky. The many scale references in this view allow the viewer to assess the turbines' height despite their distance. However, the scale of the landscape is able to absorb their size. If not for their vicinity to residential structures, the turbines would present only a moderate level of contrast in this landscape. The animation of this simulation showing the blades in motion (see Appendix D) did not change this evaluation. The relatively slow rate of revolution, and the perception that the turbines were operational (i.e., doing what they are supposed to do) actually helps the turbines appear compatible with their surroundings.



Figure 14: Viewpoint 48



Figure 14: Viewpoint 48

Viewpoint 52 (Figure 15)*Existing View*

This view is from US route 36 in the Town of Wayne. It is oriented to the west-southwest and is approximately 1.6 miles from the nearest turbine that would be visible in this view. Like the previous viewpoint, it presents a landscape that is in transition from a rural/agricultural character to a more suburban character. A roadway is located to the left of the viewer, leading to the center of the horizon line in the back of the view. A roadside drainage swale travels down the center of the view, and a row of wooden utility poles alongside it (above the viewer position) focus the viewer's attention along the orientation of the road. There are cropped, snow-dusted fields on both sides of the road, which allow a clear view across foreground and mid-ground. Residences line the background along most of the horizon, backdropped by soft gray masses of winter forest vegetation. The wooden poles against the blue sky are the strongest vertical element in an otherwise horizontal view.

Proposed Project

With the proposed Project in place, a group of seven turbines can be seen in the background on the right side of the view, while a single background turbine appears at the far left. Three of these turbines appear closer than the others, but their apparent height is still less than that of the existing utility poles. The remaining turbines are much less distinct. With the exception of the turbine on the far left, the turbines seem mostly segregated from the residences, which mitigates their contrast with that land use. They are generally compatible with the agricultural setting that dominates the part of the view they occupy. Their size relative to the houses and background vegetation is easy to assess, which accentuates their scale contrast. However, the turbines' scale contrast is significantly mitigated by their distance from the viewer, and their contrast in line and form are reduced due to the presence of the overhead line. Their off-set from the central focal point created by the road and roadside swale also reduces their dominance in this view. From this viewpoint the turbines' overall contrast is minimal to moderate.



Figure 15: Viewpoint 52



Figure 15: Viewpoint 52

Viewpoint 54 (Figure 16)*Existing View*

This view is from a small, rural cemetery on North Mutual Union Road (CR 167) in the Town of Union. It is oriented to the west, approximately 0.9 mile from the nearest turbine that would be visible in this view. The cemetery is enclosed across the frame of view by a small, rusted wire fence. Beyond that, still in the foreground, the tight parallel lines of a harvested corn field dusted with snow rise on the waves of the landform to a low mid-ground ridge running across the line of sight. Farm buildings, including a silo, saddle the ridge on the right, and a hedgerow climbs the sloping field along the left, so that the upper portions of the trees are seen against the sky. In the distance, other linear patches of forest vegetation run along the horizon, and dip in and out of the view with the undulating landform.

Proposed Project

With the proposed Project in place, portions of 17 turbines appear in the view. Four more nearby turbines appear on the right hand side of the view, beyond the farm complex, while the others are more distant and run along the horizon in the center and right side of the view. The nearer turbines appear relatively close to the barns and silos, and have more visual association with the farm than the cemetery. The turbines along the horizon are fairly uniform in height and spacing, and therefore look orderly and appropriate in this working agricultural landscape. Their vertical line is consistent with the line of the trees and farm structures, and their white color and man-made form is consistent with the structures in the farm complex. The turbines' scale contrast with the forest is softened by the indistinct detail in the background vegetation, which appears as a mass. In addition, the unoccupied space between the cemetery and the turbines/farm structures acts as a visual buffer between the disparate land uses, mitigating the otherwise moderate land use contrast in this view.



Figure 16: Viewpoint 54



Figure 16: Viewpoint 54

Sheet 2 of 2 - Simulated View from Mutual Union Road - Town of Union, Champaign County
Facing West, 0.9 Miles from Nearest Visible Turbine

Viewpoint 61 (Figure 17)*Existing View*

This rural view from State Route 814/County Route 223 (North Ludlow Road) in the Town of Salem faces north-northeast and is approximately 0.9 mile from the nearest turbine that would be visible in this view. This view is dominated by the light brown texture of cropped winter fields. A light dusting of snow covers the ground between the dried plants. The focal point of the view is a farmstead in the mid-ground, just to the right of the center, with a substantial residence and several outbuildings nestled among trees. A fairly continuous line of distant trees and widely-spaced utility poles cross the background of the view, all a monochrome gray against the bright blue sky.

Proposed Project

With the proposed Project in place, six turbines are present in the mid-ground and background of the view. Due to their proximity and lack of foreground screening, the turbines replace the farmstead as the dominant focal point within this view. Three of the turbines form a triangle behind the farmstead, their appreciable disparity of scale made apparent by comparison to the structures and trees. However, the turbines present no significant contrast with the agricultural land use that characterizes this view, and the location of these three turbines relative to the existing massing of landscape features reduces contrast with the overall pattern of the landscape. The more distant turbines appear to balance the former, and the profile of the turbines against the sky does not create more than a moderate contrast due to distance and number. The more significant contrast lies in the perceived vicinity of the nearer turbines to the residence in this view. Review of an animation of this simulation showing the blades in motion (see Appendix D) was considered to have the same generally positive effect as described previously for the simulation from Viewpoint 48.



Figure 17: Viewpoint 61



Figure 17: Viewpoint 61

Viewpoint 95-Panoramic (Figure 18)*Existing View*

This panoramic view from Bump Road in the Town of Wayne faces south-southeast and is approximately 4.7 miles from the nearest turbine that would be visible in this view. The view looks across a gentle valley where agricultural fields alternate with hedgerows and patches of trees. The descending foreground field is textured by dried remnants of crops, brown against the snow. A group of farm buildings to the left is the focal point, which is balanced by a hedgerow crossing the view on the right. Together, these two features separate the foreground from the mid-ground where the low point of the valley occurs. The slope in the background includes divided fields in the center, and substantial patches of forest on the right and left. The background fields appear white in contrast with the dark gray of the adjacent forest cover. Small farm structures can be seen at the base and along the lower portion of the slope. The mostly blue sky is streaked with diffuse, horizontal clouds, and two telecommunications towers can be seen against it on both sides of the view.

Proposed Project

Part or all of over 10 turbines are visible above the background ridge in this view with the proposed Project in place. All of the turbines appear relatively small and delicate due to their distance from the viewer. Only the blade tips of a number of the turbines can be picked out, though they are barely distinguishable from the irregular edge of the bare-branched tree masses. Others are plainly visible above the treetops, though most have the advantage of partial screening, and all appear smaller than the two telecommunication towers in the view. These turbines appear in small groups, which has the effect of breaking up the sense of Project size across this panorama. Though gray against the light sky, their color is not in contrast with the vegetation from which they seem to emerge. Within the general pattern of the landscape, the turbines mimic the irregularly linear arrangement of the vegetation as seen from this position, and present only minor visual contrast.



Existing View



Simulated View

Figure 18: Viewpoint 95

Viewpoint 119 (Figure 19)*Existing View*

This rural agricultural view from State Route 54 in the Town of Urbana faces northeast and is approximately 0.6 mile from the nearest turbine that would be visible in this view. The predominant feature in the landscape is a broad, flat, cropped field extending from the foreground through the mid-ground. The focal point is a large farmhouse and its compound, viewed through bare-branched trees. Another smaller farm complex to the left of the first establishes a secondary focal point. Most of the trees are large and close to the structures, and would screen much of the houses and barns during the growing season. Additional trees/hedgerow further to the left completes the horizontal line of mid-ground vegetation, and provides additional massing against the broad, blue sky above. A low forested ridge, uniformly dark gray in color, can be seen in the background from the center to the left hand side of the view. Vertical elements are somewhat distant from the viewer, and do not affect the overall sense of flatness that characterizes this view.

Proposed Project

With the proposed project in place, two turbines appear just behind the structures and trees, and their contrast in scale with these landscape features is evident. Other turbines visible in the view are more distant, less distinct, and appear similar in height to the mid-ground trees in the view. The turbines are generally compatible with the land use and palette of this working agricultural landscape, and the openness of the landscape is able to absorb the number of visible turbines. However, the two nearest turbines now become the dominant focal points in the view due to their large size. Their perceived scale contrast results from viewer proximity and the presence features of known height in the view.



Figure 19: Viewpoint 119



Figure 19: Viewpoint 119

Viewpoint 123 (Figure 20)*Existing View*

This view is from the intersection of State Routes 4 and 56 in the Town of Union, facing north-northeast. It is approximately 0.5 mile from the nearest turbine that would be visible in the view. This shallow view shows little beyond the foreground, due to an embankment that crosses the view at eye level on the opposite side of the road. The road, two signs, and several utility structures are the only built features in the view. A hedgerow of medium to large deciduous trees sits on the higher ground beyond the crest of the embankment, the bare branches of the trees providing a coarsely textured screen against the blue sky. The tops of a more distant band of forest vegetation can be seen through the trees, just above the crest of the foreground embankment. The foreground is dominated by mowed grass that is brown, with a dusting of snow in the low and bare spots.

Proposed Project

Seven turbines are visible from this viewpoint with the proposed Project in place. The closest of these appears to be just behind the hedgerow, and presents notable scale contrast with the mature trees, which appear to be about one third of its total height. This turbine's white color also presents noticeable contrast with the sky, although it is less imposing than the existing galvanized utility pole in the immediate foreground of this view. The other turbines in the view are visually in scale with the trees and with the trees leafed out, would be largely screened from view. The turbines do not present any significant land use contrast in this view, and are compatible with the existing landscape elements in this view.



Figure 20: Viewpoint 123



Figure 20: Viewpoint 123

Viewpoint 128 (Figure 21)*Existing View*

This view, overlooking successional fields and pasture/inactive cropland, is from Allison Road in the Town of Goshen, just outside the Village of Mechanicsburg. It faces west-southwest at about 0.7 mile from the nearest turbine that would be visible in the view. This view features a patchwork of brown, snow dusted fields delineated by an orthogonal network of hedgerows. The foreground includes a sloping mowed lawn with a couple of small evergreens (suggesting the presence of a nearby home). The viewer's position is superior, and because the view faces toward the sun, foreground and mid-ground trees are back-lit. A distinct hedgerow forms a dark, textured wall on the left of the view, and this line of trees continues well into the center mid-ground of the view. Other fields in the mid-ground and background of the view are defined by successive layers of hedgerows, along both their length and width. The background ends at a dark gray wooded ridge that is indistinct against a blue sky streaked with white, diffuse clouds

Proposed Project

The proposed Project would locate two turbines, one to the right and one to the left of the view's center, at similar distances from the viewer position. This provides symmetry to the view, and the foreground hedgerow seems to travel into the space between the turbines. Though they both appear substantial in size, one of the turbines is significantly screened by trees, an effect that would be even greater during the growing season. The turbines' form and color contrast with the dark, irregular branching patterns of the foreground hedgerow trees. However, their line contrast is somewhat softened by the presence of vertical tree trunks in the hedgerows and the height of the vegetated landform behind them, which reduces their perceived height against the sky. Although distance and superior viewer position moderates the visual contrast of the turbines, their large scale relative to adjacent trees and their back-lit form against the bright sky results in a moderate level of contrast.



Figure 21: Viewpoint 128



Figure 21: Viewpoint 128

Viewpoint 131(Figure 22)*Existing View*

This broad, deep view is from State Route 559 in the Town of Rush. It faces west-southwest and is approximately 3.5 miles from the nearest turbine that would be visible in the view. The majority of this agricultural view is occupied by a furrowed field laced with snow that stretches, almost completely flat, from the foreground to the background of the view. The horizon line is garnished by bands of both forest and hedgerow vegetation. The only structures visible in the view are a cluster of galvanized grain bins, a distant silo, and a couple of low barns. These all occur in the background and are not significant features in the view. The bright blue sky has a broad band of diffuse cloud cover just above the horizon. The view imparts a feeling of openness and emptiness.

Proposed Project

With the proposed Project in place, just over a dozen turbines are visible in the view. None of them can be seen in their entirety, as their towers are partially screened by the vegetation in the background of the view. Their contrast in height with the forest is evident, and back-lighting makes them appear dark gray against the white clouds nestled along the horizon. However, distance reduces the perceived scale of the turbines and their vertical line contrast with the level landscape. Although adding some degree of visual clutter to the generally open sky, they appear compatible with the agricultural land use that characterizes this view.



Figure 22: Viewpoint 131



Figure 22: Viewpoint 131

Sheet 2 of 2 - Simulated View from OH-559 - Town of Rush, Champaign County, OH
Facing West-Southwest, 3.5 Miles from Nearest Visible Turbine

As a group, the simulations indicate that the Project will result in a moderate to appreciable visual contrast from open viewpoints within 1.0 mile of the nearest turbine. At greater distances and with more screening, the contrast/impact of the Project should be significantly reduced. However, in EDR's experience, the contrast and visual impact of the wind turbines will be highly variable based on the number of turbines visible, viewer sensitivity/acceptance, and/or existing land use characteristics. The greatest impact typically occurs when numerous turbines are visible and/or where the turbines are close to the viewer (i.e., less than 1.0 mile). These conditions tend to heighten the Project's contrast with existing elements of the landscape in terms of, line, form, and especially scale. Visual impact can also be significant where the turbines appear incongruous or out of place in a certain landscape setting, or where aesthetic quality and/or viewer sensitivity are high.

However, it is worth noting that the lack of topographic and vegetative variability in the Rural Residential/Agricultural LSZ, which dominates the study area, generally results in only average aesthetic quality in much of the area surrounding the proposed Project. In such settings, the proposed Project, although at times offering appreciable contrast with the landscape, will not necessarily be perceived by most viewers as having an adverse visual impact. EDR's experience is that recently built wind power projects in New York State have generally received a positive public reaction following their construction. In fact, a survey conducted in Lewis County, New York (location of the 195-turbine Maple Ridge Wind Power Project in operation since 2006) revealed strong community support for wind power. The primary goal of this survey (the Second Annual Lewis County Survey of the Community, conducted in 2008 by The Center for Community Studies at Jefferson Community College) was to collect data regarding quality of life issues of importance to the local citizens. The survey consisted of 393 telephone interviews of Lewis County residents who were asked a series of 80 questions, 5 of which were related to wind power. A majority of residents surveyed indicated that wind farms have had a positive impact on Lewis County (70.7% of participants) and indicated that wind farms should be expanded in Lewis County (79.2% of participants). Of the individuals participating in the survey, only 9.2% have turbines on land owned by themselves or a family member, and 37.4% reported that they were able to see and/or hear wind turbines from their home. The survey further characterizes the individuals that were able to see and/or hear turbines from their homes to reveal that 77.1% of these individuals indicated that the wind farms have had a positive impact on Lewis County. Additionally, only 7.5% of participants who live within 1 mile of the nearest wind turbine felt that wind farms have had a negative impact (Jefferson Community College, 2008). In addition, typical are the following published observations:

“Given the broad sweep of the Fenner [New York] landscape...the completed turbines look anything but out of place. Their colossal dimensions notwithstanding...from a distance, they take on a spindly, almost delicate look.” Syracuse New Times, August 21, 2002.

“The nonlinear arrangement of the Fenner turbines situated them comfortably among the traditional farmhouses, paths, and roads, while at Madison [New York], a grassy hillside site, the windmills were more prominent but still unaggressive. Unlike a ski run, say, or a power line cutting through the countryside, the windmills didn’t seem like a violation of the landscape. The turning vanes called to mind a natural force – the wind – in a way that a cell phone or microwave tower, for example, most certainly does not.” Orion, September-October 2006.

These observations, and the Jefferson Community College 2008 survey, are consistent with the results of a recent study of public perception of wind power in Scotland and Ireland (Warren, et. al., 2005). The conclusion of this study states the following:

“A remarkably consistent picture is emerging from surveys of public attitudes to wind power, and the case studies provide further evidence that this picture is a representative one. Large majorities of people are strongly in favour of their local windfarm, their personal experience having engendered positive attitudes. Moreover, although some of those living near proposed windfarm sites are less convinced of their merits, large majorities nevertheless favour their construction. This stands in marked contrast with the impression conveyed in much media coverage, which typically portrays massive grassroots opposition to windfarms.”

Nighttime photos from the Fenner (New York) Wind Power Project (Figure 23), illustrate the type of nighttime visual impact that could occur from certain viewpoints within the Buckeye Project study area due to the turbines’ FAA aviation warning lights. Although daytime lighting, and night time lighting of every turbine, (as was the case in Fenner) will not be required on this project, as shown in this photo, the contrast of the aviation warning lights with the night sky can be strong in dark, rural settings, and their presence suggests a more commercial/industrial land use. Viewer attention is drawn by the flashing of the lights, and any positive reaction that wind turbines engender (due to their graceful form, association with clean energy, etc.) is lost at night. While not disturbing (or even strongly perceptible) from roads and other public viewpoints, turbine lighting may be perceived negatively by area residents who may be able to view these lights from their homes and yards.



Existing Fenner Wind Power Project Fenner, NY

■ Buckeye Wind Project

Champaign County, Ohio

Figure 23: Representative Evening/Nighttime Photos

6.0 Conclusions

The VIA for the Buckeye Wind Power Project allows the following conclusions to be drawn:

1. Viewshed mapping, cross section analysis, and field verification indicate that the Project has the potential to be visible from the majority of the 5-mile radius study area. In most locations where turbines will be visible, significant portions of the overall Project are also likely to be visible. However, in many areas a significant number of the turbines will be at least partially screened by trees and structures. In addition, significant visual effects of wind power projects are generally concentrated within 3.5 miles (6 kilometers) of the Project site (Eyre, 1995). EDR's observations on existing wind power projects in New York State indicate that under favorable conditions, views of the wind turbines will likely be available from certain viewpoints well over 10 miles from the Project site. However, visual impact at these distances is typically minimal.
2. Viewshed analysis indicates that views of the Project are likely to be available from the majority of the visually sensitive resources and areas of intensive land use that occur within the 5-mile radius study area. However, for many sensitive sites within the study area, including National Register-listed historic sites and others that occur in the City of Urbana and the various villages, cross section analysis and field review suggest that the Project will either not be visible or will be significantly screened by foreground vegetation and structures.
3. Simulations of the proposed Project, indicate that the visibility and visual impact of the wind turbines will be highly variable, based on landscape setting, the extent of natural screening, the presence of other man-made features in the view, and distance of the viewer from the Project.
4. Evaluation by a licensed EDR landscape architect indicates that the Project's overall contrast with the visual/aesthetic character of the area will generally be moderate. Minimal contrast was noted for viewpoints over 3.5 miles from the Project, while more appreciable contrast was noted where foreground and near mid-ground views of turbines (i.e., under 1.0 mile) are available, where substantial numbers of turbines span the field of view, and/or where the turbines appear out of context/character with the landscape (i.e., in more suburban residential areas). However, in most cases the reviewing landscape architect felt the Project was compatible with the working agricultural landscape that makes up the majority of the visual study area. Based on experience with currently operating wind power projects elsewhere, public reaction to the Project is likely to be generally positive, but highly variable based on proximity to the turbines, the affected

landscape, and personal attitude of the viewer regarding wind power. As Stanton (1996) notes, although a wind power project is a man-made facility, what it represents "may be seen as a positive addition" to the landscape.

5. Based upon the nighttime photos/observations of existing wind power projects, the red flashing lights on the turbines could result in a nighttime visual impact on certain viewers. The actual significance of this impact from a given viewpoint will depend on how many lighted turbines are visible, what other sources of lighting are present in the view, the extent of screening provided by structures and trees, and nighttime viewer activity/sensitivity. However, night lighting could be somewhat distracting and have an adverse effect on rural residents that currently experience dark nighttime skies. It should be noted that nighttime visibility/visual impact will be reduced on this Project due to 1) FAA lighting guidelines which typically result in aviation warning lights on only about one third to one half the turbines, 2) the presence of yard trees and hedgerows that screen portions of the Project from many locations, and 3) the concentration of residences in villages, hamlets, and along highways where existing lights already compromise dark skies and compete for viewer attention.
6. Mitigation options are limited, given the nature of the Project and its siting criteria (tall structures typically located in open fields). However, various mitigation measures were considered. These included the following:
 - A. Screening. Due to the height of individual turbines and the geographic extent of the proposed Project, screening of individual turbines with earthen berms, fences, or planted vegetation will generally not be effective in reducing Project visibility or visual impact. However, if adequate natural screening is lacking at the proposed substation site, a planting plan should be developed and implemented to minimize the visibility of this facility. In addition, selective off-site plantings could be effective in screening views of the turbines from some cemeteries, local parks, or historic resources in the area (see Viewpoint 54 as an example).
 - B. Relocation. Again, because of the extent of the Project, the number of individual turbines, and the variety of viewpoints from which the Project can be seen, turbine relocation will generally not significantly alter visual impact. Where visible from sensitive resources within the study area, (e.g., local parks, cemeteries, and heavily used roadways) numerous turbines are likely to be visible, and relocation of individual machines would have little effect

on overall visual impact. Throughout the study area, views of the Project are highly variable and include different turbines at different vantage points. Therefore, turbine relocation would generally not be effective in mitigating visual impacts.

- C. **Camouflage.** The white color of wind turbines (as mandated by the FAA to eliminate the need for day time lighting) minimizes contrast with the sky under most conditions, especially when viewed at distance against the horizon. Consequently it is recommended that this color be utilized on the Buckeye Project. The size and movement of the turbines prevents more extensive camouflage from being a viable mitigation alternative (i.e., they cannot be made to look like anything else). Neilson (1996) notes that efforts to camouflage or hide wind farms generally fail, while Stanton (1996) feels that such efforts are inappropriate. She believes that wind turbine siting "is about honestly portraying a form in direct relation to its function and our culture; by compromising this relationship, a negative image of attempted camouflage can occur."
- D. **Low Profile.** A significant reduction in turbine height is not possible without significantly decreasing power generation. To off-set this decrease, additional turbines would be necessary. There is not adequate land under lease to accommodate a significant number of additional turbines, and a higher number of shorter turbines would not necessarily decrease Project visual impact. In fact, several studies have concluded that people tend to prefer fewer larger turbines to a greater number of smaller ones (Thayer and Freeman, 1987; van de Wardt and Staats, 1988). EDR has evaluated this alternative on several proposed wind power projects in New York, and we have typically found that visual impact is not significantly altered by using a larger number of smaller turbines. The visual impact of the electrical collection system is being minimized by installing significant portions of the lines underground.
- E. **Downsizing.** Reducing the number of turbines could reduce visual impact from certain viewpoints, but from most locations within the study area where numerous turbines are visible, unless this reduction were drastic, the visual impact of the Project would change only marginally. A dramatic reduction in turbine number (e.g., reduction by 50%) would impact the Project's economic viability.
- F. **Alternate Technologies.** Alternate technologies for power generation (fossil fuel, nuclear, solar, etc.) would have different, and perhaps more significant, visual impacts than wind

power. In addition, because the Project Sponsor is a wind power developer, alternative types of power generation are not realistic alternatives. Alternative utility-scale wind power technologies (e.g., vertical axis turbines), that could reduce visual impacts, do not currently exist.

- G. Nonspecular Materials. Where possible, non-reflective paints and finishes will be used on the wind turbines to minimize reflected glare. Where this is not feasible, natural weathering/dulling of any glossy surfaces (on turbine or substation components) will typically occur within one year following installation.
- H. Lighting. Turbine lighting will be kept to the minimum allowable by the FAA. Medium intensity red strobes will be used at night, rather than white strobes or steady burning red lights. Lighting at the proposed substation should be kept to a minimum, and turned on only as needed by switch or motion detector.
- I. Maintenance. The turbines and turbine sites will be maintained to ensure that they are clean, attractive, and operating efficiently. Research and anecdotal reports indicate that viewers find wind turbines more appealing when the rotors are turning (Stanton, 1996). In addition, the Project operator will establish a decommissioning fund to ensure that if the Project goes out of service and is not repowered/redeveloped, all visible above-ground components will be removed.
- J. Offsets. Correction of an existing aesthetic problem within the viewshed is a viable mitigation strategy for wind power projects that result in significant adverse visual impact. However, because the analysis presented herein does not indicate a significant adverse impact, offset mitigation is not proposed at this time.

In addition to the mitigation measures described above, other measures that will reduce or mitigate visual impact have been incorporated into the Project design. These include the following:

- All turbines will have uniform design, speed, color, height and rotor diameter.
- Towers will include no exterior ladders or catwalks.

- The Project operations and maintenance building (although not yet designed) will reflect the vernacular architecture of the area (i.e., resemble an agricultural structure).
- New road construction will be minimized by utilizing existing farm lanes whenever possible.
- The placement of any advertising devices on the turbines will be prohibited.

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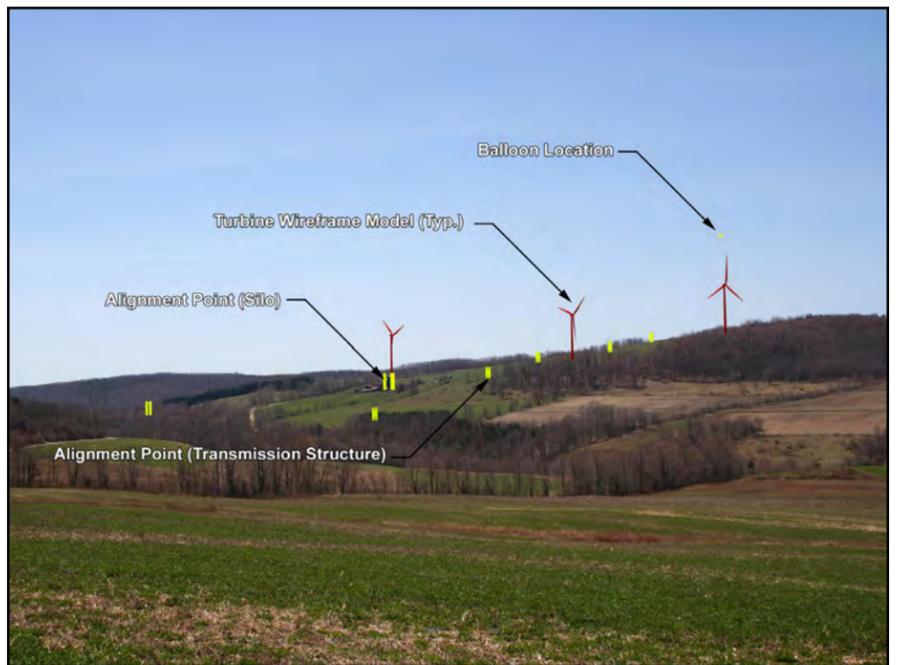
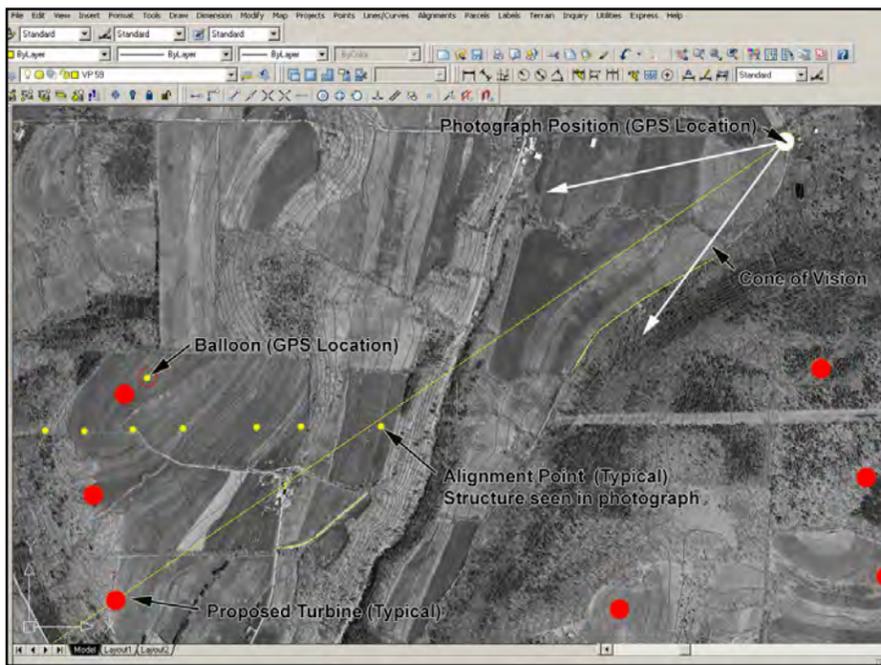
Appendix A

Visual Simulation Process



Photos are selected to illustrate typical views of the proposed project that will be available to representative viewer/user groups from the major landscape similarity zones and sensitive sites within the study area.

A three-dimensional computer model of the project is built based on proposed turbine specifications and tower site coordinates.



Aerial photographs and GPS data collected in the field are used to create an AutoCAD 2005® drawing.

These data are superimposed over photographs from each of the viewpoints, and minor camera changes are made to align all known reference points within the view.



A digital terrain model representing the existing topography is also overlaid on the existing photograph to refine camera alignment, and target elevation.

The proposed exterior color/finish of the turbines was then added to the model and the appropriate sun angle is simulated based on the specific date, time and location (latitude and longitude) at which each photo was taken.

■ Buckeye Wind Project

Champaign County, Ohio

Appendix A: Visual Simulation Process

March 2009



Appendix B

Large Scale Viewshed Maps and Visually Sensitive Site Tables

Table B1. Inventory of Visually Sensitive Resources

| Visually Sensitive Resource ¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine ² |
|---|--|--|
| STATEWIDE RESOURCES | | |
| National Register of Historic Places | | |
| Baker, Maj. John C., House | 202 W. Main St., Village of Mechanicsburg, Champaign County | 1.1 |
| Barr House | Locust & Sandusky Sts., Village of Mechanicsburg, Champaign County | 1.5 |
| Burnham, Henry, House | N. Main St. & Rt. 559, Village of Mechanicsburg, Champaign County | 1.1 |
| Church Of Our Savior | 56 S. Main St., Village of Mechanicsburg, Champaign County | 1.5 |
| Clark, Dr., House | 21 N. Main St., Village of Mechanicsburg, Champaign County | 1.3 |
| Culbertson, William, House | 103 Race St., Village of Mechanicsburg, Champaign County | 1.3 |
| Demand-Gest House | 37 N. Main St., Village of Mechanicsburg, Champaign County | 1.3 |
| Elmwood Place | SW of Irwin on OH 161, Irwin, Union County | 4.9 |
| Hamer's General Store | 88 S. Main St., Village of Mechanicsburg, Champaign County | 1.6 |
| Hunter, Norvall, Farm | S. Main St., Village of Mechanicsburg, Champaign County | 1.6 |
| Kimball House | 115 N. Main St., Village of Mechanicsburg, Champaign County | 1.2 |
| Lowler's Tavern | N. Main St., Village of Mechanicsburg, Champaign County | 1.3 |
| Magruder Building | 16 N. Main St., Village of Mechanicsburg, Champaign County | 1.4 |
| Masonic Temple | N. Main St., Village of Mechanicsburg, Champaign County | 1.3 |
| Mechanicsburg Baptist Church | Walnut & Sandusky Sts., Village of Mechanicsburg, Champaign County | 1.3 |
| Mechanicsburg Commercial Historic District | 1-11 S. Main St., Village of Mechanicsburg, Champaign County | 1.4 |
| Mosgrove, Dr. Adam, House | 127 Miami St., City of Urbana, Champaign County | 2.9 |
| Mt. Tabor Church Building, Cemetery and Hitching Lot | OH 245, 300 meters S of jct. with Mt. Tabor Rd., Salem Township, Champaign County | 3.5 |
| Ninchelser, Dr., House | 28 N. Main St., Village of Mechanicsburg, Champaign County | 1.3 |
| Nutwood Place | 1428 Nutwood Place, City of Urbana, Champaign County | 2.6 |
| Rathburn, Levi, House | Locust & Sandusky Sts., Village of Mechanicsburg, Champaign County | 1.4 |
| Richards--Sewell House | 222 College St., City of Urbana, Champaign County | 3.2 |
| Scioto Street Historic District | Scioto St. from Locust to E. Lawn Ave., City of Urbana, Champaign County | 2.3 |
| Second Baptist Church | Sandusky St., Village of Mechanicsburg, Champaign County | 1.4 |
| St. Michael Catholic Church | 40 Walnut St, Village of Mechanicsburg, Champaign County | 1.3 |
| St. Paul AME Church | 316 E. Market St., City of Urbana, Champaign County | 2.8 |
| United Methodist Church | N. Main & Race Sts., Village of Mechanicsburg, Champaign County | 1.3 |
| Urbana College Historic Buildings | College Way, City of Urbana, Champaign County | 3.4 |
| Urbana Monument Square Historic District | Roughly bounded by Market, Walnut, Church, and Locust Sts., City of Urbana, Champaign County | 2.7 |
| Village Hobby Shop | N. Main St., Village of Mechanicsburg, Champaign County | 1.4 |
| Ward, John Q. A., House | 335 College St., City of Urbana, Champaign County | 2.2 |
| National Register of Historic Places Determination of Eligibility (NRHP DOE) | | |
| Urbana | 318 W. Light St., City of Urbana, Champaign County | 2.8 |

| Visually Sensitive Resource ¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine ² |
|--|--|--|
| State Historic Markers | | |
| 1950 National and Ohio Plowing Matches (#08-11) | Intersection of Benson Road and State Route 54, Town of Union, Champaign County | 2.4 |
| Addison White (#16-11) | 1 South Main Street, Village of Mechanicsburg, Champaign County | 1.4 |
| Bailey and Barclay Halls/Johnny Appleseed (#05-11) | 579 College Way, City of Urbana, Champaign County | 3.5 |
| Cedar Bog Nature Preserve (#06-11) | 980 Woodburn Road, Town of Urbana, Champaign County | 3.5 |
| Dayton, Springfield, and Urbana Electric Railway (#15-11) | 122 South Main Street, City of Urbana, Champaign County | 2.9 |
| General Robert Lawrence Eichelberger (#14-11) | 907 Scioto Street, City of Urbana, Champaign County | 1.9 |
| Harmony Lodge No. 8 Free and Accepted Masons (#01-11) | 222 N. Main Street, City of Urbana, Champaign County | 2.9 |
| In Memory of Simon Kenton (#03-11) | Intersection of Jefferson St. and State Route 54, Oakdale Cemetery, City of Urbana, Champaign County | 2.3 |
| James Roy Hopkins (#23-11) | 60 South Main Street, Village of Mechanicsburg, Champaign County | 1.5 |
| John Anderson Ward Farmstead/John Quincy Adams Ward 1830-1910/Edgar Melville Ward 1839-1915 (#13-11) | 335 College Street, City of Urbana, Champaign County | 3.2 |
| Joseph E. Wing (#09-11) | Intersection of Wing Road and Rosedale Road, Town of Goshen, Champaign County | 2.5 |
| Kings Creek Baptist Church (#12-11) | 1250 Kennard-Kings Creek Road, Town of Urbana, Champaign County | 2.2 |
| Lincoln Funeral Train (#24-11) | Urbana-Woodstock Pike/West Bennett, Woodstock Cemetery, Town of Rush, Champaign County | 2.2 |
| Mad River and Lake Erie Railroad (#26-11) | WESTCO Bridge over Miami Street, City of Urbana, Champaign County | 3.1 |
| Mad River and Lake Erie Railroad (#27-11) | WESTCO Bridge over Miami Street, City of Urbana, Champaign County | 3.1 |
| Mechanicsburg United Methodist Church (#25-11) | 42 North Main Street, Village of Mechanicsburg, Champaign County | 1.3 |
| Second Baptist Church (#19-11) | 43 East Sandusky Street, Village of Mechanicsburg, Champaign County | 1.4 |
| The Johnson Manufacturing Company (#21-11) | 605 Miami Street, City of Urbana, Champaign County | 3.2 |
| Warren G. Grimes/Grimes Field (#11-11) | 1636 North Main Street, City of Urbana, Champaign County | 2.5 |
| State Parks | | |
| Buck Creek State Park | Town of Monroe, Clark County | 3.2 |
| State Forest | | |
| None | - | - |
| State Nature Preserve | | |
| Prairie Road Fen Nature Preserve | Town of Moorefield, Clark County | 3.7 |
| State Wildlife Management Areas | | |
| Urbana Wildlife Propagation Unit | Town of Salem, Champaign County | 1.8 |
| National Wildlife Refuges | | |
| None | - | - |
| National Natural Landmarks | | |
| Cedar Bog Nature Preserve | Town of Urbana, Champaign County | 4.0 |
| National Park Service Lands | | |
| None | - | - |
| National or State Wild, Scenic, or Recreational Rivers | | |
| None | - | - |
| National or State Scenic Byway | | |
| None | - | - |

| Visually Sensitive Resource ¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine ² |
|---|--|--|
| State or Federal Designated Trails | | |
| None | - | - |
| Nature Preserve Areas | | |
| Darby Wetlands Reserve Program (TNC) | Town of Goshen, Champaign County | 0.6 |
| LOCAL RESOURCES | | |
| Areas of Intensive Land Use (City, Village, Hamlet) | | |
| CDP of Northridge | Town of Moorefield, Clark County | 3.9 |
| City of Urbana | Towns of Urbana and Salem, Champaign County | 0.9 |
| Hamlet of Cable | Town of Wayne, Champaign County | 0.6 |
| Hamlet of Fountain Park | Town of Rush, Champaign County | 1.1 |
| Hamlet of Kennard | Town of Salem, Champaign County | 0.8 |
| Hamlet of Middletown | Town of Wayne, Champaign County | 2.1 |
| Hamlet of Mingo | Town of Wayne, Champaign County | 2.7 |
| Village of Catawba | Town of Pleasant, Clark County | 3.4 |
| Village of Mechanicsburg | Town of Goshen, Champaign County | 0.5 |
| Village of Mutual | Town of Union, Champaign County | 0.4 |
| Village of North Lewisburg | Town of Rush, Champaign County | 3.8 |
| Village of Woodstock | Town of Rush, Champaign County | 2.4 |
| Locally Important Resources (Schools, Libraries, Hospitals, Nursing Homes, Churches, Airports) | | |
| Bethesda Apostolic Church | 301 East Market Street, City of Urbana, Champaign County | 2.8 |
| Bowlusville United Methodist Church | 445 West County Line Road, Town of Moorefield, Clark County | 4.7 |
| Cable United Methodist Church | 5779 Fillmore Street, Hamlet of Cable, Champaign County | 0.8 |
| Catawba Freewill Baptist Church | 58 South Persimmon Street, Hamlet of Catawba, Clark County | 3.8 |
| Champaign County Law Library | 200 North Main Street #2, City of Urbana, Champaign County | 2.9 |
| Champaign County Library | 1060 Scioto Street, City of Urbana, Champaign County | 1.8 |
| Chapel Hill Church of God | 1155 North Ludlow Road, Town of Urbana, Champaign County | 0.5 |
| Church of Our Saviour Episcopal Church | 56 South Main Street, Village of Mechanicsburg, Champaign County | 1.5 |
| Community Hearth and Home | 1579 East State Route 29, City of Urbana, Champaign County | 1.6 |
| Dohron Wilson Elementary School | Village of Mechanicsburg, Champaign County | 1.1 |
| East Elementary School | City of Urbana, Champaign County | 2.1 |
| El Shaddi Community Church | 2815 Clark Road, City of Urbana, Champaign County | 2.1 |
| Enterprise Church | 1929 South Parkview Road, Town of Goshen, Champaign County | 1.2 |
| Episcopal Church of Epiphany | 230 Scioto Street, City of Urbana, Champaign County | 2.7 |
| Eternal Life Ministries | 4287 Mechanicsburg Road, Town of Moorefield, Clark County | 5.0 |
| Fellowship Baptist Church | 27 North Sycamore Street, Village of North Lewisburg, Champaign County | 4.8 |
| First Baptist Church | 401 North Main, City of Urbana, Champaign County | 2.8 |
| First Christian Church | 113 Orange Street, City of Urbana, Champaign County | 2.7 |
| First Presbyterian Church | 116 West Court Street, City of Urbana, Champaign County | 2.9 |
| Free Will Baptist Church | 332 West Bennett, Village of Woodstock, Champaign County | 2.5 |
| Grace Baptist Academy | Town of Urbana, Champaign County | 1.6 |
| Grace Baptist Church | 960 Childrens Home Road, City of Urbana, Champaign County | 1.5 |
| Grimes Field | City of Urbana, Champaign County | 2.6 |
| Heartland of Urbana | 741 East Water Street, City of Urbana, Champaign County | 2.5 |

| Visually Sensitive Resource¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine² |
|--|--|--|
| Jerusalem Second Baptist Church | 1036 South High Street, City of Urbana, Champaign County | 3.1 |
| Kennard Church of the Nazarene | 3134 Reed Street, Hamlet of Kennard, Champaign County | 0.9 |
| Kingdom Hall-Jehovah's Witness | 700 State Route 54, City of Urbana, Champaign County | 2.3 |
| Kings Creek United Methodist Church | 1362 Kennard-Kings Creek Road, Town of Urbana, Champaign County | 2.4 |
| Kings Creek Baptist Church | 1250 Kennard-Kings Creek Road, Town of Urbana, Champaign County | 2.2 |
| Living Faith Baptist Church | 2730 East State Route 29, City of Urbana, Champaign County | 1.2 |
| Mechanicsburg Baptist Church | 112 West Sandusky Street, Village of Mechanicsburg, Champaign County | 1.4 |
| Mechanicsburg Christian Church | 4401 Allison Road, Village of Mechanicsburg, Champaign County | 0.8 |
| Mechanicsburg Public Library | 60 South Main Street, Village of Mechanicsburg, Champaign County | 1.5 |
| Mechanicsburg Secondary School | Village of Mechanicsburg, Champaign County | 1.1 |
| Mercy McAuley Center Nursing Home | 906 Scioto Street, City of Urbana, Champaign County | 2.0 |
| Mercy Memorial Hospital | City of Urbana, Champaign County | 1.9 |
| Messiah Lutheran Church | 1013 East Lawn, City of Urbana, Champaign County | 1.9 |
| Middletown Church of God | 6205 State Route 296, Hamlet of Middletown, Champaign County | 2.2 |
| Mt. Carmel Friends Church | 3470 Kennard-Kings Creek Road, Town of Wayne, Champaign County | 1.7 |
| Mt. Tabor Church | Route 245, Town of Salem, Champaign County | 3.5 |
| New Beginning Fellowship | 630 East Ward Street, City of Urbana, Champaign County | 2.2 |
| New Hope Church of Urbana | 531 Hagenbuch Street, City of Urbana, Champaign County | 3.0 |
| New Life Christian Church | 7016 Urbana Woodstock Road, Town of Wayne, Champaign County | 0.6 |
| New Moorefield United Methodist Church | 5065 Mechanicsburg Road, Town of Moorefield, Clark County | 4.2 |
| North Elementary School | City of Urbana, Champaign County | 2.9 |
| North Hills Church of God | 2950 Moorefield Road, Town of Moorefield, Clark County | 4.3 |
| Northside Church of God | 985 East Lawn Avenue, City of Urbana, Champaign County | 1.9 |
| Oak Grove Mennonite Church | 1525 Mennonite Church Road, Town of Salem, Champaign County | 3.4 |
| Pleasant Hill Primitive Baptist Church | 615 North Oakland Street, City of Urbana, Champaign County | 3.3 |
| River of Life Christian Center | 775 Washington Avenue, City of Urbana, Champaign County | 2.0 |
| Rolling Hills Elementary School | Town of Moorefield, Clark County | 4.6 |
| Saint Mary Catholic Church | 231 Washington Avenue, City of Urbana, Champaign County | 2.6 |
| Saint Michael's Church | 40 Walnut Street, Village of Mechanicsburg, Champaign County | 1.3 |
| Saint Paul AME Church | 316 East Market Street, City of Urbana, Champaign County | 2.8 |
| Sisters of Mercy | 911 Bon Air Drive, City of Urbana, Champaign County | 1.9 |
| South Elementary School | City of Urbana, Champaign County | 3.1 |
| Spring Meadows Care Center | 1649 Park Road, Town of Rush, Champaign County | 1.3 |
| Sterling House of Urbana | 609 East Water Street, City of Urbana, Champaign County | 2.6 |
| Swedenborg Memorial Library | 579 College Way, City of Urbana, Champaign County | 3.5 |
| Triad Elementary School | Town of Wayne, Champaign County | 1.8 |
| Triad High School | Town of Rush, Champaign County | 1.7 |
| Triad Middle School | Town of Wayne, Champaign County | 1.9 |

| Visually Sensitive Resource ¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine ² |
|---|---|--|
| United Methodist Church | 42 North Main Street, Village of Mechanicsburg, Champaign County | 1.3 |
| Urbana Church of Christ | 1400 Short Cut Road, City of Urbana, Champaign County | 1.7 |
| Urbana Church of Christ in Christian Union | 1115 North Main Street, City of Urbana, Champaign County | 2.4 |
| Urbana Church of the Nazarene | 1999 East State Route 29, City of Urbana, Champaign County | 1.5 |
| Urbana Faith Fellowship Church | 236 Bloomfield Avenue, City of Urbana, Champaign County | 2.4 |
| Urbana Fellowship Church | 129 North Oakland Street, City of Urbana, Champaign County | 3.4 |
| Urbana High School | City of Urbana, Champaign County | 2.3 |
| Urbana Junior High School | City of Urbana, Champaign County | 2.3 |
| Urbana Local Intermediate School | Town of Urbana, Champaign County | 1.1 |
| Urbana Swedenborgian Church & Wedding Chapel | 330 South Main Street, City of Urbana, Champaign County | 3.0 |
| Urbana United Methodist Church | 238 North Main Street, City of Urbana, Champaign County | 2.8 |
| Urbana University | City of Urbana, Champaign County | 3.2 |
| Victory Chapel Church of Christ in Christian Union | 239 East Townsend Street, Village of North Lewisburg, Champaign County | 4.7 |
| Weller Airport | Town of Urbana, Champaign County | 0.8 |
| Wesley Chapel Baptist Church | 1809 Short Cut Road, City of Urbana, Champaign County | 1.3 |
| West Liberty-Salem High School | Town of Salem, Champaign County | 4.8 |
| Recreation Resources (Local Parks, Lakes, Ponds, Golf Courses, Ski Resorts, Rivers, Streams) | | |
| Baker Lake | Town of Goshen, Champaign County | 1.0 |
| Barbara Howell Park | City of Urbana, Champaign County | 2.8 |
| Bogles Run | Towns of Mad River and Urbana, Champaign County | 1.8 |
| Brush Lake | Town of Rush, Champaign County | 1.1 |
| Buck Creek | Town of Union, Champaign County and Town of Moorefield, Clark County | 0.1 |
| C J Brown Reservoir | Town of Moorefield, Clark County | 4.5 |
| Cedar Run | Towns of Mad River and Urbana, Champaign County | 4.2 |
| Clover Run | Town of Goshen, Champaign County | 1.2 |
| Dugan Ditch | Towns of Union and Urbana, Champaign County | 0.0 |
| Dugan Run | Towns of Urbana, Salem, and Wayne and City of Urbana, Champaign County | 0.1 |
| East Fork Buck Creek | Town of Union, Champaign County and Town of Moorefield, Clark County | 0.0 |
| First Price Pond | Town of Urbana, Champaign County | 1.1 |
| Fudger Lake | Town of Goshen, Champaign County | 2.5 |
| Georges Fork | Town of Pleasant, Clark County | 4.9 |
| Goshen Memorial Park | Village of Mechanicsburg and Town of Goshen, Champaign County | 0.6 |
| Gwynne Street Park | City of Urbana, Champaign County | 3.0 |
| Howard Run | Town of Rush, Champaign County and Town of Union, Union County | 1.8 |
| Indian Springs Golf Club | Town of Goshen, Champaign County | 2.2 |
| Jumping Run | Town of Goshen, Champaign County | 1.2 |
| Kings Creek | Towns of Salem and Wayne, Champaign County | 0.1 |
| Lake Run | Town of Goshen, Champaign County | 1.2 |
| Little Darby Creek | Town of Goshen, Champaign County, Town of Pike, Madison County, and Town of Union, Union County | 0.1 |
| Mac-O-Chee Creek | Towns of Salem and Concord, Champaign County | 4.7 |
| Mad River | Towns of Salem, Concord, Mad River, and Urbana, Champaign County | 4.7 |

| Visually Sensitive Resource ¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine ² |
|---|---|--|
| Melvin Miller Park | City of Urbana, Champaign County | 1.5 |
| Moore Run | Town of Urbana, Champaign County and Town of Moorefield, Clark County | 1.9 |
| Muzzys Lake | Town of Urbana, Champaign County | 4.4 |
| North Fork Deer Creek | Town of Pleasant, Clark County | 4.4 |
| Ohio Caverns | Town of Salem, Champaign County | 3.7 |
| Pleasant Run | Towns of Wayne and Rush, Champaign County | 1.9 |
| Proctor Run | Town of Rush, Champaign County and Town of Union, Union County | 0.6 |
| Roadside Park | City of Urbana, Champaign County | 1.7 |
| Second Price Pond | Town of Urbana, Champaign County | 0.9 |
| Spain Creek | Towns of Wayne and Rush and Village of North Lewisburg, Champaign County | 3.5 |
| Spring Fork | Town of Goshen, Champaign County and Town of Pike, Madison County | 3.1 |
| Stanley Park | Village of North Lewisburg, Champaign County | 4.7 |
| Third Price Pond | Town of Urbana, Champaign County | 0.5 |
| Treacle Creek | Towns of Wayne, Union, and Goshen, Champaign County and Town of Union, Union County | 0.2 |
| Urbana Country Club | Town of Union, Champaign County | 0.4 |
| Ward Street Park | City of Urbana, Champaign County | 2.6 |
| Woodland Golf Course | Town of Union, Champaign County | 0.5 |
| Cemeteries | | |
| Baptist Cemetery | Town of Urbana, Champaign County | 2.0 |
| Beltz Cemetery | Town of Wayne, Champaign County | 4.3 |
| Black Cemetery | Town of Rush, Champaign County | 2.8 |
| Britton Cemetery | Town of Goshen, Champaign County | 1.8 |
| Buck Creek Cemetery | Town of Union, Champaign County | 2.1 |
| Butcher Cemetery | Village of North Lewisburg, Champaign County | 4.8 |
| Cable Cemetery | Town of Wayne, Champaign County | 0.8 |
| Comstock-Niles Cemetery | Town of Urbana, Champaign County | 1.4 |
| Corbet Cemetery | Town of Wayne, Champaign County | 4.5 |
| Fairview Cemetery | Town of Union, Champaign County | 0.3 |
| Foley Cemetery | Town of Moorefield, Clark County | 2.3 |
| French Cemetery | Town of Union, Champaign County | 3.5 |
| Georges Chapel-Methodist Episcopal Cemetery | Town of Urbana, Champaign County | 1.7 |
| Grace Cemetery | Town of Union, Champaign County | 0.7 |
| Grandview Cemetery | Town of Urbana, Champaign County | 3.1 |
| Haines Cemetery | Town of Rush, Champaign County | 2.2 |
| Hazel Cemetery | Town of Salem, Champaign County | 2.9 |
| Hopewell #2 Cemetery | Town of Union, Champaign County | 1.4 |
| Hopewell Cemetery | Town of Union, Champaign County | 4.5 |
| Jenkins Chapel Cemetery | Town of Wayne, Champaign County | 3.8 |
| Johnson Cemetery | Town of Wayne, Champaign County | 4.9 |
| Kings Creek Baptist Cemetery | Town of Salem, Champaign County | 2.6 |
| Kings Creek Cemetery | Town of Salem, Champaign County | 3.0 |
| Latham Cemetery | Town of Salem, Champaign County | 1.6 |
| Maple Grove Cemetery | Town of Goshen, Champaign County | 3.5 |
| Maple Grove Cemetery | Town of Rush, Champaign County | 1.8 |
| Martin Cemetery | Town of Rush, Champaign County | 2.2 |
| McConkey Cemetery | Town of Pleasant, Clark County | 0.8 |
| Mead Cemetery | Town of Wayne, Champaign County | 5.0 |
| Mitchell Cemetery | Town of Goshen, Champaign County | 0.8 |

| Visually Sensitive Resource ¹ | Location | Nearest Distance (miles) to Proposed Wind Turbine ² |
|--|--|--|
| Moorefield Chapel Cemetery | Town of Moorefield, Clark County | 4.5 |
| Mount Carmel Cemetery | Town of Wayne, Champaign County | 0.5 |
| Mount Tabor Cemetery | Town of Salem, Champaign County | 1.1 |
| Oak Grove Cemetery | Town of Salem, Champaign County | 0.8 |
| Oakdale Cemetery | City of Urbana, Champaign County | 4.0 |
| Old Friends Cemetery | Town of Salem, Champaign County | 1.8 |
| Old Graveyard Cemetery | City of Urbana, Champaign County | 2.3 |
| Pence Cemetery | Town of Urbana, Champaign County | 4.0 |
| Pisgah Cemetery | Town of Union, Champaign County | 3.1 |
| Pleasant Hill Cemetery | Town of Moorefield, Clark County | 2.3 |
| Sharon Cemetery | Town of Union, Champaign County | 0.3 |
| Snowhill Cemetery | Town of Salem, Champaign County | 2.0 |
| Sodom Cemetery | Town of Rush, Champaign County | 2.5 |
| Thomas Cemetery | Town of Salem, Champaign County | 0.4 |
| Townsend Cemetery | Town of Wayne, Champaign County | 0.1 |
| Treacles Creek Cemetery | Town of Goshen, Champaign County | 0.3 |
| Union Chapel Cemetery | Town of Union, Champaign County | 0.5 |
| Unnamed #1 Cemetery | Town of Goshen, Champaign County | 4.0 |
| Unnamed #2 Cemetery | Town of Goshen, Champaign County | 1.5 |
| Unnamed Cemetery | Town of Union, Champaign County | 1.0 |
| Vernon Cemetery | Town of Pleasant, Clark County | 1.2 |
| White Cemetery | Town of Union, Champaign County | 2.6 |
| Winn Cemetery | Town of Urbana, Champaign County | 3.7 |
| Wolfe Cemetery | Town of Union, Champaign County | 0.4 |
| Wolfe Cemetery | Town of Urbana, Champaign County | 1.1 |
| Woodstock Cemetery | Town of Rush, Champaign County | 2.6 |
| Transportation Corridors | | |
| State Highway 4 | Town of Moorefield, Clark Cty, Towns of Union and Goshen, Champaign Cty, Town of Union, Union Cty | 0.3 |
| State Highway 29 | Towns of Salem, Urbana, Union, and Goshen, City of Urbana, Village of Mechanicsburg, Champaign Cty | 0.1 |
| State Highway 54 | Towns of Urbana and Union, Champaign County and Town of Pleasant, Clark County | 0.2 |
| State Highway 55 | Towns of Urbana and Mad River and City of Urbana, Champaign County | 2.9 |
| State Highway 56 | Towns of Union and Goshen, Champaign County | 0.4 |
| State Highway 161 | Towns of Union and Goshen, Champaign County and Town of Union, Union County | 0.3 |
| State Highway 187 | Town of Goshen, Champaign County | 2.8 |
| State Highway 245 | Towns of Salem, Wayne, and Rush and Village of N. Lewisburg, Champaign Cty | 2.1 |
| State Highway 296 | Towns of Salem and Wayne, Champaign County | 0.2 |
| State Highway 507 | Town of Salem, Champaign County | 3.7 |
| State Highway 559 | Towns of Rush and Goshen and Villages of North Lewisburg and Woodstock, Champaign County | 1.1 |
| State Highway 814 | Towns of Salem and Union, Champaign County | 0.4 |
| US Highway 36 | Towns of Urbana, Union, Wayne, and Rush, and City of Urbana, Champaign Cty, Town of Union, Union Cty | 0.2 |
| US Highway 68 | Towns of Salem and Urbana and City of Urbana, Champaign County, and Town of Moorefield, Clark County | 2.4 |

¹Resource located within 5 miles of a proposed turbine.

²For large areas and linear sites, approximate distance was measured from the nearest turbine to the respective area's closest point.

Table B2. Visibility from Visually Sensitive Resources

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|---|--|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| National Register of Historic Places | | | | | |
| Baker, Maj. John C., House | 202 W. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Barr House | Locust & Sandusky Sts., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Burnham, Henry, House | N. Main St. & Rt. 559, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Church Of Our Savior | 56 S. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Clark, Dr., House | 21 N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Culbertson, William, House | 103 Race St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Demand-Gest House | 37 N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Elmwood Place | SW of Irwin on OH 161, Irwin, Union County | - | V | V | - |
| Hamer's General Store | 88 S. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Hunter, Norvall, Farm | S. Main St., Village of Mechanicsburg, Champaign County | - | V | PV | PV |
| Kimball House | 115 N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Lowler's Tavern | N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Magruder Building | 16 N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Masonic Temple | N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Mechanicsburg Baptist Church | Walnut & Sandusky Sts., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Mechanicsburg Commercial Historic District | 1-11 S. Main St., Village of Mechanicsburg, Champaign County | 126 | V | V | - |
| Mosgrove, Dr. Adam, House | 127 Miami St., City of Urbana, Champaign County | - | V | V | - |
| Mt. Tabor Church Building, Cemetery and Hitching Lot | OH 245, 300 meters S of jct. with Mt. Tabor Rd., Salem Township, Champaign County | - | V | V | - |
| Ninchelser, Dr., House | 28 N. Main St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Nutwood Place | 1428 Nutwood Place, City of Urbana, Champaign County | - | V | V | - |
| Rathburn, Levi, House | Locust & Sandusky Sts., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Richards--Sewell House | 222 College St., City of Urbana, Champaign County | - | V | V | - |
| Scioto Street Historic District | Scioto St. from Locust to E. Lawn Ave., City of Urbana, Champaign County | 116 | V | V | NV |
| Second Baptist Church | Sandusky St., Village of Mechanicsburg, Champaign County | - | V | V | - |
| St. Michael Catholic Church | 40 Walnut St, Village of Mechanicsburg, Champaign County | - | V | V | NV |
| St. Paul AME Church | 316 E. Market St., City of Urbana, Champaign County | - | V | V | - |
| United Methodist Church | N. Main & Race Sts., Village of Mechanicsburg, Champaign County | - | V | V | - |
| Urbana College Historic Buildings | College Way, City of Urbana, Champaign County | - | V | PV | - |
| Urbana Monument Square Historic District | Roughly bounded by Market, Walnut, Church, and Locust Sts., City of Urbana, Champaign County | - | V | V | - |
| Village Hobby Shop | N. Main St., Village of Mechanicsburg, Champaign County | 126 | V | V | - |
| Ward, John Q. A., House | 335 College St., City of Urbana, Champaign County | - | V | V | - |
| National Register of Historic Places Determination of Eligibility (NRHP DOE) | | | | | |
| Urbana | 318 W. Light St., City of Urbana, Champaign County | - | V | V | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|--|--|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| State Historic Markers | | | | | |
| 1950 National and Ohio Plowing Matches (#08-11) | Intersection of Benson Road and State Route 54, Town of Union, Champaign County | - | V | V | - |
| Addison White (#16-11) | 1 South Main Street, Village of Mechanicsburg, Champaign County | 126 | V | V | - |
| Bailey and Barclay Halls/Johnny Appleseed (#05-11) | 579 College Way, City of Urbana, Champaign County | - | V | V | - |
| Cedar Bog Nature Preserve (#06-11) | 980 Woodburn Road, Town of Urbana, Champaign County | - | NV | NV | - |
| Dayton, Springfield, and Urbana Electric Railway (#15-11) | 122 South Main Street, City of Urbana, Champaign County | - | V | V | - |
| General Robert Lawrence Eichelberger (#14-11) | 907 Scioto Street, City of Urbana, Champaign County | - | V | V | - |
| Harmony Lodge No. 8 Free and Accepted Masons (#01-11) | 222 N. Main Street, City of Urbana, Champaign County | - | V | V | - |
| In Memory of Simon Kenton (#03-11) | Intersection of Jefferson St. and State Route 54, Oakdale Cemetery, City of Urbana, Champaign County | - | V | V | - |
| James Roy Hopkins (#23-11) | 60 South Main Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| John Anderson Ward Farmstead/John Quincy Adams Ward 1830-1910/Edgar Melville Ward 1839-1915 (#13-11) | 335 College Street, City of Urbana, Champaign County | - | V | V | - |
| Joseph E. Wing (#09-11) | Intersection of Wing Road and Rosedale Road, Town of Goshen, Champaign County | - | V | V | - |
| Kings Creek Baptist Church (#12-11) | 1250 Kennard-Kings Creek Road, Town of Urbana, Champaign County | - | V | V | - |
| Lincoln Funeral Train (#24-11) | Urbana-Woodstock Pike/West Bennett, Woodstock Cemetery, Town of Rush, Champaign County | - | V | V | - |
| Mad River and Lake Erie Railroad (#26-11) | WESTCO Bridge over Miami Street, City of Urbana, Champaign County | - | V | V | - |
| Mad River and Lake Erie Railroad (#27-11) | WESTCO Bridge over Miami Street, City of Urbana, Champaign County | - | V | V | - |
| Mechanicsburg United Methodist Church (#25-11) | 42 North Main Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Second Baptist Church (#19-11) | 43 East Sandusky Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| The Johnson Manufacturing Company (#21-11) | 605 Miami Street, City of Urbana, Champaign County | - | V | V | - |
| Warren G. Grimes/Grimes Field (#11-11) | 1636 North Main Street, City of Urbana, Champaign County | - | V | V | - |
| State Parks | | | | | |
| Buck Creek State Park | Town of Monroe, Clark County | - | PV | PV | - |
| State Forest | | | | | |
| None | - | - | - | - | - |
| State Nature Preserve | | | | | |
| Prairie Road Fen Nature Preserve | Town of Moorefield, Clark County | - | V | PV | - |
| State Wildlife Management Areas | | | | | |
| Urbana Wildlife Propagation Unit | Town of Salem, Champaign County | - | PV | PV | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|---|---|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| National Wildlife Refuges | | | | | |
| None | - | - | - | - | - |
| National Natural Landmarks | | | | | |
| Cedar Bog Nature Preserve | Town of Urbana, Champaign County | - | V | PV | - |
| National Park Service Lands | | | | | |
| None | - | - | - | - | - |
| National or State Wild, Scenic, or Recreational Rivers | | | | | |
| None | - | - | - | - | - |
| National or State Scenic Byway | | | | | |
| None | - | - | - | - | - |
| State or Federal Designated Trails | | | | | |
| None | - | - | - | - | - |
| Nature Preserve Areas | | | | | |
| Darby Wetlands Reserve Program (TNC) | Town of Goshen, Champaign County | - | V | PV | - |
| LOCAL RESOURCES | | | | | |
| Areas of Intensive Land Use (City, Village, Hamlet) | | | | | |
| CDP of Northridge | Town of Moorefield, Clark County | - | PV | PV | - |
| City of Urbana | Towns of Urbana and Salem, Champaign County | 40, 116 | PV | PV | PV |
| Hamlet of Cable | Town of Wayne, Champaign County | 67, 68 | V | PV | - |
| Hamlet of Fountain Park | Town of Rush, Champaign County | - | V | PV | PV |
| Hamlet of Kennard | Town of Salem, Champaign County | 86 | V | V | - |
| Hamlet of Middletown | Town of Wayne, Champaign County | 71 | V | PV | - |
| Hamlet of Mingo | Town of Wayne, Champaign County | 75, 76 | NV | NV | - |
| Village of Catawba | Town of Pleasant, Clark County | - | PV | PV | - |
| Village of Mechanicsburg | Town of Goshen, Champaign County | 125, 126, 127 | PV | PV | - |
| Village of Mutual | Town of Union, Champaign County | 16 | V | V | NV |
| Village of North Lewisburg | Town of Rush, Champaign County | 106 | PV | PV | - |
| Village of Woodstock | Town of Rush, Champaign County | - | V | V | PV |
| Locally Important Resources (Schools, Libraries, Hospitals, Nursing Homes, Churches, Airports) | | | | | |
| Bethesda Apostolic Church | 301 East Market Street, City of Urbana, Champaign County | - | V | V | - |
| Bowlusville United Methodist Church | 445 West County Line Road, Town of Moorefield, Clark County | - | V | V | - |
| Cable United Methodist Church | 5779 Fillmore Street, Hamlet of Cable, Champaign County | 68 | V | V | - |
| Catawba Freewill Baptist Church | 58 South Persimmon Street, Hamlet of Catawba, Clark County | - | V | V | - |
| Champaign County Law Library | 200 North Main Street #2, City of Urbana, Champaign County | - | V | V | - |
| Champaign County Library | 1060 Scioto Street, City of Urbana, Champaign County | - | V | V | - |
| Chapel Hill Church of God | 1155 North Ludlow Road, Town of Urbana, Champaign County | - | V | V | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|--|--|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| Church of Our Saviour Episcopal Church | 56 South Main Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Community Hearth and Home | 1579 East State Route 29, City of Urbana, Champaign County | - | V | V | - |
| Dohron Wilson Elementary School | Village of Mechanicsburg, Champaign County | - | V | V | - |
| East Elementary School | City of Urbana, Champaign County | - | V | V | - |
| El Shaddi Community Church | 2815 Clark Road, City of Urbana, Champaign County | - | V | V | - |
| Enterprise Church | 1929 South Parkview Road, Town of Goshen, Champaign County | - | V | V | - |
| Episcopal Church of Epiphany | 230 Scioto Street, City of Urbana, Champaign County | - | V | V | - |
| Eternal Life Ministries | 4287 Mechanicsburg Road, Town of Moorefield, Clark County | - | V | V | - |
| Fellowship Baptist Church | 27 North Sycamore Street, Village of North Lewisburg, Champaign County | - | V | V | - |
| First Baptist Church | 401 North Main, City of Urbana, Champaign County | - | V | V | - |
| First Christian Church | 113 Orange Street, City of Urbana, Champaign County | - | V | V | - |
| First Presbyterian Church | 116 West Court Street, City of Urbana, Champaign County | - | V | V | - |
| Free Will Baptist Church | 332 West Bennett, Village of Woodstock, Champaign County | - | V | V | - |
| Grace Baptist Academy | Town of Urbana, Champaign County | - | V | V | - |
| Grace Baptist Church | 960 Childrens Home Road, City of Urbana, Champaign County | - | V | V | - |
| Grimes Field | City of Urbana, Champaign County | - | V | V | - |
| Heartland of Urbana | 741 East Water Street, City of Urbana, Champaign County | - | V | V | - |
| Jerusalem Second Baptist Church | 1036 South High Street, City of Urbana, Champaign County | - | V | V | - |
| Kennard Church of the Nazarene | 3134 Reed Street, Hamlet of Kennard, Champaign County | - | V | V | - |
| Kingdom Hall-Jehovah's Witness | 700 State Route 54, City of Urbana, Champaign County | - | V | V | - |
| Kings Creek United Methodist Church | 1362 Kennard-Kings Creek Road, Town of Urbana, Champaign County | - | V | V | - |
| Kings Creek Baptist Church | 1250 Kennard-Kings Creek Road, Town of Urbana, Champaign County | - | V | V | - |
| Living Faith Baptist Church | 2730 East State Route 29, City of Urbana, Champaign County | - | V | V | - |
| Mechanicsburg Baptist Church | 112 West Sandusky Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Mechanicsburg Christian Church | 4401 Allison Road, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Mechanicsburg Public Library | 60 South Main Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Mechanicsburg Secondary School | Village of Mechanicsburg, Champaign County | - | V | V | - |
| Mercy McAuley Center Nursing Home | 906 Scioto Street, City of Urbana, Champaign County | - | V | V | - |
| Mercy Memorial Hospital | City of Urbana, Champaign County | - | V | V | - |
| Messiah Lutheran Church | 1013 East Lawn, City of Urbana, Champaign County | - | V | V | - |
| Middletown Church of God | 6205 State Route 296, Hamlet of Middletown, Champaign County | - | V | V | - |
| Mt. Carmel Friends Church | 3470 Kennard-Kings Creek Road, Town of Wayne, Champaign County | - | NV | NV | - |
| Mt. Tabor Church | Route 245, Town of Salem, Champaign County | - | V | V | - |
| New Beginning Fellowship | 630 East Ward Street, City of Urbana, Champaign County | - | V | V | - |
| New Hope Church of Urbana | 531 Hagenbuch Street, City of Urbana, Champaign County | - | V | V | - |
| New Life Christian Church | 7016 Urbana Woodstock Road, Town of Wayne, Champaign County | - | V | V | - |
| New Moorefield United Methodist Church | 5065 Mechanicsburg Road, Town of Moorefield, Clark County | - | V | V | - |
| North Elementary School | City of Urbana, Champaign County | - | V | V | - |
| North Hills Church of God | 2950 Moorefield Road, Town of Moorefield, Clark County | - | V | V | - |
| Northside Church of God | 985 East Lawn Avenue, City of Urbana, Champaign County | - | V | V | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|---|--|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| Oak Grove Mennonite Church | 1525 Mennonite Church Road, Town of Salem, Champaign County | - | V | V | - |
| Pleasant Hill Primitive Baptist Church | 615 North Oakland Street, City of Urbana, Champaign County | - | V | V | - |
| River of Life Christian Center | 775 Washington Avenue, City of Urbana, Champaign County | - | V | V | - |
| Rolling Hills Elementary School | Town of Moorefield, Clark County | - | V | V | - |
| Saint Mary Catholic Church | 231 Washington Avenue, City of Urbana, Champaign County | - | V | V | - |
| Saint Michael's Church | 40 Walnut Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Saint Paul AME Church | 316 East Market Street, City of Urbana, Champaign County | - | V | V | - |
| Sisters of Mercy | 911 Bon Air Drive, City of Urbana, Champaign County | - | V | V | - |
| South Elementary School | City of Urbana, Champaign County | - | V | V | - |
| Spring Meadows Care Center | 1649 Park Road, Town of Rush, Champaign County | - | V | V | - |
| Sterling House of Urbana | 609 East Water Street, City of Urbana, Champaign County | - | V | V | - |
| Swedenborg Memorial Library | 579 College Way, City of Urbana, Champaign County | - | V | V | - |
| Triad Elementary School | Town of Wayne, Champaign County | - | V | V | - |
| Triad High School | Town of Rush, Champaign County | - | V | V | - |
| Triad Middle School | Town of Wayne, Champaign County | - | V | V | - |
| United Methodist Church | 42 North Main Street, Village of Mechanicsburg, Champaign County | - | V | V | - |
| Urbana Church of Christ | 1400 Short Cut Road, City of Urbana, Champaign County | - | V | V | - |
| Urbana Church of Christ in Christian Union | 1115 North Main Street, City of Urbana, Champaign County | - | V | V | - |
| Urbana Church of the Nazarene | 1999 East State Route 29, City of Urbana, Champaign County | - | V | V | - |
| Urbana Faith Fellowship Church | 236 Bloomfield Avenue, City of Urbana, Champaign County | - | V | V | - |
| Urbana Fellowship Church | 129 North Oakland Street, City of Urbana, Champaign County | - | V | V | - |
| Urbana High School | City of Urbana, Champaign County | - | V | V | - |
| Urbana Junior High School | City of Urbana, Champaign County | - | V | V | - |
| Urbana Local Intermediate School | Town of Urbana, Champaign County | - | V | V | - |
| Urbana Swedenborgian Church & Wedding Chapel | 330 South Main Street, City of Urbana, Champaign County | - | V | V | - |
| Urbana United Methodist Church | 238 North Main Street, City of Urbana, Champaign County | - | V | V | - |
| Urbana University | City of Urbana, Champaign County | - | V | PV | - |
| Victory Chapel Church of Christ in Christian Union | 239 East Townsend Street, Village of North Lewisburg, Champaign County | - | V | V | - |
| Weller Airport | Town of Urbana, Champaign County | - | V | V | - |
| Wesley Chapel Baptist Church | 1809 Short Cut Road, City of Urbana, Champaign County | - | V | V | - |
| West Liberty-Salem High School | Town of Salem, Champaign County | - | V | V | - |
| Recreation Resources (Local Parks, Lakes, Ponds, Golf Courses, Ski Resorts, Rivers, Streams) | | | | | |
| Baker Lake | Town of Goshen, Champaign County | - | V | PV | - |
| Barbara Howell Park | City of Urbana, Champaign County | - | V | V | - |
| Bogles Run | Towns of Mad River and Urbana, Champaign County | - | V | PV | - |
| Brush Lake | Town of Rush, Champaign County | - | V | PV | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|--|---|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| Buck Creek | Town of Union, Champaign County and Town of Moorefield, Clark County | - | V | PV | NV |
| C J Brown Reservoir | Town of Moorefield, Clark County | - | V | PV | - |
| Cedar Run | Towns of Mad River and Urbana, Champaign County | - | V | PV | - |
| Clover Run | Town of Goshen, Champaign County | - | PV | PV | - |
| Dugan Ditch | Towns of Union and Urbana, Champaign County | - | V | PV | - |
| Dugan Run | Towns of Urbana, Salem, and Wayne and City of Urbana, Champaign County | - | V | PV | V |
| East Fork Buck Creek | Town of Union, Champaign County and Town of Moorefield, Clark County | - | V | PV | - |
| First Price Pond | Town of Urbana, Champaign County | - | V | V | - |
| Fudger Lake | Town of Goshen, Champaign County | - | PV | PV | - |
| Georges Fork | Town of Pleasant, Clark County | - | V | V | - |
| Goshen Memorial Park | Village of Mechanicsburg and Town of Goshen, Champaign County | 127 | V | PV | - |
| Gwynne Street Park | City of Urbana, Champaign County | - | V | V | - |
| Howard Run | Town of Rush, Champaign County and Town of Union, Union County | - | V | V | - |
| Indian Springs Golf Club | Town of Goshen, Champaign County | - | PV | PV | - |
| Jumping Run | Town of Goshen, Champaign County | - | V | PV | - |
| Kings Creek | Towns of Salem and Wayne, Champaign County | - | V | PV | NV |
| Lake Run | Town of Goshen, Champaign County | - | PV | PV | - |
| Little Darby Creek | Town of Goshen, Champaign County, Town of Pike, Madison County, and Town of Union, Union County | - | PV | PV | - |
| Mac-O-Chee Creek | Towns of Salem and Concord, Champaign County | - | PV | PV | - |
| Mad River | Towns of Salem, Concord, Mad River, and Urbana, Champaign County | - | V | PV | - |
| Melvin Miller Park | City of Urbana, Champaign County | - | PV | PV | - |
| Moore Run | Town of Urbana, Champaign County and Town of Moorefield, Clark County | - | PV | PV | - |
| Muzzys Lake | Town of Urbana, Champaign County | - | V | V | - |
| North Fork Deer Creek | Town of Pleasant, Clark County | - | V | V | - |
| Ohio Caverns | Town of Salem, Champaign County | 92, 93 | PV | PV | - |
| Pleasant Run | Towns of Wayne and Rush, Champaign County | - | V | PV | - |
| Proctor Run | Town of Rush, Champaign County and Town of Union, Union County | - | V | PV | - |
| Roadside Park | City of Urbana, Champaign County | - | V | V | - |
| Second Price Pond | Town of Urbana, Champaign County | - | V | V | - |
| Spain Creek | Towns of Wayne and Rush and Village of North Lewisburg, Champaign County | - | PV | PV | - |
| Spring Fork | Town of Goshen, Champaign County and Town of Pike, Madison County | - | PV | PV | - |
| Stanley Park | Village of North Lewisburg, Champaign County | - | V | V | - |
| Third Price Pond | Town of Urbana, Champaign County | - | V | V | - |
| Treacle Creek | Towns of Wayne, Union, and Goshen, Champaign County and Town of Union, Union County | - | V | PV | V |
| Urbana Country Club | Town of Union, Champaign County | 44 | V | PV | NV |
| Ward Street Park | City of Urbana, Champaign County | - | V | V | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|---|--|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| Woodland Golf Course | Town of Union, Champaign County | - | V | PV | - |
| Cemeteries | | | | | |
| Baptist Cemetery | Town of Urbana, Champaign County | - | V | V | - |
| Beltz Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Black Cemetery | Town of Rush, Champaign County | - | V | V | - |
| Britton Cemetery | Town of Goshen, Champaign County | - | V | V | - |
| Buck Creek Cemetery | Town of Union, Champaign County | - | V | V | - |
| Butcher Cemetery | Village of North Lewisburg, Champaign County | - | NV | NV | - |
| Cable Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Comstock-Niles Cemetery | Town of Urbana, Champaign County | - | V | V | - |
| Corbet Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Fairview Cemetery | Town of Union, Champaign County | - | V | V | - |
| Foley Cemetery | Town of Moorefield, Clark County | - | V | V | - |
| French Cemetery | Town of Union, Champaign County | - | V | V | - |
| Georges Chapel-Methodist Episcopal Cemetery | Town of Urbana, Champaign County | - | V | V | - |
| Grace Cemetery | Town of Union, Champaign County | - | V | V | - |
| Grandview Cemetery | Town of Urbana, Champaign County | - | V | V | - |
| Haines Cemetery | Town of Rush, Champaign County | - | V | V | - |
| Hazel Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Hopewell #2 Cemetery | Town of Union, Champaign County | - | V | V | - |
| Hopewell Cemetery | Town of Union, Champaign County | - | V | V | - |
| Jenkins Chapel Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Johnson Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Kings Creek Baptist Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Kings Creek Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Latham Cemetery | Town of Salem, Champaign County | 9, 79 | V | NV | - |
| Maple Grove Cemetery | Town of Goshen, Champaign County | - | V | V | - |
| Maple Grove Cemetery | Town of Rush, Champaign County | - | V | V | - |
| Martin Cemetery | Town of Rush, Champaign County | - | V | V | - |
| McConkey Cemetery | Town of Pleasant, Clark County | - | V | V | - |
| Mead Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Mitchell Cemetery | Town of Goshen, Champaign County | 46 | V | V | - |
| Moorefield Chapel Cemetery | Town of Moorefield, Clark County | - | NV | NV | - |
| Mount Carmel Cemetery | Town of Wayne, Champaign County | 51 | V | V | - |
| Mount Tabor Cemetery | Town of Salem, Champaign County | - | V | V | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|--|--|------------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| Oak Grove Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Oakdale Cemetery | City of Urbana, Champaign County | - | V | V | - |
| Old Friends Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Old Graveyard Cemetery | City of Urbana, Champaign County | - | V | V | - |
| Pence Cemetery | Town of Urbana, Champaign County | - | V | V | - |
| Pisgah Cemetery | Town of Union, Champaign County | - | V | V | - |
| Pleasant Hill Cemetery | Town of Moorefield, Clark County | - | V | V | - |
| Sharon Cemetery | Town of Union, Champaign County | - | V | V | - |
| Snowhill Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Sodom Cemetery | Town of Rush, Champaign County | - | V | V | - |
| Thomas Cemetery | Town of Salem, Champaign County | - | V | V | - |
| Townsend Cemetery | Town of Wayne, Champaign County | - | V | V | - |
| Treacles Creek Cemetery | Town of Goshen, Champaign County | - | V | V | - |
| Union Chapel Cemetery | Town of Union, Champaign County | - | V | V | - |
| Unnamed #1 Cemetery | Town of Goshen, Champaign County | - | V | V | - |
| Unnamed #2 Cemetery | Town of Goshen, Champaign County | - | V | V | - |
| Unnamed Cemetery | Town of Union, Champaign County | - | V | V | - |
| Vernon Cemetery | Town of Pleasant, Clark County | - | V | V | - |
| White Cemetery | Town of Union, Champaign County | - | V | V | - |
| Winn Cemetery | Town of Urbana, Champaign County | - | V | NV | - |
| Wolfe Cemetery | Town of Union, Champaign County | - | V | V | - |
| Wolfe Cemetery | Town of Urbana, Champaign County | - | V | V | - |
| Woodstock Cemetery | Town of Rush, Champaign County | - | V | V | NV |
| Transportation Corridors | | | | | |
| State Highway 4 | Town of Moorefield, Clark Cty, Towns of Union and Goshen, Champaign Cty, Town of Union, Union Cty | 123, 124, 125, 126 | PV | PV | NV |
| State Highway 29 | Towns of Salem, Urbana, Union, and Goshen, City of Urbana, Village of Mechanicsburg, Champaign Cty | 14, 15, 16, 40, 116, 126 | PV | PV | PV |
| State Highway 54 | Towns of Urbana and Union, Champaign County and Town of Pleasant, Clark County | 117, 118, 119, 120, 121, 122 | PV | PV | - |
| State Highway 55 | Towns of Urbana and Mad River and City of Urbana, Champaign County | - | PV | PV | - |
| State Highway 56 | Towns of Union and Goshen, Champaign County | 123 | PV | PV | - |
| State Highway 161 | Towns of Union and Goshen, Champaign County and Town of Union, Union County | 23, 27 | V | V | PV |
| State Highway 187 | Town of Goshen, Champaign County | - | V | V | - |
| State Highway 245 | Towns of Salem, Wayne, and Rush and Village of N. Lewisburg, Champaign Cty | 70, 75, 77, 81, 88, 106 | PV | PV | - |
| State Highway 296 | Towns of Salem and Wayne, Champaign County | 29, 71 | V | PV | - |

| Visually Sensitive Resource ¹ | Location | VP Number ² | Project Visibility ³ | | |
|--|--|------------------------|---------------------------------|------------|----------------------------|
| | | | Viewshed ⁴ | | Cross Section ⁵ |
| | | | Topography | Vegetation | |
| State Highway 507 | Town of Salem, Champaign County | - | PV | PV | - |
| State Highway 559 | Towns of Rush and Goshen and Villages of North Lewisburg and Woodstock, Champaign County | 130, 131, 133 | PV | PV | - |
| State Highway 814 | Towns of Salem and Union, Champaign County | 28, 43, 60, 61 | V | V | - |
| US Highway 36 | Towns of Urbana, Union, Wayne, and Rush, and City of Urbana, Champaign Cty, Town of Union, Union Cty | 41, 42, 43, 52, 116 | PV | PV | V |
| US Highway 68 | Towns of Salem and Urbana and City of Urbana, Champaign County, and Town of Moorefield, Clark County | 38, 39, 115 | PV | PV | V |

¹Resource located within 5 miles of a proposed turbine.

²Viewpoint occurs within 100 feet of identified sensitive site. If no viewpoint (VP) number is indicated, no photo was obtained during fieldwork.

³Project visibility is indicated as follows: V=Visible, PV=Partly Visible, NV=Not Visible, U=Undetermined.

⁴Does not take into account screening provided by structures and street trees.

⁵Cross section visibility only applies to views along the selective lines of site illustrated in Figure 8.

Appendix C

Photo Log and Field Notes
(See Enclosed CD)



Viewpoint 1



Viewpoint 2



Viewpoint 3



Viewpoint 4



Viewpoint 5



Viewpoint 6



Viewpoint 7



Viewpoint 8

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 9



Viewpoint 10



Viewpoint 11



Viewpoint 12



Viewpoint 13



Viewpoint 14 *



Viewpoint 15



Viewpoint 16

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 17



Viewpoint 18



Viewpoint 19



Viewpoint 20



Viewpoint 21



Viewpoint 22



Viewpoint 23



Viewpoint 24

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 25



Viewpoint 26



Viewpoint 27



Viewpoint 28



Viewpoint 29 *



Viewpoint 30



Viewpoint 31



Viewpoint 32

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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Viewpoint 33



Viewpoint 34



Viewpoint 35



Viewpoint 36



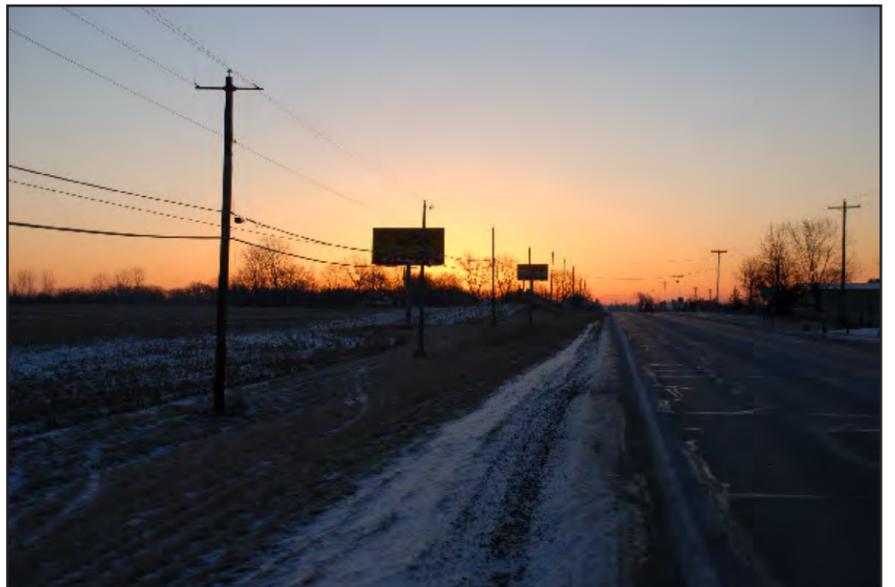
Viewpoint 37



Viewpoint 38



Viewpoint 39



Viewpoint 40

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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Viewpoint 41 *



Viewpoint 42



Viewpoint 43



Viewpoint 44



Viewpoint 45 *



Viewpoint 46



Viewpoint 47



Viewpoint 48 *

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 49



Viewpoint 50



Viewpoint 51



Viewpoint 52 *



Viewpoint 53



Viewpoint 54 *



Viewpoint 55



Viewpoint 56

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

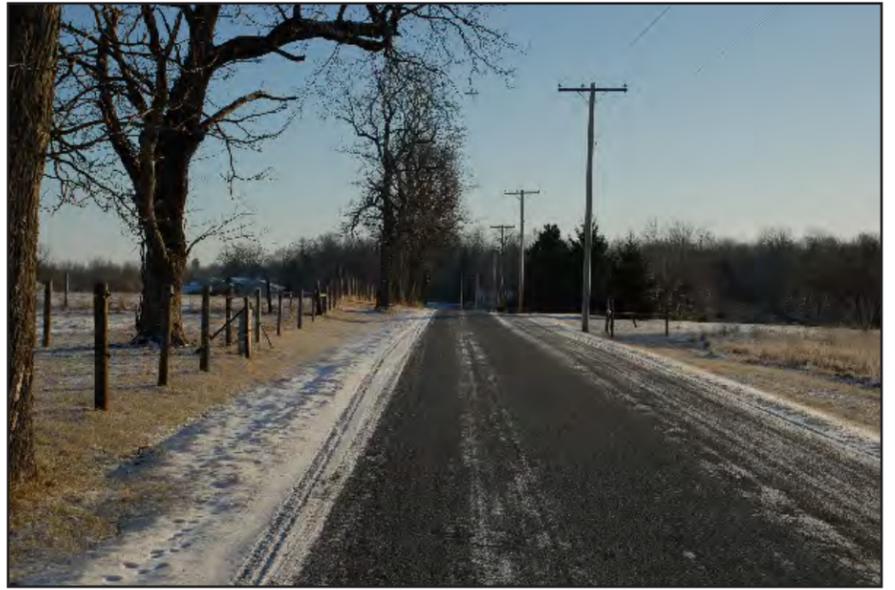
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March 2009





Viewpoint 57



Viewpoint 58



Viewpoint 59



Viewpoint 60



Viewpoint 61 *



Viewpoint 62



Viewpoint 63



Viewpoint 64

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 65



Viewpoint 66



Viewpoint 67



Viewpoint 68



Viewpoint 69



Viewpoint 70



Viewpoint 71



Viewpoint 72

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 73



Viewpoint 74



Viewpoint 75



Viewpoint 76



Viewpoint 77



Viewpoint 78



Viewpoint 79



Viewpoint 80

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 81



Viewpoint 82



Viewpoint 83



Viewpoint 84



Viewpoint 85



Viewpoint 86



Viewpoint 87



Viewpoint 88

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 89



Viewpoint 90



Viewpoint 91



Viewpoint 92



Viewpoint 93



Viewpoint 94



Viewpoint 95 *



Viewpoint 96

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 97



Viewpoint 98



Viewpoint 99



Viewpoint 100



Viewpoint 101



Viewpoint 102



Viewpoint 103



Viewpoint 104

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 105



Viewpoint 106



Viewpoint 107



Viewpoint 108



Viewpoint 109



Viewpoint 110



Viewpoint 111



Viewpoint 112

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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Viewpoint 113



Viewpoint 114



Viewpoint 115



Viewpoint 116



Viewpoint 117



Viewpoint 118



Viewpoint 119 *



Viewpoint 120

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009





Viewpoint 121



Viewpoint 122



Viewpoint 123 *



Viewpoint 124



Viewpoint 125



Viewpoint 126



Viewpoint 127



Viewpoint 128 *

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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Viewpoint 129



Viewpoint 130



Viewpoint 131 *



Viewpoint 132



Viewpoint 133



Viewpoint 134



Viewpoint 135



Viewpoint 136

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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Viewpoint 137



Viewpoint 138



Viewpoint 139

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

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March 2009



07079 Buckeye Windpower Project

Date: 1/24/08

Weather: overcast / sunny

Winds:

Sheet: 1 of 6

Car #: 68/with

VP # GPS # Photo Reference TIME Location / Similarity Zone / Comments / Road Name

| | | | | |
|----|-----|---------|-------|--|
| 1 | 001 | 001-004 | 9:42 | South/SouthW 210° - |
| 2 | 002 | 005-010 | 9:49 | WEST → 001 MET TOWER / CR-28 |
| 3 | 003 | 011-021 | 10:22 | NORTH-NORTH WEST - ^{AK} FIELDS - N12, N8, N4, N5, N2 - LOGAN 44 |
| 4 | 004 | 022-031 | 10:26 | NORTH-NORTH WEST - ^{AK} FIELDS - LOGAN 44 |
| 5 | 005 | 032-038 | 10:33 | NORTH WEST - ^{AK} FIELDS - LOGAN 44 |
| 6 | 006 | 039-048 | 10:35 | NORTH WEST - ^{AK} FIELDS - LOGAN 44 |
| 7 | 007 | 049-056 | 10:49 | East - ^{AK} LANDS - |
| 8 | 008 | 057-070 | 10:52 | 360° - UNION CHAPEL - |
| 9 | 009 | 071-078 | 11:51 | CARMEL CEMETERY - North North West |
| 10 | 010 | 079-087 | 12:13 | NORTH - FRAYBORT RD |
| 11 | 011 | 088-096 | 12:59 | |
| 12 | 012 | 097-099 | 1:23 | WEST - UNION CEM. |
| 13 | 013 | 100-111 | 1:36 | Mc ADAMS & BEARY - FIELD AN |
| 14 | 014 | 112-130 | 3:11 | TOWER 24 - RT 29 - ^{AK} LAND |
| 15 | 015 | 131-159 | 3:15 | FAIR VIEWS CEM. - RT 29 |
| 16 | 016 | 140-142 | 3:18 | RT 29 & Mutual Union - (HAWK) |
| 17 | 017 | 143-164 | 3:21 | Mutual Union Rd - ^{AK} LAND |
| 18 | 018 | 165-170 | 3:32 | Mutual Union Rd - ^{AK} LAND |
| 19 | 019 | 171-180 | 3:41 | SPRINGTOWN - ^{AK} LAND - CELL TOWER |
| 20 | 020 | 181-192 | 4:46 | MADISON RD - ^{AK} LAND - |
| 21 | 021 | 193-210 | 3:47 | MADISON RD - ^{AK} LAND - |
| 22 | 022 | 211-226 | 4:59 | MADISON RD - ^{AK} LAND - |
| 23 | 023 | 227-236 | 3:58 | YORKVILLE RD - ^{AK} LAND - |
| 24 | 024 | 237-248 | 4:02 | S. PARKVIEW - ^{AK} LAND - |

25
26
27

07079 Buckeye Windpower Project

Date: 1-21-08
 Weather: 1-25-08

Winds:

Sheet: 2 of 6
 Car #:

| VP # | GPS # | Photo Reference | TIME | Location/ Similarity Zone/ Comments/Road Name |
|------|-------|-----------------|---------|---|
| 25 | 025 | 247-250 | 4:09 | AR-LAND / SPAIN TOWN RD |
| 26 | 026 | 257-268 | 4:12 | AR-LAND / TALBOT RD |
| 27 | 027 | 269-286 | 4:18 | AR-LAND / RT 181 |
| 28 | 028 | 287-300 | 4:30 | AR-LAND / TOWER 2 / LVRLOW RD |
| 29 | 029 | 301-313 | 4:34 | AR-LAND / 3 TOWERS IN VIEW / LUDLOW RD |
| 30 | 030 | 314-316 | 4:43 | AR LAND / |
| 31 | 031 | 317-335 | 4:47 | AR LAND / SCHISON RD |
| 32 | 032 | 336-346 | 4:55 | AR LAND / |
| 33 | 033 | 347-365 | 5:04 | AR LAND / RT 169 |
| 34 | 034 | 366-374 | 5:07 | AR LAND / RT 169 |
| 35 | 035 | 375-384 | 5:10 | AR LAND / MOUNT TABOR RD |
| 36 | 036 | 385-389 | 5:15 | MAR-O-CHEEK CASTLE / RT 245 |
| 37 | 037 | 390-392 | 5:23 | MAR-O-CHEEK CASTLE / RT 245 |
| 38 | 038 | 393-404 | 5:30 | WEST HIGHWAY SCHOOL / RT 68 |
| 39 | 039 | 405-424 | 5:37 | RT 68 |
| 40 | 040 | 425-427 | 7:44 AM | |
| 41 | 041 | 428-434 | 7:50 | RT 56 - TOWERS |
| 42 | 042 | 435-450 | 7:52 | RT 36 - TOWERS |
| 43 | 043 | 451-456 | 8:00 | RT 96 - |
| 44 | 044 | 457-467 | 8:03 | WARRANT Country Club |
| 45 | 045 | 468-479 | 8:10 | |
| 46 | 046 | 480-493 | 8:13 | SHARON CENTERLY - Springtown Rd |
| 47 | 047 | 494-516 | 8:15 | Structure (151311) - Springtown Rd |
| 48 | 048 | 517-532 | 8:18 | - Springtown Rd |

07079 Buckeye Windpower Project

Date: 12508 Weather: CLEAR

Winds:

Sheet: 3 of 6

Car #:

GP/WT

VP # GPS # Photo Reference TIME Location/Similarity Zone/ Comments/Road Name

| | | | | |
|----|-----|---------------------|-------|--|
| 47 | 049 | 533-538 | 8:21 | CAMBRIAN RD / REB. HOMES |
| 50 | 050 | 539-545 | 8:23 | CAMBRIAN RD / REB. HOMES |
| 51 | 051 | 546-557 | 8:27 | SODOM-CLARK CEMETERY / RT 36 |
| 52 | 052 | 0558-583 | 8:32 | RT 36 / |
| 53 | 053 | 0584-0598 | 8:35 | (R) FERRY RD RS of 015 |
| 54 | 054 | 0599-624 | 8:40 | UNION CEMETERY RS of 012 / |
| 55 | 055 | 0625-0640 | 8:46 | RS of 011 |
| 56 | 056 | 0641-0657 | 8:49 | EVANS RD |
| 57 | 057 | 0658-0670 | 8:51 | EVANS RD |
| 58 | 058 | 0671-0674 | 8:55 | SWISHER RD |
| 59 | 059 | 0675-0690 | 8:56 | SWISHER RD |
| 60 | 060 | 0691-703 | 8:57 | RT 814 / |
| 61 | 061 | 0704-716 | 9:02 | RT 814 & 296 |
| 62 | 062 | 0717-736 | 9:06 | RT 296 (URSANA WOODSTOCK RD) |
| 63 | 063 | 0737-761 | 9:08 | RT 296 (URSANA WOODSTOCK RD) |
| 64 | 064 | 0762-0788 | 9:12 | URSANA WOODSTOCK RD (296) |
| 65 | 065 | 0789-0802 | 9:15 | JENKIN'S CHAPEL CEMETERY - URSANA WOODSTOCK RD |
| 66 | 066 | 0803-0816 | 9:31 | BLACK RD - |
| 67 | 067 | 0817-0821 | 9:47 | CARUE RD (CARUE HOMES) |
| 68 | 068 | 0823-0835 | 9:37 | CARUE CEMETERY (CARUE UNIFIED MIDD) |
| 69 | 069 | 0836-0839 | 9:46 | BLACK RD |
| 70 | 070 | 0840-0851 | 9:52 | MIDDLETOWN (HAMLET) |
| 71 | 071 | 0852-0857 | 9:57 | MIDDLETOWN Intersection |
| 72 | 072 | 0858-0869 | 10:07 | SUBSTATION / MUNGO DENNIS BURN RD |

07079 Buckeye Windpower Project

Date: 1-25-08 Weather:

Winds:

Sheet: 6 of 6 Car #:

VP # GPS # Photo Reference TIME Location/ Similarity Zone/ Comments/Road Name

| | | | | |
|-----|-----|-----------|-------|---|
| 97 | 057 | 1274-1289 | 11:40 | x LOGAN 41 |
| 98 | 058 | 1290-1309 | 11:43 | x LOGAN 41 |
| 99 | 099 | 1310-1335 | 11:46 | o LOGAN 41 |
| 100 | 100 | 1336-1369 | 11:48 | RT 287 (RSOF 008 RS) UNION CHAPEL CHURCH |
| 101 | 101 | 1370-1397 | 11:53 | JOHNSON RD |
| 102 | 102 | 1398-1403 | 12:00 | JOHNSON RD CEMETERY - JOHNSON ROAD |
| 103 | 103 | 1404-1412 | 12:05 | SHEFFER RD |
| 104 | 104 | 1413-1427 | 12:09 | GILBERT RD (MAPLE GROVE CEM.) WRONG DIRECTION |
| 105 | 105 | 1428-1437 | 12:13 | RT 245 |
| 106 | 106 | 1438-1442 | 12:15 | RT 245 |
| 107 | 107 | 1443-1445 | 12:22 | FLAM & WINDER ST. |
| 108 | 108 | 1446-1451 | 12:27 | LOGAN 41 |
| 109 | 109 | 1452-1456 | 12:31 | MT. MORIAH CEMETERY |
| 110 | 110 | 1457-1461 | 12:37 | MIDDLEBURN / RT 287 |
| 111 | 111 | 1462-1474 | 12:52 | RT 287 |
| 112 | 112 | 1475-1478 | 12:56 | RT 287 |
| 113 | 113 | 1479-1486 | 1:04 | RT 245 / WEST LIBERTY |
| 114 | 114 | 1487-1497 | 1:29 | RT 68 / looking EAST |
| 115 | 115 | 1498-1512 | 1:35 | RT 68 / looking EAST |
| 116 | 116 | 1513-1516 | 1:48 | RT 25 |
| 117 | 117 | 1517-1528 | 1:53 | RT 54 / RT 54 |
| 118 | 118 | 1529-1535 | 1:55 | IRVING LOCAL Intermediate School (RT 54 / EAST) |
| 119 | 119 | 1536-1559 | 1:58 | RT 54 - EAST |
| 120 | 120 | 1554-1560 | 2:04 | RT 54 - EAST |

07079 Buckeye Windpower Project

Date: 1-25-08

Weather: CLOUDY

Winds:

Sheet: 6 of 6

Car #:

VP # GPS # Photo Reference TIME Location/Similarity Zone/ Comments/Road Name

| | | | | |
|-----|-----|------------------|---------|--|
| 121 | 121 | 1567-1568 | 2:08 | Buck creek / RT 54 North |
| 122 | 122 | 1569-1573 | 2:15 | RT 54 / NORTH |
| 123 | 123 | 1574-1586 | 2:21 | RT 54-58 Intersection / NORTH |
| 124 | 124 | 1587-1605 | 2:23 | RT 4 |
| 125 | 125 | 1606-1611 | 2:25 | RT 4 MEDIAN/STAIRWAY edge |
| 126 | 126 | 1612-1623 | 2:30 | RT 4 & RT 21 (Intersection of Mechanicburg) |
| 127 | 127 | 1624-1626 | 2:34 | JACKSON RD (CROSTEN MEMORIAL PARK) |
| 128 | 128 | 1627-1647 | 2:40 | NORTH CONCERNANT |
| 129 | 129 | 1648-1661 | 2:44 | PARKVIEW / WEST |
| 130 | 130 | 1662-1674 | 2:52 | RT 55A / WEST |
| 131 | 131 | 1675-1681 | 2:55 | RT 55A / WEST |
| 132 | 132 | 1682-1685 | 2:57 | WOODSTOCK COMMUNITY - BENNETT ST. |
| 133 | 133 | 1686-1695 | 3:02 | RT 55A |
| 134 | 134 | 1696-1706 | 3:04 | McCully Rd |
| 135 | 135 | 1707-1720 | 3:14 | CONCRETE HANDRAIL (Big Dadey - SCENIC BYWAY) |
| 136 | 136 | 1721-1737 | 3:22 | COVERED BRIDGE (" ") |
| 137 | 137 | 1738-1750 | 3:24 | " |
| 138 | 138 | 1751-1759 | 3:26 | (BIG DAVEY SCENIC BYWAY) |
| 139 | 139 | 1760-1770 | 3:26 | " |
| | | COMPLETE AT 3:34 | 1-25-08 | |

07079 Buckeye Windpower Project

Date: 12.5.08 Weather: CLEAR

Winds:

Sheet: 4 of 6

Car #:

VP # GPS # Photo Reference TIME Location/Similarity Zone/ Comments/Road Name

| | | | | |
|----|-----|-----------|-------|-------------------------------------|
| 73 | 073 | 0870-0989 | 10:03 | MINHO LEWISBACH RD / TOWER 3 |
| 74 | 074 | 0890-905 | 10:05 | MINHO LEWISBACH RD / TOWER |
| 75 | 075 | 0906-922 | 10:08 | MINHO HAMLET / CURSANA RD |
| 76 | 076 | 0923-932 | 10:11 | MINHO CHURCH |
| 77 | 077 | 0933-0948 | 10:14 | RT 245 |
| 78 | 078 | 0947-0990 | 10:16 | HAMMOND RD / |
| 79 | 079 | 0982-0999 | 10:21 | MT CHANNEL CEMETERY |
| 80 | 080 | 1000-1025 | 10:27 | KENNARD KINGSCREEK RD |
| 81 | 081 | 1026-1042 | 10:31 | GEN. LEE THOMAS CEM. - RT 245 |
| 82 | 082 | 1047-1067 | 10:34 | KANAWY RD |
| 83 | 083 | 1068-1081 | 10:37 | LUDLOW RD |
| 84 | 084 | 1082-1095 | 10:39 | DAK GROVE CEMETERY / LUDLOW RD |
| 85 | 085 | 1100-1109 | 10:44 | KENNARD KINGSCREEK RD |
| 86 | 086 | 1109-1127 | 10:46 | KENNARD KINGSCREEK (KENNARD HAMLET) |
| 87 | 087 | 1124-1140 | 10:51 | W. KENNARD |
| 88 | 088 | 1141-1152 | 10:56 | RT 245 |
| 89 | 089 | 1153-1181 | 11:04 | MOUNT TABER CEMETERY NPS |
| 90 | 090 | 1182-1200 | 11:05 | MOUNT TABER CEMETERY RT 245 |
| 91 | 091 | 1201-1214 | 11:11 | MOUNT TABER CEMETERY RT 245 |
| 92 | 092 | 1215-1223 | 11:15 | OHIO CAVERNS |
| 93 | 093 | 1224-1237 | 11:19 | OHIO CAVERNS |
| 94 | 094 | 1238-1243 | 11:20 | MOUNT TABER RD |
| 95 | 095 | 1244-1264 | 11:31 | BUMP RD. / CROSS |
| 96 | 096 | 1265-1273 | 11:37 | BUMP RD. / NORTH |

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Appendix D

Digital Simulations
(See Enclosed CD)

Appendix E

Typical Overhead Line/Substation Photos and Details

1.



2.



Buckeye Wind Project

Champaign County, Ohio

Appendix E: Typical Overhead Line/Substation Photos and Details

Sheet 1 of 5: Highland Wind Project, Cambria County, Pennsylvania

March 2009



3.



4.



■ Buckeye Wind Project

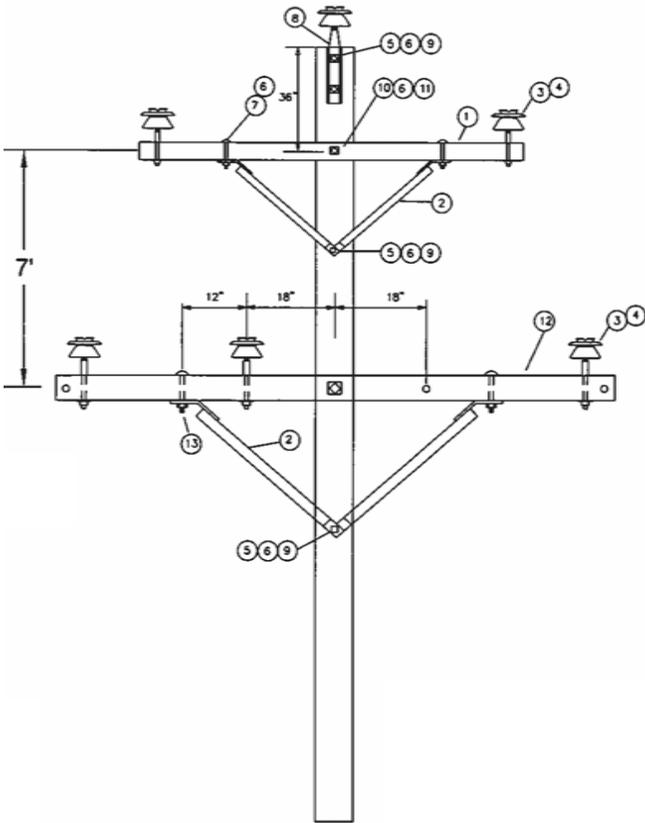
Champaign County, Ohio

Appendix E: Typical Overhead Line/Substation Photos and Details

Sheet 2 of 5: Munnsville Wind Farm, Madison County, New York

March 2009





| ITEM | SYMBOL | QTY | DESCRIPTION |
|------|--------------|-----|--------------------------------------|
| 1 | 014-104.000 | 1 | CROSSARM 4"x5"x9' |
| 2 | 011-077.000 | 2 | 60"/30" BRACE |
| 3 | 015-295.000 | 6 | 34.5kv PIN INSULATOR |
| 4 | 011-432.300 | 5 | STEEL INSULATOR PIN |
| 5 | 059 SERIES | 5 | $\frac{5}{8}$ " MACHINE BOLT TO SUIT |
| 6 | 059-984.000 | 10 | 2-1/4" SQUARE WASHER |
| 7 | 059-416.000 | 2 | 1/2" x6" BOLT |
| 8 | 2770-A24-130 | 1 | POLE TOP PIN (HUGHES BROTHERS) |
| 9 | 011-380.100 | 5 | $\frac{5}{8}$ " MF LOCKNUT |
| 10 | 059 SERIES | 2 | $\frac{3}{4}$ " BOLT TO SUIT |
| 11 | 011-380.200 | 2 | $\frac{3}{4}$ " MF LOCKNUT |
| 12 | 014-115.000 | 1 | 3-3/4"x4-3/4"x12' CROSSARM |
| 13 | 059-108.000 | 2 | CARRIAGE BOLT $\frac{1}{2}$ "x5" |

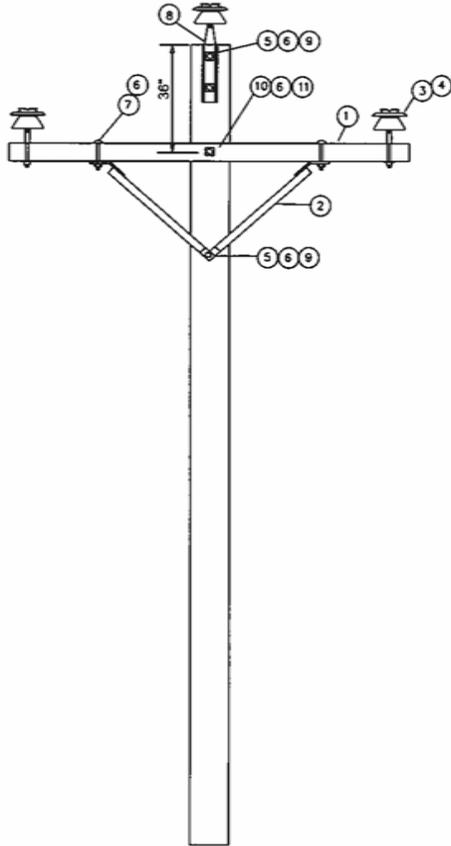
* CROSSARM(S) MAY BE DOUBLED - SEE CONSTRUCTION DRAWINGS

Buckeye Wind Project

Champaign County, Ohio

Appendix E: Typical Overhead Line/Substation Photos and Details

Sheet 3 of 5: DP&L Typical 34.5 kV Tangent - Double Circuit



| ITEM | SYMBOL | QTY | DESCRIPTION |
|------|--------------|-----|--------------------------------|
| 1 | 014-104.000 | 1 | CROSSARM 4"x5"x9' |
| 2 | 011-077.000 | 1 | 60"/30" BRACE |
| 3 | 015-295.000 | 3 | 34.5kv PIN INSULATOR |
| 4 | 011-432.300 | 2 | STEEL INSULATOR PIN |
| 5 | 059 SERIES | 4 | 5/8" MACHINE BOLT TO SUIT |
| 6 | 059-984.000 | 7 | 2-1/4" SQUARE WASHER |
| 7 | 059-416.000 | 2 | 1/2"x6" BOLT |
| 8 | 2770-A24-130 | 1 | POLE TOP PIN (HUGHES BROTHERS) |
| 9 | 011-380.100 | 4 | 5/8" MF LOCKNUT |
| 10 | 059 SERIES | 1 | 3/4" BOLT TO SUIT |
| 11 | 011-380.200 | 1 | 3/4" MF LOCKNUT |

*CROSSARM MAY BE DOUBLED - SEE CONSTRUCTION DRAWINGS

Buckeye Wind Project

Champaign County, Ohio

Appendix E: Typical Overhead Line/Substation Photos and Details

Sheet 4 of 5: DP&L Typical 34.5 kV Tangent - Single Circuit



■ Buckeye Wind Project

Champaign County, Ohio

Appendix E: Typical Overhead Line/Substation Photos and Details

Sheet 5 of 5: Maple Ridge Wind Farm, Lewis County, New York