

Large Filing Separator Sheet

Case Number : 08-666-EL-BGN

File Date : 4/24/2009

Section : 3 of 7

Number of Pages : 200

Description of Document :
Application



March 18, 2009

Mr. Michael Speerschneider
Buckeye Wind LLC
44 East 30th Street
10th Floor
New York, New York 10016

RE: Geotechnical Desktop Document Review Summary Report for the Buckeye Wind Power Project Located in Champaign County, Ohio; EVP001.100.0001.DOC

Mr. Speerschneider:

Hull & Associates, Inc. (Hull) is pleased to provide Buckeye Wind LLC, a wholly owned subsidiary of EverPower Wind Holdings, Inc., (Client) with this Desktop Document Review of available geotechnical information for the Buckeye Wind Power Project located in Champaign County within the townships of Salem, Wayne, Rush, Urbana, Union, and Goshen. Client is pursuing the development of a wind-powered electric generation facility (Facility) that includes construction of approximately 70 wind turbine generators, each with a nameplate capacity of 1.8 to 2.5 megawatts (MW) at locations (Sites) within the Facility. Each of the turbine Sites will also be associated with an access road and an electrical interconnection system. Based on proposed rule 4906-17(08)(C)(1)(ii), each of the turbine Sites has been assigned a conservative setback of 914 feet to the nearest habitable residential structures located on adjacent properties at the time of the certification application. Herein, the Facility plus setbacks is referred to as the Project Area.

The Desktop Review was completed to gather the applicable geotechnical information specified in the Ohio Power Siting Board's current Ohio Administrative Code rules (Chapter 4906-13) concerning the preparation of a certificate application to site an electric generation facility. The information was gathered by completing a literature search of existing and readily available documents related to the surface and subsurface soils, agricultural resources and geologic/bedrock conditions of the Project Area. This information was then reviewed to develop a generalized understanding of the suitability of the soils within the Project Area for grading, compaction, and drainage for the Project Area. The information summarized below was obtained from available on-line databases and/or documents maintained or produced by the following federal, state and local agencies:

1. Ohio Department of Transportation District 7 and the Office of Geotechnical Engineering (ODOT);
2. United States Geological Survey (USGS);
3. United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Champaign County;
4. Ohio Department of Agriculture (ODA);

3401 Glendale Avenue, Suite 300, Toledo, Ohio 43614
419.385.2018 419.385.5487 fax www.hullinc.com

5. Federal Emergency Management Administration (FEMA);
6. Ohio Department of Natural Resources (ODNR); and
7. Champaign County Engineer.

This Geotechnical Desktop Document Review was completed concurrently with the Groundwater Hydrogeology Desktop Review (GH Desktop Review). The results of the GH Desktop Review have been provided under separate cover (Hull document #EVP004.300.0006, dated January 16, 2009). As a result of the similarity in the topics of these two reports, some information from the GH Desktop Review has been repeated in this report for ease of completing the application.

No environmental studies or structural evaluations were performed as part of this scope of work, and therefore no recommendations relative to environmental or structural issues are included in the report.

As shown on Figure 1 and as previously stated, the Project Area is located in Champaign County within the townships of Salem, Wayne, Rush, Urbana, Union, and Goshen. The currently proposed Facility is shown on Figure 1, as well as on all of the subsequent figures discussed below.

GEOLOGY AND TOPOGRAPHY

The Project Area lies entirely within the glaciated Till Plains Section of the Central Lowland Physiographic Province. The topographic relief in the Project Area is characterized by gently rolling hills and moderate slopes. As shown on Figure 1, surface elevations within the Project Area range from approximately 1100 feet above mean sea level (msl) along the stream valleys and major highways in the area to over 1300 feet above msl in the extreme northern portion of the Project Area.

The surface topography of the region is the result of glacial end moraine deposits which are located throughout west-central Ohio. According to the Glacial Geology of Champaign County (Quinn and Goldthwait, 1979), the surficial unconsolidated deposits over the majority of the Project Area are part of an end moraine complex known as the Cable Moraine. The Cable Moraine is characterized by thick deposits of glacial till intermixed with relatively thin sand or sand and gravel layers. Glacial till is a heterogeneous mixture of all sizes of soil particles inclusive of clay, silt, sand, and gravel, with occasional cobbles and boulders. Glacial till deposits may also contain streaks, seams, layers or lenses of sand, and gravel, which may or may not be water-bearing. Discontinuous very thin to moderate lenses of sand and gravel deposits are common in this region. The till typically exceeds 200 feet in thickness in the Project Area. It is generally thicker in the southern half of the Project Area and thins to the north. Surficial deposits in the western third of the Project Area are part of another end moraine complex, the Springfield Moraine, overlying an outwash deposit called the Kennard Outwash. The Springfield Moraine is typically much thinner than the Cable Moraine. Till associated with the Springfield Moraine is often less than ten feet in thickness. The Kennard Outwash is located

between the two moraine complexes in the east central portion of Champaign County and extends northward into the extreme southern portion of Logan County. Outwash typically consists of coarser grained (sand and gravel) material deposited by the flowing water from melting ice. The area was passed over by both the Illinoian and Wisconsinan glaciers.

The uppermost bedrock within the majority of the Project Area is comprised primarily of limestone and dolomite, although shale with interbedded limestone is the uppermost bedrock in the northern portion of the Project Area. The depth to bedrock is highly variable. Figure 2 shows the topographic surface of the bedrock within the Project Area. Several ODNR well logs within or adjacent to the Project Area were also reviewed that were helpful in determining the approximate depth to bedrock and generalized geologic lithology. According to well information included in the Ground-Water Resources of Champaign County (Schmidt, 1985), the depth to bedrock is generally deeper in the southern portion of the Project Area than the northern portion of the Project Area. Near the extreme southern portion of the Project Area, limestone was reportedly encountered at a depth of approximately 345 feet in a domestic well located to the north of Mechanicsburg. These well logs also indicated that the subsurface soils are a combination of clay, sand, and gravel that extended to underlying limestone bedrock that is encountered at depths in excess of 100 feet. This coincides with the general geology as previously presented. A more detailed discussion of the water wells within the Project Area is provided in the GH Desktop Review Report.

Information obtained from the ODNR, Division of Geological Survey, indicated that portions of the Project Area are known and probable karst areas. Areas where karst may exist have the potential for the formation of sinkholes and ground subsidence, either of which could cause unstable conditions at the surface level. The majority of the known and probable karst areas are located in the western portion of the Project Area as shown on the Known Karst Areas map (see Figure 2).

Seismic information for the Project Area was obtained from the ODNR, Division of Geological Survey, Ohio Seismic Network. Figure 3 shows known and speculated deep seismic structures within the State of Ohio. As shown on the map, features labeled the "Bellefontaine Outlier Faults" are located beneath the general Project Area. These features are reportedly located within the granitic basement rock in the area. A magnitude 3.5 earthquake was reportedly recorded in south central Champaign County in 1843. The Anna Seismogenic Zone, centered in neighboring Auglaize and Shelby Counties to the west of the Project Area, contains the area of greatest earthquake activity in this part of Ohio. The epicenter of the highest magnitude earthquake (5.4) recorded in Ohio to date occurred in 1937 beneath the town of Anna, which is approximately 30 miles northwest of the Project Area.

SOIL SURVEY

The USDA Soil Conservation Service Soil Survey of Champaign County was reviewed. Soil surveys furnish surface soil maps and provide general descriptions and potentials of the soil to support specific uses, and can be used to compare the suitability of large areas for general land uses. Surface soils of the Project Area are comprised mostly of Celina, Fox, and Miami silt loams. The soil survey information suggests the Celina and Miami silt loams are well drained, have a moderately high capacity to transmit water (0.20 to 0.60 inches / hour), with the depth to

water table being 24 to 36 inches. The Fox silt loams are well drained, have a moderately high to high capacity to transmit water (0.60 to 2.0 inches / hour), with the depth to water table being more than 80 inches. The soil surveys also indicate that the soils do not frequently flood or pond surface water runoff. A soils map for the Project Area is included in Appendix A.

FLOODPLAINS

Figure 1 was prepared using information obtained from the ODNr and FEMA¹. The figure shows the 100-year floodplain boundaries within the Project Area. As shown on Figure 1, the proposed locations of turbines #17, #19, #24, #26, #27 and #30 to the northeast of the City of Urbana are within a 100-year floodplain boundary. Other proposed turbine locations (#52, #55, #59 and #61) are within 100-year floodplain boundaries located to the west of the Village of Mutual (southeast of Urbana) in the southern portion of the Project Area. Two additional turbine locations (#69 and #70) are within a 100-year flood plain boundary area to the south of Mutual and southwest of the Village of Mechanicsburg.

Based on our experience, surface and subgrade soils in floodplain areas are susceptible to being soft and loose and typically contain a higher content of vegetation and organics due to the more frequent presence of water in these soils. These unsuitable surface soils will probably need to be undercut and replaced with suitable soil material during roadway and parking area subgrade preparation. Furthermore, the final structural design will need to consider the potential impact that flooding may have on the turbines, if any.

UNDERGROUND AND SURFACE MINES

Information obtained from the ODNr, Division of Geological Survey and Champaign County Engineer's Offices indicated that these sources have no information suggesting that underground or surface mines are located in the Project Area. Soil survey information provided by the USDA indicates that there are former gravel pits and quarries located within the Project Area, but not within or immediately adjacent to the proposed Site locations. Figure 3 illustrates that no known abandoned mines shafts or probable abandoned mines are located within the Project Area.

PROJECT AREA RECONNAISSANCE

In addition to the desktop study, Hull completed a field reconnaissance on March 19, 2008 at representative points within the Project Area to observe conditions including topography, surface geologic features and surface water conditions. The Project Area predominantly consists of agricultural fields with no visible geotechnical-related site constraints for the proposed construction. In general, the Project Area appears to be adequately drained with minimal amounts of standing water present despite heavy rain prior to and during the reconnaissance. Construction of gravel access roads will be necessary to access all turbine locations from the Township and County roads. No information was available concerning rockfalls or landslides within the Project Area. Based on a review of the existing topography of

¹ FEMA is currently undergoing a Map Modernization program to convert the National Flood Insurance Program maps to a digital format. The 100-year flood plains used for this analysis are the published preliminary version that has been released for review purposes and are subject to change.

the Project Area and the visual observations completed by Hull during the reconnaissance, it is anticipated that the potential for rockfalls and landslides are low. In addition, Hull did not observe any sink holes or depressions within known or suspected karst areas. Hull will present photographs of the areas visited under separate cover.

AGENCY INTERVIEWS

Hull contacted ODOT District 7 in order to review boring logs from historic projects that were located near and within the Project Area. The projects included the original roadway soil profile reports for portions of SR 29, 56, and 296 (circa 1960's) as well as several structure soil profiles for bridges and abutments over King's Creek and its tributaries. The soil profile drawings reviewed by Hull suggest non-conventional foundation design or roadway subgrade improvements will not be necessary for the proposed project.

Hull contacted the Champaign County Engineer's Office regarding their knowledge and experience of previous construction projects, subsurface conditions, and maintenance history in the vicinity the Project Area, and to ask about permits that may be necessary for construction. A representative from the Champaign County Engineer's office indicated that, based on their experience and the general description of the proposed project provided by Hull, significant *geotechnical constraints for the planned construction are not anticipated*. The exceptions mentioned by the Engineer's Office representative were for caves and the potential for underground mines, which would constitute significant geotechnical constraints if encountered. It was stated that the expectation is that only typical construction permits would be necessary.

PRELIMINARY CONSTRUCTION CONSIDERATIONS

Based on our experience with earthwork in the region, conventional, shallow foundations may be able to support the turbines, however, this assumption will need to be confirmed by a detailed geotechnical exploration and evaluation for each Site. If it is determined that shallow foundations are not suitable for structural support, extended foundation systems (such as driven H-piles or auger cast piles) may be necessary to bear in suitable material or on bedrock. Additionally, other suitable foundation types may be utilized according to their compatibility with the geotechnical parameters of the specified Sites

The geotechnical engineer, or a designated representative, should examine foundation designs and compatibility with the supporting soils and approve the work prior to placement of foundation components.

Adequate surface water run-off drainage should be established at each Site to minimize any increase in the moisture content of the subgrade material. Positive drainage of each Site should be created by gently sloping the surface toward drainage swales. Surface water runoff should be properly controlled and drained away from the work area. It should be noted that the subgrade soils are subject to shrinking and swelling whenever their seasonal moisture contents vary and consideration should be given during constructability reviews to determine how best to deal with potential moisture fluctuations.

The contractors should be prepared to deal with any seepage or surface water that may accumulate in excavations. Site dewatering may be required during construction if excavations extend below the water table, or significant precipitation events occur when the foundation excavations are exposed. However, the contractor should minimize the amount of excavation exposed at one time, especially when precipitation is forecasted. Fluctuations in the groundwater level may occur seasonally and due to variations in rainfall, construction activity, surface runoff, and other factors. Since such variations are anticipated, we recommend that design drawings and specifications accommodate such possibilities and that construction planning be based on the assumption that such variations can occur.

The contractor should be solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state, and federal safety regulations including the current Occupational Safety and Health Administration (OSHA) Excavation and Trench Safety Standards (29 CFR Part 1926).

Based on a review of the soil survey information and our experience with earthwork in the area, the soils should be suitable for grading, compaction, and drainage when each Site is prepared as discussed in this report. Due to the anticipated depth of bedrock, bedrock blasting will probably not be necessary; however, this assumption must be confirmed with geotechnical test borings prior to construction.

Additional considerations relative to site preparation, suitability of fill materials, fill placement and weather limitations are presented in Appendix B for reference. These considerations are provided as general guidelines and the contractor is responsible for selecting and implementing the most appropriate construction techniques (e.g., construction means, methods, sequences or procedures, and safety precautions or programs) for each site-specific condition(s).

SUMMARY

Based on the information reviewed and the field reconnaissance, it appears that the geotechnical issues that should be considered during construction include:

- the potential and known karst areas;
- the potential for soft materials in the floodplain and floodway locations;
- poor drainage; and
- the presence of the Bellefontaine Outlier Faults, which traverses the Project Area.

Site-specific geotechnical information should be obtained by the Client to design the turbine foundations, and prepare construction specifications and design plans. This may require, but not be limited to, completion of geotechnical explorations to further evaluate the in-situ materials at each Site. A generalized scope of work template for the geotechnical explorations has been

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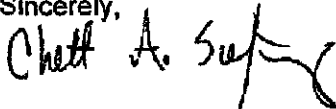
provided in Appendix C, which can be used to prepare detailed Requests for Proposals for the individual Sites. As previously discussed, the GH Desktop Review is being prepared by Hull under a separate cover that will provide additional information regarding the hydrogeological considerations for construction of the proposed wind turbines.

The conclusions included in this Desktop Review are based on general summaries available through the resources previously listed. There may be anomalies in the geotechnical conditions of a specific Site that cannot be resolved at the scale of the publicly available data used in this study. As noted previously, site-specific information should be obtained prior to final turbine foundation design.

Hull has performed its services using that degree of care and skill ordinarily exercised under similar conditions by reputable members of its profession practicing in the same or similar locality at the time of service. No other warranty, expressed or implied, is made or intended by our proposal or by our oral or written reports. The work does not attempt to evaluate past or present compliance with federal, state, or local environmental or land use laws or regulations. Conclusions presented by Hull regarding the site are consistent with the Scope of Work, level of effort specified, and investigative techniques employed. Reports, opinions, letters, and other documents do not evaluate the presence or absence of any compound or parameter not specifically analyzed and reported. Hull makes no guarantees regarding the completeness or accuracy of any information obtained from public or private files or information provided by subcontractors.

Please call either of the undersigned at (419) 385-2018 with questions or comments regarding the findings of this report.

Sincerely,



Chett A. Siefring
Engineer I



Shawn D. McGee, P.E.
Project Manager

CAS/SDM/jab

Attachments

cc: Hugh F. Crowell, P.W.S., Hull & Associates, Inc.

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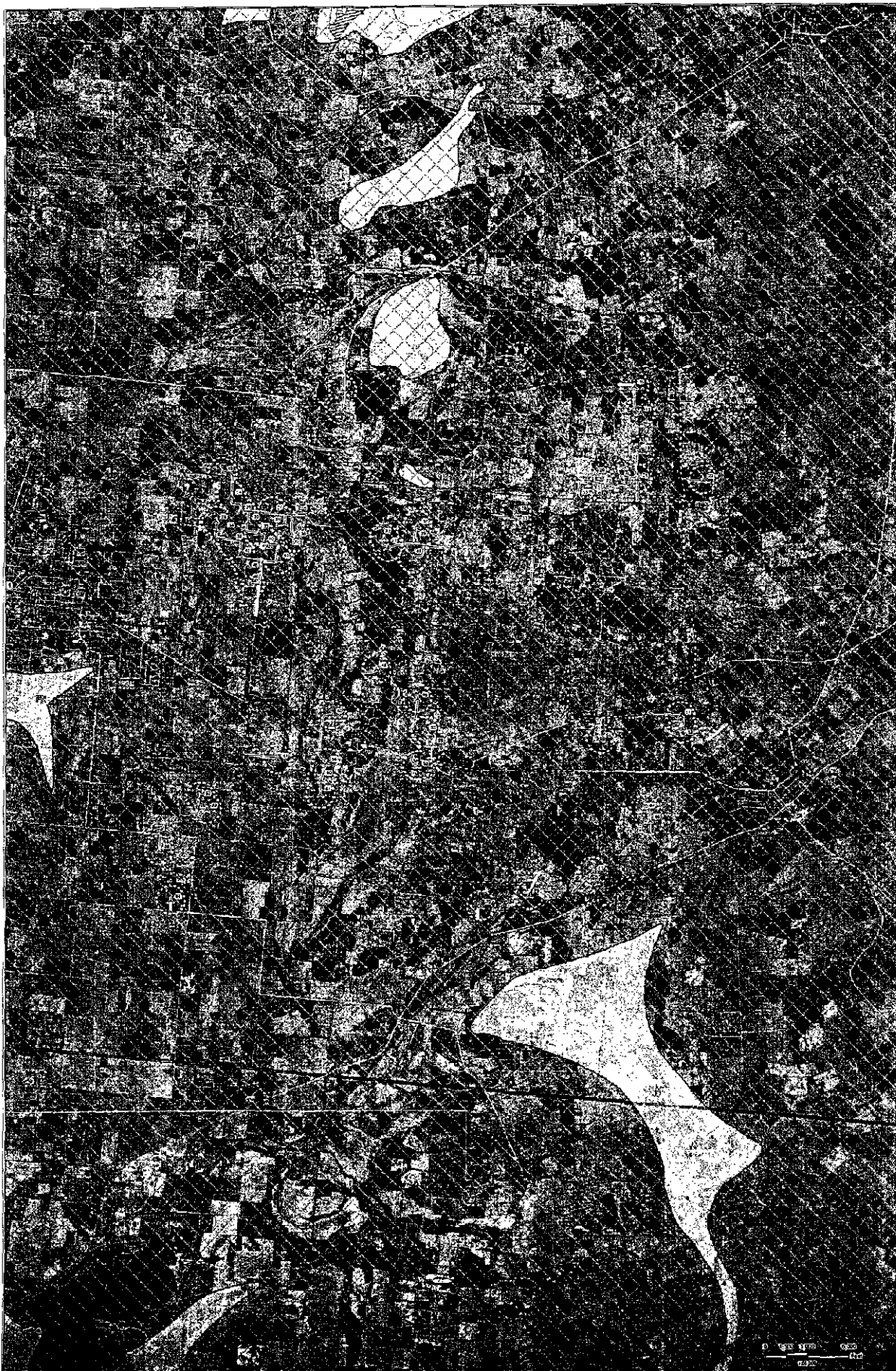
REFERENCES

1. Ohio Department of Natural Resources. (n.d.) *Water Well Log and Drilling Report*. Retrieved December 22, 2008, from Division of Water Web site: <http://www.dnr.state.oh.us/water/maptechs/wellogs.aspx>

FIGURES



Date: March 2009	
Project Number: EVPO01	Page: 1
Ganttchart: EVPO01_CP000.mxd File: EVPO01_JulyDec_Programme_Temp-Print	



**Buckeye Wind Power
 Bedrock Aquifer Locations
 & Known Karet Areas**

Project Area (study) and Wind Resource Potential
 Proposed Substation
 Proposed Turbine Locations
 Access Road
 Local Community Overhead Interconnect
 A. Known Karet
 B. Possible Karet Area
 Bedrock Topography - 20 ft Contour
 Bedrock Aquifer - Shaded

Bedrock Aquifer - Shaded
 Proposed Substation
 Proposed Turbine Locations
 Access Road
 Local Community Overhead Interconnect
 A. Known Karet
 B. Possible Karet Area
 Bedrock Topography - 20 ft Contour
 Bedrock Aquifer - Shaded

Date: **March 2009**

Project Number: 010001
 Description: EDP001_C030.mxd
 File: C:\P001_Hydrology_Karet-DeWap.mxd



 Project Area (Facility with 1000ft Setback of Turbines)

 Proposed Substation

 Proposed Turbine Locations

 Buried Interconnect

 Access Roads

 Conceptual Overhead Interconnect

Water Wells

Located By:

 Geocode Address

 Lat-Lon

 Source Water Protection Areas - Ground Water

 Source Water Protection Areas - Surface Water

 Sole Source Aquifers

Road Centerlines

 Local Roads

 Major Roads

 Highways

 Limited Access

 Railroads (Local)

 Civil Townships

 Counties

Unconsolidated Aquifers

Local Name : Hydrogeological Setting : Yield (gallons/minute)

 Bellefontaine : Complex : 5 - 25

 Bellefontaine : Ground Moraine : 5 - 25

 Bellefontaine : Ground Moraine : < 5

 Cable : Buried Valley : 5 - 25

 Cable : Complex : 25 - 100


 Cable : Complex : 5 - 25

 Cable : Ground Moraine : 5 - 25

 Cable : Outwash/Kame : 25 - 100

 Deer Creek : Alluvial : 25 - 100

 London : Complex : 5 - 25

 Mad River : Alluvial : 25 - 100

 Mad River : Buried Valley : 100 - 500

 Mad River : Buried Valley : 25 - 100

 Mad River : Buried Valley : 5 - 25

 Mad River : Buried Valley : > 500

 Mad River : Complex : 25 - 100

 Mad River : Outwash/Kame : 100 - 500

 Mad River : Outwash/Kame : 25 - 100

 Prairie : Complex : 5 - 25

 Springfield : End Moraine : 25 - 100

 Springfield : End Moraine : 5 - 25

everpower

Prepared By:

Hull

EDR

Figure

Key

Project Number: EUP001
File Name:
EUP001_HydroGeo_Aquifers
Wells_Key.mxd

ATTACHMENT A

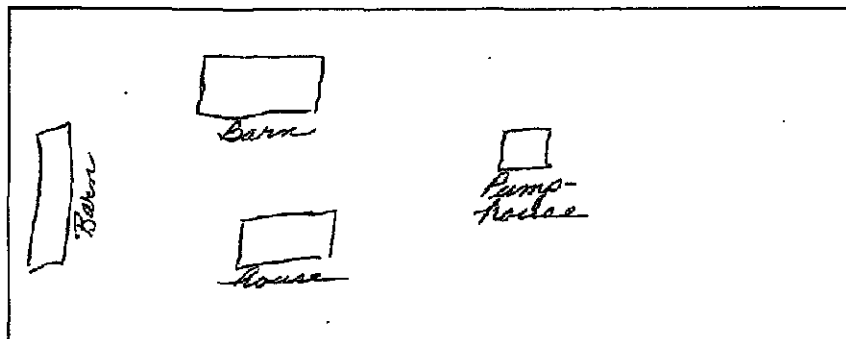
Well Surveys

WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: ROBERT E. INSTINE 1466 PERRY RD CABLE OH 43009
2. How Many Wells Do You Have On Your Property? 1 (one)
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Yes, Domestic
5. Approximate Depth of Well(s)? 150 feet
6. Diameter of Well(s)? 6 inch cast casing
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Sand-gravel well
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? Steel casing
9. Date of Installation of Well(s)? 1969
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 20 feet to water
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? 400 gallons per minute per hour
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? No

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

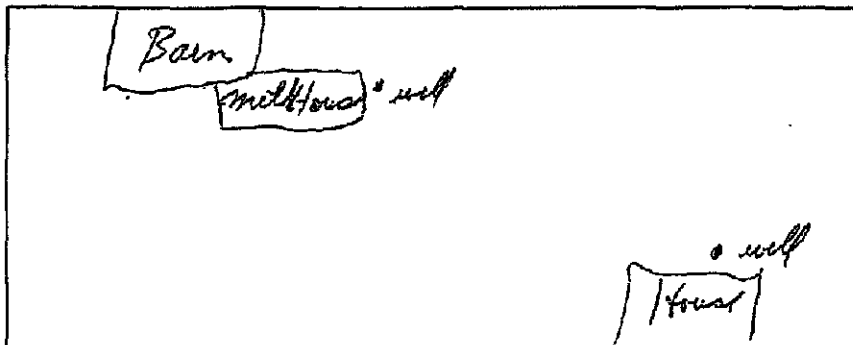


WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: Roger Yocom 773 Yocom Rd Cattle O
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? no
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? drinking
5. Approximate Depth of Well(s)? 80 160
6. Diameter of Well(s)? 6"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? O/SG
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? steel casing
9. Date of Installation of Well(s)? 1950
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 20 40
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? 100 gals per min
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? no

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

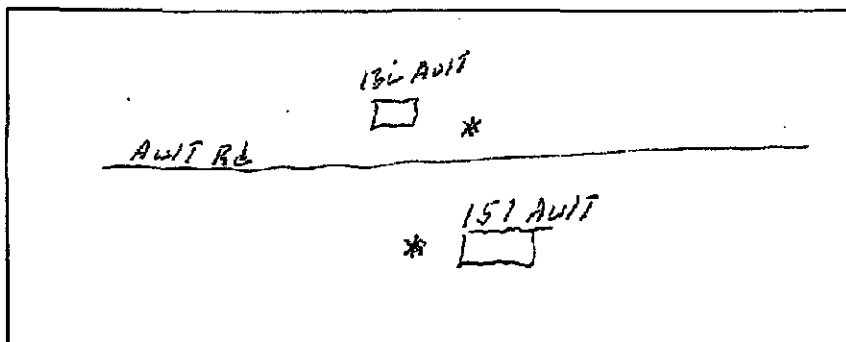


WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: Boyd McCarty, 151 AUIT Rd, Urbana, OH 43078
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? YES
5. Approximate Depth of Well(s)? 152 AND 165 Feet
6. Diameter of Well(s)? 4 inch casing
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? UNSURE
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? STEEL
9. Date of Installation of Well(s)? 1955 AND 1960
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? UNKNOWN
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? UNKNOWN
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? No

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

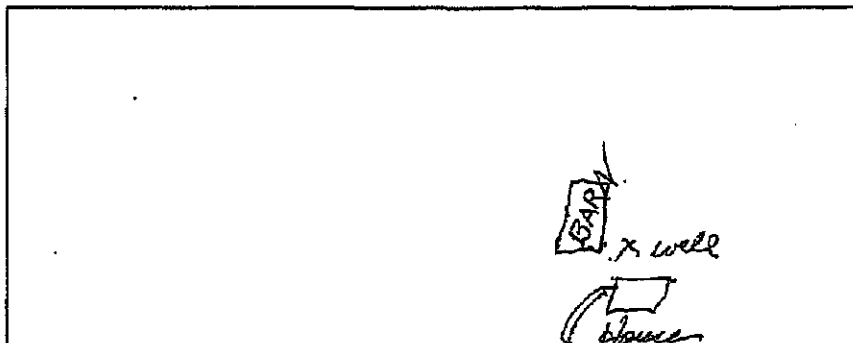


WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

- Merle & Virginia Crowder Trustees*
1. Property Owner and Address: *5539 E. Rt 245 N. Lewisburg, Ohio 43060*
 2. How Many Wells Do You Have On Your Property? *(1) one*
 3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? *no*
 4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? *yes Drinking*
 5. Approximate Depth of Well(s)? *227*
 6. Diameter of Well(s)? *6"*
 7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? *Bedrock*
 8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? *Steel casing*
 9. Date of Installation of Well(s)? *1960 ?*
 10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? *It rained about 30 feet after hitting water*
 11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? *At one time we had 175 to 200 head of cattle - no problem*
 12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? *no*

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



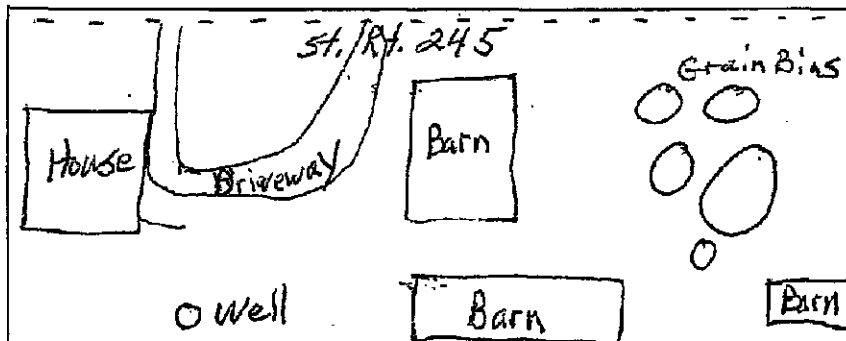
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WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: Mark & Susan Crowder 5539 East 245 North Lewisburg Ohio
2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Domestic Purpose - No Irrigation
5. Approximate Depth of Well(s)? 265' - 280'
6. Diameter of Well(s)? 6"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Bedrock
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? Steel Casing
9. Date of Installation of Well(s)? 1977
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 80' of water in well
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? unknown
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? No

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



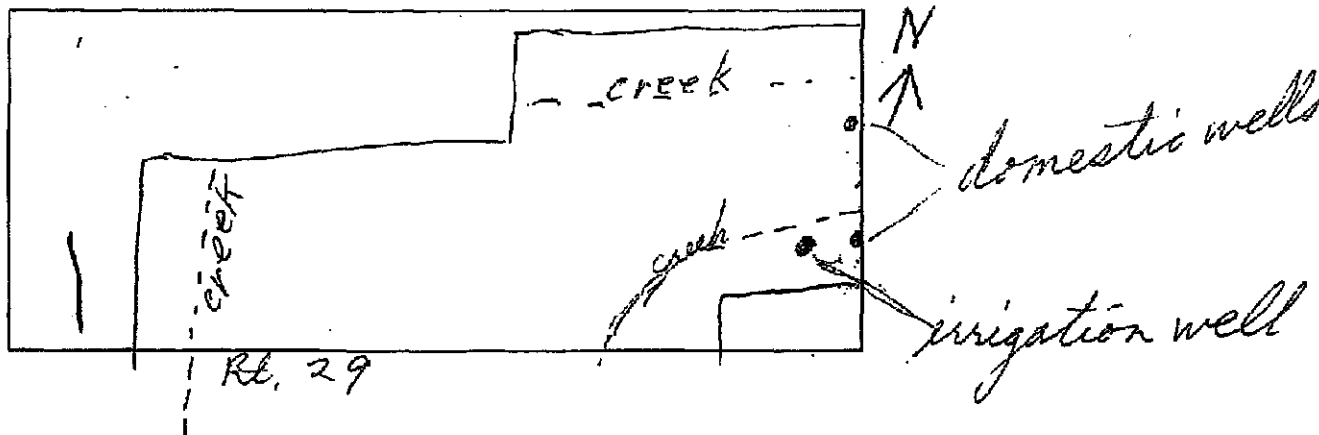
Property address
2560 S. Mutual Union
Urbana, Oh 43008

WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

- Mike and Matt Pullins
345 N. Mutual Union Cabs, Oh 43009
1. Property Owner and Address: 345 N. Mutual Union Cabs, Oh 43009
 2. How Many Wells Do You Have On Your Property? 3
 3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? no
 4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? irrigation and domestic
 5. Approximate Depth of Well(s)? 60' - 80'
 6. Diameter of Well(s)? irrigation well is 12" others 6"
 7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Overburden/sand & gravel
 8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? irrigation - PVC others steel
 9. Date of Installation of Well(s)? irrigation 2002 others 1980's
 10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 15'
 11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? irrigation = 300 gallons/minute others = 20 gallons/min
 12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? no

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

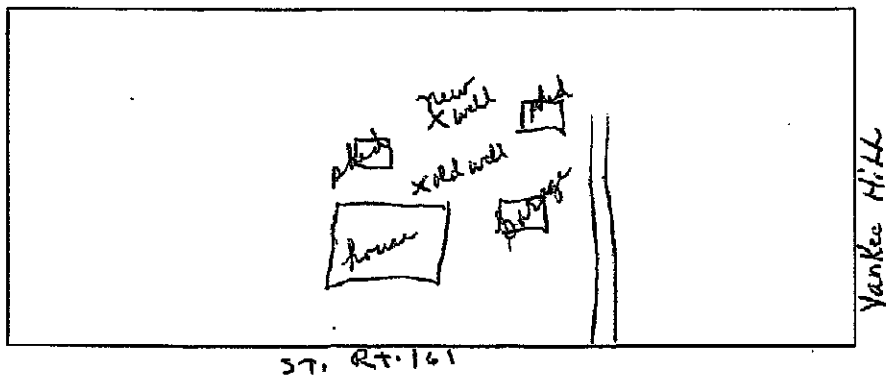


WELL SURVEY QUESTIONNAIRE

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1. Property Owner and Address: Rochelle Thompson-Kidd
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Yes
5. Approximate Depth of Well(s)? 395 ft. plus they gave us an extra 5 ft. (400 ft) total
6. Diameter of Well(s)? _____
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? _____
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/day - B/C; Other - O)? _____
9. Date of Installation of Well(s)? 4-29-94
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? _____
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? _____
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? Yes - started pulling weeds. Had it cleared and used for years. Had new well drilled because we wanted a deeper well.

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



COUNTY Franklin TOWNSHIP Union SECTION/LOT No. 16-55-9
(CIRCLE ONE)

OWNER/BUILDER Oliver Thompson PROPERTY ADDRESS 7655 State Rd
(CIRCLE ONE OR BOTH) (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY 1/2 mi. EAST OF HANKEE HILL RD

CONSTRUCTION DETAILS

CASING Borehole Diameter 1 1/2 in. **GROUT**
☐ Diameter 5 in. Length 275 ft. Wall Thickness 1/4 in. Material Bentonite Volume used _____
☐ Diameter _____ in. Length _____ ft. Wall Thickness _____ in. Method of installation grout after
Type: ☐ Steel ☐ Galv. ☐ PVC ☐ Other _____ Depth: placed from _____ ft. to _____ ft.
Joints: ☐ Threaded ☐ Welded ☐ Solvent ☐ Other _____ **GRAVEL PACK (Filter Pack)**
Liner: Length _____ Type _____ Wall Thickness _____ in. Material _____ Volume used _____
Method of installation _____
SCREEN Pitless Device ☐ Adapter ☐ Preassembled unit
Type (wire wrapped, louvered, etc.) _____ Material _____ Use of Well _____
Length _____ ft. Diameter _____ in. ☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other _____
Set between _____ ft. and _____ ft. Slot _____ Date of Completion 4-29-94

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation:
sandstone, shale, limestone, gravel, clay, sand, etc.

	From	To
clay - fine gravel	0	75
sand gravel clay	75	110
clay	110	155
sand gravel clay	155	205
clay	205	245
sand gravel clay	245	271
blue limestone (hard)	271	335

first water
encountered 380' - 395'

WELL IS 395' DEEP

WELL TEST

☐ Bailing ☐ Pumping* ☐ Other _____
Test rate 15 gpm Duration of test _____ hrs.
Drawdown _____ ft.
Measured from: ☐ top of casing ☐ ground level ☐ Other _____
Static Level (depth to water) 180 ft. Date: 4-29-94
Quality (clear, cloudy, taste, odor) clear

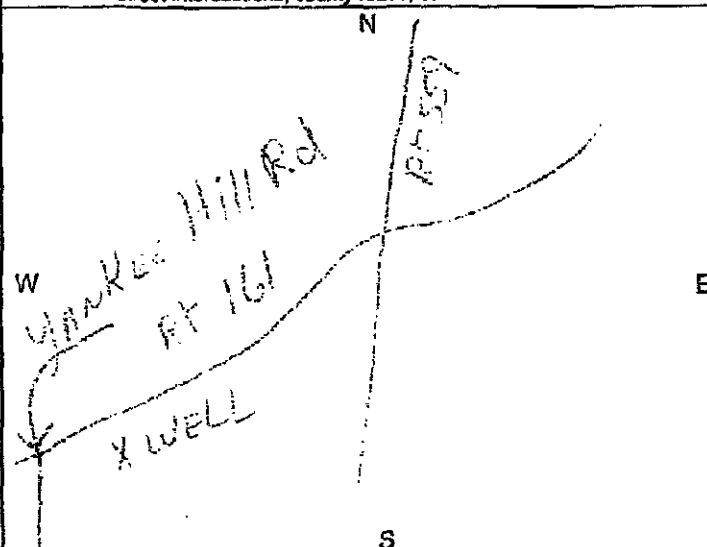
*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump _____ Capacity _____ gpm
Pump set at _____ ft.
Pump installed by _____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways,
street intersections, county roads, etc.



If additional space is needed to complete well log, use next consecutively numbered form. I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Seismic Drilling Signed Bill Smallwood

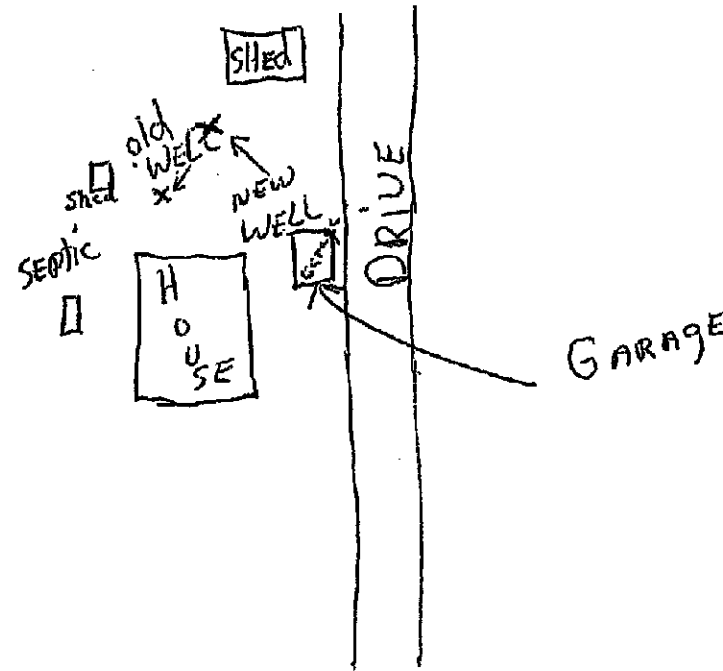
Address 1219 N. Main Date 4-29-94

City, State, Zip Columbus, OH 43224 ODH Registration Number 311

(Redrill)

5

TWP. Union



HOUSE 30'
SEPTIC 75'
ROAD 240'
DRIVE 57'
GARAGE 24'
SHED 36'

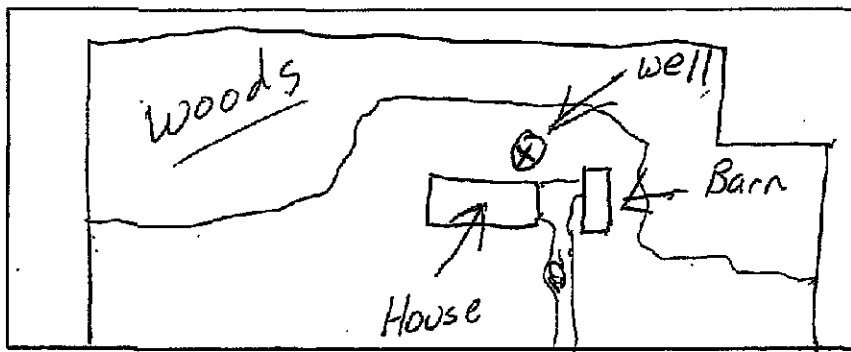
2/20/08

WELL SURVEY QUESTIONNAIRE

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1. Property Owner and Address: William & Kimberly Chapman 762 N. Parkview
Woodstock, Ohio
43084
2. How Many Wells Do You Have On Your Property? one
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? no
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Domestic purposes
5. Approximate Depth of Well(s)? 110'
6. Diameter of Well(s)? 6"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? unknown
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? Steel casing
9. Date of Installation of Well(s)? Summer 1997
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? Unknown
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? Unknown
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (If yes, indicate reason)? no

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



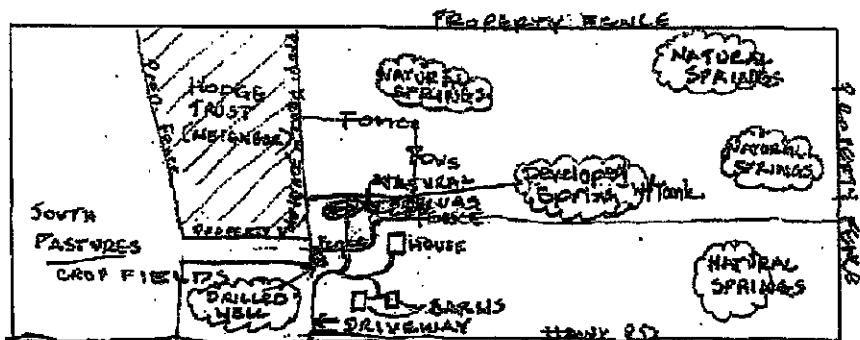
ATTN: ROB CORZATT

WELL SURVEY QUESTIONNAIRE

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- RICHARD & MARSHA EVANS & PAUL & ALETHA EVANS
- Property Owner and Address: EVANS FARMS 4778 HAWK RD MECHANICSBURG OH 43044
 - How Many Wells Do You Have On Your Property? ONE DRILLED WELL, ONE FLOWING ARTESIAN SPRING WELL
 - Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO W/
STORAGE
TANK
 - Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? WELL W/ PUMP IS FOR DOMESTIC & LIVESTOCK PURPOSES.
ARTESIAN WELL IS FOR LIVESTOCK.
 - Approximate Depth of Well(s)? 60'
 - Diameter of Well(s)? 4 1/2" O.D.
 - Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? O/SG
 - Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)?
 - Date of Installation of Well(s)? 1920-30
 - Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 25'
 - Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? 10 gpm
 - Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? No

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



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1. Property Owner and Address: Ralph Robison W. Liberty, OH.
2. How Many Wells Do You Have On Your Property? NONE
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? _____

5. Approximate Depth of Well(s)? _____
6. Diameter of Well(s)? _____
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? _____

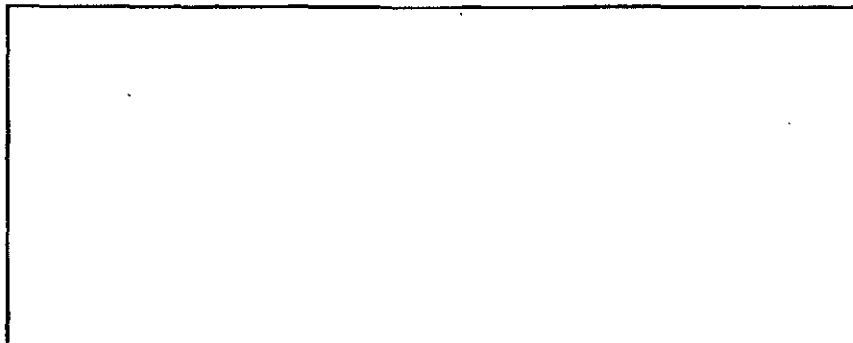
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? _____

9. Date of Installation of Well(s)? _____
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? _____

11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? _____

12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? _____

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

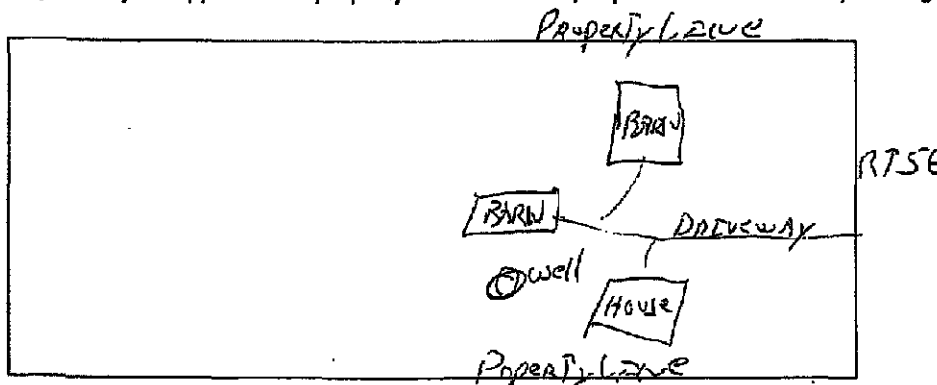


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1. Property Owner and Address: WILLIAM HODGE - RUTH SWANK HOLEN L. HODGE TRUST
4315 SRT 56 MECHANICSBURG, OHIO 43044
2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? DRAINAGE / POTABLE
5. Approximate Depth of Well(s)? 250'
6. Diameter of Well(s)? 6"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? SAND & GRAVEL
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? PVC
9. Date of Installation of Well(s)? 1994
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 200'
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? UNKNOWN
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, Indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

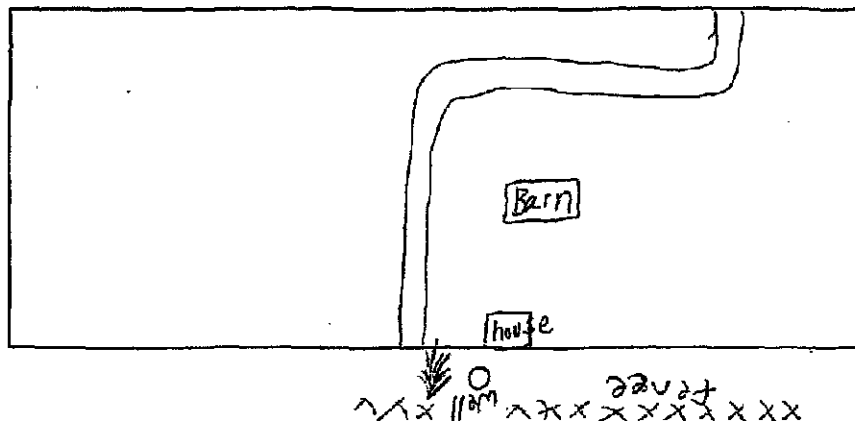


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1. Property Owner and Address: Lori + Jamie Ferryman, 841 South Ludlow Rd.
Urbana, Ohio 43078
2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? no
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? yes (domestic purposes)
5. Approximate Depth of Well(s)? 113 ft.
6. Diameter of Well(s)? 8"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Sand-Gravel
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? PVC
9. Date of Installation of Well(s)? @ 1988 - 1989
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? unknown
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? unknown
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? no - drilled new well because steel casing of old well busted

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

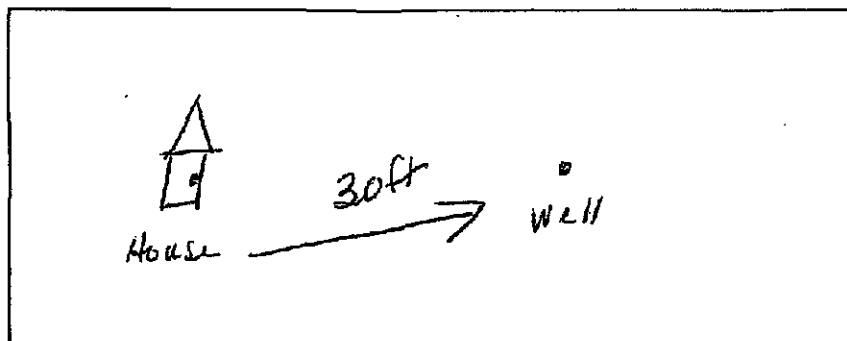


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1. Property Owner and Address: Kerns Trust 7777 Shaul Road Cable, Ohio 43009
2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Yes
5. Approximate Depth of Well(s)? 87 ft
6. Diameter of Well(s)? 6 inch
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Ground water Source
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? PVC
9. Date of Installation of Well(s)? Aug 1995
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 87 ft
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? We don't no
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? No

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



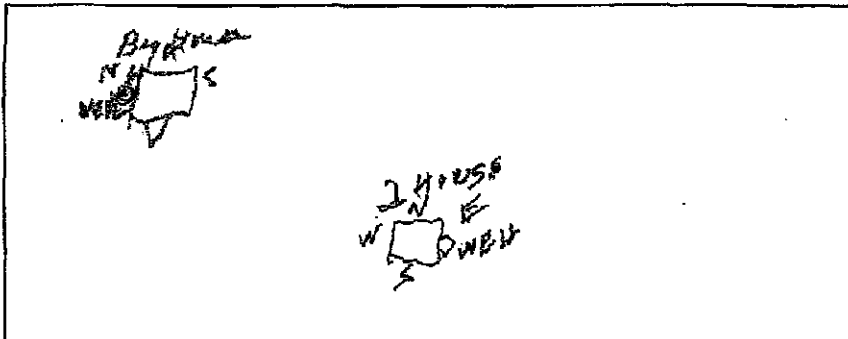
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1. Property Owner and Address: Robert O & Dorothy A Snyder
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Yes
5. Approximate Depth of Well(s)? 50-60'
6. Diameter of Well(s)? 8"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)?
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)?
9. Date of Installation of Well(s)? DO NOT KNOW
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? 26'
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? DO NOT KNOW
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



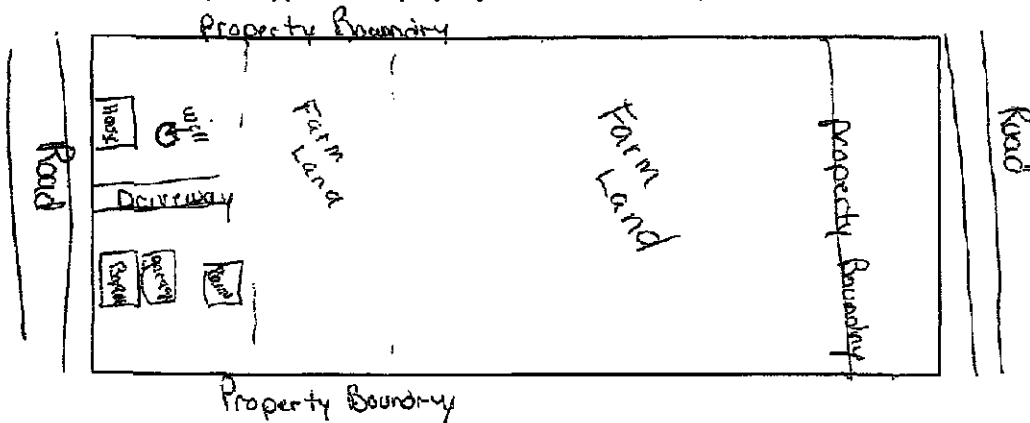
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- 634 N. Mutual Union Rd.
1. Property Owner and Address: Robert + Bonnie Young Cable, Ohio 43009
 2. How Many Wells Do You Have On Your Property? 1
 3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
 4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? Domestic Purposes
 5. Approximate Depth of Well(s)? 65 Ft
 6. Diameter of Well(s)? Unknown
 7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Unknown
 8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? Unknown
 9. Date of Installation of Well(s)? Unknown
 10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? Unknown
 11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? Unknown
 12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



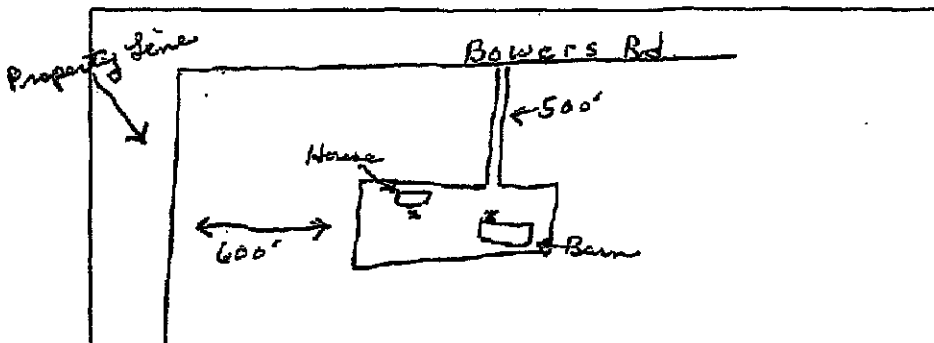
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1. Property Owner and Address: Edward Parry 4380 Bowers Rd. Cable, Ohio 43007
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? no
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? yes
5. Approximate Depth of Well(s)? 190' - 210'
6. Diameter of Well(s)? 4"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? B
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? SC
9. Date of Installation of Well(s)? 1960 - 1970
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? unknown
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? unknown
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? no

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



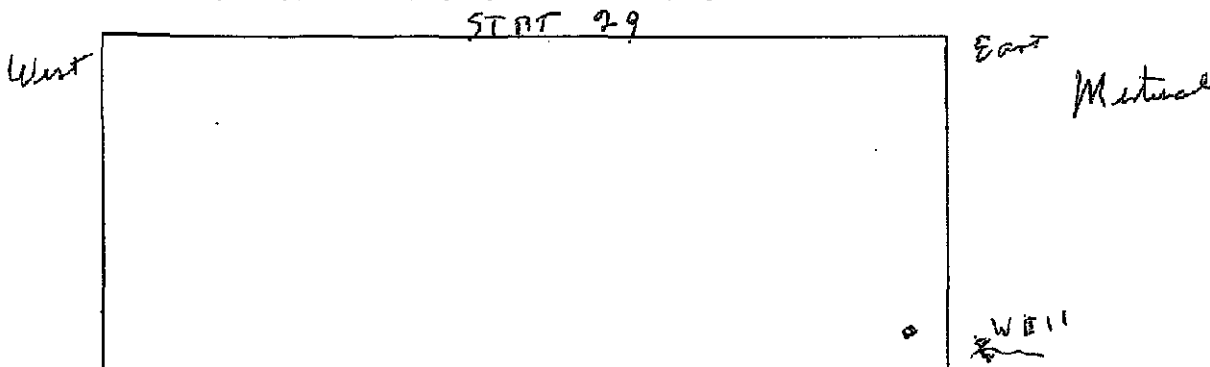
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1. Property Owner and Address: C. William Clark
2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? NOT USED
5. Approximate Depth of Well(s)? UNKNOWN
6. Diameter of Well(s)? 6"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? Not known
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? STEEL CASING
9. Date of Installation of Well(s)? UNKNOWN
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? UNKNOWN
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? UNKNOWN
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



WELL SURVEY QUESTIONNAIRE

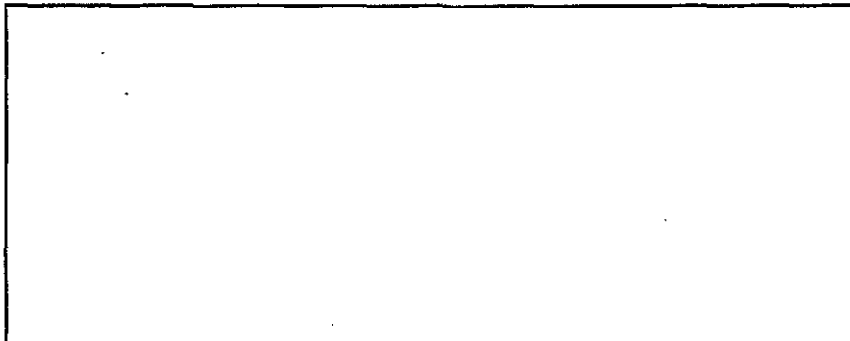
Ludlow Properties

clo Andrea Tullis

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1. Property Owner and Address: 587 S. LUDLOW RD URBANA OH
2. How Many Wells Do You Have On Your Property? ONE
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? YES
5. Approximate Depth of Well(s)? 150 FT
6. Diameter of Well(s)? _____
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? _____
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? PVC
9. Date of Installation of Well(s)? 1999
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? _____
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? _____
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



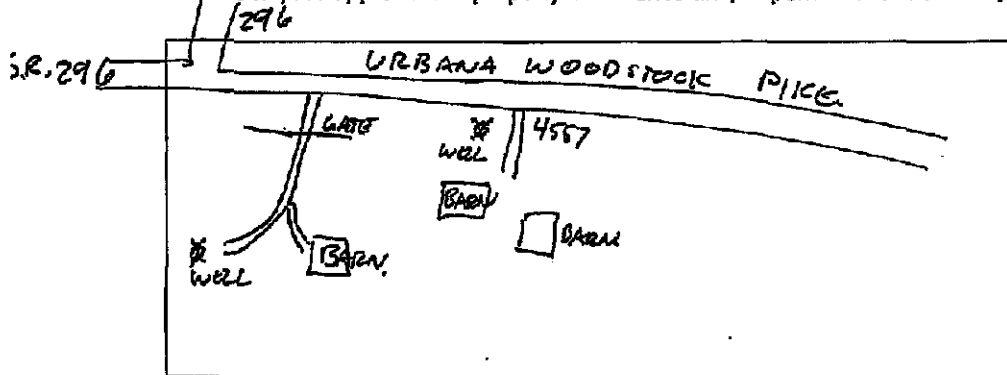
✓

WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: DAVE SHIFFER, 4557 URBANA - WOODSTOCK PIKE
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? WATER FOR ANIMALS (CATTLE)
5. Approximate Depth of Well(s)? ?
6. Diameter of Well(s)? ?
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? ?
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? STEEL CASING.
9. Date of Installation of Well(s)? ?
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? ?
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? ?
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



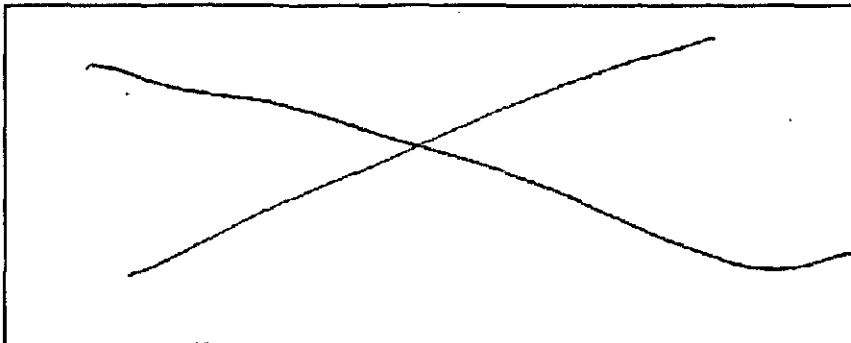
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WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: Matthew Pullins 13815 Clifton Blvd. Lakewood, OH
Property address - 51st Rd 29 / Mutual 44107
2. How Many Wells Do You Have On Your Property? 0
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? No
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? N/A
5. Approximate Depth of Well(s)? N/A
6. Diameter of Well(s)? N/A
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? N/A
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? N/A
9. Date of Installation of Well(s)? N/A
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? N/A
11. Approximate Yield of Well(s) (i.e., referenced in gallons per minute (gpm))? N/A
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? N/A

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



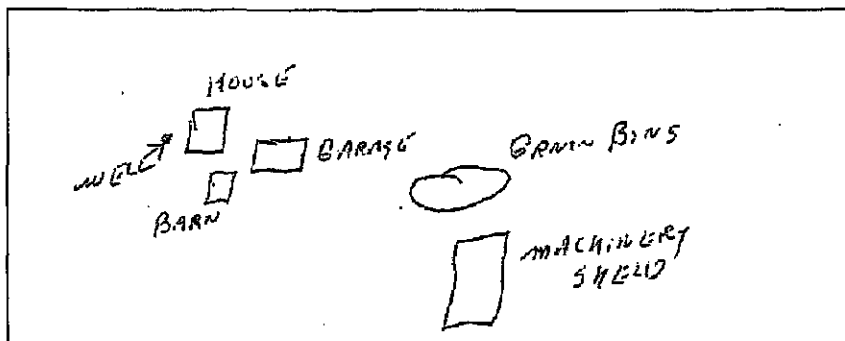
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WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

- Perry Donald
1. Property Owner and Address: 4305 BOWERS Rd CABLE, OHIO
 2. How Many Wells Do You Have On Your Property? 1
 3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
 4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? DOMESTIC & DRINKING
 5. Approximate Depth of Well(s)? 90 feet
 6. Diameter of Well(s)? 6 in
 7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? GROUND WATER
 8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? STEEL CASING
 9. Date of Installation of Well(s)? 1970?
 10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? UNKNOWN
 11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? UNKNOWN
 12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



1. Property Owner and Address: Roderick + Jean Yocom 45 N. Parkview Rd
Woodstock Oh 43084

2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? no

5. Approximate Depth of Well(s)? 73 ft.

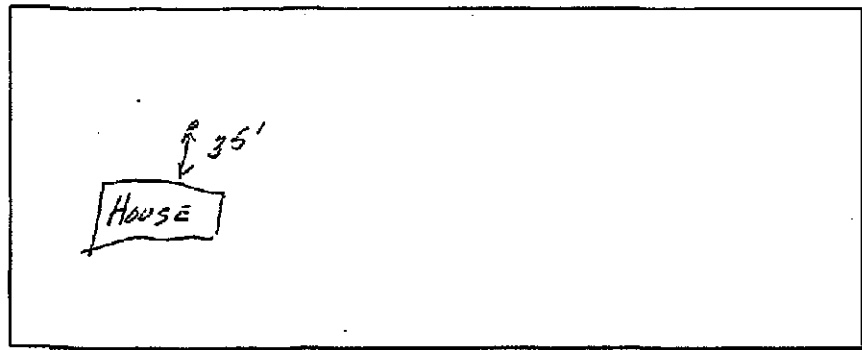
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden Sand-Gravel Well - O/SG)?

9. Date of Installation of Well(s)? June 2007

11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? 15 gpm

12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? no

A hand-drawn diagram of a house, represented by a rectangle with a slightly irregular top edge. A vertical arrow points upwards from the center of the roof. To the right of the arrow, the text "R 35'" is written.



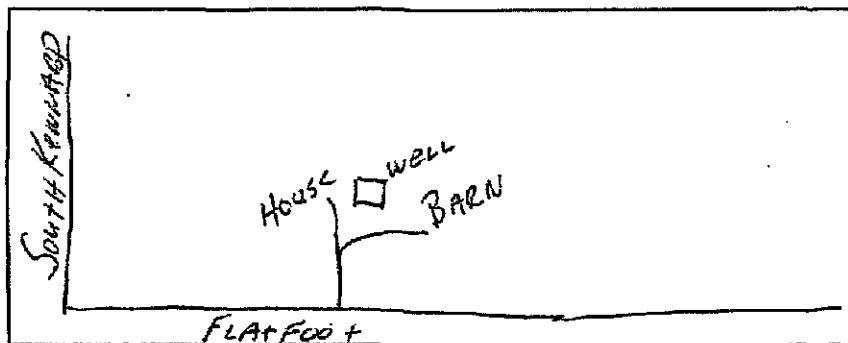
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WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: Tony + Kim BROSHES FLATFOOT RD. URBANA
2. How Many Wells Do You Have On Your Property? 1
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? DOMESTIC
5. Approximate Depth of Well(s)? 90 FT.
6. Diameter of Well(s)? 6 in
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? O/SG?
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/clay - B/C; Other - O)? STEEL CASING
9. Date of Installation of Well(s)? NOT SURE
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? NOT SURE
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? 4 to 5 gal/min
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (if yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):



WELL SURVEY QUESTIONNAIRE

PLEASE FILL OUT THE FOLLOWING QUESTIONNAIRE TO THE BEST OF YOUR KNOWLEDGE. IF YOU ARE NOT SURE OF THE ANSWER TO A QUESTION, PLEASE COMMENT AS "UNKNOWN". AFTER COMPLETION, PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED STAMPED ENVELOPE.

1. Property Owner and Address: CARL CRAIG 4789 Swisher Rd CRAIG O.
2. How Many Wells Do You Have On Your Property? 2
3. Are You Connected/Provided with Municipal Water (i.e., water provided by town or private water supply company)? NO
4. Are the Wells Used for Domestic Purposes (i.e., Drinking/Potable Water) and/or for Irrigation Purposes? YES NO IRRIGATION
5. Approximate Depth of Well(s)? 160 - 165 FT
6. Diameter of Well(s)? 6"
7. Type of Well/Groundwater Source (i.e., Bedrock Well - B; or Overburden/Sand-Gravel Well - O/SG)? B I THINK
8. Type of Well Construction (i.e., Steel Casing - SC; PVC; brick/day - B/C; Other - O)? STEEL
9. Date of Installation of Well(s)? 1- 1994 1 before 1965
10. Depth to Water/Groundwater Within Well (or depth to water encountered during drilling of well)? ABOUT 110 FT TO WATER
11. Approximate Yield of Well(s) [i.e., referenced in gallons per minute (gpm)]? UNKNOWN
12. Have You Ever Had to Drill a New Well Due to Lowering of Water Table or Poor Well Yield (If yes, indicate reason)? NO

DIAGRAM OF WELL LOCATION(S) (If known, please provide a rough sketch of where your well(s) are with respect to your approximate property boundaries and/or permanent structures/buildings):

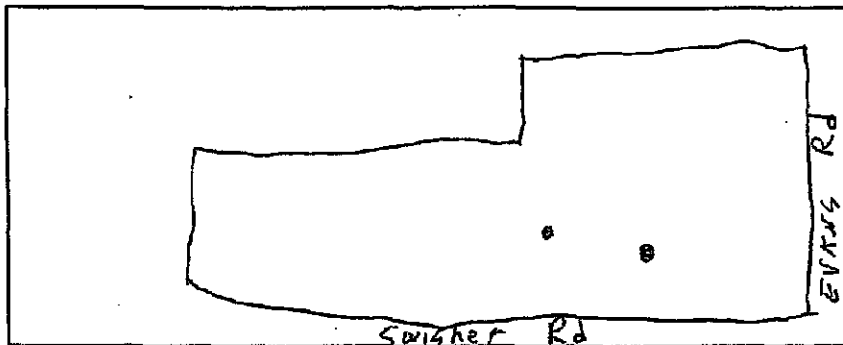


Exhibit I
Visual Impact Assessment

Visual Impact Assessment

Buckeye Wind Project
Champaign County, Ohio

Prepared for:

everpower

Everpower Wind Holdings, Inc.
44 East 30th Street – 10th Floor
New York, New York 10016
Telephone: (212) 647-8111
Facsimile: (212) 647-9433

Prepared by:



Environmental Design & Research

Landscape Architecture, Planning, Environmental Services, Engineering and Surveying, P.C.
217 Montgomery Street, Suite 1000
Syracuse, New York 13202
Telephone: (315) 471-0688
Facsimile: (315) 471-1061 email: syr@edrpsc.com

March 2009

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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.

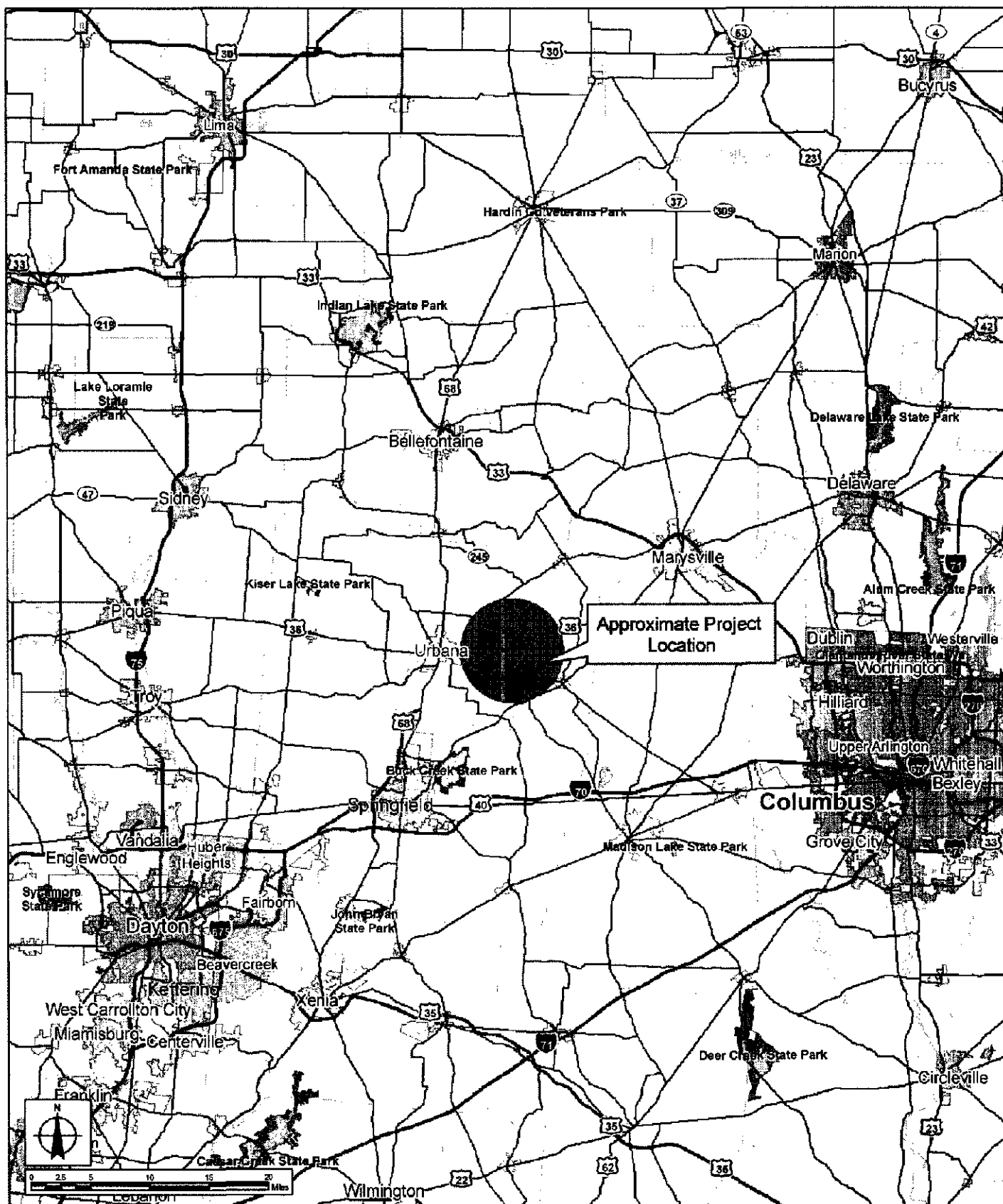
This VIA was prepared under the direct guidance of a registered landscape architect experienced in the preparation of visual impact assessments. It is also consistent with the policies, procedures, and guidelines contained in established visual impact assessment methodologies (see Literature Cited/References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

2.0 Project Description

2.1 Project Site

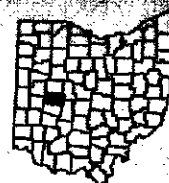
The Project site includes approximately 9,000 acres of leased private land in the Towns of Salem, Wayne, Rush, Goshen, Urbana, and Union in Champaign County, Ohio (Figure 1). The site is roughly bounded by State Route 245 to the north, State Route 559 to the east, State Route 4 to the south, and State 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



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:

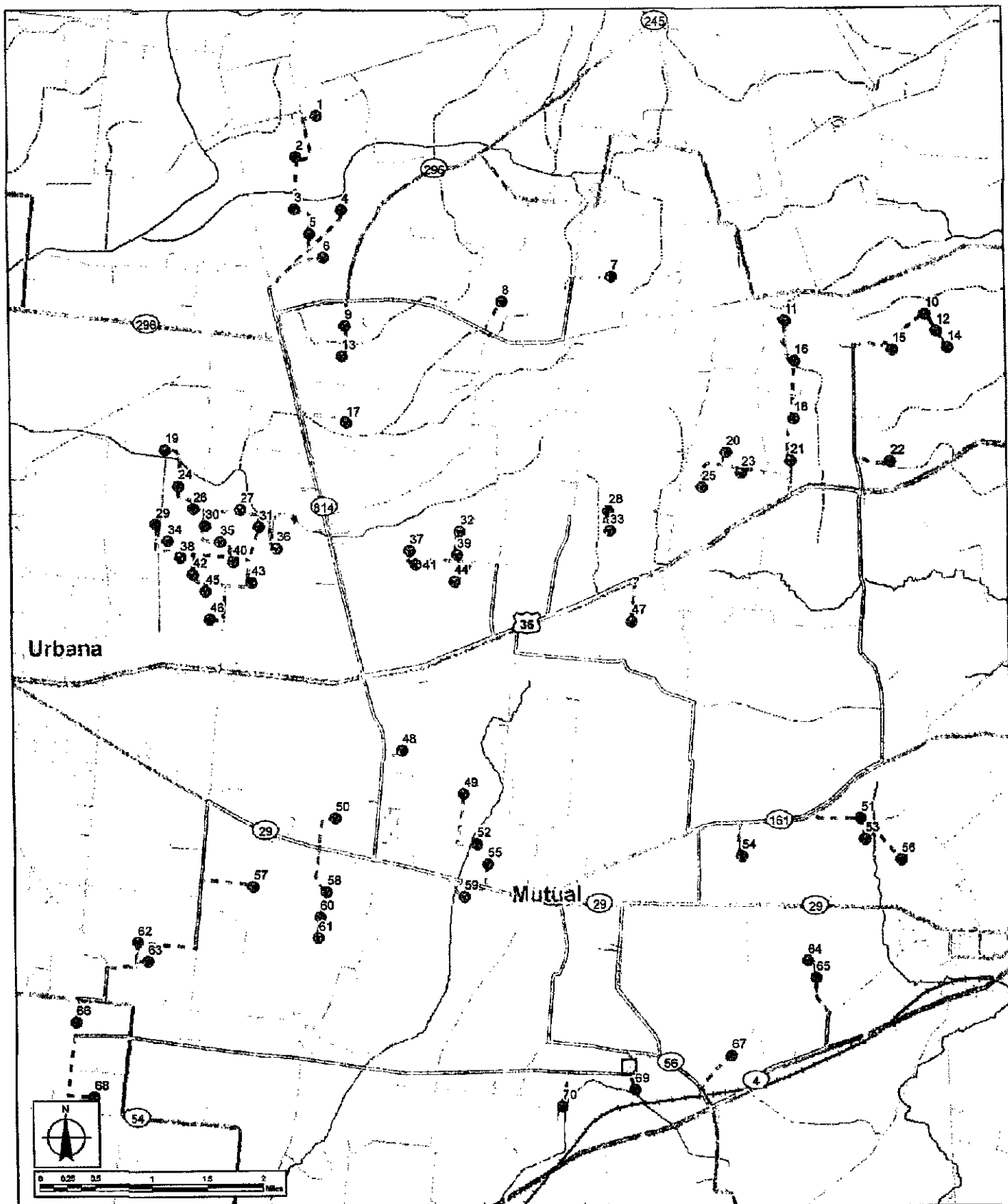
2.2.1 Wind Turbines

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.



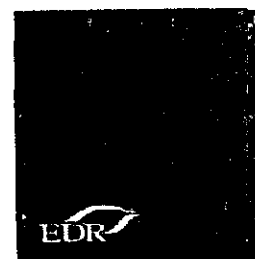
■ Buckeye Wind Project
Champaign County, Ohio

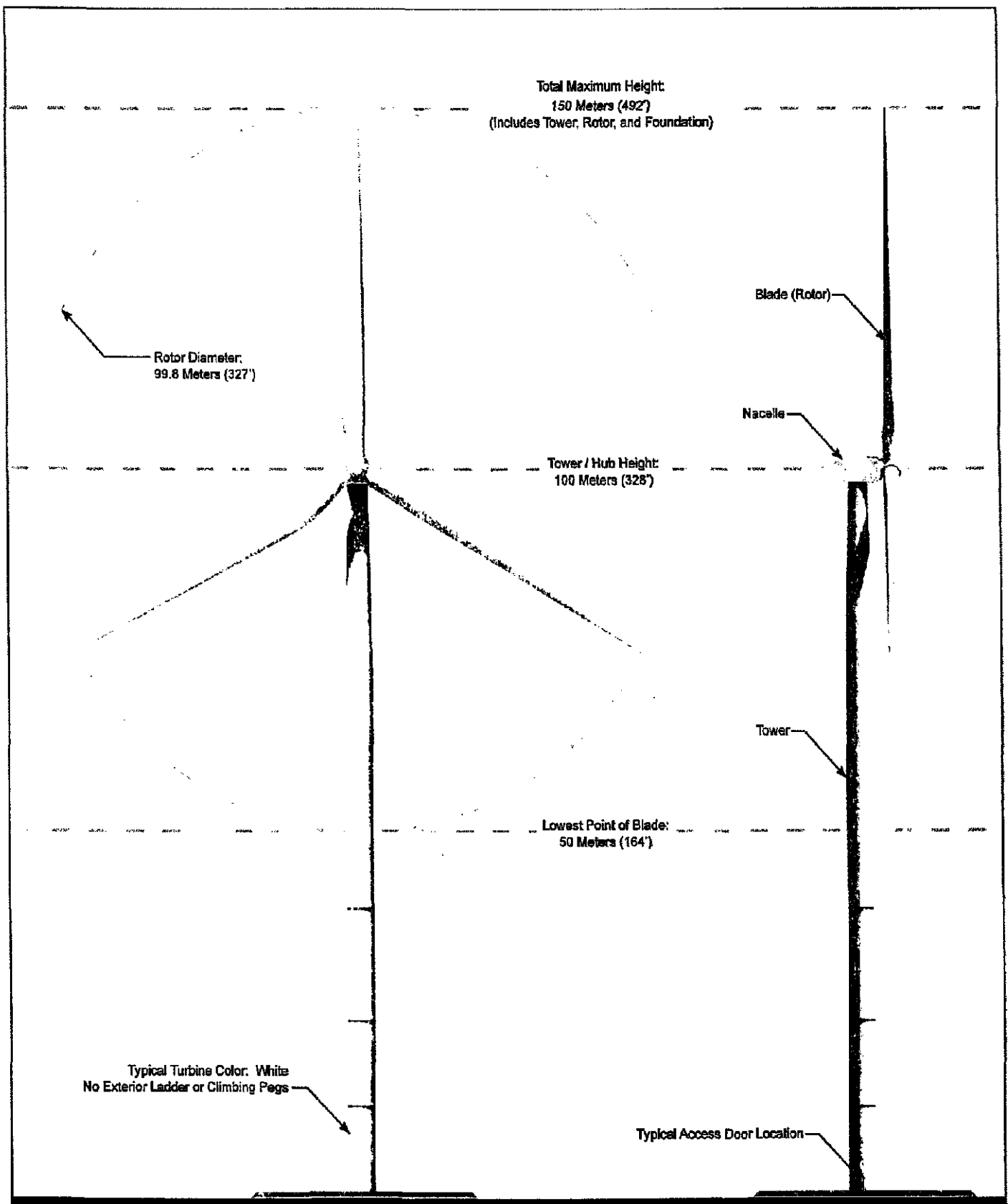
Figure 2: Proposed Project Layout

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

March 2009

Notes:
Base Map: ESRI StreetMap USA, Year 2008.





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.

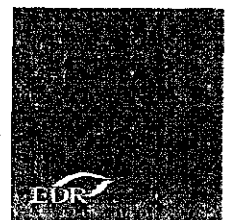
3.0 Existing Visual Character

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.

Champaign County, Ohio

Figure 4: Visual Study Area

- Turbines
 5 Mile Study Area



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.



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Figure 5: Landscape Similarity Zones
Sheet 1 of 3 - Land Cover Mapping

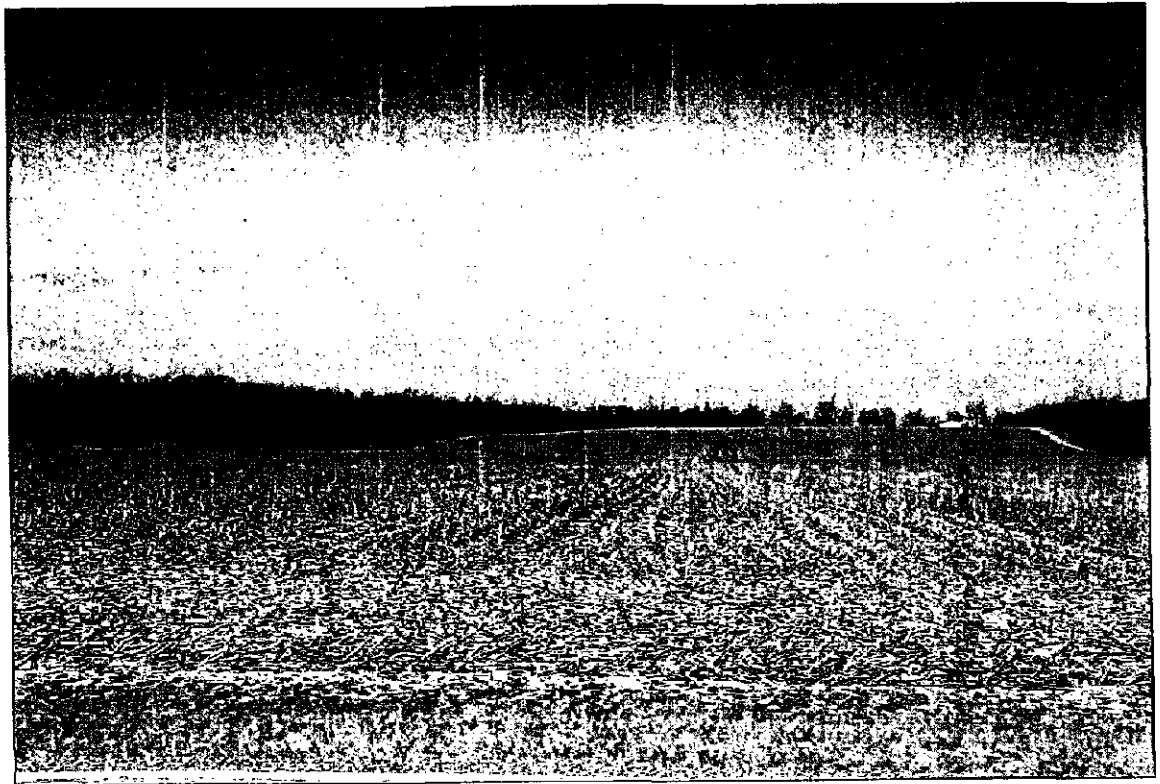
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- Turbines
- 5 Mile Study Area
- Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Over/Agriculture
- Forest

Notes:
Base Map: NAIP Orthorectified, 1 meter resolution, Year 2006
Source: USGS National Land Cover Data Set, Year 2001

EDR

Photo 1.



Rural Residential / Agriculture Zone

Photo 2.



City / Village Zone

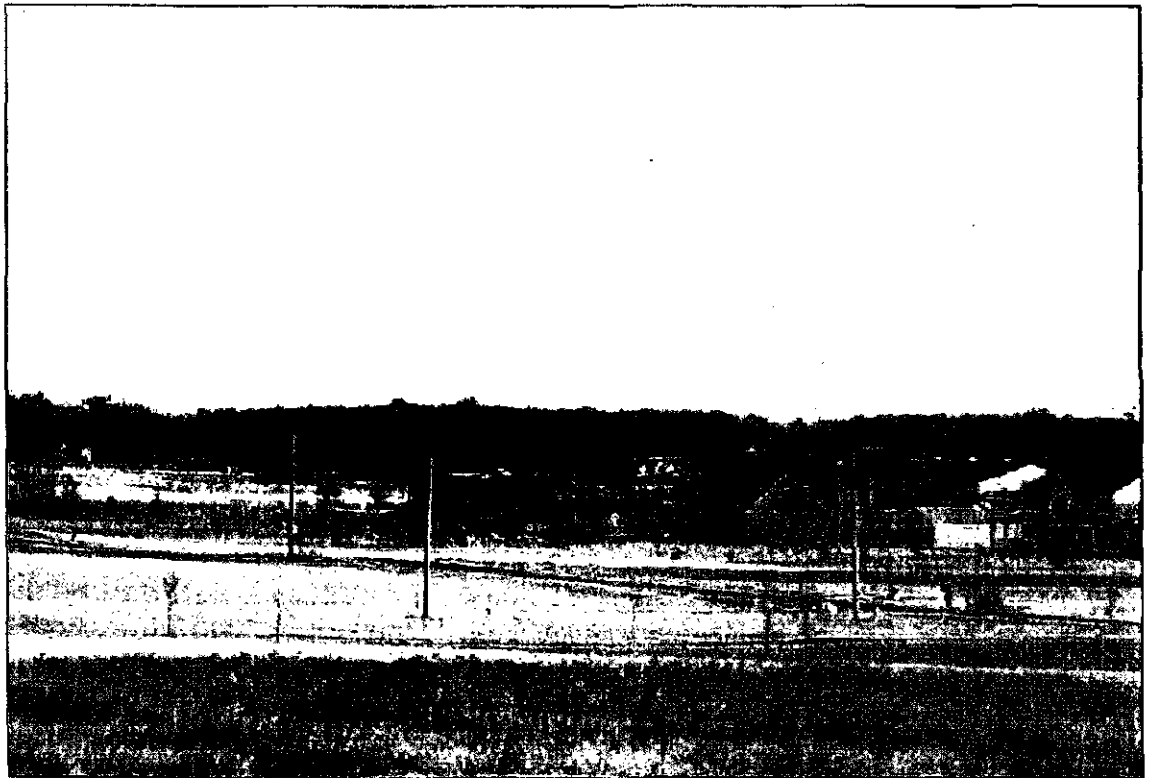
Buckeye Wind Project
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Figure 5: Landscape Similarity Zones
Sheet 2 of 3 - Representative Photos

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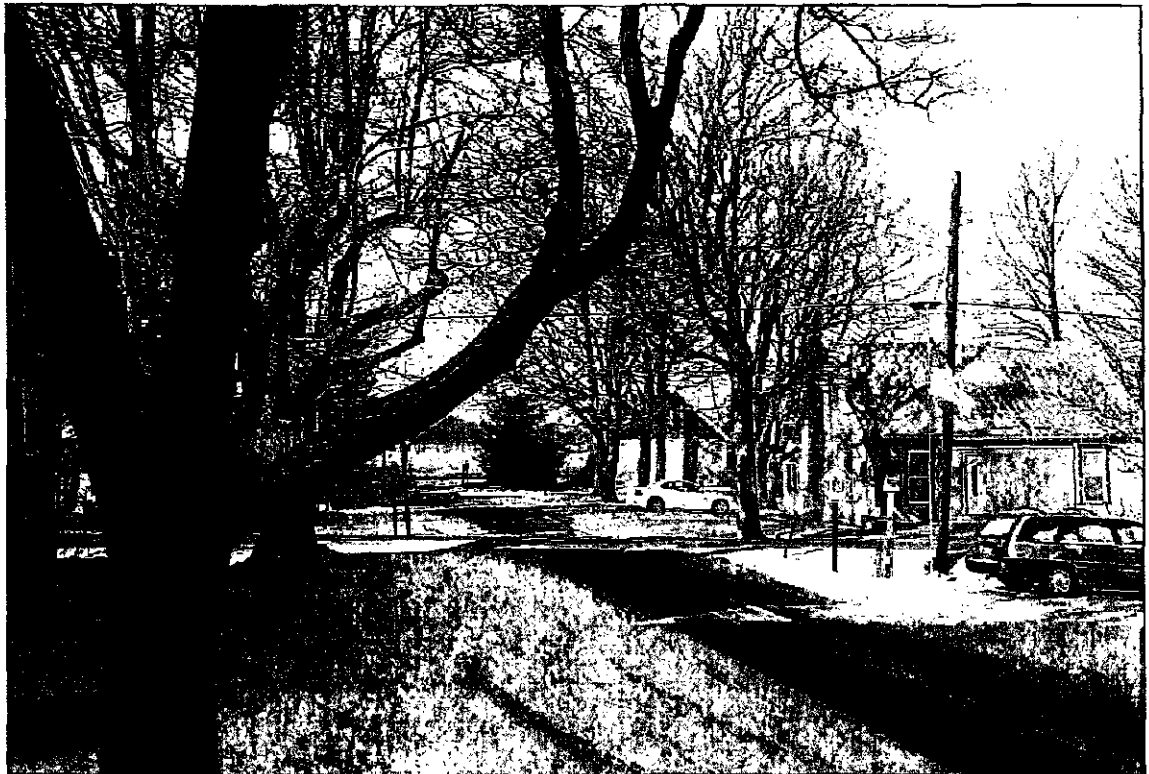
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10/15/09

Photo 3.



Suburban Residential Zone

Photo 4.



Hamlet Zone

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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

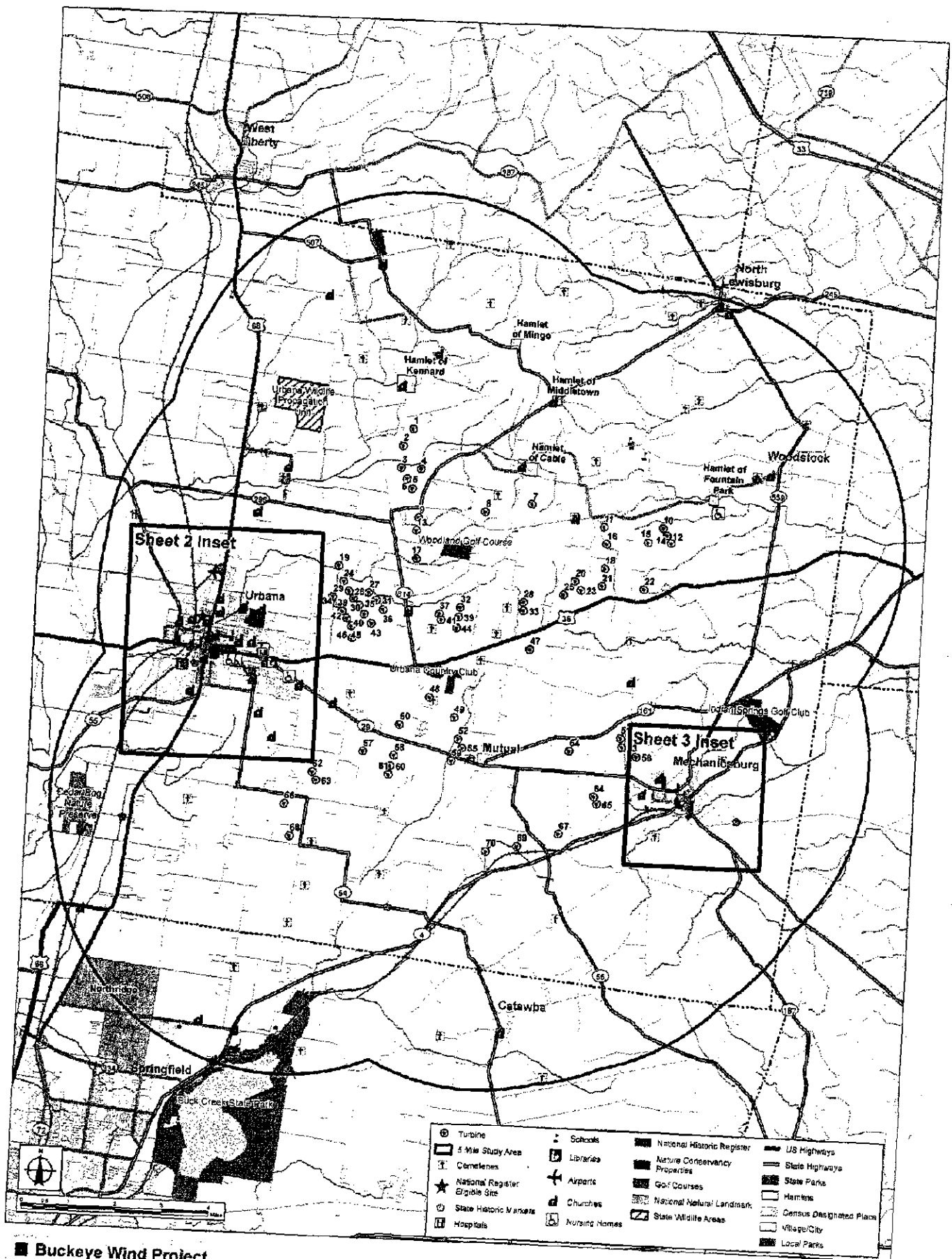
The 5-mile radius visual study area includes several sites that could be considered scenic resources of statewide significance. These include 31 sites/districts listed on the National Register of Historic Places (including 21 in Mechanicsburg and eight in Urbana), plus one additional site in Urbana that 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/nrcr/programs/rta/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.



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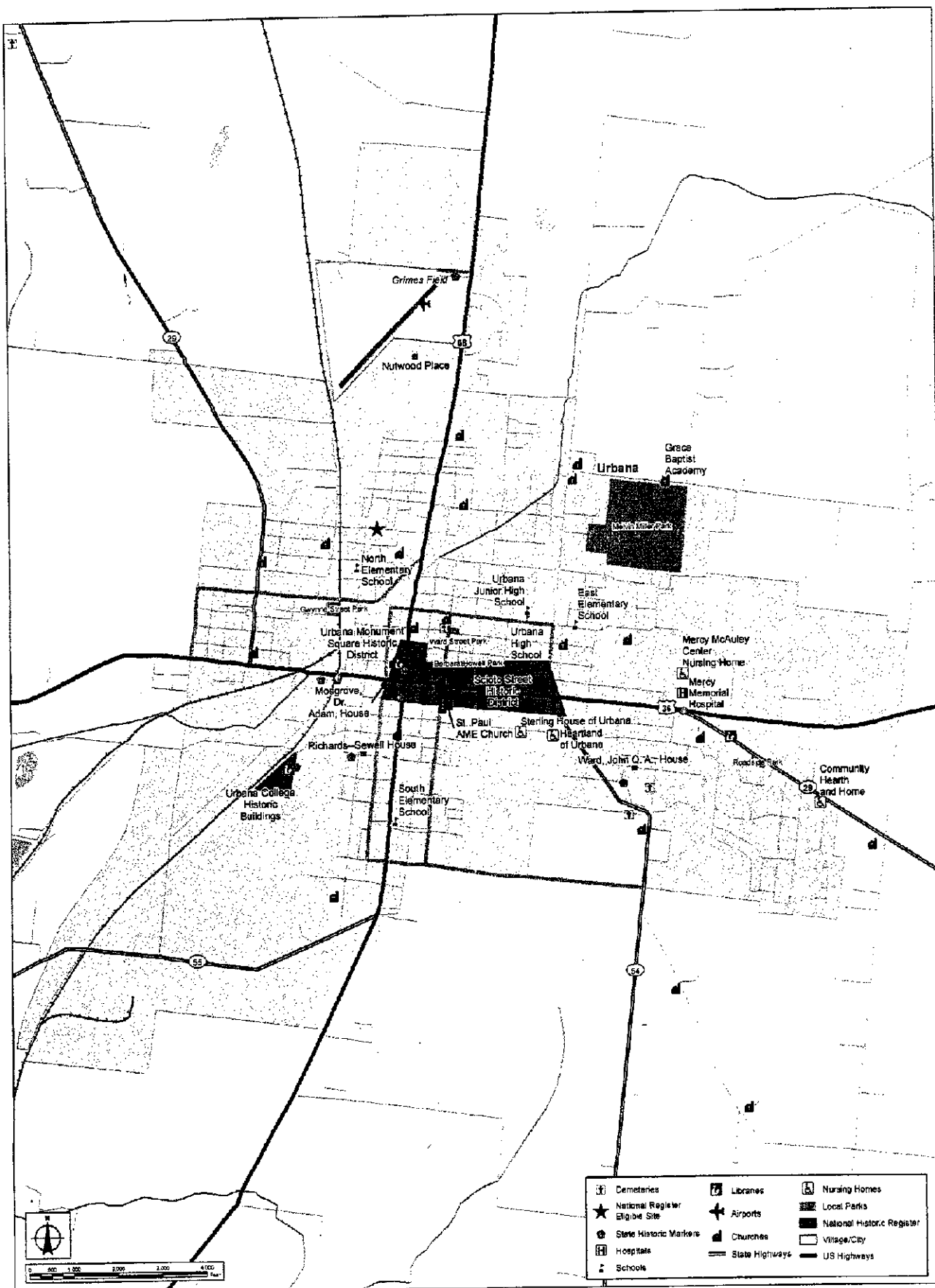
Champaign County, Ohio

Figure 6: Visually Sensitive Resources
Sheet 1 of 3

March 2009

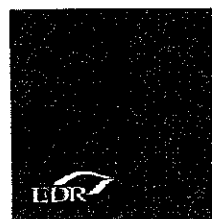
Notes:
Base Map: ERI Street Map USA, Year 2009.

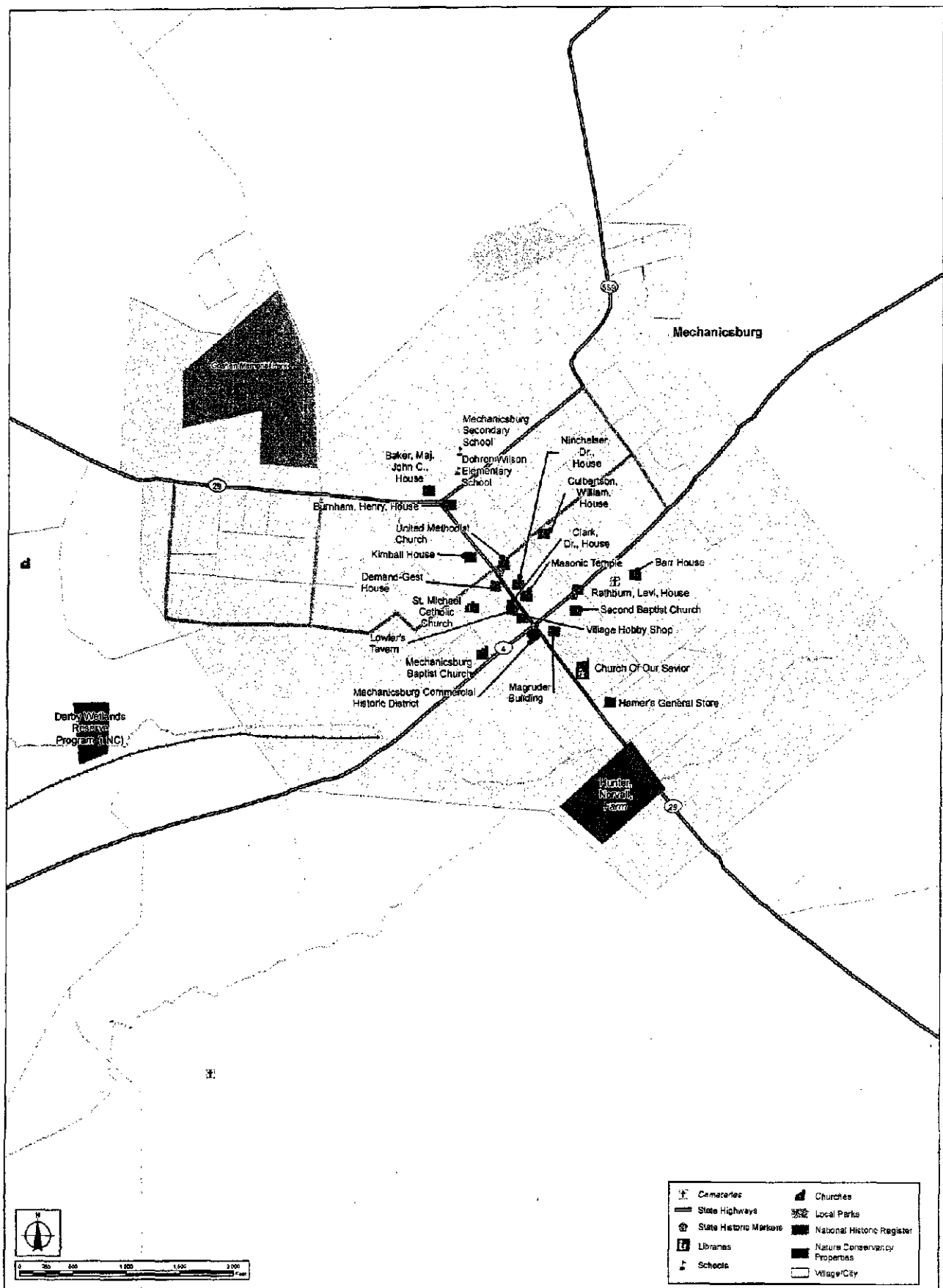
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Buckeye Wind Project
Champaign County, Ohio

Figure 6: Visually Sensitive Resources
Sheet 2 of 3





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Figure 6: Visually Sensitive Resources
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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 taken into 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 28	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	0.8 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

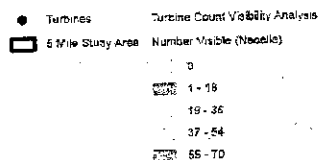


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Figure 7: Viewshed Analysis - Topographic Nacelle
(328 ft.) Visibility

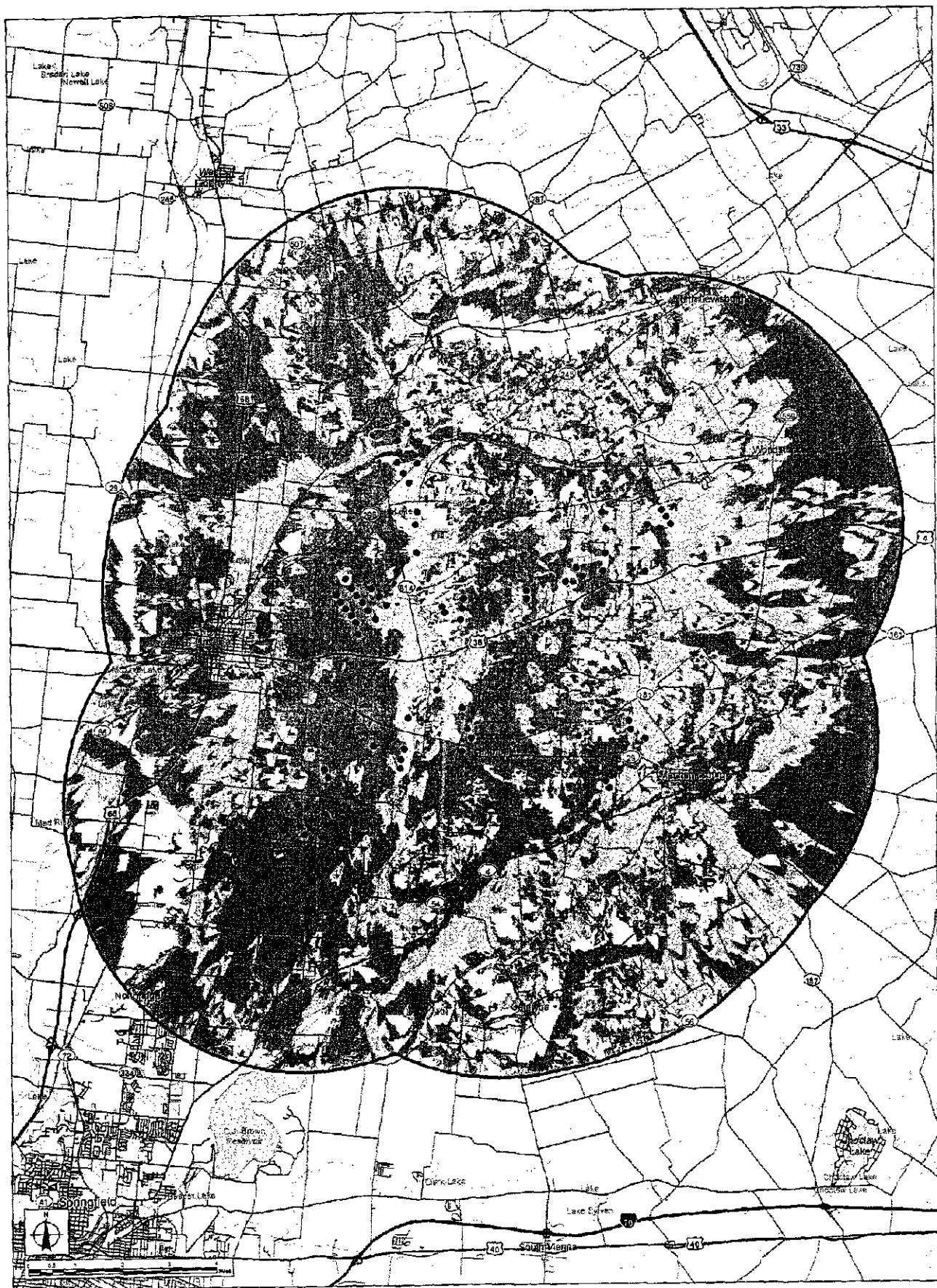
Sheet 2 of 4



Notes:
Base Map: ESRI StreetMap North America 2008

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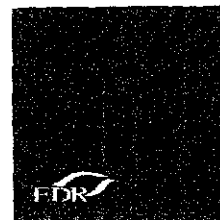
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Figure 7: Viewshed Analysis - Vegetation Blade Tip (492 ft.) Visibility

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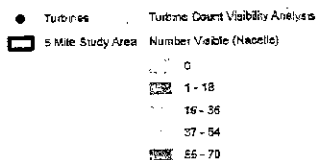
■ Buckeye Windpower Project

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

Sheet 4 of 4

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Notes:
Base Map: ESRI StreetMap North America 2008.

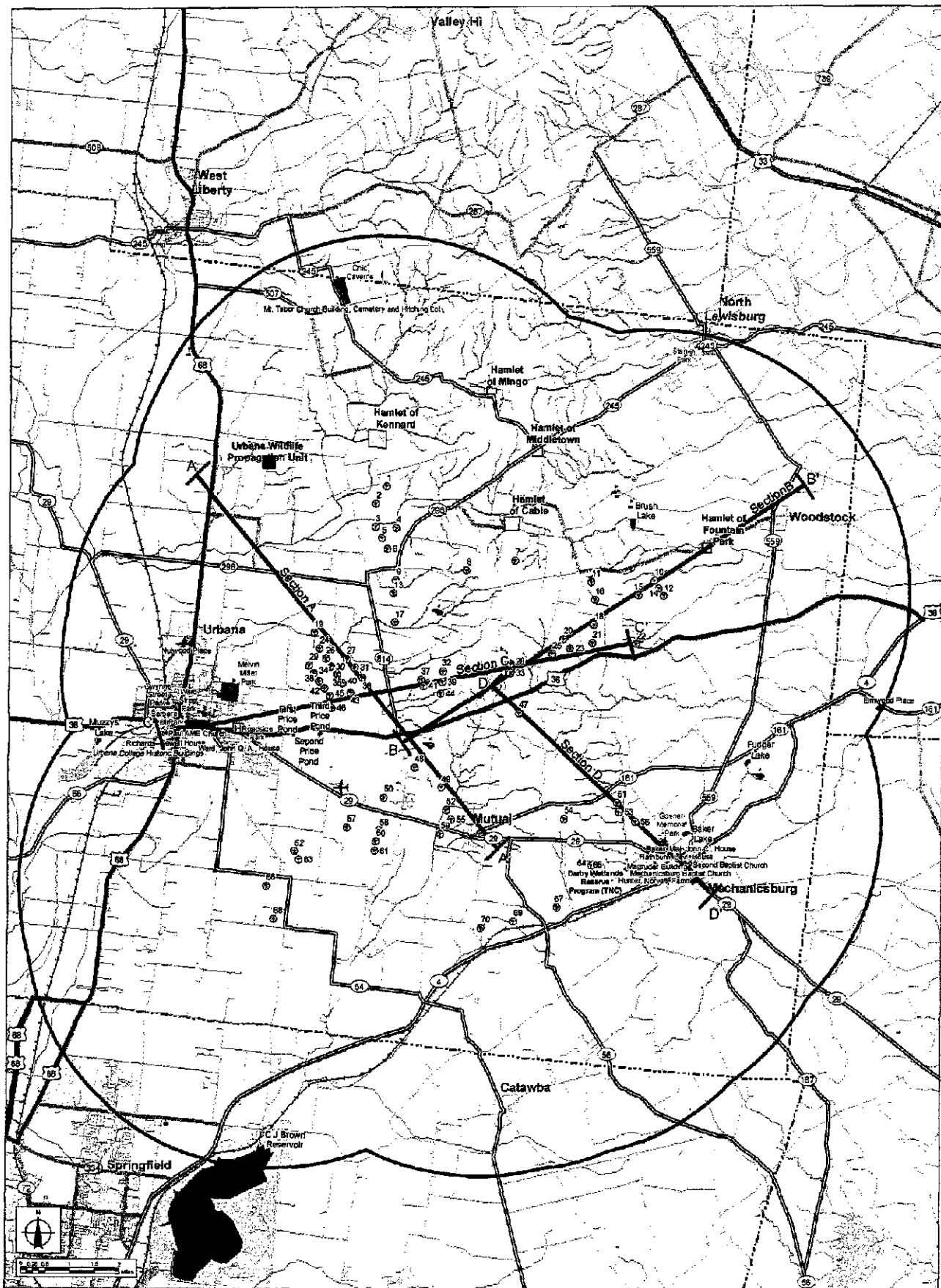


Cross section analysis (Figure 8) indicates that the Project will be visible from between 55% and 66% of the area along the selected lines of sight. Although this conclusion only applies to the specific lines of sight evaluated, analysis suggests that views of the Project from many of the visually sensitive 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

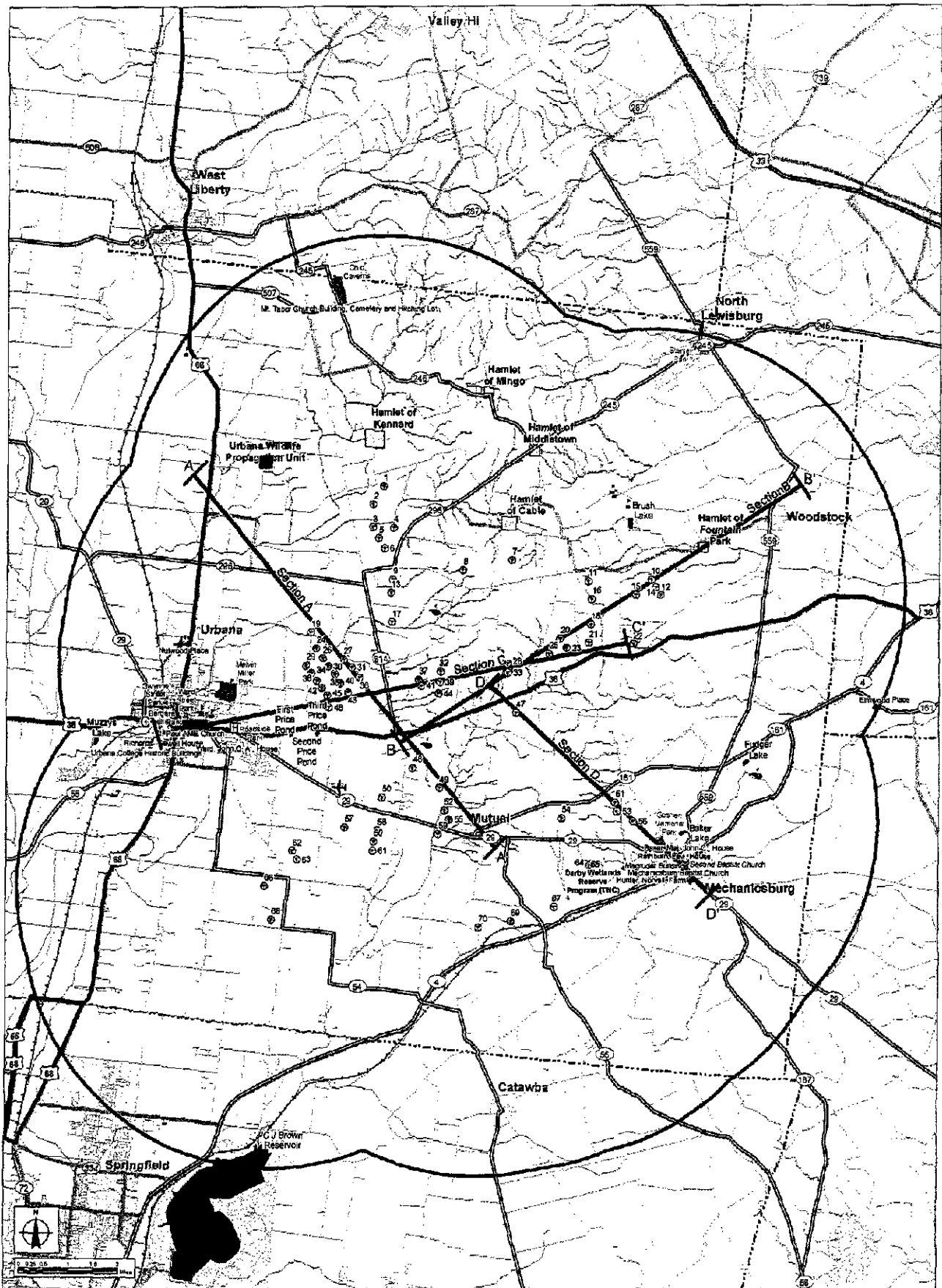
**Figure 8: Line-of-Sight Cross Sections
Section Map**

March 2009

Notes:
Base Map: ESRI Street Map USA, Year 2008.

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





■ Buckeye Wind Project
Champaign and Logan Counties, Ohio

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

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

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Revised:
Base Map: ESRI Street Map USA, Year 2008



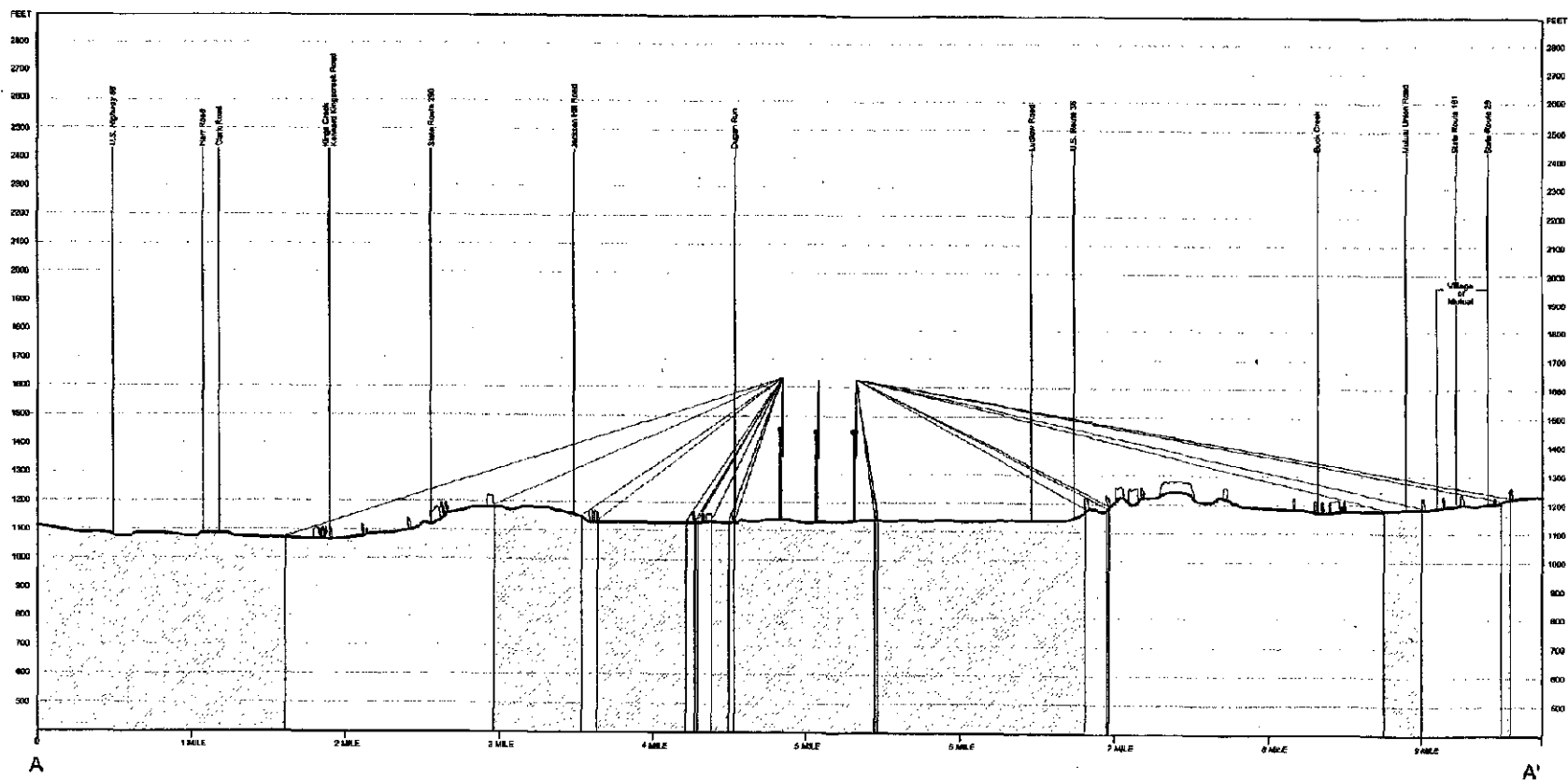
Buckeye Wind Project

Champaign and Logan
Counties, Ohio

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

Sheet 1 of 4

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Not Visible



Visible



Trees



Structures

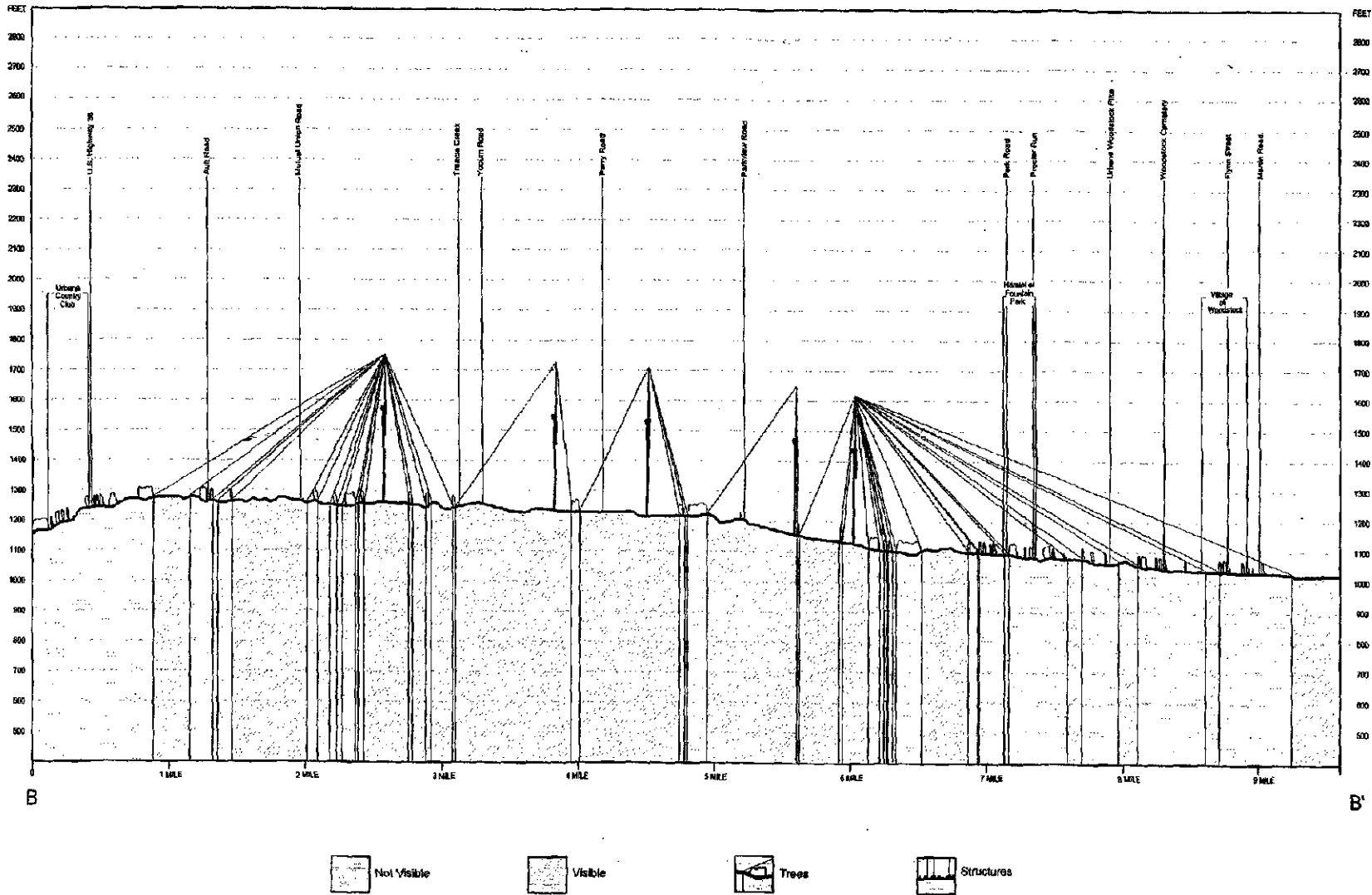
**Buckeye
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Project**

Champaign and Logan
Counties, Ohio

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

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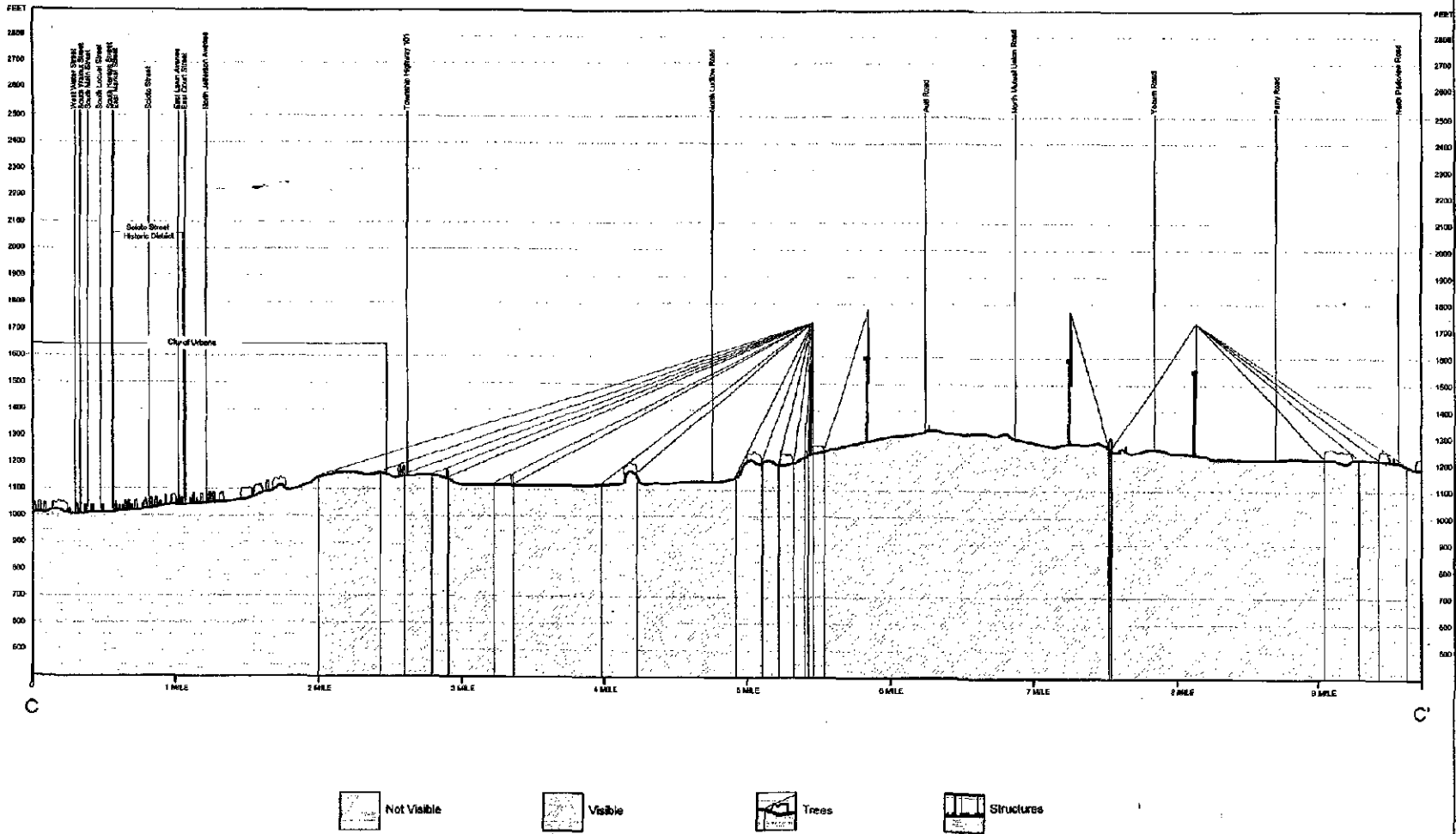
Buckeye Wind Project

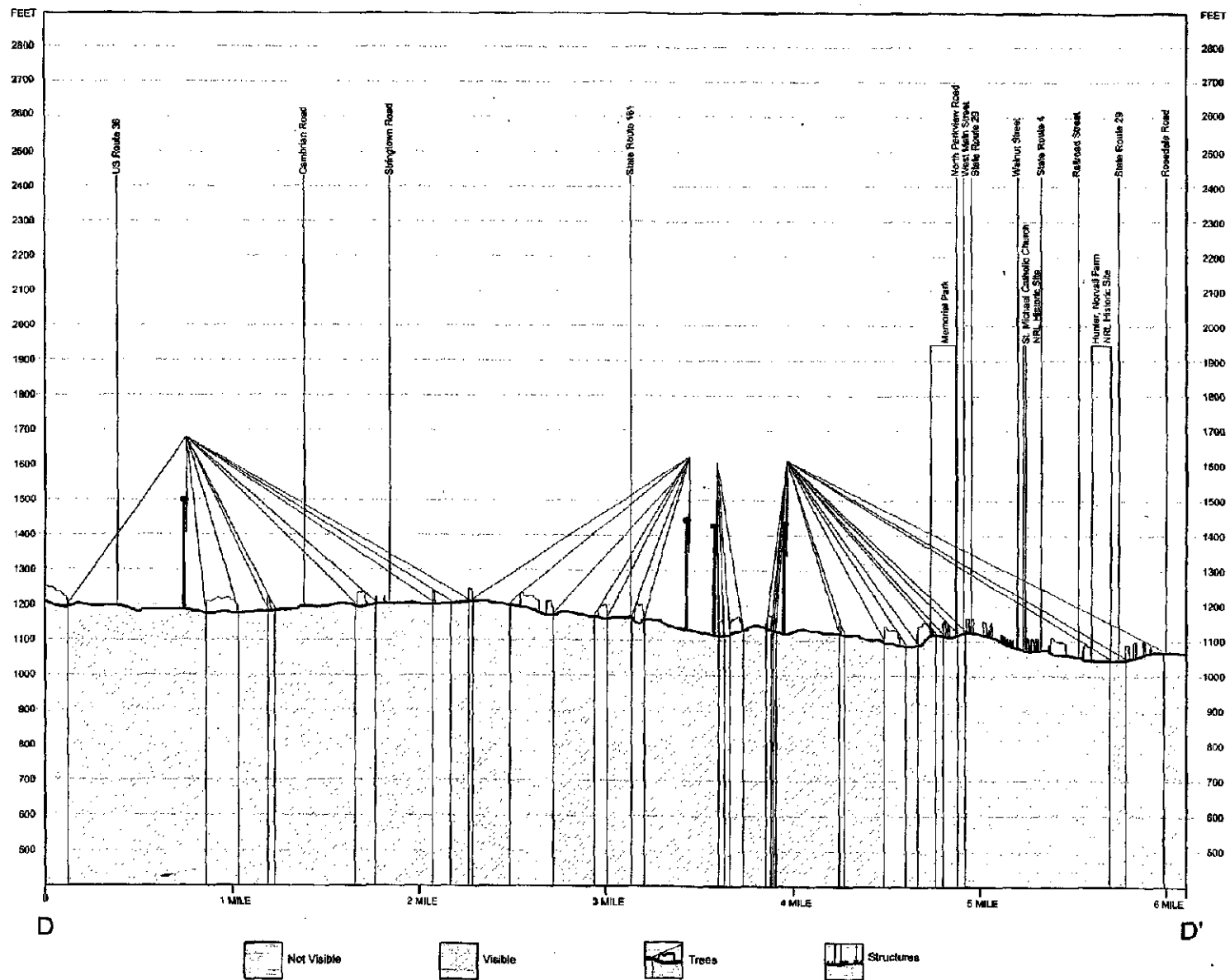
Champaign and Logan
Counties, Ohio

Figure 3: Line-of-Sight
Cross Sections
Section C-C'

Sheet 3 of 4

March 2009





Buckeye Wind Project

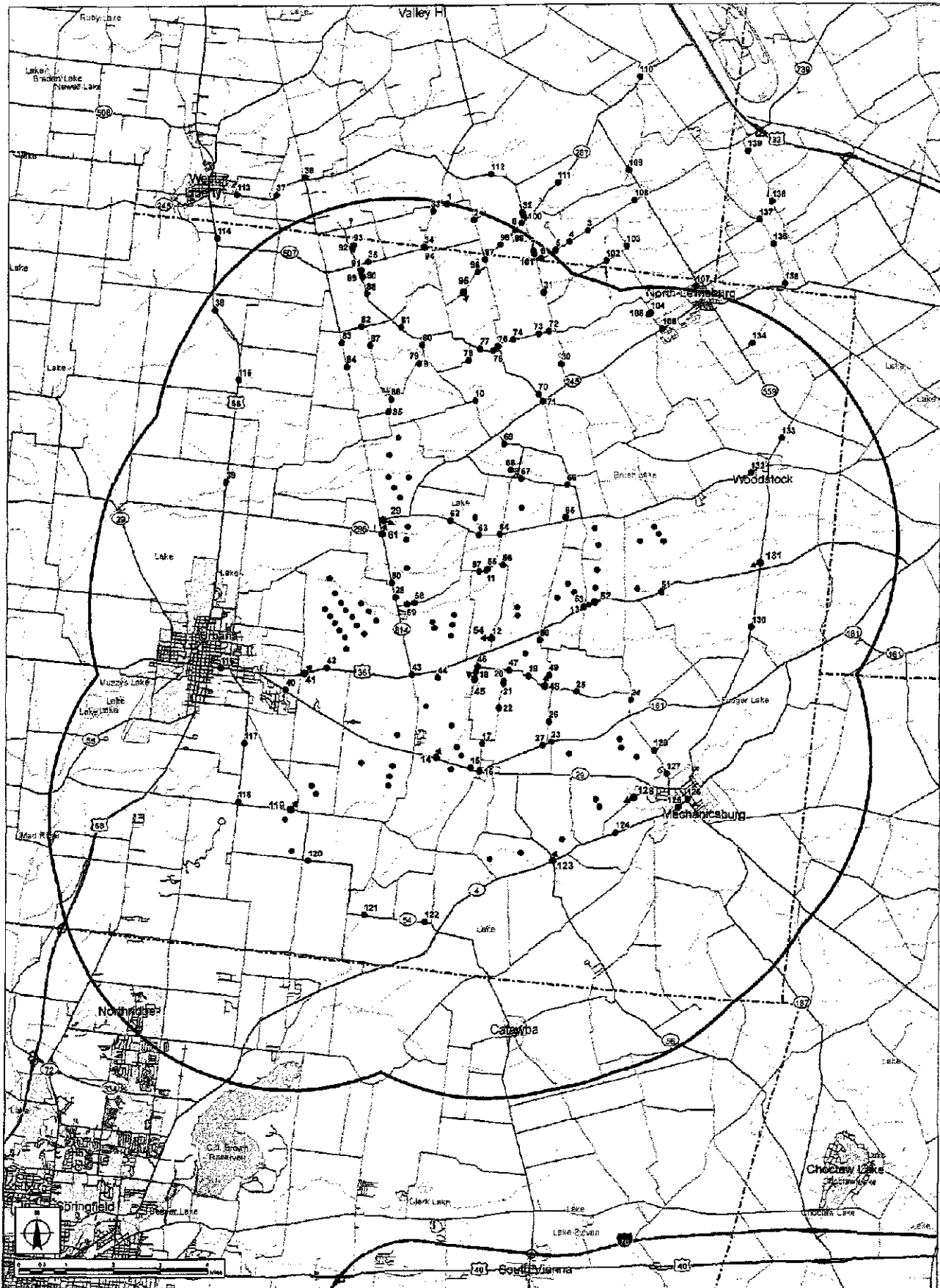
Champaign and Logan
Counties, Ohio

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

Sheet 4 of 4

March 2008





■ Buckeye Wind Project

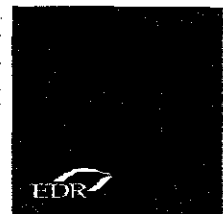
Champaign County, Ohio

Figure 9: Viewpoint Locations

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

March 2009

Notes:
Base Map: USGS, State of Ohio, Year 2006



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.

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 miles 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 of 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

Sheet 1 of 2 - Existing View from OH-29 - Town of Mutual, Champaign County, OH
Facing North-Northeast, 0.5 Miles from Nearest Visible Turbine



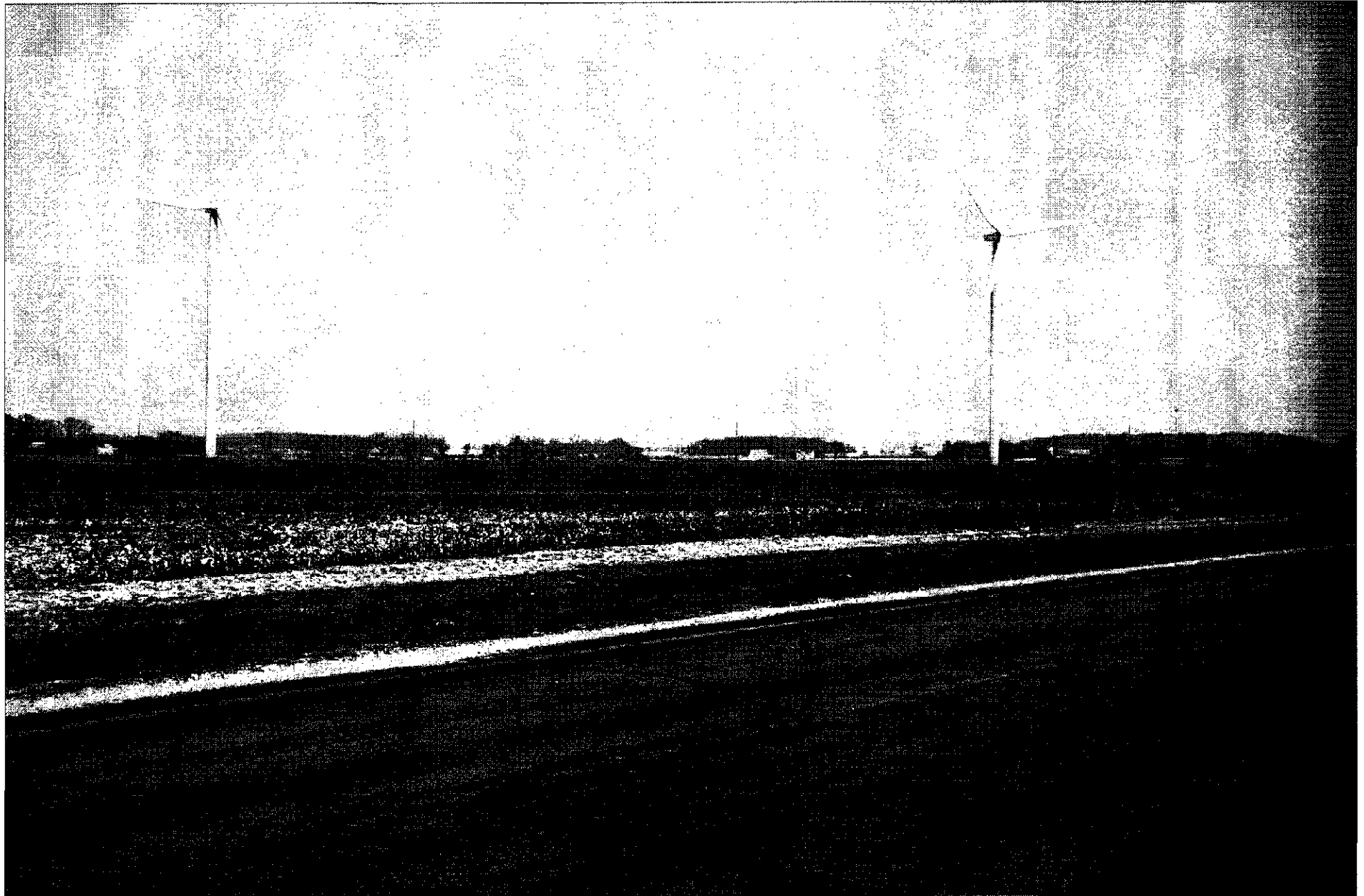


Figure 10: Viewpoint 14



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

Sheet 1 of 2 - Existing View from OH-296 - Town of Salem, Champaign County, OH
Facing East-Southeast, 0.5 Miles from Nearest Visible Turbine



Figure 11: Viewpoint 29

Sheet 2 of 2 - Simulated View from OH-296 - Town of Salem, Champaign County, OH
Facing East-Southeast. 0.5 Miles from Nearest Visible Turbine



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

■ **Buckeye Wind Project**
Champaign County, Ohio

Figure 12: Viewpoint 41
View from US Route 36 - Town of Urbana, Champaign County, OH
Facing Northeast, 1.0 Miles from Nearest Visible Turbine

March 2009



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.

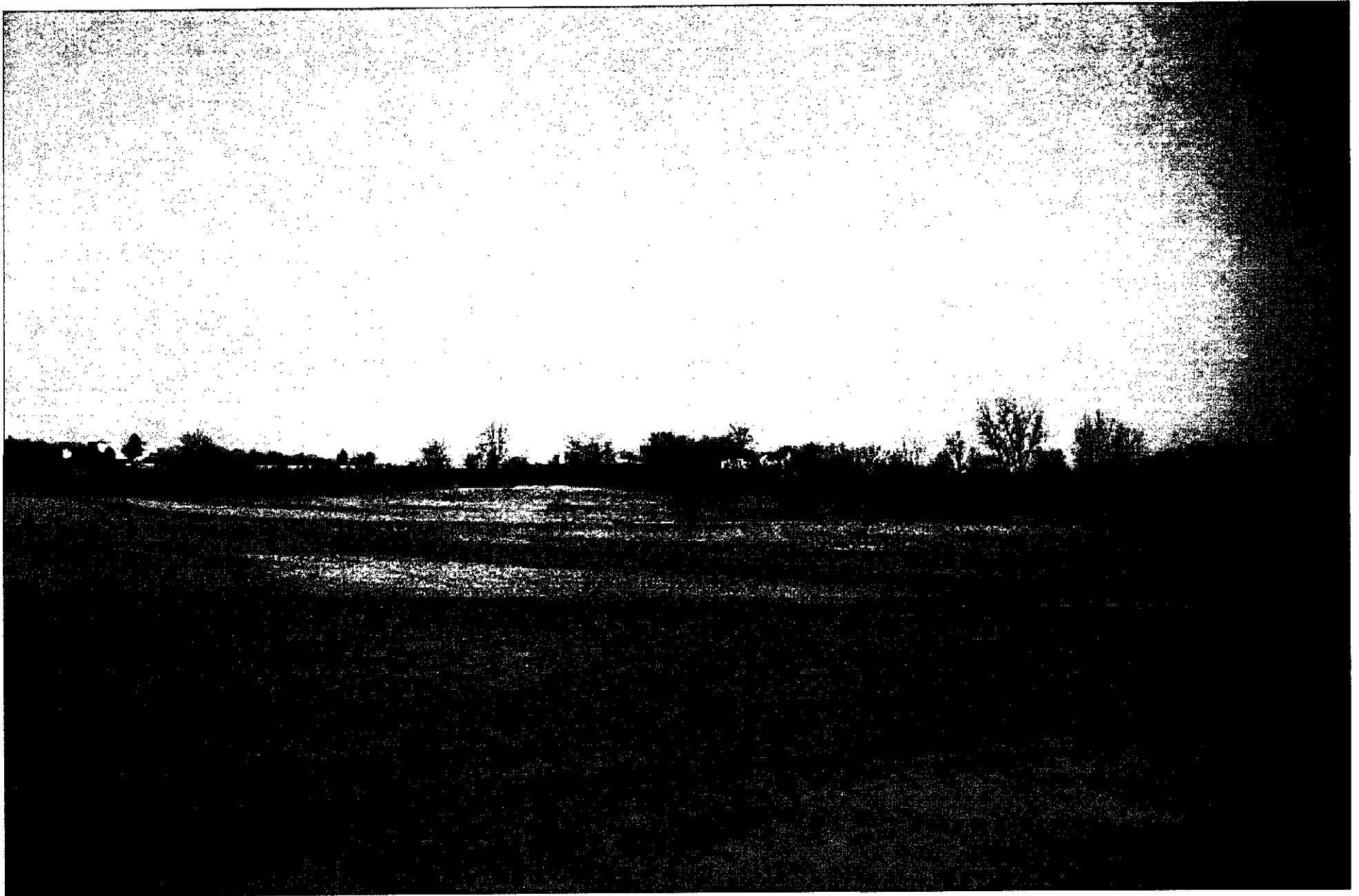
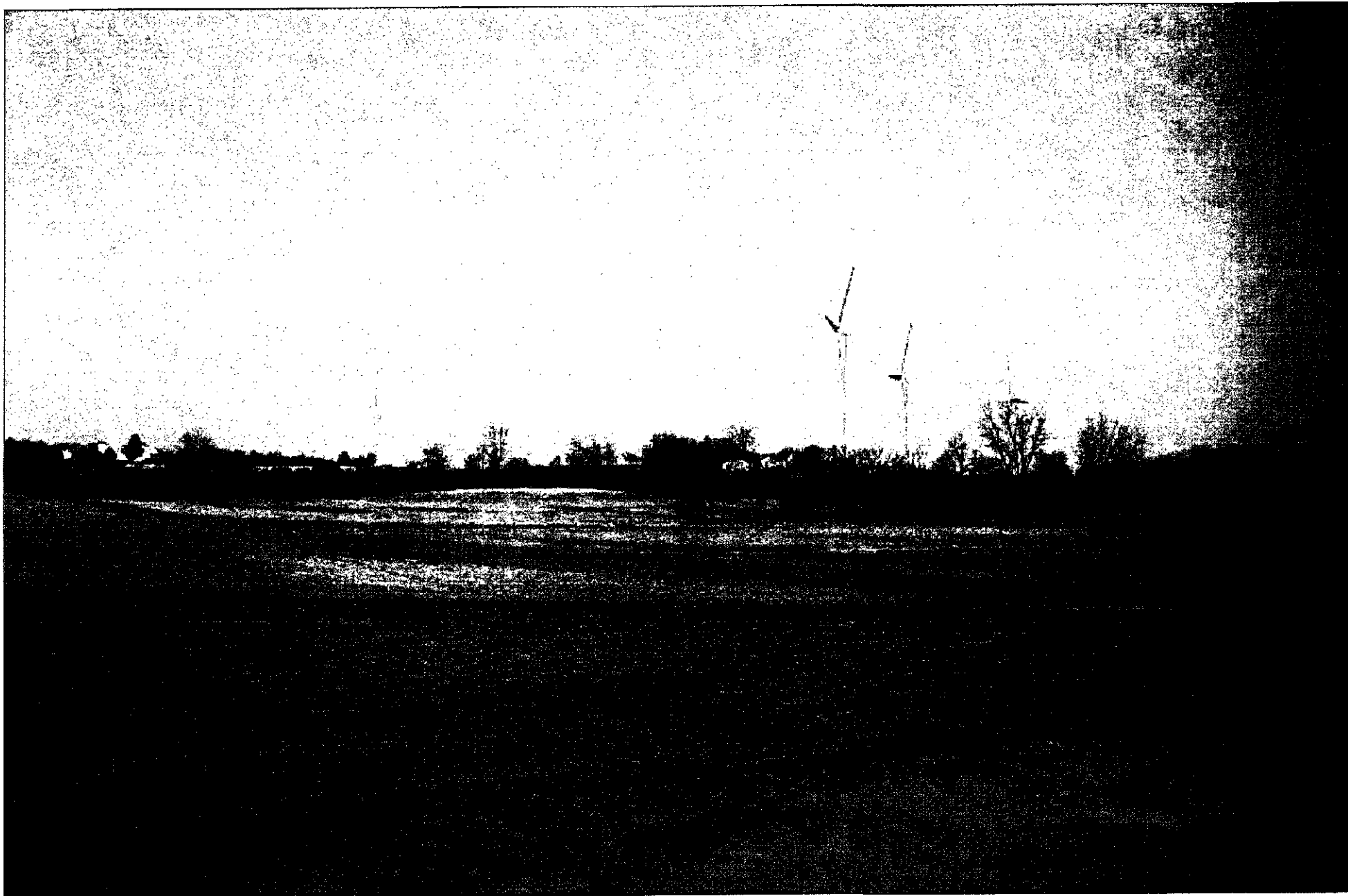


Figure 13: Viewpoint 45





Buckeye Wind Project
Champaign County, Ohio

Figure 13: Viewpoint 45

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

Mar



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.



Buckeye Wind Project
Champaign County, Ohio

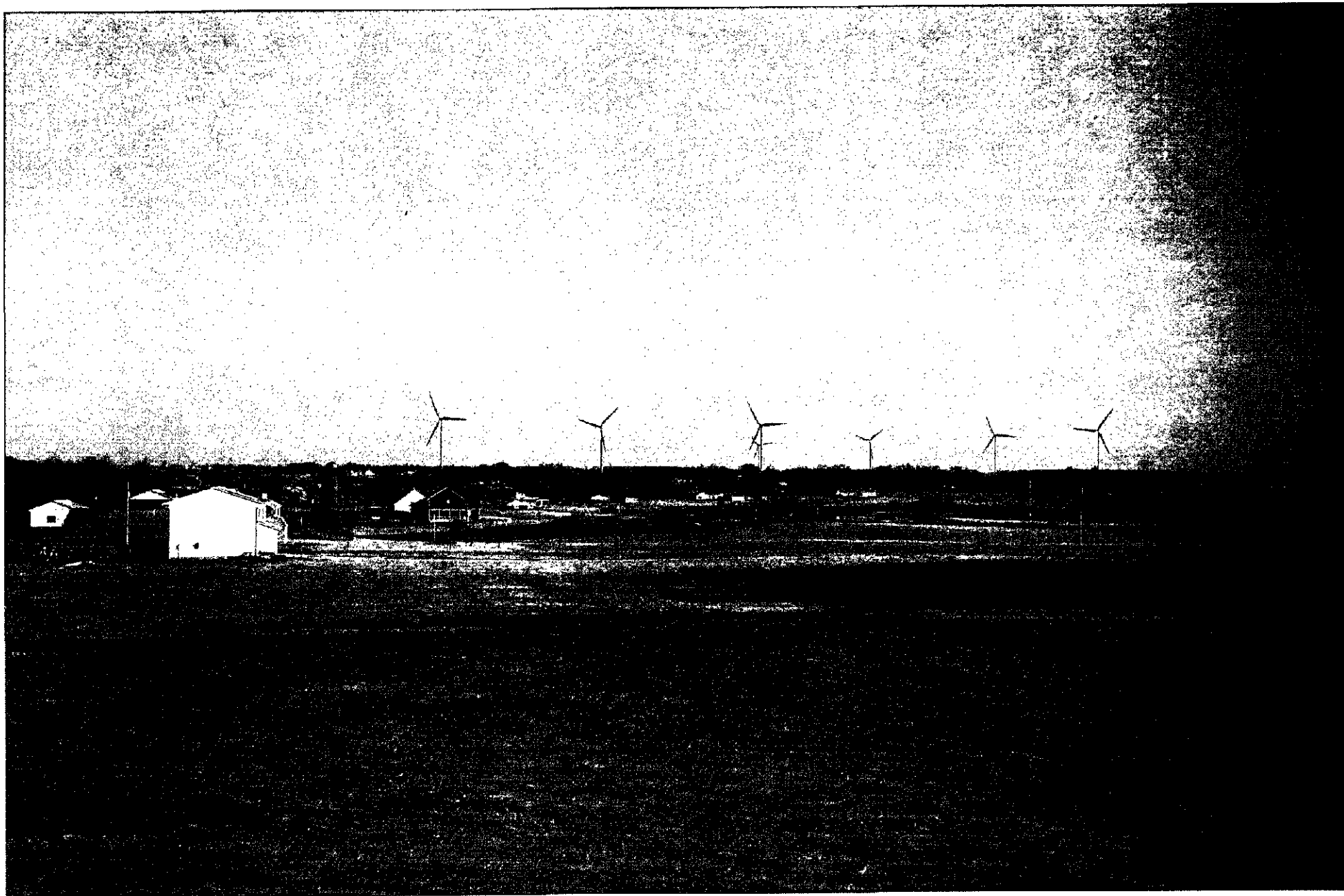
Figure 14: Viewpoint 48

Sheet 1 of 2 - Existing View from Stringtown Road - Town of Union, Champaign County, OH
Facing North-Northeast, 1.8 Miles from Nearest Visible Turbine

Mar

1





Buckeye Wind Project
Champaign County, Ohio

Figure 14: Viewpoint 48

Sheet 2 of 2 - Simulated View from Stringtown Road - Town of Union, Champaign County, OH
Facing North *East, 1.8 Miles from Nearest Visible Turbine

Map

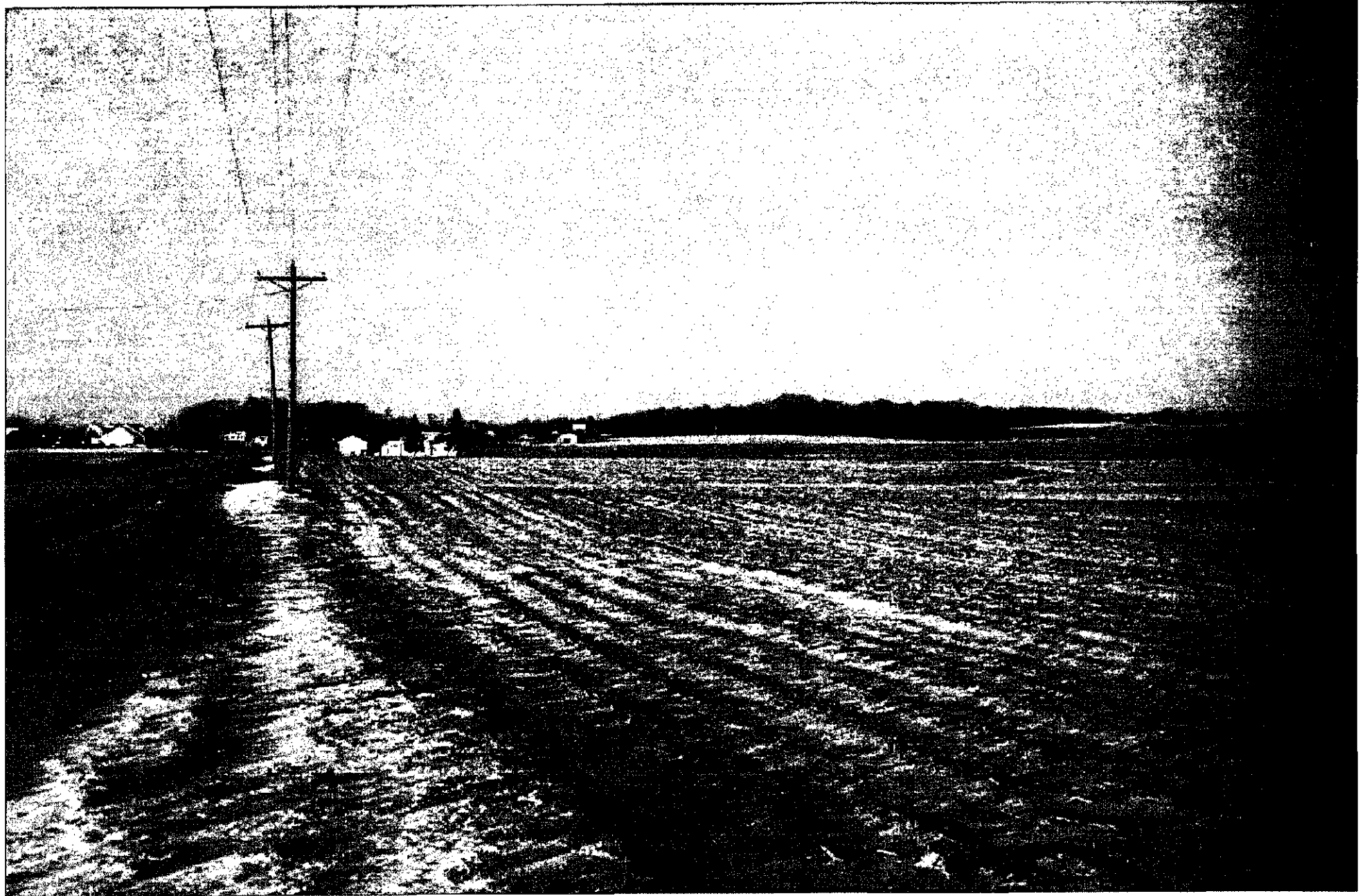


Viewpoint 52 (Figure 15)*Existing View*

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.



Buckeye Wind Project

Champaign County, Ohio

Figure 15: Viewpoint 52

Sheet 1 of 2 - Existing View from US Route 36 - Town of Wayne, Champaign County, OH
Facing West-Southwest, 1.6 Miles from Nearest Visible Turbine

Mar





Buckeye Wind Project
Champaign County, Ohio

Figure 15: Viewpoint 52

Sheet 2 of 2 - Simulated View from US Route 36 - Town of Wayne, Champaign County, OH
Facing West 1.6 Miles from Nearest Visible Turbine



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.

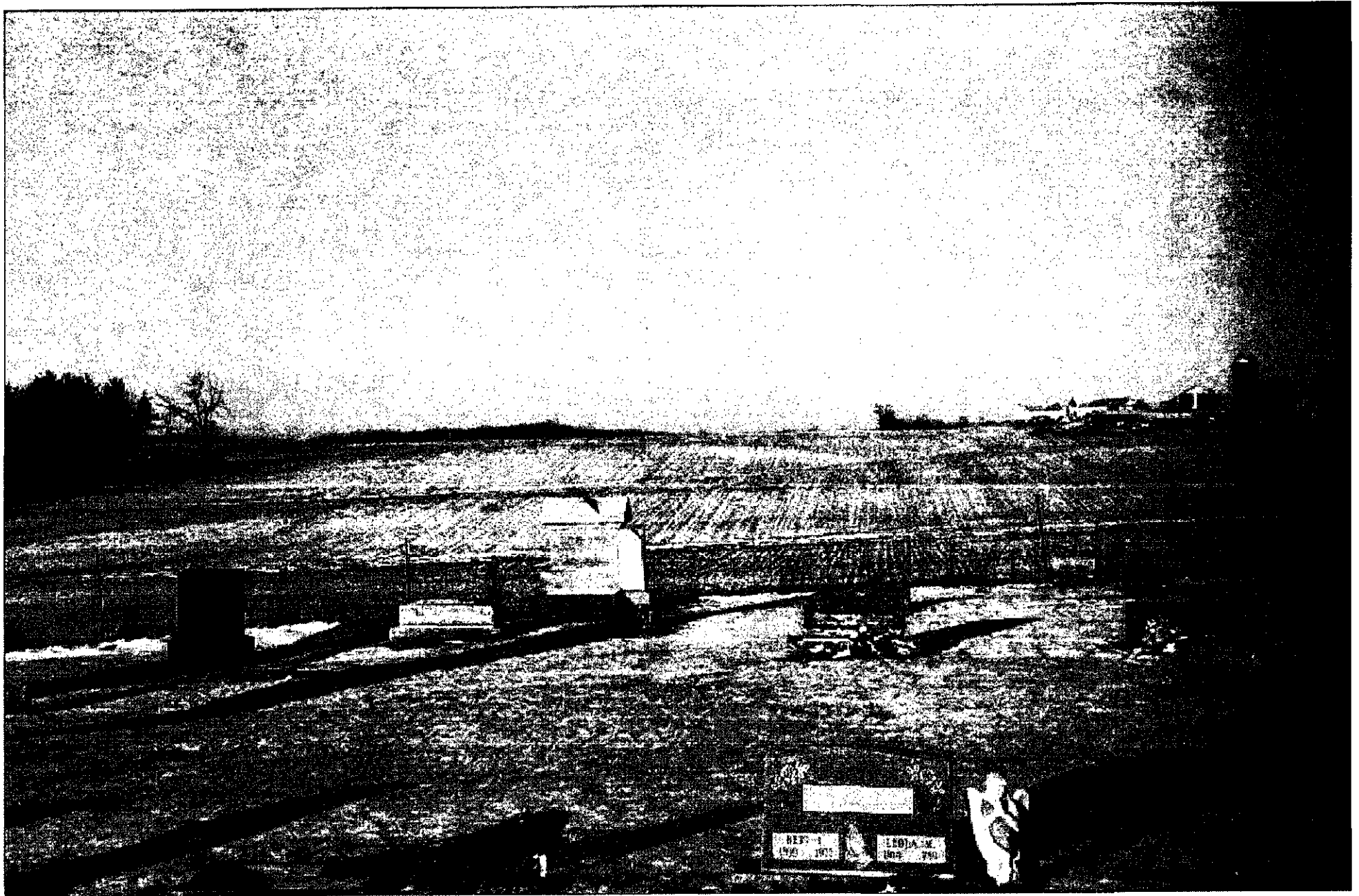


Figure 16: Viewpoint 54





Buckeye Wind Project
Champaign County, Ohio

Figure 16: Viewpoint 54

Sheet 2 of 2 - Simulated View from Mutual Union Road - Town of Union, Champaign County
Facility is 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





Buckeye Wind Project
Champaign County, Ohio

Figure 17: Viewpoint 61

Sheet 2 of 2 - Simulated View from OH-814 / CR-223 (N. Ludlow Rd.) - Town of Salem, Champaign County, OH
Facing North-Northwest, 0.9 Miles from Nearest Visible Turbine

Marr

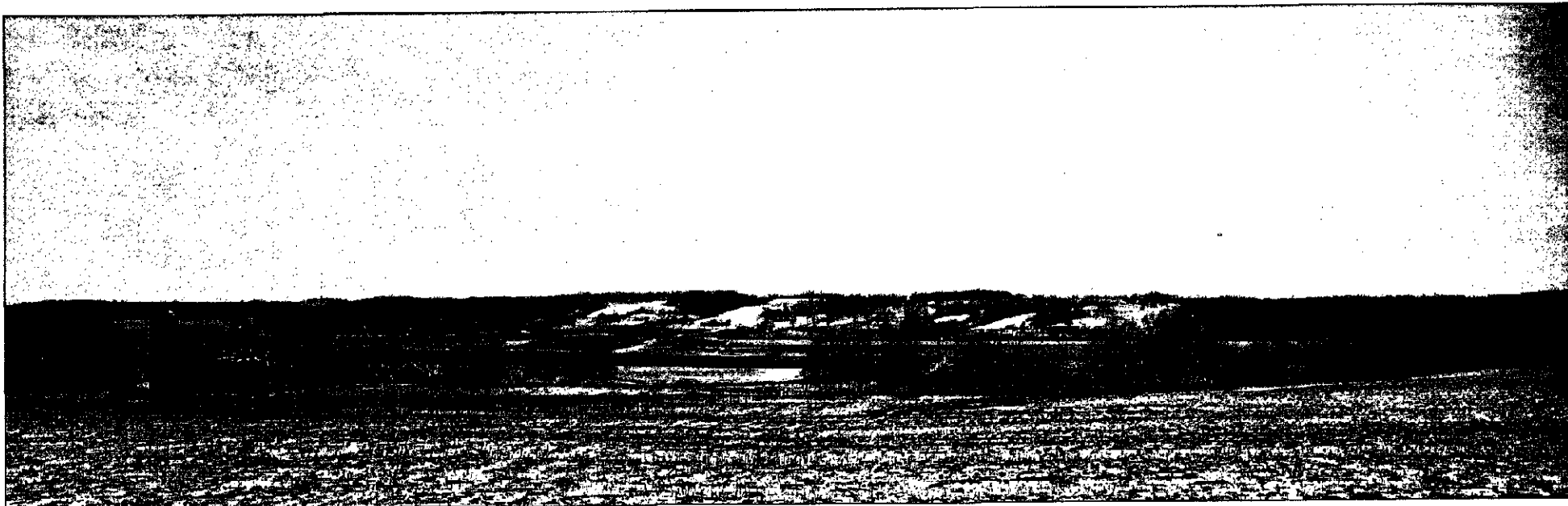


Viewpoint 95-Panoramic (Figure 18)*Existing View*

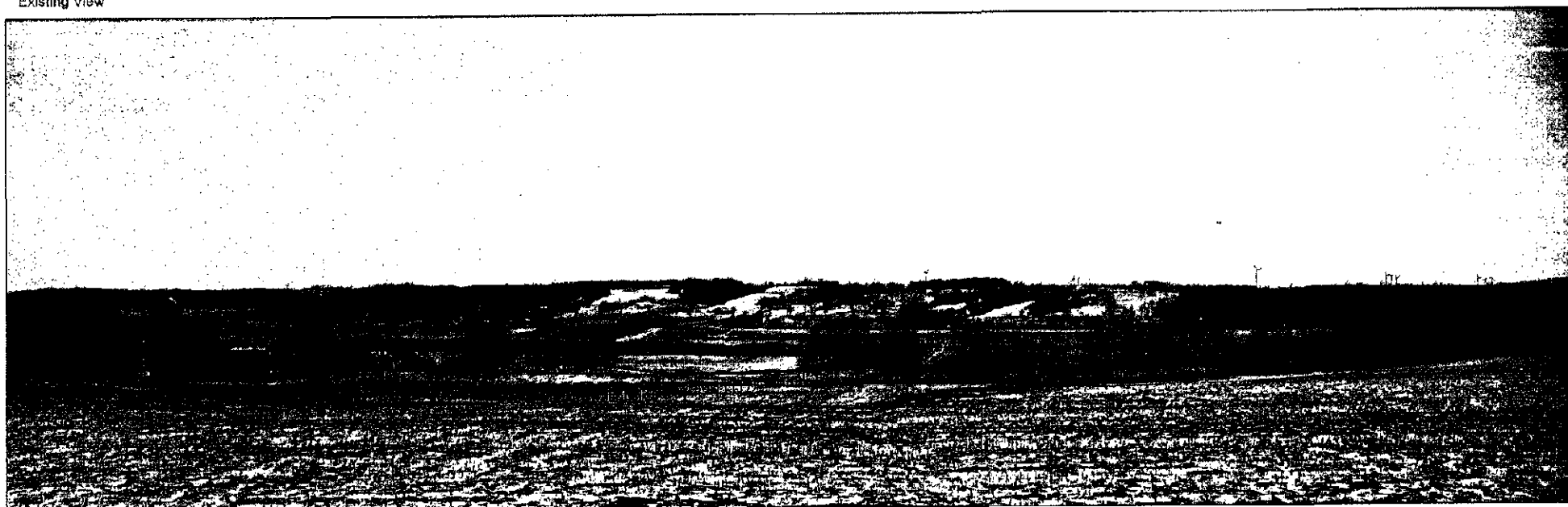
This panoramic view from Bump Road in the Town of Wayne faces south-southeast and is approximately 4.7 miles from the nearest turbine that would be visible in this view. The view looks across a gentle valley where agricultural fields alternate with hedgerows and patches of trees. The descending foreground 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

Buckeye Wind Project
Champaign County, Ohio

Figure 18: Viewpoint 95

View from Bump Road - Town of Wayne, Champaign County, OH
Facing South-Sou' , 4.7 Miles from Nearest Visible Turbine

Marc



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.



Buckeye Wind Project
Champaign County, Ohio

Figure 19: Viewpoint 119
Sheet 1 of 2 - Existing View from OH-54 - Town of Urbana, Champaign County, OH
Facing No. 1, 0.6 Miles from Nearest Visible Turbine

Mar



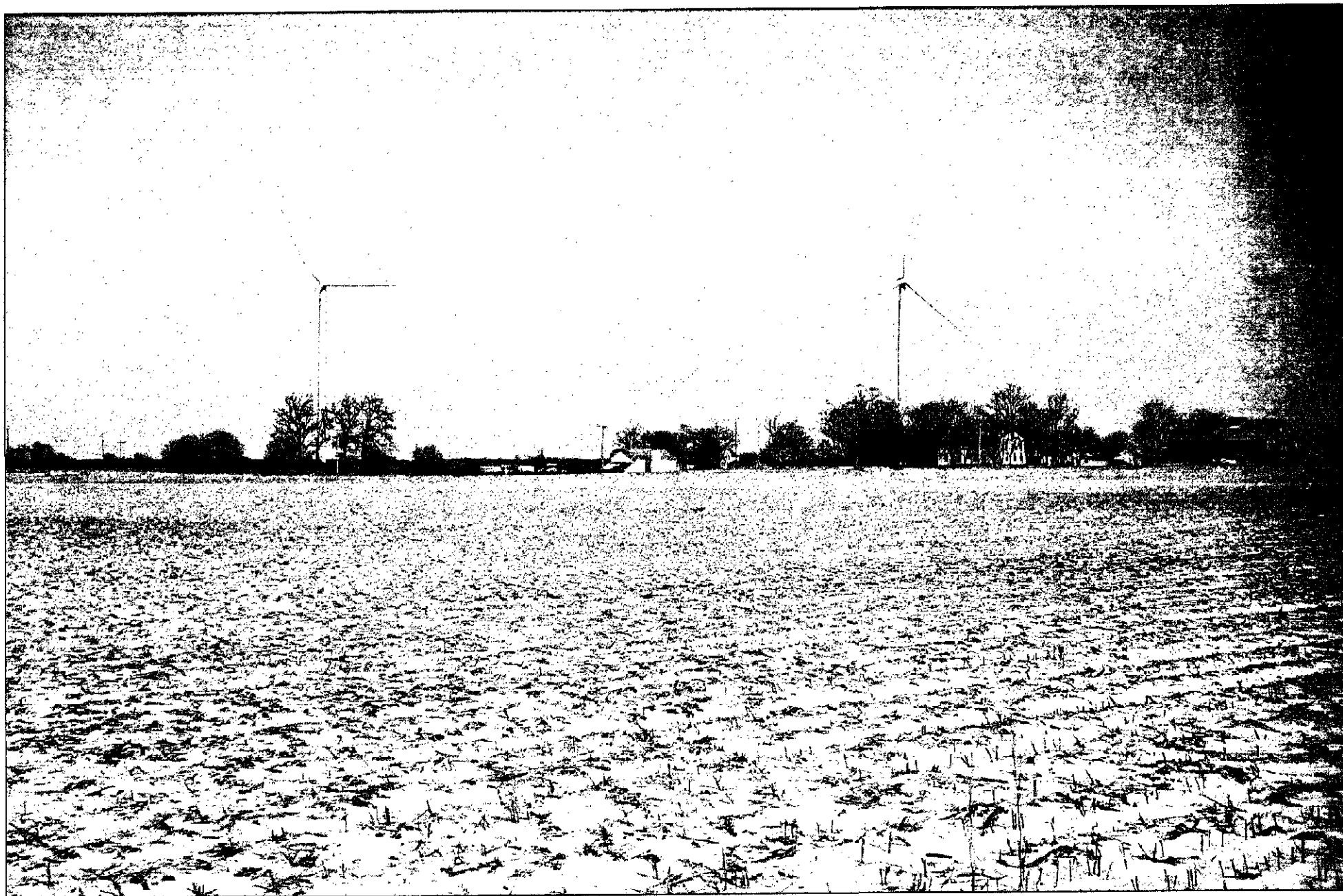


Figure 19: Viewpoint 119

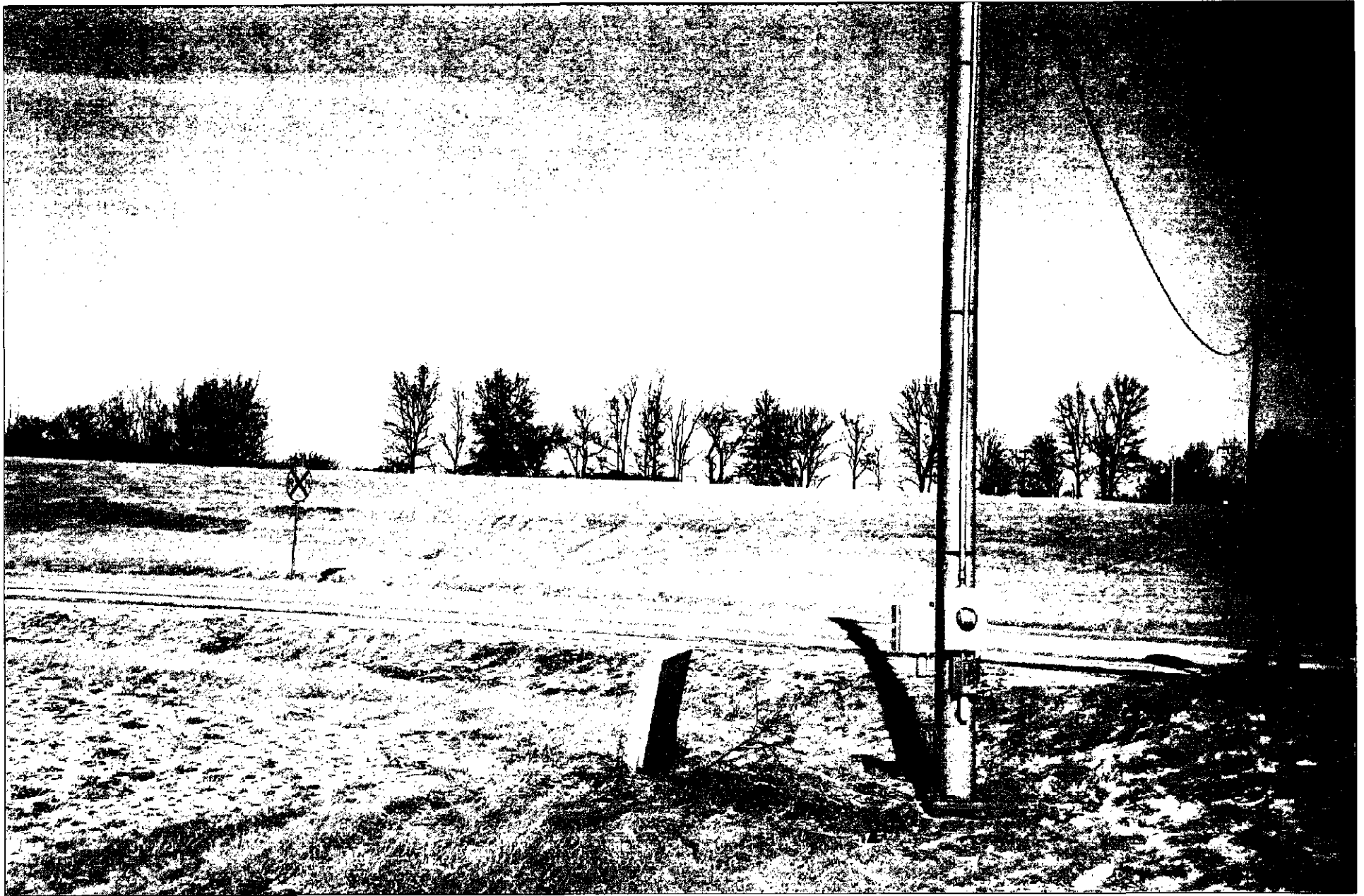


Viewpoint 123 (Figure 20)*Existing View*

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.



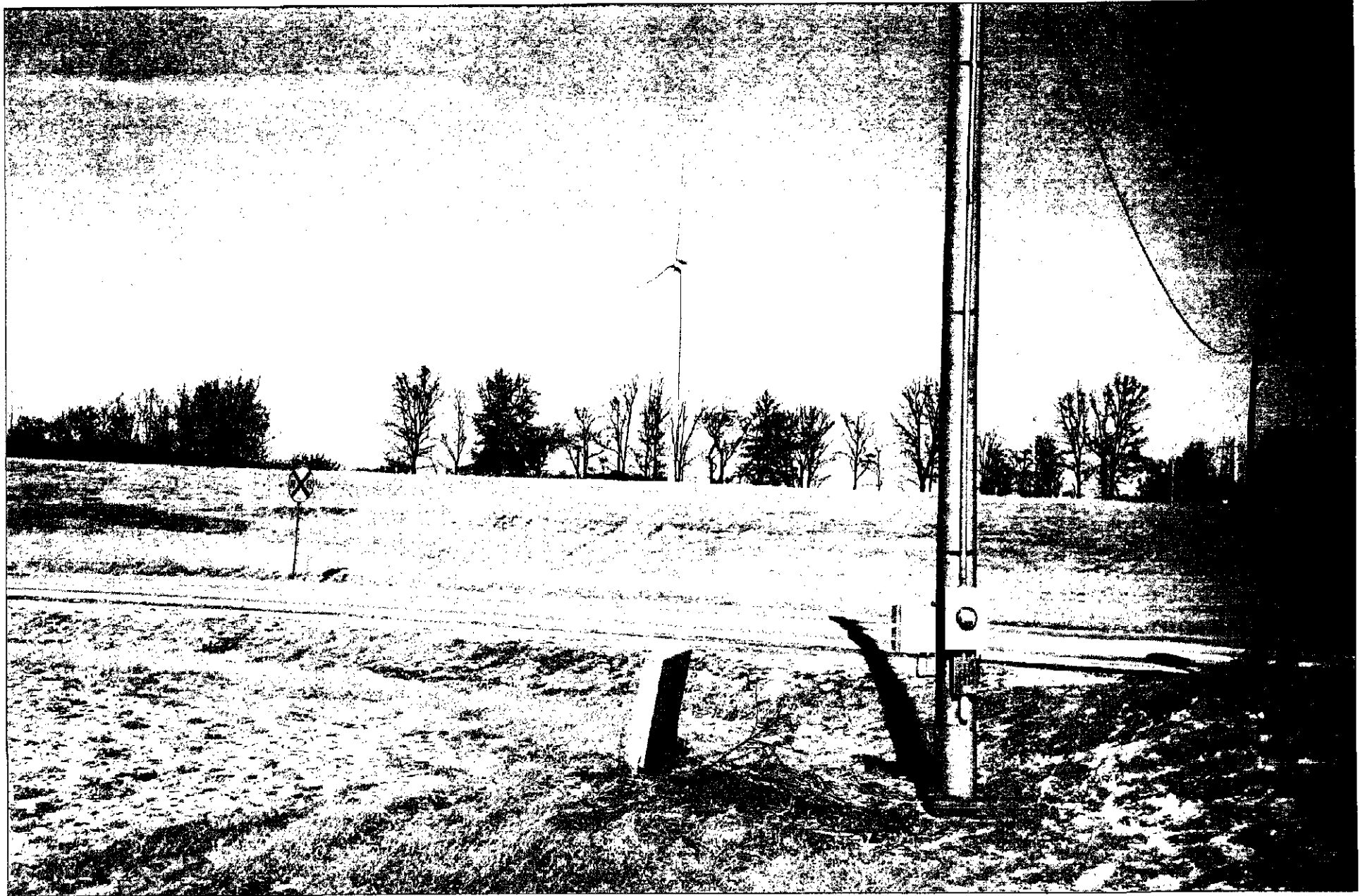
Buckeye Wind Project
Champaign County, Ohio

Figure 20: Viewpoint 123

Sheet 1 of 2 - Existing View from Intersection of OH-4 and OH-56 - Town of Union, Champaign County, OH
Facing North-Northeast, 0.5 Miles from Nearest Visible Turbine

March 2009





Buckeye Wind Project
Champaign County, Ohio

Figure 20: Viewpoint 123

Sheet 2 of 2 - Simulated View from Intersection of OH-4 and OH-56 - Town of Union, Champaign County, OH
Facing North-Northeast, 0.5 Miles from Nearest Visible Turbine

March 2009



Viewpoint 126 (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.



Buckeye Wind Project
Champaign County, Ohio

Figure 21: Viewpoint 128

Sheet 1 of 2 - Existing View from Allison Road - Town of Goshen, Champaign County, OH
Facing West-Southwest, 0.7 Miles from Nearest Visible Turbine

March 2009





Buckeye Wind Project
Champaign County, Ohio

Figure 21: Viewpoint 128

Sheet 2 of 2 - Simulated View from Allison Road - Town of Goshen, Champaign County, OH
Facing West-Southwest, 0.7 Miles from Nearest Visible Turbine

March 2009



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.



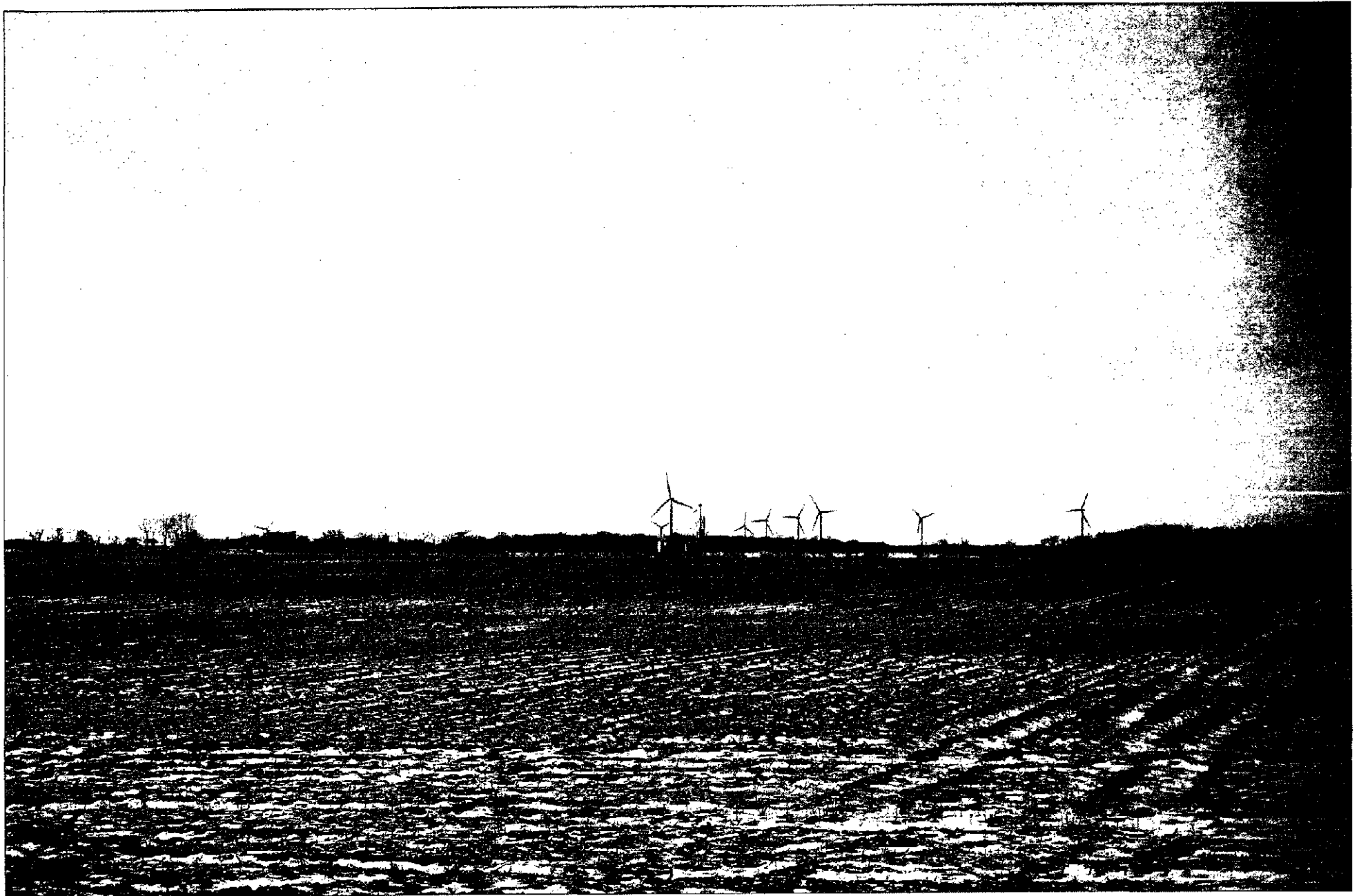
Buckeye Wind Project
Champaign County, Ohio

Figure 22: Viewpoint 131

Sheet 1 of 2 - Existing View from OH-559 - Town of Rush, Champaign County, OH
Facing West-Southwest, 3.5 Miles from Nearest Visible Turbine

March 2009





Buckeye Wind Project
Champaign County, Ohio

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

March 2009



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:

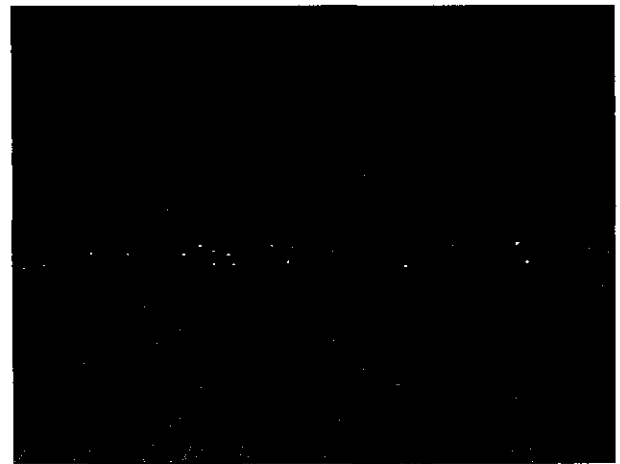
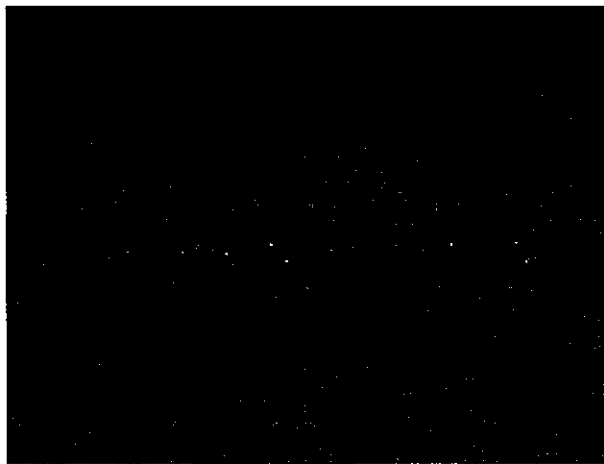
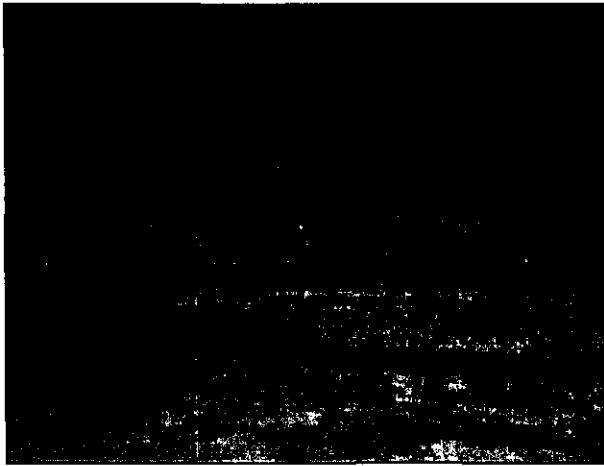
"Given the broad sweep of the Fenner [New York] landscape...the completed turbines look anything but out of place. Their colossal dimensions notwithstanding...from a distance, they take on a spindly, almost delicate look." Syracuse New Times, August 21, 2002.

"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

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	58 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
Magnuder 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	3.6
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
Bowlsville 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	0.6
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
Hearland of Urbana	741 East Water Street, City of Urbana, Champaign County	2.5

Visually Sensitive Resource ¹	Location	Nearest Distance (miles) to Proposed Wind Turbine ²
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 286, 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	1625 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
Treade 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	318 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 (#18-11)	1 South Main Street, Village of Mechanicsburg, Champaign County	126	V	V	-
Bailey and Barclay Halls/Johnny Applesseed (#05-11)	579 College Way, City of Urbana, Champaign County	-	V	V	-
Cedar Bog Nature Preserve (#08-11)	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 (#08-11)	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	18	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	-
Bowlingville 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	1080 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	1849 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	1899 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 (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	8, 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

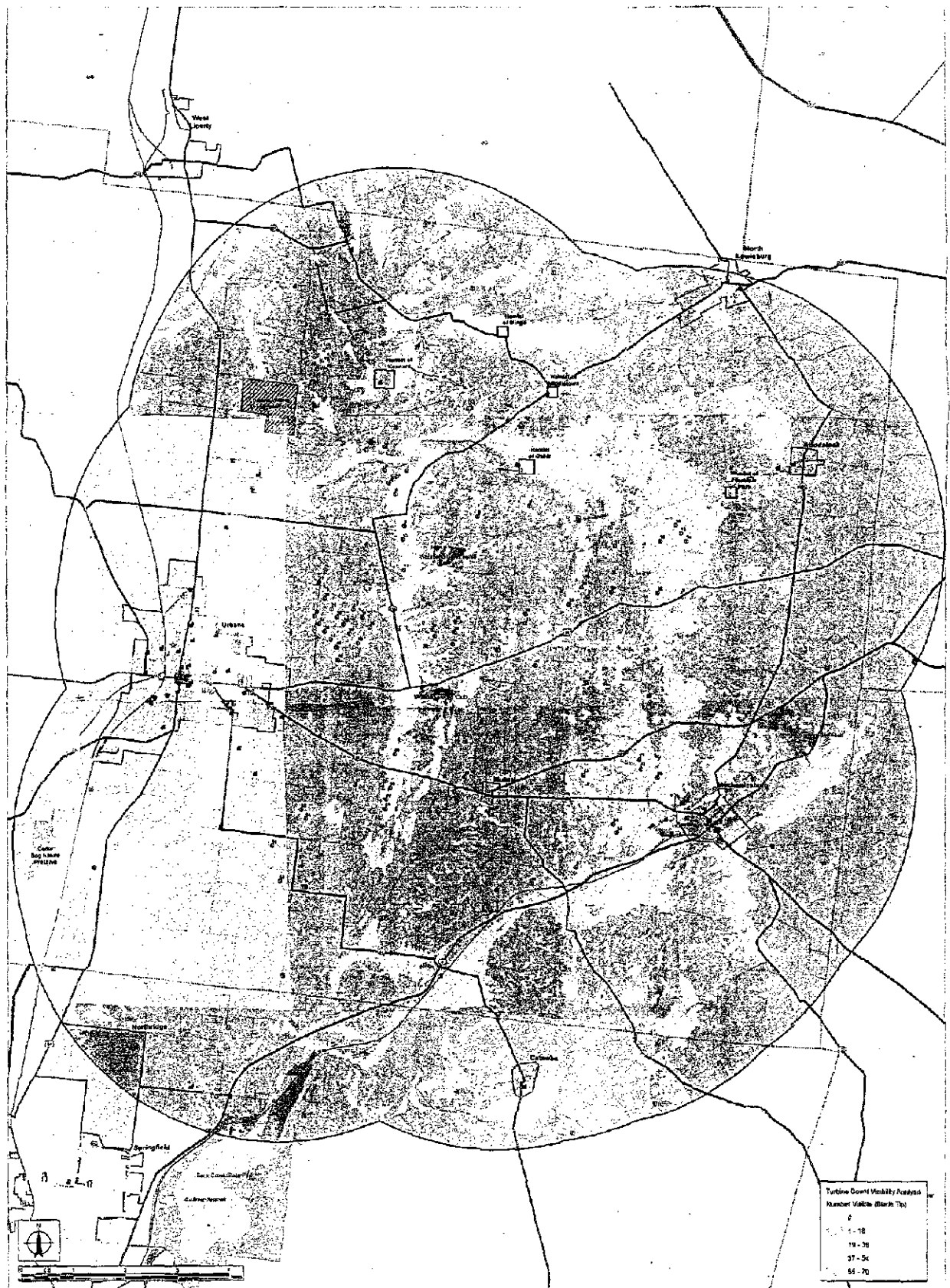
¹Resource located within 5 miles of a proposed turbine.

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.



Buckeye Wind Project
 Champaign County, Ohio

Viewshed Analysis - Blade Tip Topography Only
 Sheet 1 of 2

March 2009

- | | | | |
|--|---|---|---|
| <ul style="list-style-type: none"> Turbine 5 Mile Study Area Cemeteries National Register Historic Site State Historic Markers Hospitals | <ul style="list-style-type: none"> Schools Libraries Airports Churches Marriage Houses Lake Parks | <ul style="list-style-type: none"> National Historic Register Nature Conservancy Properties Golf Courses National Natural Landmark State Wildlife Areas Parks | <ul style="list-style-type: none"> Census Designated Place Cities/Villages US Highways State Highways |
|--|---|---|---|

Notes:
 Data used: DEIR, December 2004, Vol. 2008





Buckeye Wind Project
Champaign County, Ohio

Viewshed Analysis - Blade Tip Vegetation and Topography
Sheet 2 of 2

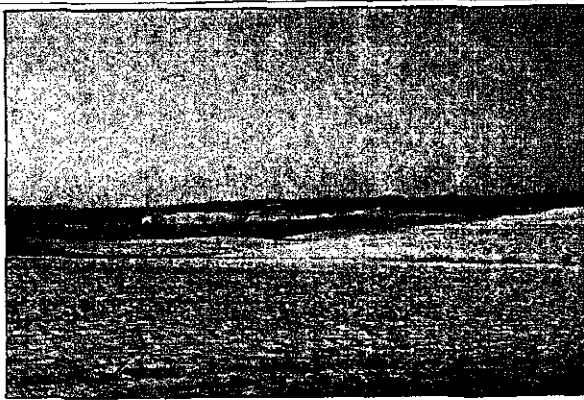
- | | | | |
|---|---|---|---|
| <ul style="list-style-type: none"> 1. Turbine 2. USGS Study Area 3. Contour Lines 4. National Register 5. State Natural Areas 6. Wetlands | <ul style="list-style-type: none"> 7. Stream 8. Utility Lines 9. Airport 10. Church 11. Military Reserves 12. Local Roads | <ul style="list-style-type: none"> 13. National Historic Register 14. Native Conservancy Properties 15. Golf Courses 16. National Natural Landmark 17. State Natural Areas 18. Wetlands | <ul style="list-style-type: none"> 19. Gravel Designated Pave 20. Gravel/Asphalt 21. US Highways 22. State Highways |
|---|---|---|---|

Scale: 1" = 1 Mile
Map Date: 08/15/2007
Map Version: 1.0



Appendix C

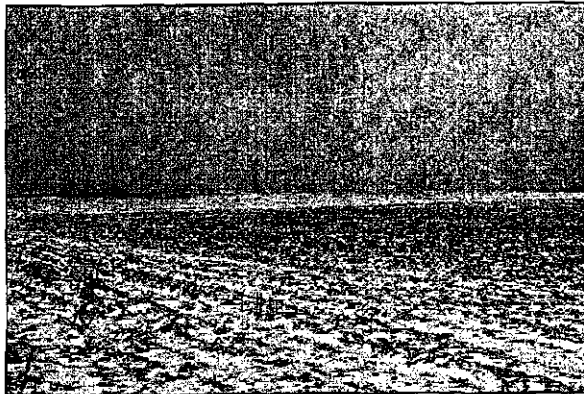
**Photo Log and Field Notes
(See Enclosed CD)**



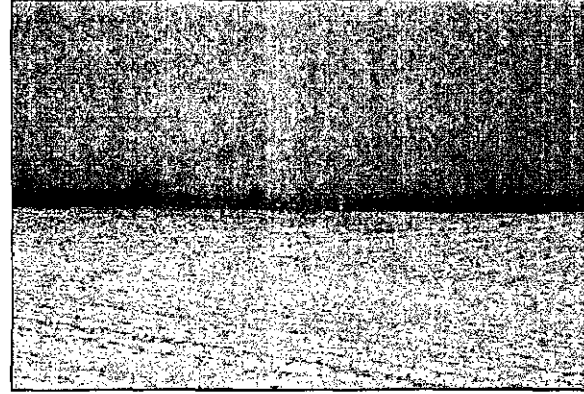
Viewpoint 1



Viewpoint 2



Viewpoint 3



Viewpoint 4



Viewpoint 5



Viewpoint 6



Viewpoint 7



Viewpoint 8

Buckeye Wind Project

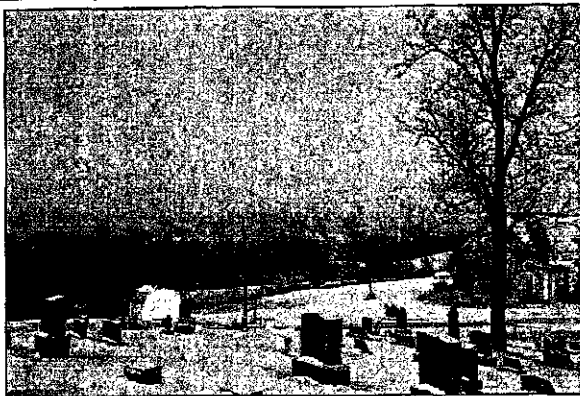
Champaign County, Ohio

Appendix C: Photo Log

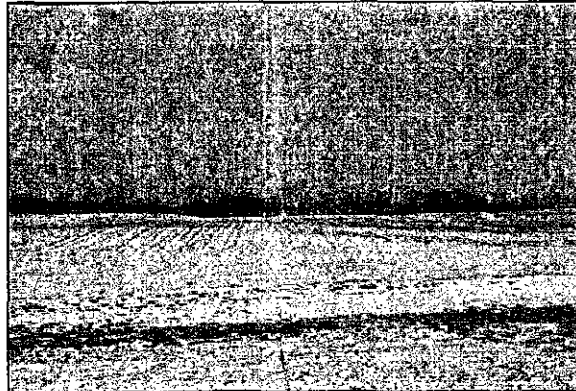
*Denotes Image Used in Visual Simulation
Sheet 1 of 18

March 2009

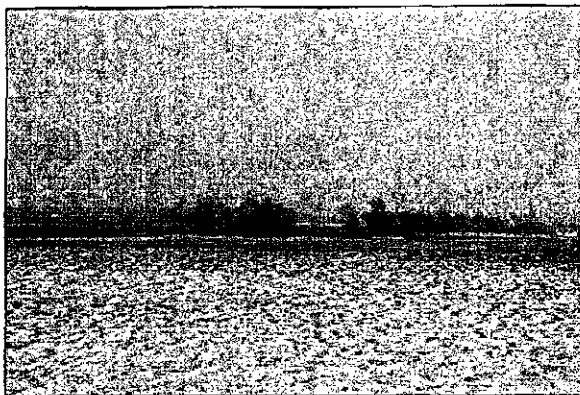




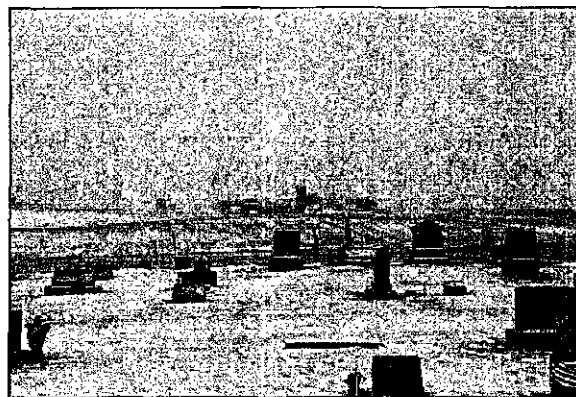
Viewpoint 9



Viewpoint 10



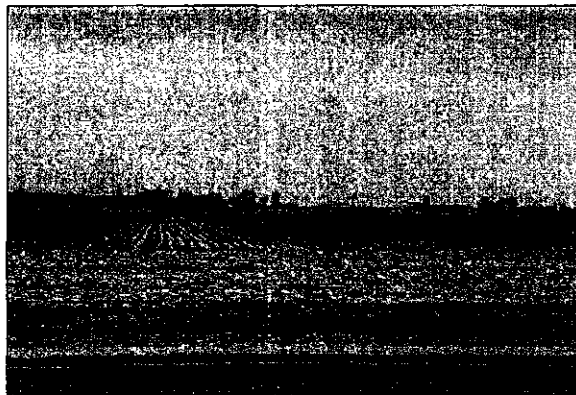
Viewpoint 11



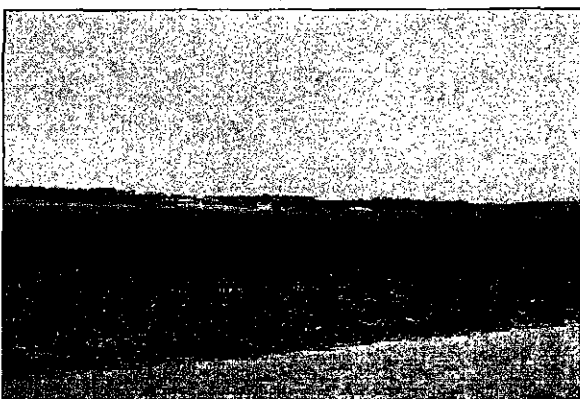
Viewpoint 12



Viewpoint 13



Viewpoint 14 *



Viewpoint 15



Viewpoint 16

■ Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used in Visual Simulation

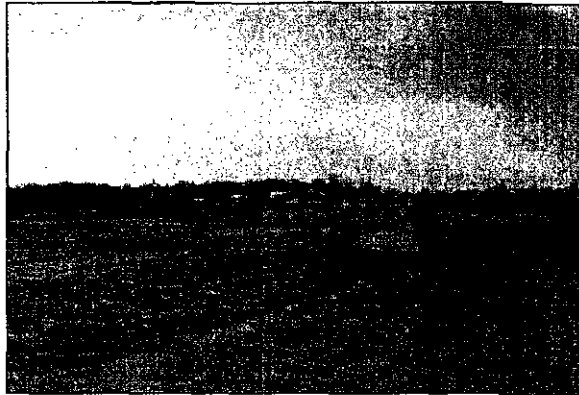
Sheet 2 of 18

March 2009





Viewpoint 17



Viewpoint 18



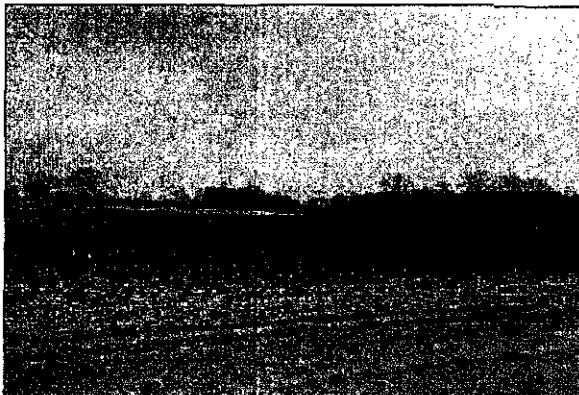
Viewpoint 19



Viewpoint 20



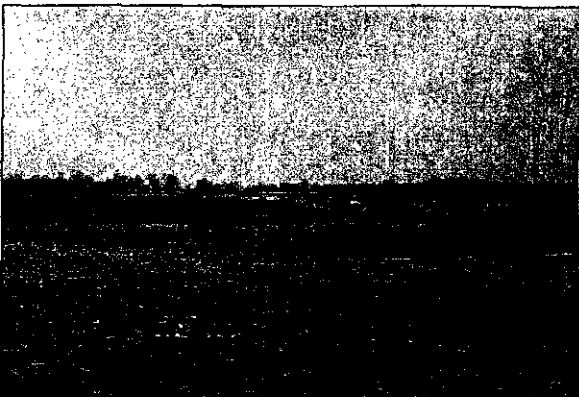
Viewpoint 21



Viewpoint 22



Viewpoint 23



Viewpoint 24

Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

Sheet 3 of 18

March 2009

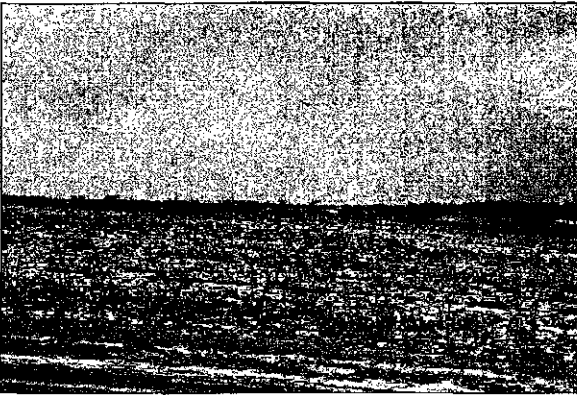




Viewpoint 25



Viewpoint 26



Viewpoint 27



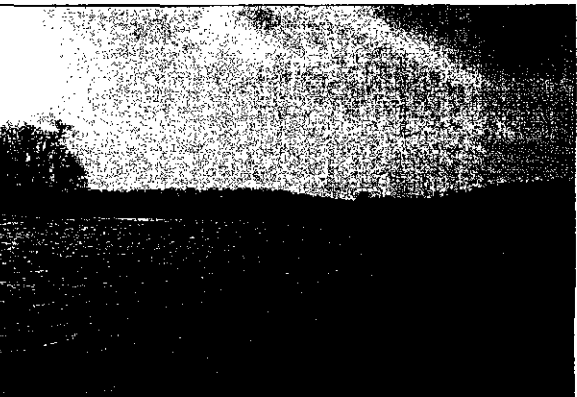
Viewpoint 28



Viewpoint 29 *



Viewpoint 30



Viewpoint 31



Viewpoint 32

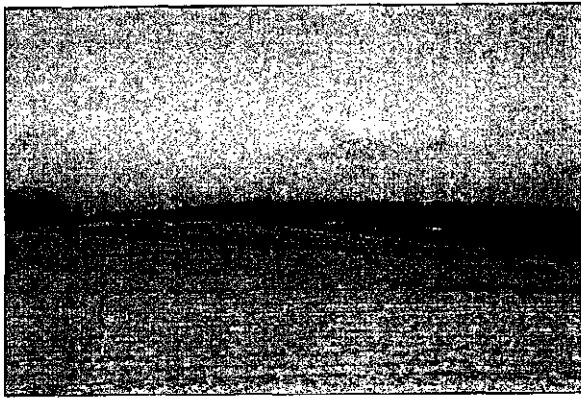
■ Buckeye Wind Project
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation
Sheet 4 of 18

March 2009

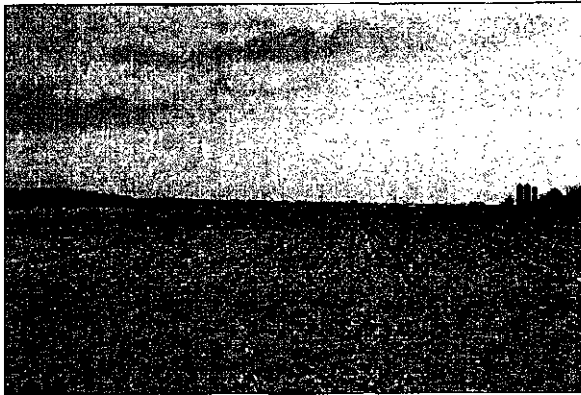




Viewpoint 33



Viewpoint 34



Viewpoint 35



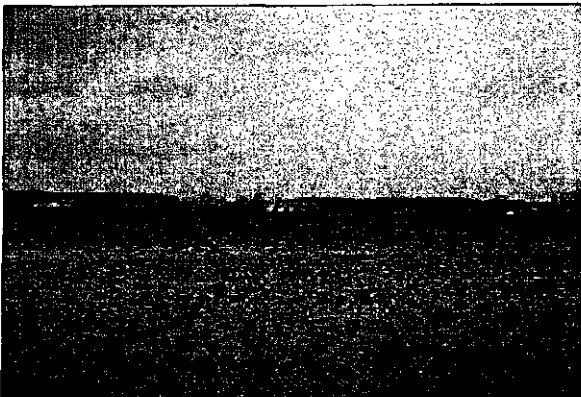
Viewpoint 36



Viewpoint 37



Viewpoint 38



Viewpoint 39



Viewpoint 40

■ Buckeye Wind Project
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation
Sheet 5 of 18

March 2009





Viewpoint 41 *



Viewpoint 42



Viewpoint 43



Viewpoint 44



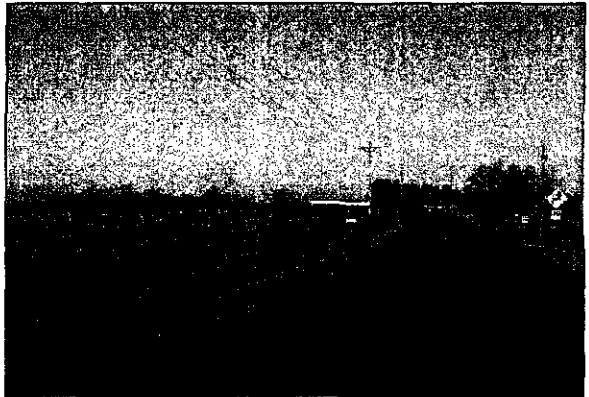
Viewpoint 45 *



Viewpoint 46



Viewpoint 47



Viewpoint 48 *

■ Buckeye Wind Project
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation
Sheet 6 of 18

March 2009





Viewpoint 49



Viewpoint 50



Viewpoint 51



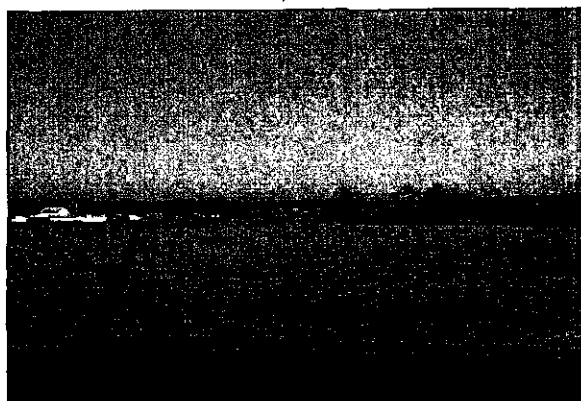
Viewpoint 52 *



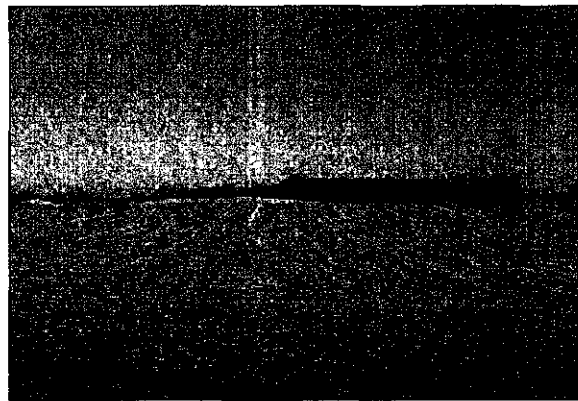
Viewpoint 53



Viewpoint 54 *



Viewpoint 55



Viewpoint 56

■ Buckeye Wind Project

Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used in Visual Simulation

Sheet 7 of 18

March 2009





Viewpoint 57



Viewpoint 58



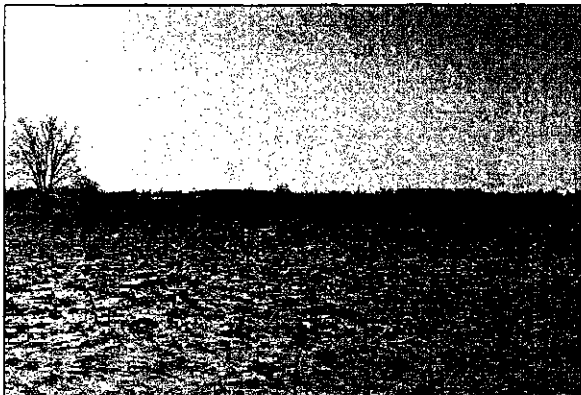
Viewpoint 59



Viewpoint 60



Viewpoint 61 *



Viewpoint 62



Viewpoint 63



Viewpoint 64

■ Buckeye Wind Project

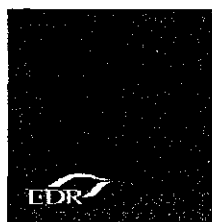
Champaign County, Ohio

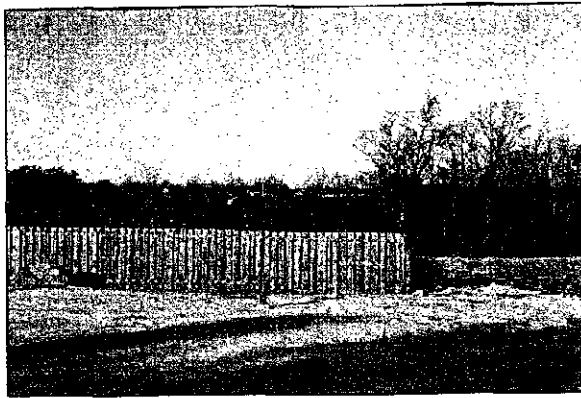
Appendix C: Photo Log

*Denotes Image Used In Visual Simulation

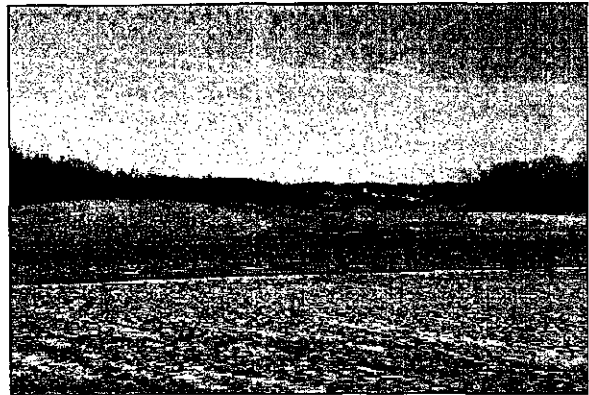
Sheet 8 of 18

March 2009

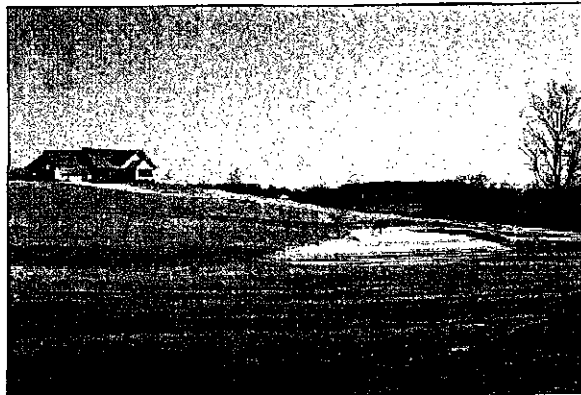




Viewpoint 65



Viewpoint 66



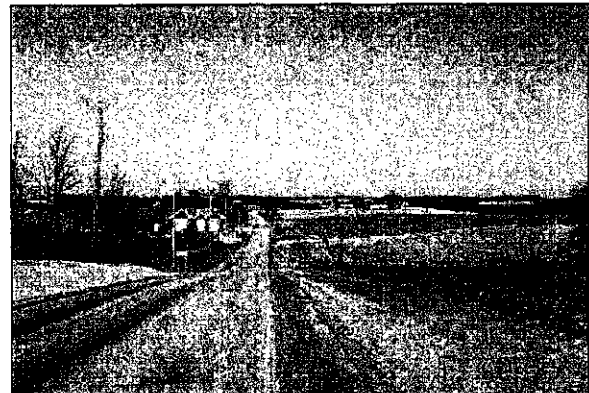
Viewpoint 67



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

Sheet 9 of 18

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

Sheet 10 of 18

March 2009

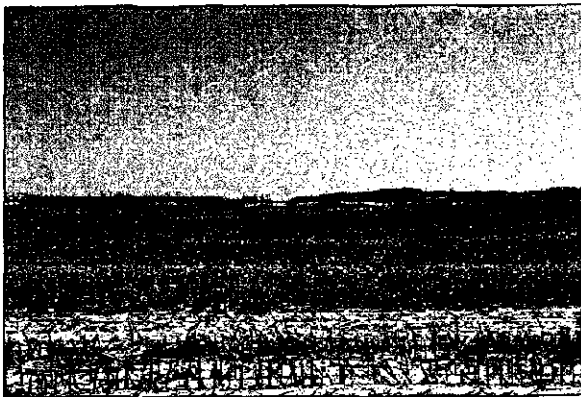




Viewpoint 81



Viewpoint 82



Viewpoint 83



Viewpoint 84



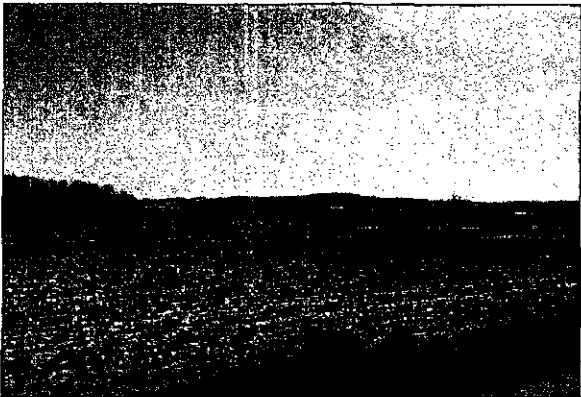
Viewpoint 85



Viewpoint 86



Viewpoint 87



Viewpoint 88

■ Buckeye Wind Project
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used in Visual Simulation
Sheet 11 of 18

March 2009





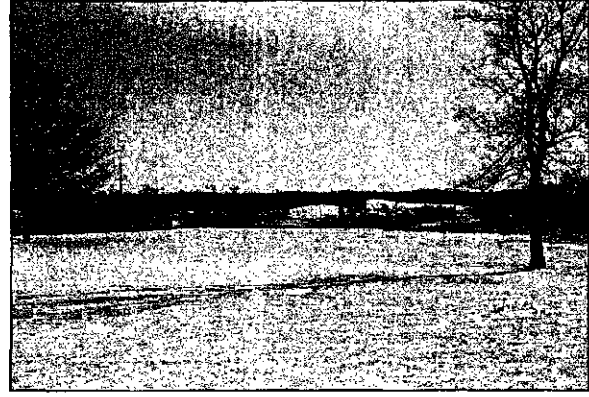
Viewpoint 89



Viewpoint 90



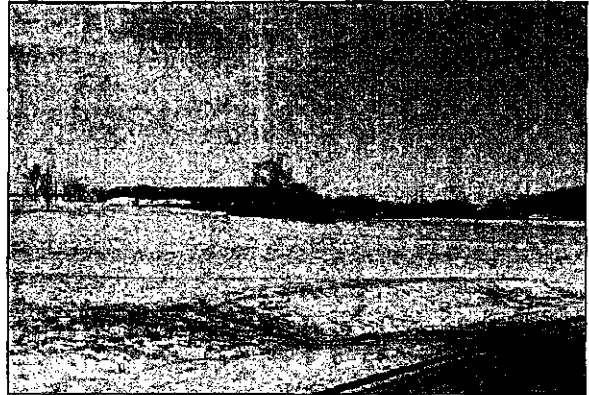
Viewpoint 91



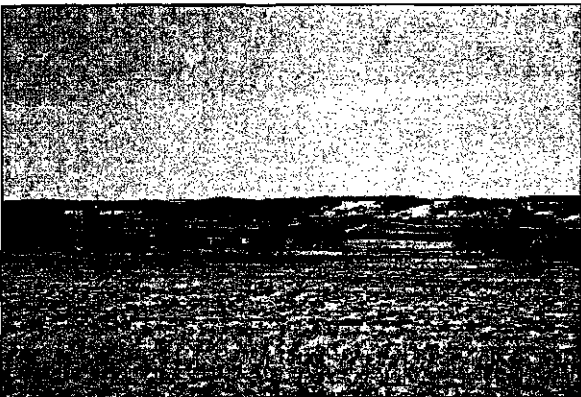
Viewpoint 92



Viewpoint 93



Viewpoint 94



Viewpoint 95 *



Viewpoint 96

■ Buckeye Wind Project

Champaign County, Ohio

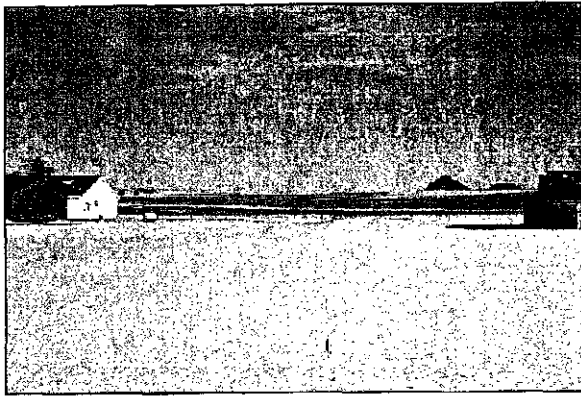
Appendix C: Photo Log

*Denotes Image Used in Visual Simulation

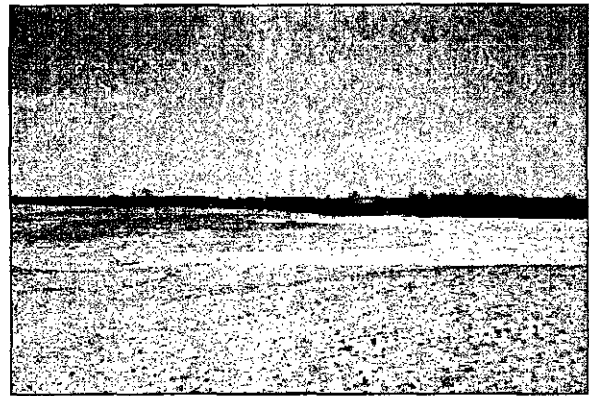
Sheet 12 of 18

March 2009





Viewpoint 97



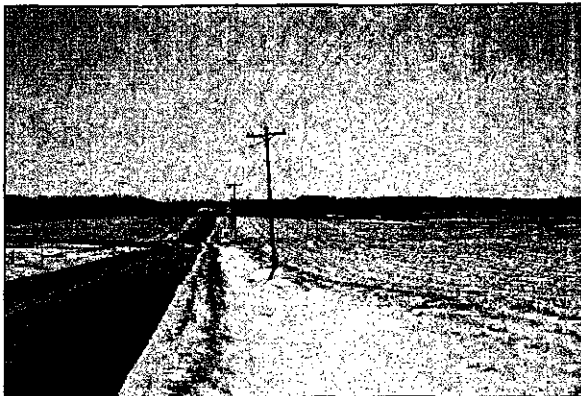
Viewpoint 98



Viewpoint 99



Viewpoint 100



Viewpoint 101



Viewpoint 102



Viewpoint 103



Viewpoint 104

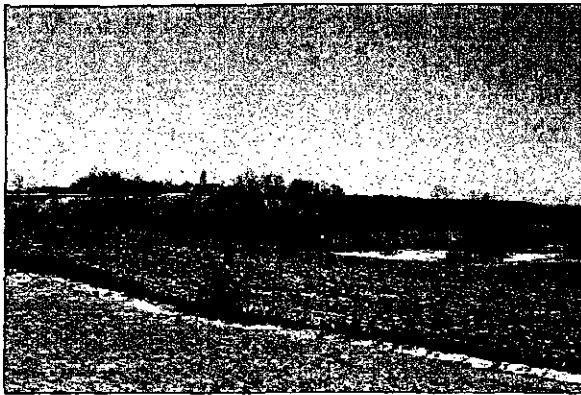
Buckeye Wind Project
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation
Sheet 13 of 18

March 2009





Viewpoint 105



Viewpoint 106



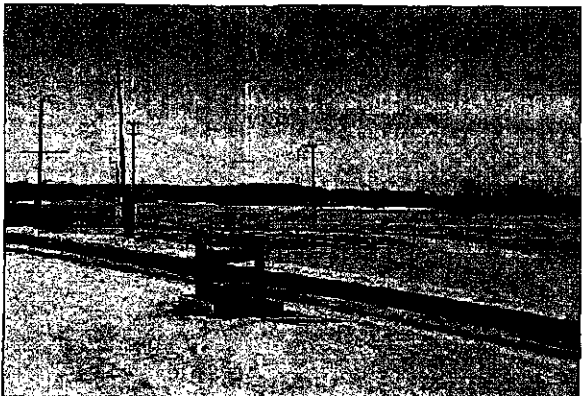
Viewpoint 107



Viewpoint 108



Viewpoint 109



Viewpoint 110



Viewpoint 111



Viewpoint 112

Buckeye Wind Project

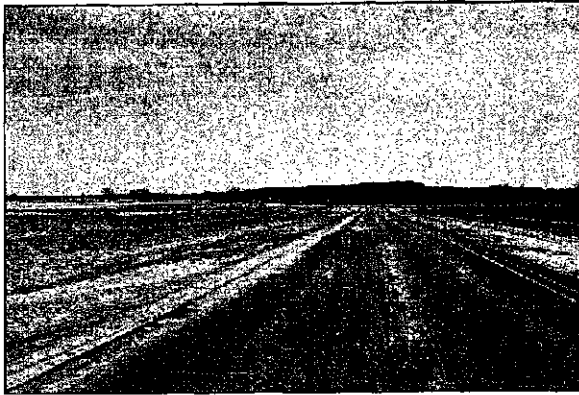
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation
Sheet 14 of 18

March 2009





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
Sheet 15 of 18

March 2009

EDR



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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March 2008

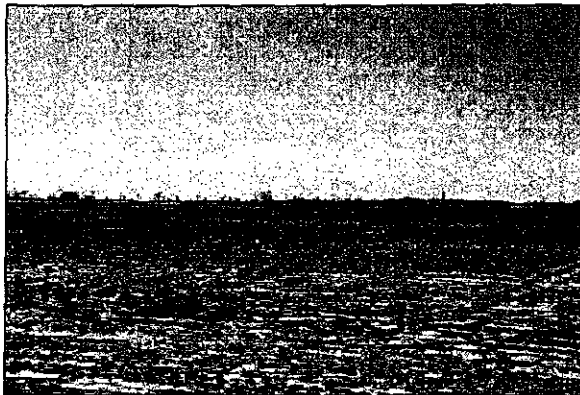




Viewpoint 129



Viewpoint 130



Viewpoint 131 *



Viewpoint 132



Viewpoint 133



Viewpoint 134



Viewpoint 135



Viewpoint 136

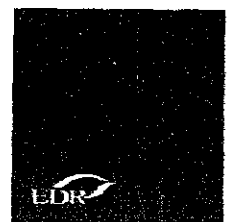
Buckeye Wind Project

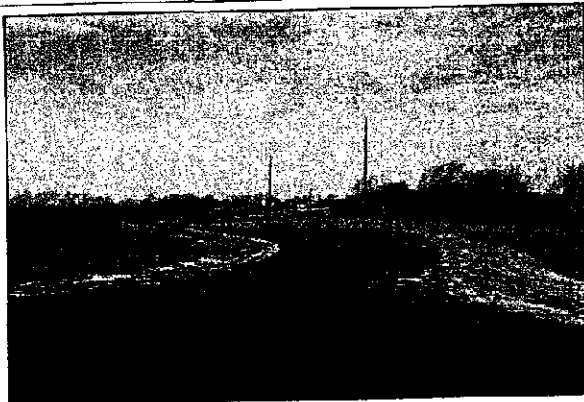
Champaign County, Ohio

Appendix C: Photo Log

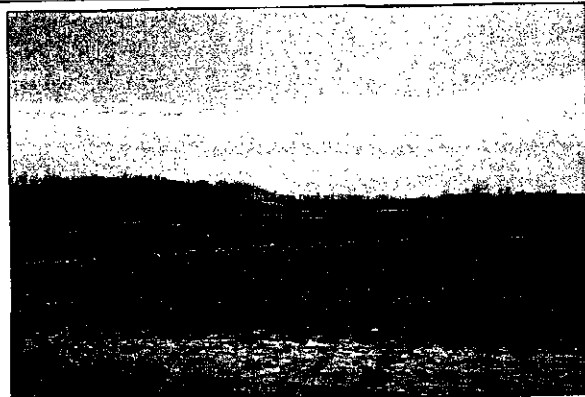
*Denotes Image Used in Visual Simulation
Sheet 17 of 18

March 2009

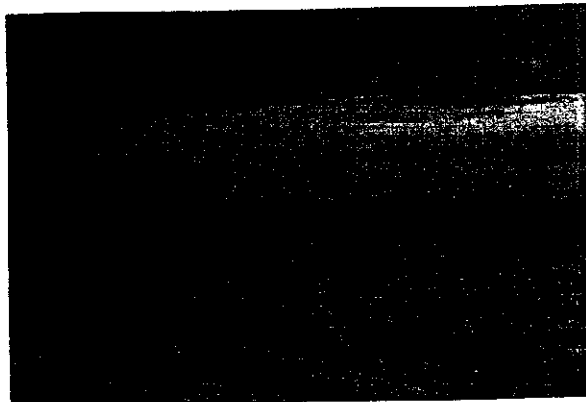




Viewpoint 137



Viewpoint 138



Viewpoint 139

■ Buckeye Wind Project
Champaign County, Ohio

Appendix C: Photo Log

*Denotes Image Used In Visual Simulation
Sheet 18 of 18

March 2009



07079 Buckeye Windpower Project

Date:

1/24/08

Weather: OVERCAST / SUNNY

Winds:

Sheet: 1 of 6

Car # 6P/WH

VP #	CPS #	Photo Reference	TIME	Location/ Similarity Zone/ Comments/Road Name
1	001	001-004	9:42	SOUTH/SOUTH W 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 - LORAN 44
4	004	022-031	10:26	NORTH-NORTH WEST - ^{AK} FIELDS - LORAN 44
5	005	032-038	10:33	NORTH WEST - ^{AK} FIELDS - LORAN 44
6	006	039-048	10:39	NORTH WEST - ^{AK} FIELDS - LORAN 44
7	007	049-056	10:49	EAST - ^{AK} LANDS -
8	008	057-070	10:52	360° - UNION CHAPEL -
9	009	071-078	11:54	CARMEL CEMETERY - NORTH NORTHWEST
10	010	079-087	12:13	NORTH - FLATWOOD RD
11	011	088-096	12:59	
12	012	097-099	1:23	WEST - UNION CEM.
13	013	100-111	1:36	Mc ADAMS & PERRY - FIELD ^{AK}
14	014	112-130	3:11	TOWER 24 - RT 29 - ^{AK} LAND
15	015	131-139	3:15	FAIR VIEWS CEM. - RT 29
16	016	140-142	3:18	RT 29 & Mutual Union - (Hambt)
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	3:46	MADDERN RD - ^{AK} LAND -
21	021	193-212	3:49	MADDERN RD - ^{AK} LAND -
22	022	213-226	3:51	MADDERN RD - ^{AK} LAND -
23	023	227-236	3:58	YANKIN TOWN RD - ^{AK} LAND -
24	024	237-246	4:02	S. PARKVIEW - ^{AK} LAND -

07079 Buckeye Windpower Project

Date: 1/21/08

Weather:

Winds:

Sheet: 2 of 6

Car #:

VP #	GPS #	Photo Reference	TIME	Location/ Similarity Zone/ Comments/Road Name
25	025	247-250	4:09	AG-LAND / STRAIGHT TOWN RD /
26	026	251-268	4:12	AG-LAND / TALBOTT RD /
27	027	269-286	4:18	AG-LAND / RT 161 /
28	028	287-300	4:30	AG-LAND / TOWER 2 / LUDLOW RD
29	029	301-313	4:34	AG-LAND / 3 TOWERS IN VIEW / LUDLOW RD
30	031	314-316	4:43	AG LAND /
31	031	317-335	4:47	AG LAND / Johnson Rd
32	032	336-346	4:55	AG LAND /
33	033	347-365	5:04	AG LAND / RT 169
34	034	366-374	5:07	AG LAND / RT 169
35	035	0385-384	5:10	AG LAND / MOUNT TABOR RD
36	036	0385-389	5:19	MAR-O-CHEEK CASTLE / RT 245
37	037	0390-392	5:23	MAR-O-CHEEK CASTLE / RT 245
38	038	393-404	5:30	WEST HIGGINS SCHOOL / RT 68
39	039	0405-424	5:37	RT 68
40	040	0425-427	7:44 AM	
41	041	0428-434	7:50	RT 36 - TOWERS
42	042	0435-450	7:52	RT 36 - TOWERS
43	043	0451-456	8:00	RT 36 -
44	044	0457-467	8:03	VERONA Country Club
45	045	0468-0479	8:10	
46	046	0480-493	8:13	SHARON CEMETERY - Straight town Rd
47	047	0494-516	8:15	Structure (113311) - Straight town Rd
48	048	517-532	8:18	- Straight town Rd

07079 Buckeye Windpower Project

Date: 7-25-08 Weather: CLEAR

Winds:

Sheet: 3 of 6

Car #:

GP/WH

VP #	GPS #	Photo Reference	TIME	Location/ Similarity Zone/ Comments/Road Name
49	049	533-536	8:21	CAMBRIDGIAN RD. / RES. HOMES
50	050	539-545	8:23	CAMBRIDGIAN RD. / RES. HOMES
51	051	546-557	8:27	SODUM-CLARK CEMETERY / RT 36
52	052	0558 0558-563	8:32	RT 36 /
53	053	0584-0598	8:35	(RS) 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	8:59	RT 814 /
61	061	0704-716	9:02	→ RT 814 & 296
62	062	0717-736	9:06	RT 296 (URBANA WOODSTOCK RD)
63	063	0737-761	9:08	RT 296 (URBANA WOODSTOCK RD)
64	064	0762-0788	9:12	URBANA WOODSTOCK RD (296)
65	065	0789-0802	9:15	JENKIN'S CHAPEL CEMETERY - URBANA WOODSTOCK RD
66	066	0803-816	9:31	BLACK RD -
67	067	0817-821	9:37	CARLE RD (CARLE HOMES)
68	068	0823-835	9:37	CARLE CEMETERY (CARLE UNITED METHOD)
69	069	0836-0839	9:46	BLACK RD
70	070	0840-0851	9:52	MIDDLETOWN (HOMES)
71	071	0852-0857	9:57	MIDDLETOWN Intersections
72	072	0858-0869	10:07	SUBSTATION / Mingo LEWIS BURN RD

07079 Buckeye Windpower Project

Date: 12500 Weather: CLEAR

Winds:

Sheet: 2 of 6

Car #:

VP #	GPS #	Photo Reference	TIME	Location/ Similarity Zone/ Comments/Road Name
73	073	0870-0889	10:03	MINHO LANSBACH RD / TOWER 3
74	074	0890-905	10:05	MINHO LANSBACH RD / TW 2
75	075	0906-922	10:08	MINHO HAMLET / URBANA RD
76	076	0923-932	10:11	MINHO CHURCH
77	077	0933-0948	10:14	RT 245
78	078	0947-0981	10:16	HAMMOND RD
79	079	0982-0999	10:21	MT CARMEL CEMETERY
80	080	1000-1025	10:27	KENNARD KINGS CREEK RD
81	081	1026-1042	10:31	GEN. LOC. THOMAS CEM. - RT 245
82	082	1043-1067	10:34	KANAWA RD
83	083	1068-1081	10:37	LUDLOW RD
84	084	1082-1095	10:39	DAK GROVE CEMETERY / LUDLOW RD
85	085	1100-1108	10:44	KENNARD KINGS CREEK RD
86	086	1109-1123	10:46	KENNARD KINGS CREEK (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
90	090	1182-1200	11:05	MOUNT TABER CEMETERY
91	091	1201-1214	11:11	MOUNT TABER CEMETERY
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 / EAST
96	096	1265-1273	11:37	BUMP RD / NORTH

07079 Buckeye Windpower Project

Date: 1-25-08 Weather:

Winds:

Sheet: 5 of 6

Car #:

VP #	GPS #	Photo Reference	TIME	Location/ Similarity Zone/ Comments/Road Name
97	097	1274-1289	11:40	* LOUAN 41
98	098	1290-1309	11:43	* LOUAN 41
99	099	1310-1335	11:46	* LOUAN 41
100	100	1336-1369	11:48	RT 287 (RSOF 008 RS) UNION CHAPEL CHURCH
101	101	1370-1397	11:53	Johnson RR
102	102	1398-1403	12:00	JOHNSON CEMETERY - JOHNSON ROAD
103	103	1404-1412	12:05	SHEFFER RR
104	104	1413-1423	12:09	GILBERT RR / MADE GROVE CEM.) WRANL DIRECTIO
105	105	1424-1437	12:13	RT 245
106	106	1438-1442	12:15	RT 245
107	107	1443-1445	12:22	FLA & WINDER ST.
108	108	1446-1451	12:27	LOUAN 44
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	1:01	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 29
117	117	1517-1528	1:53	RT 54 EAST
118	118	1529-1535	1:55	VERONA Local Intermediate School / RT 54 / EAST
119	119	1536-1539	1:58	RT 54 - EAST
120	120	1541-1544	2:04	RT 54 - EAST

1566

07079 Buckeye Windpower Project

Date: 1-25-08

Weather: CLEAR

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 51 North
122	122	1569-1573	2:15	RT 54 / NORTH
123	123	1574-1586	2:21	RT 54 & 56 Intersection / NORTH
124	124	1587-1605	2:25	RT 4
125	125	1606-1611	2:29	RT 4 Mechanicsburg Edge
126	126	1612-1623	2:30	RT 4 & RT 21 (Intersection of Mechanicsburg)
127	127	1624-1626	2:34	Parkview Rd (GASTOWN MEMORIAL PARK)
128	128	1627-1647	2:40	NATON Conservancy
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	1682-1695	2:57	WOODSTOCK CEMETERY - BENNETT ST.
133	133	1696-1695	3:02	RT 55A
134	134	1696-1706	3:09	McGully Rd
135	135	1707-1725	3:14	COVERED BRIDGE (Big Darby - SCENIC BYWAY)
136	136	1726-1737	3:22	COVERED BRIDGE (" " ")
137	137	1738-1750	3:24	" " " "
138	138	1751-1759	3:26	(Big DARBY SCENIC BYWAY)
139	139	1760-1770	3:28	" " " "
COMPLETE AT 3:34 1-25-08				

Appendix D

Digital Simulations
(See Enclosed CD)



■ **Buckeye Wind Project**
Champaign County, Ohio
Visual Impact Assessment
Appendix D: Digital Simulations

overpower
Prepared by:
Environmental Design & Research
217 Montgomery St. Suite 1001
Syracuse, New York 13202

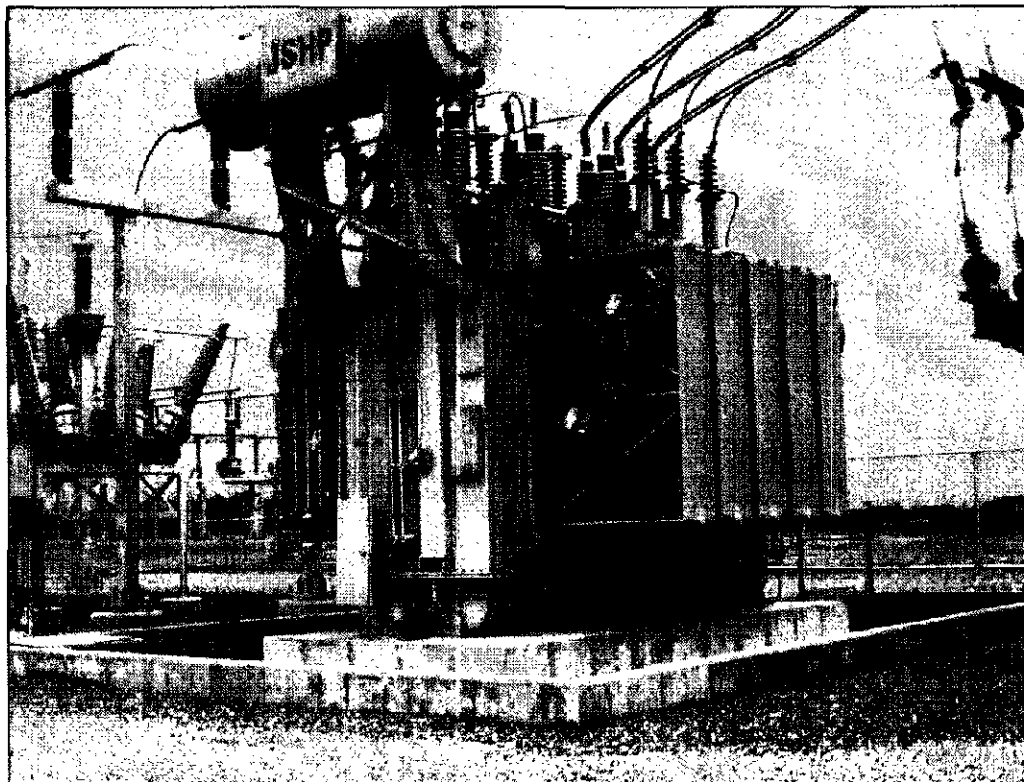


April 2009

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

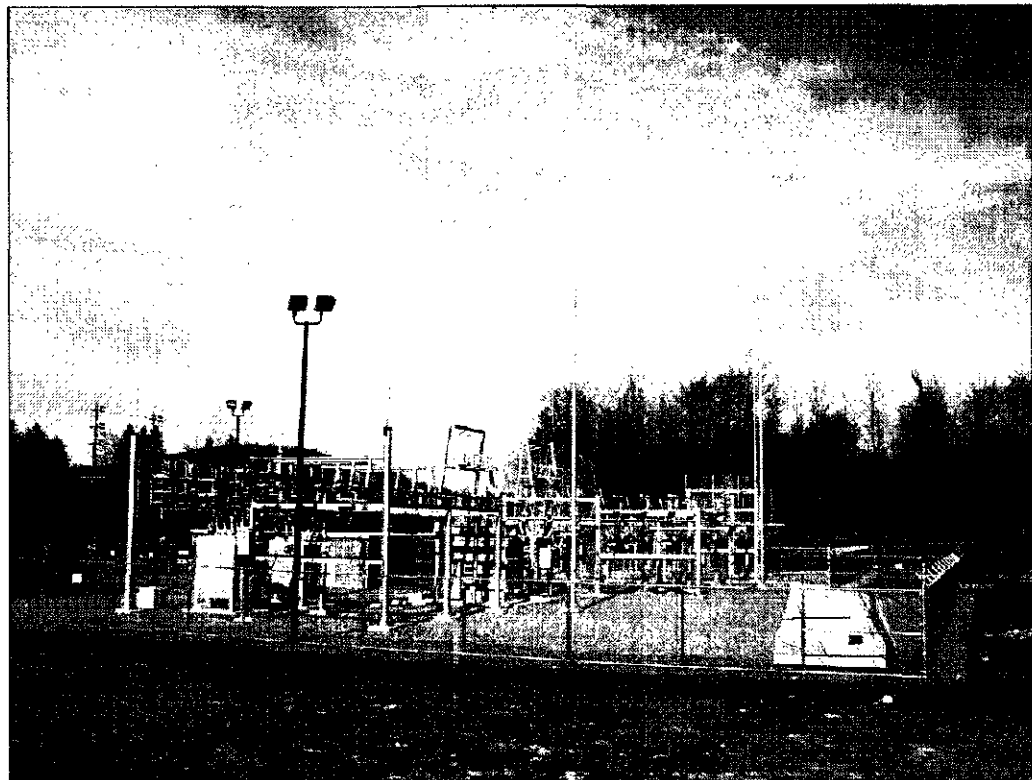
March 2009

EDR

3.



4.



Buckeye Wind Project

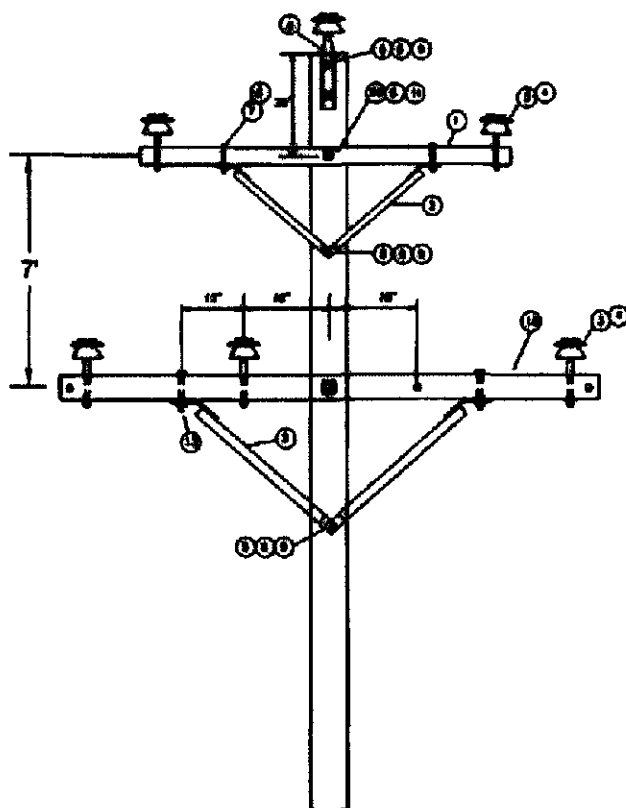
Champaign County, Ohio

Appendix E: Typical Overhead Line/Substation Photos and Details

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

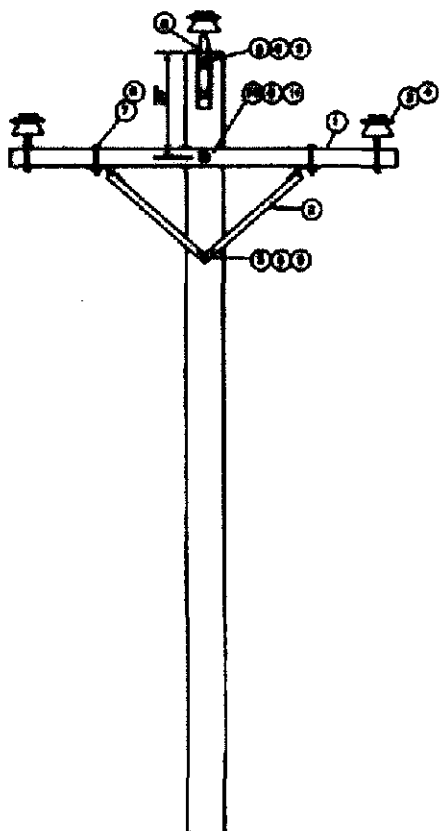
March 2009





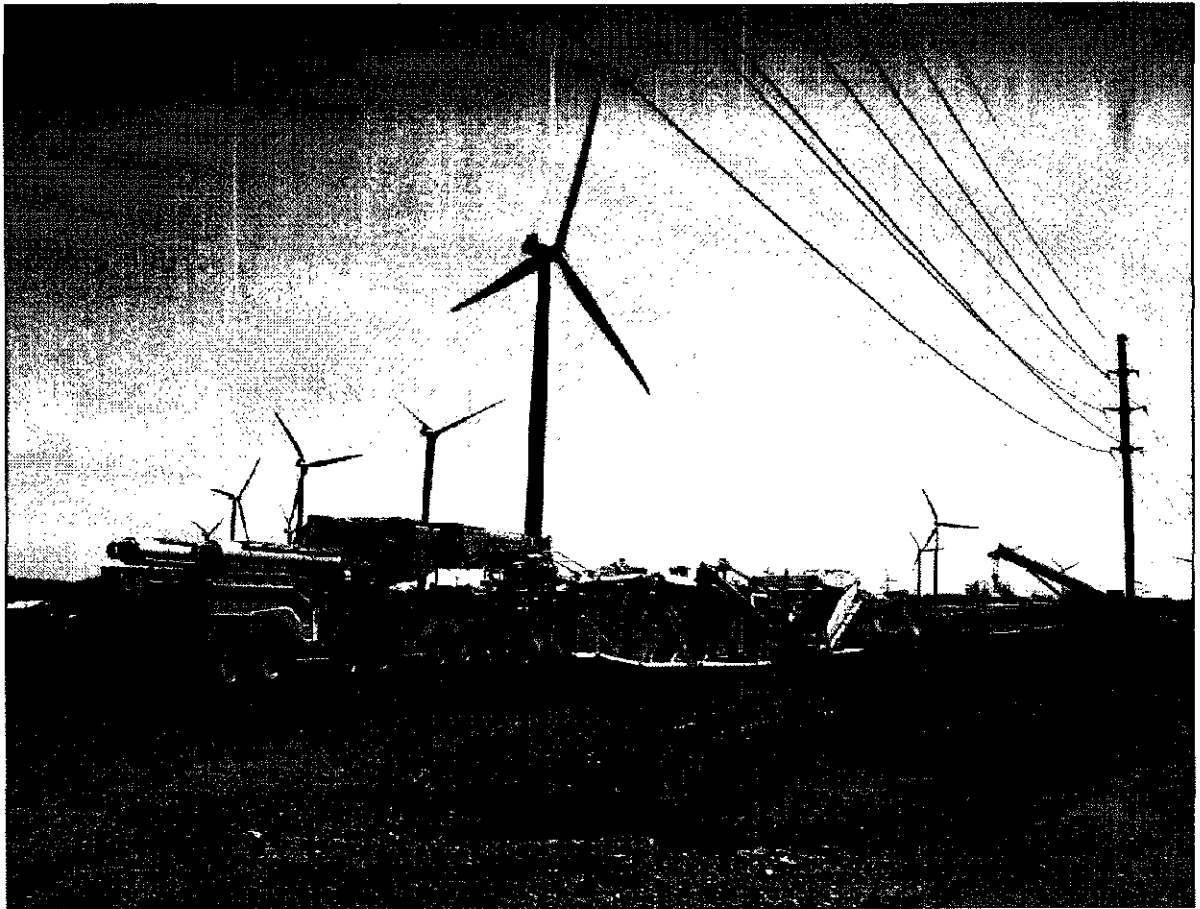
ITEM	SYMBOL	QTY	DESCRIPTION
1	014-104.000	1	CROSSARM 4"x8"x8"
2	011-077.000	2	60°/30° BRACE
3	016-295.000	6	34.5kv PIN INSULATOR
4	011-432.300	5	STEEL INSULATOR PIN
5	050 SERIES	5	MACHINE BOLT TO SUIT
6	050-084.000	10	2-1/4" SQUARE WASHER
7	050-416.000	2	1/2" x 6" BOLT
8	2770-A24-130	1	POLE TOP PIN (HUGHES BROTHERS)
9	011-380.100	5	3/4" MF LOCKNUT
10	050 SERIES	2	3/4" BOLT TO SUIT
11	011-380.200	2	3/4" MF LOCKNUT
12	014-115.000	1	3-3/4"x4-3/4"x12" CROSSARM
13	050-106.000	2	CARRIAGE BOLT 1/2"x5"

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



ITEM	SYMBOL	QTY	DESCRIPTION
1	014-104.000	1	CROSSARM 4"x6"x8'
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	050 SERIES	4	5/8" MACHINE BOLT TO SUIT
6	050-064.000	7	2-1/4" SQUARE WASHER
7	050-416.000	2	1/2"x8" BOLT
8	2770-A24-130	1	POLE TOP PIN (HUGHES BROTHERS)
9	011-300.100	4	5/8" MF LOCKNUT
10	050 SERIES	1	5/8" BOLT TO SUIT
11	011-380.200	1	3/4" MF LOCKNUT

*CROSSARM MAY BE DOUBLED - SEE CONSTRUCTION DRAWINGS



Maple Ridge 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

March 2009

EDR

Exhibit J
Turbine Safety Manual

Safety at Work for NORDEX Wind Turbines

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1 Basic principles

Access to the wind turbine is forbidden to unauthorised persons. With a lattice tower this is achieved by a clearly visible and durable sign in combination with a barrier. With a tubular tower a steel door at the tower bottom is locked.

All work on wind turbines (WT) of NORDEX is to be performed exclusively by personnel whose health and physical fitness has been confirmed by the examination of a company physician. Work on the WT must always be performed by at least two employees working together. Before starting work, the WT is to be taken out of operation and secured against restarting by remote access. The start and end of work, encountered problems, accidents, etc. must always be communicated to the central remote monitoring office at the company by telephone.

The general principles of occupational safety (e.g. safety shoes, suitable clothing, use of protective equipment provided by the company, prohibition of smoking and alcohol) are to be observed.

AkSiWe

Since 2001 the Arbeitskreis für Sicherheit in der Windenergie "AkSiWe" (a cross-manufacturer working group) has been offering safety solutions especially for wind turbines. It consists of safety experts of various turbine manufacturers and service providers of this industry. Nordex is a part of this working group.

Further information can be found at www.aksiwe.de.

2 Personal rescue

2.1 Emergency calls

During maintenance work on the wind turbines radio communication is used. Employees carry walkie-talkies and mobile telephones.

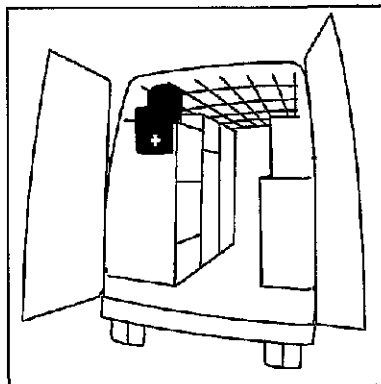
In cooperation with other enterprises of the wind energy branch, for Germany a register is compiled (WEA-NIS) with details of the locations, access routes and special features of each individual WT. The WEA-NIS (Windenergieanlagen-Notfallinformationssystem) is available at www.wea-nis.de. This will represent a reliable source of information for the local fire and rescue services. Additionally, it is recommended to communicate the necessary information to the local fire service (or climbing rescue group) directly before the WT is taken into service.

For this register each turbine is marked unambiguously. With letters 20 cm high on the tower the turbine number of the manufacturer is well visible in direction of the access road, e.g. 'N8137'. This number can be looked up at www.wea-nis.de.

2.2 First aid

First aid kits and rescue and abseiling equipment are to be deposited in all service vehicles at a defined location (see figure). The employees of the company are trained to provide first aid and attend regular follow-up courses. Additionally in all nacelles of the S70, S77 first aid kits are located.

Annual training courses on rescue from heights instruct the employees in the handling of the safety harness and lanyards and of the rescue and abseiling equipment, as well as in the special aspects of accidents occurring in a WT (e.g. falls into the safety harness, rescue from the ladder).



2.3 Rescue and escape routes

To ensure a safe footing, all treads are to be provided with non-slipping surfaces.

The first available escape route is the vertical ladder or the ladder well. The door at the tower base is fitted with a lock which can always be opened from the inside without a key.

The second escape option is to descend from the WT by rope. Abseiling equipment is to be found in all service vehicles and in all nacelles. If other equipment is used, then it is guaranteed that the different types are handled and function in the same way. The equipment is also suitable to be able to lift and rescue a person hanging in the safety harness, and subsequently to lower them safely. The equipment is inspected annually.

The employees receive annual theoretical and practical instruction in the use of the abseiling equipment, in rescue from the ladder and in descending from the WT.

For Nxx The abseiling equipment may be secured in the nacelle using the transport lugs of the generator, gearbox or rotor bearing. The attachment points are marked in a distinct colour. Persons are to be lowered via the side wall of the nacelle. To this end, there is a rope slide in the nacelle to prevent friction and damage to the rope or side wall.

S70, S77 The abseiling equipment may be secured in the nacelle using the on-board crane or the transport lug of the generator. Persons are to be lowered via the floor hatch in the stern of the nacelle.

Lattice towers Lowering from the top tower platform (exit platform of the service lift) is also possible inside the tower. When descending from the nacelle, the person being lowered should if possible be secured with a retaining rope from below.

3 Ascent and fall protection

3.1 Ladders and protection against falls

The ladders and the protection against falls are designed in compliance with the following standards:

- BGV D36 BG safety regulations on ladders and treads
- DIN 18799-1 Ladders for construction works - Ladders with two uprights
- DIN 18799-2 Ladders for construction works - Ladders with one upright
- DIN EN 12437-4 Fixed ladders (prEN 12437-4)
- DIN EN 131 Ladders
- DIN EN 1808 Ladder-guided service lift

Personal protective equipment against falls:

- DIN EN 353-1 Guided-type fall arresters including a rigid anchor line
- DIN EN 354 Lanyards
- DIN EN 355 Energy absorbers
- DIN EN 361 Full body harnesses
- DIN EN 362 Connectors
- Workplace safety guidelines ASR

Inside of a tubular tower there is a continuous ladder made of aluminium reaching from the tower base to the platform below the nacelle. A service lift is guided on this ladder. For ascending, usually this service lift is used. In case the service lift is not ready for operation, climb the ladder with your back facing towards the tower centre. A platform is provided beneath each tower section joint. There are furthermore resting platforms every 10 metres.

The following fall protection system is used:

- Fall arrest rail DIN EN 353-1
e.g. HACA No. 0529.66, steel, hot-galvanised
- Safety rope DIN EN 353-1;
e.g. Latchways No. 00900-15, steel, hot-galvanised
- 2 fall arrest sliders DIN EN 353-1, detachable
e.g. Latchways No. 31021-00, high-grade steel
- 2 fall arresters to DIN EN 353-1, detachable
e.g. HACA No. 0529.71.02, aluminium/high-grade steel
- 2 full-body harnesses to EN 361 with abdominal lug (climbing protection), lateral lugs (retainer) and dorsal lug (fall protection)
e.g. Mittelmann MKA 20 UNI-LM
e.g. HACA No. 0529.37
- Friction energy absorber DIN EN 355
e.g. Latchways No. 85535-00, high-grade steel
- 2 end stops to DIN EN 353-1 (top and bottom)
e.g. HACA No. 0529.40.02, bottom, high-grade steel
e.g. HACA No. 0529.40.03, top, high-grade steel

The manufacturers and type designations of the fall protection system components may differ from the above in individual cases, depending on the supplier of the tower or on national legal provisions.

HACA Certificate (tubular tower)

Latchways Certificate (tubular tower)

In a lattice tower the continuous ladder made of aluminium runs parallel to one corner post inside the framework. It reaches as far as the platform located approx. 10 metres below the nacelle adapter (exit platform of the service lift). This ladder is ascended with the back facing the corner post. Resting platforms are provided every 10m. A service lift is guided on this ladder. For ascending, usually this service lift is used. In case the service lift is out of order, use the ladder for ascending.

Above the exit platform, the ladder is fitted at the corner post diagonally opposite. Ascend the ladder facing the corner post. The ladder leads into the upper section of the tower and goes through the tubular adapter to the platform below the nacelle.

The following fall protection system is prescribed for lattice towers:

Fall protection system H 8 from Hailo, comprising:

- Guide rope Ø 8mm, high-grade steel
- Special plastic clips as guides every 10 metres
- Fall arrest slider with strap-type energy absorber SSL-8

3.2 Personal protective equipment

Every employee who carries out work on the WT possesses personal protective equipment provided by the company, comprising:

- Full-body safety harness with abdominal lug on the abdominal belt
- Fall arrester (or slider) with snap hook (for steel rope or rail)
- Lanyard 1.5m (Y-rope) with energy absorber (strap-type or friction energy absorber)
- Safety helmet with chin strap
- Safety shoes with steel toe protection/cap
- Work clothing
- Protective gloves
- Ear protection (if required)
- Safety glasses (if required)

Employees are obliged to use the personal protective equipment at all times.

The scope of delivery of the WT includes two sets of safety equipment (safety harness, fall arrester, lanyard), which are to be kept in the vicinity of the tower base (in the transformer substation for lattice towers) for use by the operator or rescue teams.

Rules for the use of the fall protection system

The safety equipment consists of the following parts:

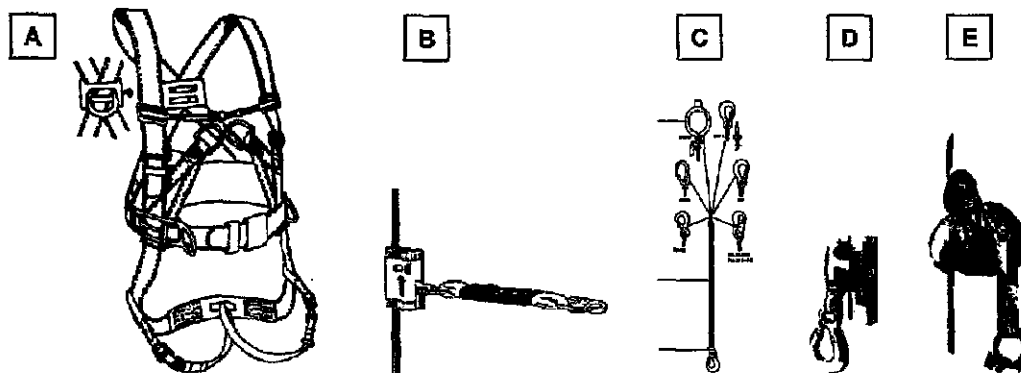


Fig. 1 Safety equipment

- A Safety harness
- B Fall arrester with steel rope (Hailo) for lattice towers
- C Lanyard with energy absorber
- D Fall arrest slider with rigid guide (HACA) or
- E Fall arrester with steel rope (Latchways)

Before maintenance the following must be observed:

1. Use approved PPE only.
2. Before using the equipment, check the material for possible damage.
Do not use damaged safety equipment!
3. Adjust the safety harness properly and tight around your body.
4. Adjust the safety rope in length to limit the falling height to less than 0.4m.
5. Assemble and attach the fall arrest slider to the fall arrest rail or the fall arrester to the steel rope and check its proper functioning.

All safety equipment must be kept hanging in a dry and cool storage room.

Make sure that no aggressive chemical substances or sharp objects can harm any of the safety gear.

Possible damages must immediately be reported to the person responsible for safety.

Never ever use any damaged, worn out or uncertified safety gear!

3.3 Service lift

All WT come with a service lift. The service lift is designed for use in the WT only. The maximum load bearing capacity is 240kg or this corresponds to 2 persons. The service lift is guided on the ladder and runs up and down a steel rope powered by a continuous winch. An arrester device secures the service lift on a second steel rope.

Assembly, maintenance and operation of the service lift must only be entrusted to appropriately instructed persons. All employees remain obliged to use their personal protective equipment, even when ascending the tower by service lift. A walkie-talkie or mobile telephone is to be carried at all times.

The service lift is equipped with the following safety equipment:

- Emergency-stop button
- Phase sequence relay, which prevents operation in case of incorrect phase sequence (danger of false assignment of running directions, danger of malfunction/failure of limit switches and hoisting power limiter)

- Mechanical hoisting power limiter, integrated into the rope drive, to disconnect the drive in case of overload (excess loading, jamming during ascent)
- Emergency lowering and hand wheel for manual operation in case of a power failure
- Arrester device on the steel rope, with emergency-stop button, triggers in case of sudden excessive acceleration and thus protects the lift cage in case of carrying cable rupture or winch failure
- Limit switches for ascent (operating limit switch, emergency limit switch), descent (cage base), and door limit switch
- The guiding on the ladder prevents rotary and reciprocating motion.

To ensure functioning of the arrester device, the steel rope must be tensioned. A tensioning weight is provided for this purpose.

The following checks of the service lift are prescribed:

- Routine checks before each use and monitoring during operation
- Regular inspections by an expert at least once each year or after 250 operating hours of the continuous winch, whichever is earlier
- Special inspection by an authorised expert before commissioning, after every 48 months and after any incident leading to activation of the arrester device

The personal protective equipment must also be worn when using the service lift. Furthermore a walkie-talkie or a mobile phone must be carried along.

3.4 Entering the nacelle

The passage from the top platform up into the nacelle is via a lattice on the platform. Grips and treads, or else a short ladder segment, are mounted on the nacelle floor and turn together with the nacelle. Access hatch to the nacelle is closed by a cover. On the Nxx machines, the cover possesses a switch to signal opening of the cover to the control system. If not already the case, the WT is then automatically switched off.

4 Protection against falling objects

A platform is provided below the upper flange of each tower segment in a tubular tower. Gaps in the platforms, insofar as required by the design, are approx. 20mm wide. The openings for lead-throughs, etc. are provided with a coaming to prevent objects from being able to roll over the edge. Access openings, furthermore, are closed with covers.

Coamings are also provided at the access hatch and cable lead-through in the nacelle adapter of a lattice tower.

No loose tools or other objects are to be carried in clothing, pockets, etc. Employees are obliged to use suitable tool bags. Safety helmets must be worn at all times.

5 Material transport using the on-board crane

The WT is equipped with an on-board crane, which can be used to transport spare parts, etc. Loose parts must only be transported in the special containers provided for this purpose.

The preferred method for communication between the slinger/banksman and crane operator is to use a walkie-talkie, whereby unambiguous hand signals should be agreed before starting work in case the radio communication fails.

6 Lighting

The electrical installations and lighting are designed in accordance with the following standards:

- Workplace safety guidelines with ASR 7/3: Artificial lighting and ASR 7/4: Safety lighting

- DIN 5035-2: Artificial lighting: Recommended values for indoor and outdoor workspaces
- DIN prEN 50308: Wind turbines – Occupational safety

For the WT, the following minimum requirements apply for the provision of lighting:

- Nacelle: 50lx (maintenance, inspection in WT), possibly to be achieved with additional lamps, for which power sockets are provided.
- Platforms: 50lx (working lighting), one lamp installed on each platform, additional lamps can be connected for maintenance work.
- Ladder: 10lx (guide lighting, general lighting), lamps are installed at the ladder ends and in the vicinity of the access openings.
- Entrance space at the tower base: 50lx (working lighting)
- Switch cabinets: 100lx (switchgear in buildings), additional lamps are installed; further additional lamps can be connected for maintenance work.
- Service lift, if installed: one lamp (with battery) inside the lift and one additional lamp on the exit platform.
- Emergency lighting: Battery-powered lamps with a capacity of at least 60 minutes are integrated into the existing lamps, with an ON delay of max. 15 seconds.
- In lattice towers, the ladder is illuminated by two floodlights, one located below the nacelle adapter and the other at the bottom of the tower.

The lamp types and the precise locations of the individual lamps may vary slightly between different towers and manufacturers.

The lighting guarantees adequate illumination throughout the whole WT. A safe descent is also possible in the case of a power failure.

During erection and during any other work with the crane, floodlights are used for additional illumination in case of darkness.

7 Protection against noise

Employees are required to wear ear protection when carrying out noise-intensive work, e.g. use of an impact screwdriver.

8 Handling of hazardous substances

Special work instructions exist regarding the handling of hazardous substances, e.g. oils, greases, paints, sprays, etc., copies of which are carried in all service vehicles. Furthermore, additional personal protective equipment, e.g. gloves, eye protection and respirator, are provided by the company.

The employees are obliged to inform themselves regarding proper handling before starting work, to observe the relevant work instructions and to use the additional safety equipment provided.

9 Electrical equipment

The electrical equipment of the WT complies with VDE 0100: *Electrical work*.

The following shock-hazard protection measures are implemented:

- Switches, sockets, lamps: Protection to IP54
- Converters, generators: Protection to IP54
- Cables: Sheathing, terminal covers in the switch cabinets
- S70, S77 busbars which are live during operation: Wrapping/sheathing