

APPENDIX E:
HISTORICAL AND CULTURAL DOCUMENTATION



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

October 25, 2010

Ms. Laura Segna
Resource Protection and Review
Ohio Historic Preservation Office
1982 Velma Avenue
Columbus, Ohio 43211-2497

RE: Pettisville Local Schools Wind Turbine Project (DOE/EA - 1818)
232 Summit Street, Pettisville, Fulton County, Ohio

Dear Ms. Segna:

The U.S. Department of Energy (DOE) has granted the Ohio Department of Development (ODOD) State Energy Program (SEP) funding through the Energy Policy and Conservation Act, as amended (43 U.S.C § 6321 et seq. with funds appropriated under the American Reinvestment and Recovery Act of 2009. ODOD selected Pettisville Local School District to receive a grant through Ohio's SEP to facilitate the construction and operation of a single 750 kilowatt wind turbine that would stand approximately 300 feet at its tallest extent that is intended to provide electricity to the newly constructed Pettisville Pre-Kindergarten through Twelfth Grade School Campus (proposed project). The DOE funding of the wind turbine represents the proposed federal undertaking.

This letter initiates consultation with your office pursuant to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR Part 800 "Protection of Historic Properties" (Section 106) for the proposed project. An OHPO Section 106 Review – Project Summary Form is enclosed for your reference (Enclosure A).

To assist in the development of the Section 106 consultation materials, the DOE enlisted the assistance of Mr. Stephen D. Mikesell, a senior architectural historian who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) in architectural history, history or archeology. Mr. Mikesell's *Section 106 Compliance Report for Pettisville Local Schools Wind Energy Project* (report), utilized data gathered by The Renaissance Group (TRG) related to historic properties registered or eligible for listing on the National Register of Historic Places (NRHP) within the Area of Potential Effect (APE) (Enclosure B).

Although there are some cultural resources in the indirect APE, DOE has determined that the proposed undertaking will result in No Adverse Effect on any NRHP listed or eligible



properties or archeological resources. If you agree with DOE's determination that there will be no effects to historic or archaeological resources, please concur, as your concurrence is required for DOE's record of compliance under Section 106.

DOE is preparing an Environmental Assessment (EA) for the proposed project in compliance with the National Environmental Policy Act (NEPA). As part of the public notification for the EA for the proposed project, public participation will be integrated into the NEPA EA process. Documentation of DOE Section 106 consultation with OHPO will be included in the EA, which will be open for public comment for 15 days. Documentation of DOE's Section 106 consultation with OHPO will be included in the EA, which will be open for public comment for 15 days. All notices of the EA public comment period will reference the public's ability to comment on the proposed Undertaking's potential effects on NRHP listed and eligible properties. DOE finds this public participation process to be consistent with 36 CFR 800.2(d).

Should you have any questions about this information, please contact me at Melissa.Rossiter@go.doe.gov or 720-356-1566.

Thank you in advance for your consideration.

Sincerely,



Melissa Rossiter
NEPA Document Manager
U.S. Department of Energy
1617 Cole Boulevard
Golden, CO 80401

Attachments

cc: Mark Epstein, Department Head, OHPO
Franco Ruffini, Deputy SHPO, OHPO
James Huth, Advanced Energy Program Manager, ODOD
Aaron Godwin, Owners Representative, Renaissance Group
Stephen Switzer, Pettisville School District Superintendent
Steve Mikesell, ICF International



**OHIO HISTORIC PRESERVATION OFFICE:
RESOURCE PROTECTION AND REVIEW**

Section 106 Review - Project Summary Form

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. DO NOT USE THIS FORM.

SECTION 1: GENERAL PROJECT INFORMATION

All contact information provided must include the name, address and phone number of the person listed. Email addresses should also be included, if available. Please refer to the Instructions or contact an OHPO reviewer (mailto:Section106@ohiohistory.org) if you need help completing this Form. Unless otherwise requested, we will contact the person submitting this Form with questions or comments about this project.

Date: **October 22, 2010**

Name/Affiliation of person submitting form: **Melissa Rossiter, NEPA Document Manager, Department of Energy**

Mailing Address: **1617 Cole Boulevard, Golden, CO 80401**

Phone/Fax/Email: **720-356-1566/Melissa.Rossiter@go.doe.gov**

A. Project Info:

1. This Form provides information about:

New Project Submittal:
YES NO

Additional information relating to previously submitted project:
YES NO

OHPO/RPR Serial Number from previous submission:

2. Project Name (if applicable):

Pettisville Local Schools Wind Energy Project

3. Internal tracking or reference number used by Federal Agency, consultant, and/or applicant to identify this project (if applicable):

DOE/EA 1818

- B. Project Address or vicinity:
232 Summit Street
- C. City/Township:
Pettisville
- D. County:
Fulton
- E. Federal Agency and Agency Contact. *If you do not know the federal agency involved in your project, please contact the party asking you to apply for Section 106 Review, not OHPO, for this information. HUD Entitlement Communities acting under delegated environmental review authority should list their own contact information.*
Melissa Rossiter
NEPA Document Manager
Department of Energy
1617 Cole Boulevard
Golden, CO 80401
Melissa.Rossiter@go.doe.gov
- F. Type of Federal Assistance. *List all known federal sources of federal funding, approvals, and permits to avoid repeated reviews.*
Grant, American Recovery and Reinvestment Act; DOE State Energy Program
- G. State Agency and Contact Person (if applicable):
James Huth
Advanced Energy Program Manager
Ohio Energy Resources Division
James.Huth@development.ohio.gov
- H. Type of State Assistance:
Same as above, assistance is provided by Federal Government but being distributed by the State through the State Energy Program
- I. Is this project being submitted at the direction of a state agency **solely** under Ohio Revised Code 149.53 or at the direction of a State Agency? *Answering yes to this question means that you are sure that no federal funding, permits or approvals will be used for any part of your project, and that you are seeking comments only under ORC 149.53.*

YES NO
- J. Public Involvement- Describe how the public has been/will be informed about this project and its potential to affect historic properties. Please summarize how they will have an opportunity to provide comments about any effects to historic properties. (This step is required for all projects under 36 CFR § 800.2):
Project has been in the local spotlight for the last 18 months.

The Fulton County Historical Society has been contacted and assisted in the identification of any Historical Properties within the APE. The project has been reviewed and was available for public comment in both School Board and Village Planning and Zoning meetings. The project has been extensively covered in the local media. See Attachment 3 for full list and copy of all articles and public involvement.

- K. Please list other consulting parties that you have contacted/will contact about this project, such as Indian Tribes, Certified Local Governments, local officials, property owners, or preservation groups. (See 36 CFR § 800.2 for more information about involving other consulting parties). Please summarize how they will have an opportunity to provide comments:

The following parties were notified of the project through the Department of Energy, Environmental Assessment Process. They were allowed an opportunity to comment on the project through the scoping process and will be notified again when the draft EA is released to allow for further comment.

**Steven Brown, Director
Fulton County Regional Planning Director
152 South Fulton Street, Suite 230
Wauseon, Ohio 43567**

**Lisa Arend, Director
Fulton County Economic Development
152 South Fulton Street, Suite 280
Wauseon, Ohio 43567-1726**

**Fulton County Commissioners
152 South Fulton Street
Wauseon, Ohio 43567**

**Western Reserve Historical Society
10825 East Blvd.
Cleveland, OH 44106**

**Western Reserve Heritage Association
P.O. Box 314
14485 N. Cheshire Street
Burton, OH 44021**

**The Clinton Township Trustees
230 Clinton Street
Wauseon, Ohio 43567**

**Fulton County Historical Society
229 Monroe Street
Wauseon, Ohio 43567**

Tribes:

**Bad River Band of the Lake Superior Tribe of Chippewa Indians
Citizen Potawatomi Nation
Forest County Potawatomi Community
Keweenaw Bay Indian Community
Little Traverse Bay Bands of Odawa Indians
Pokagon Band of Potawatomi Indians
Seneca-Cayuga Tribe
Turtle Mountain Band of Chippewa Indians
Bay Mills Indian Community
Hannahville Indian Community
Lac Courte Oreilles Band of Lake Superior Chippewa
Match-e-be-nash-she-wish Band of Pottawatomi
Prairie Band of Potawatomi Nation
St. Croix Chippewa Band of Lake Superior Chippewa
Sokaogon Chippewa Community
Wyandotte Tribe of Oklahoma
Chippewa-Cree Tribe of the Rocky Boy's Reservation
Delaware Tribe of Indians
Nottawaseppi Huron Band of the Potawatomi Indians
Little River Band of Ottawa Indians
Ottawa Tribe of Oklahoma
Red Cliff Band of Lake Superior Chippewa
Seneca Nation of Indians
Tonawanda Seneca Nation**

SECTION 2: PROJECT DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)

Provide a description of your project, its site, and geographical information. You will also describe your project's Area of Potential Effects (APE). Please refer to the Instructions or contact an OHPO reviewer if you need help with developing the APE or completing this form.

For challenging projects, provide as much information as possible in all sections, and then check the box in Section 5.A. to ask OHPO to offer preliminary comments or make recommendations about how to proceed with your project consultation. This is recommended if your project involves effects to significant historic properties or if there may be challenging procedural issues related to your project. Please note that providing information to complete all Sections will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

A. Does this project involve any Ground-Disturbing activity: YES NO
(If **Yes**, you must complete all of Section 2.A. If **No**, proceed directly to Section 2. B.)

1. General description of width, length and depth of proposed ground disturbing activity:

The turbine's foundation will not be larger than 40' x 40' (or 1600 square feet). The base of the foundation will likely be 20' under the finished ground level. Other excavation will include electrical and data conduit runs, not to exceed 1,000' long x 2' wide x 3' deep for up to an additional 2,000 square feet of disturbed land. Of all of this, only a foundation pier, not to be larger than 16' x 16' will be visible above the finished ground (or 256 square feet).

2. Narrative description of previous land use and past ground disturbances, if known:

The previous use of the land includes farming, although construction is already underway for an unrelated addition to the schools and their associated playing fields and parking lots. All of the proposed ground disturbance will affect land that has been previously disturbed during prior use and construction projects on the campus.

3. Narrative description of current land use and conditions:

Construction is already underway on this project site for an unrelated addition to the schools and their associated playing fields and parking lots.

4. Does the landowner know of any archaeological resources found on the property?
YES NO If yes, please describe:

B. Submit the exact project site location on a USGS 7.5-minute topographic quadrangle map for all projects. Map sections, photocopies of map sections, and online versions of USGS maps are acceptable as long as the location is clearly marked. Show the project's Area of Potential Effects (APE). It should be clearly distinguished from other features shown on the map:

1. USGS Quad Map Name:

Pettisville USGS Quad Map

2. Township/City/Village Name:

Pettisville, Ohio

See Attachment 2

C. Provide a street-level map indicating the location of the project site; road names must be

identified and legible. Your map must show the exact location of the boundaries for the project site. Show the project's Area of Potential Effects (APE). It should be clearly distinguished from other features shown on the map:

- D. Provide a verbal description of the APE, including a discussion of how the APE will include areas with the potential for direct and indirect effects from the project. Explain the steps taken to identify the project's APE, and your justification for the specific boundaries chosen:

See Enclosure B - Section 106 Compliance Report for Pettisville Local Schools Wind Energy Project

- E. Provide a detailed description of the project. This is a critical part of your submission. Your description should be prepared for a cold reader who may not be an expert in this type of project. The information provided must help support your analysis of effects to historic properties, not other types of project impacts. Do not simply include copies of environmental documents or other types of specialized project reports. If there are multiple project alternatives, you should include information about all alternatives that are still under active consideration:

See Attachment 1 - Project Overview

SECTION 3: IDENTIFICATION OF HISTORIC PROPERTIES

Describe whether there are historic properties located within your project APE. To make that determination, use information generated from your own Background Research and Field Survey. Then choose one of the following options to report your findings. Please refer to the Instructions and/or contact an OHPO reviewer if you are unsure about how to identify historic properties for your project.

If you read the Instructions and you're still confused as to which reporting option best fits your project, or you are not sure if your project needs a survey, you may choose to skip this section, but provide as much supporting documentation as possible in all other Sections, then check the box in Section 5.A. to request preliminary comments from OHPO. After reviewing the information provided, OHPO will then offer comments as to which reporting option is best suited to document historic properties for your project. Please note that providing information to complete this Section will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

Recording the Results of Background Research and Field Survey:

- A. Summary of discussions and/or consultation with OHPO** about this project that demonstrates how the Agency Official and OHPO have agreed that no Field Survey was necessary for this project (typically due to extreme ground disturbance or other special circumstances). Please **attach copies** of emails/correspondence that document this agreement. You must explain how the project's potential to affect both archaeological and historic resources were considered.
- B. A table that includes the minimum information** listed in the OHPO Section 106 Documentation Table (which is generally equivalent to the information found on an inventory form). This information must be printed and mailed with the Project Summary Form. To provide sufficient information to complete this Section, you must also include summary observations from your field survey, background research and eligibility determinations for each property that was evaluated in the project APE.
- C. OHI (Ohio Historic Inventory) or OAI (Ohio Archaeological Inventory) forms-** New or updated inventory forms may be prepared using the OHI pdf form with data population capabilities, the Internet IForm, or typed on archival quality inventory forms. To provide sufficient information to complete this Section, you must include summary observations

from your field survey and background research. You must also include eligibility determinations for each property that was evaluated in the project APE

- D. A historic or archaeological survey report** prepared by a qualified consultant that meets professional standards. The survey report should meet the Secretary of the Interior's Standards and Guidelines for Identification and OHPO Archaeological Guidelines. You may also include new inventory forms with your survey, or update previous inventory forms. To complete this section, your survey report must include summary observations from your field survey, background research and eligibility determinations for each property that was evaluated within the APE.
- E. Project Findings.** Based on the conclusions you reached in completing Section 3, please choose one finding for your project. There are (mark one):
- Historic Properties Present in the APE:
 - No Historic Properties Present in the APE:

SECTION 4: SUPPORTING DOCUMENTATION

This information must be provided for all projects.

- A. Photographs must be keyed to a street-level map, and should be included as attachments to this application. Please label all forms, tables and CDs with the date of your submission and project name, as identified in Section 1. You must present enough documentation to clearly show existing conditions at your project site and convey details about the buildings, structures or sites that are described in your submission. Faxed or photocopied photographs are not acceptable. See Instructions for more info about photo submissions or 36 CFR § 800.11 for federal documentation standards.
1. Provide photos of the entire project site and take photos to/from historic properties from/towards your project site to support your determination of effect in Section 5.
 2. Provide current photos of all buildings/structures/sites described.
- B. Project plan, specifications, site drawings and any other media presentation that conveys detailed information about your project and its potential to affect historic properties.
- C. Copies or summaries of any comments provided by consulting parties or the public.

SECTION 5: DETERMINATION OF EFFECT

- A. **Request Preliminary Comments.** For challenging projects, provide as much information as possible in previous sections and ask OHPO to offer preliminary comments or make recommendations about how to proceed with your project consultation. This is recommended if your project involves effects to significant historic properties, if the public has concerns about your project's potential to affect historic properties, or if there may be challenging procedural issues related to your project. Please be aware that providing information in all Sections will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

1. We request preliminary comments from OHPO about this project:
YES NO

2. Please specify as clearly as possible the particular issues that you would like OHPO to examine for your project (for example- help with developing an APE, addressing the concerns of consulting parties, survey methodology, etc.):

B. **Determination of Effect.** If you believe that you have gathered enough information to conclude the Section 106 process, you may be ready to make a determination of effect and ask OHPO for concurrence, while considering public comments. Please select and mark one of the following determinations, then explain the basis for your decision on an attached sheet of paper:

No historic properties will be affected based on 36 CFR § 800.4(d) (1). Please explain how you made this determination:

No Adverse Effect [36 CFR § 800.5(b)] on historic properties. This finding cannot be used if there are no historic properties present in your project APE. Please explain why the Criteria of Adverse Effect, [36 CFR Part 800.5(a) (1)], were found not to be applicable for your project:

Although no Federally, State or Locally listed properties were found within the 2 Mile APE, some unlisted properties were found that could potentially qualify for future listing, although none would be considered iconic, historically unique or rare samples or locations of reported strong significant historic activities. Of these properties, none would be affected adversely by the installation of the wind turbine on the Pettisville Schools campus. None of these properties would receive noise from the turbine (see Attachment 7, "Ambient and Turbine Produced Sound Level Analysis") or flicker from the turbine (see attachment 9, "Shadow Flicker Analysis". None of the properties are within close proximity to the site. None of the properties have designed view elements facing the wind turbine site. None of the properties have a clear view of the turbine and of those that could potentially see the turbine from some location on their property, the turbine would only represent a partial view/minor visual element above the existing natural and environment horizon elements such as telephone poles and trees. (See Attachment 8, "Turbine Visualizations and Photo Report" for sample turbine views)

The nearest Federally listed property is over 3 miles from the site and will not be able to see the turbine.

At 1.5 miles, even if the turbine was fully visible through an unobstructed view on level terrain, due to perspective, the

turbine will only appear to be .9 inches tall at a distance of 2 feet from the viewer's eye, barely perceptible on the horizon. For almost all locations, some obstructions exist taking the likely visibility from no visibility to less than .9 inches at this distance.

No archeological or native american sites were reported or found.

The project was unanimously approved by the local planning and zoning board.

- Adverse Effect** [36 CFR § 800.5(d) (2)] on historic properties. Please explain why the criteria of adverse effect, [36 CFR Part 800.5(a) (1)], were found to be applicable to your project. You may also include an explanation of how these adverse effects might be avoided, reduced or mitigated:

Please print and mail completed form and supporting documentation to:

*Ohio Historic Preservation Office
Attn: Mark J. Epstein, Department Head
Resource Protection and Review
1982 Velma Avenue
Columbus, OH 43211-2497*

Section 106 Compliance Report for Pettisville Local Schools Wind Energy Project

Pettisville, Fulton County, Ohio

October 22, 2010

Prepared for: U.S. Department of Energy

Prepared by: Stephen D. Mikesell, ICF International



Purpose of Document

This document was prepared on behalf of the U.S. Department of Energy (DOE), for an Ohio Department of Development (ODOD) State Energy Program (SEP) grant for a single wind turbine for Pettisville Local Schools (proposed project or proposed turbine). This report is intended to achieve Section 106 compliance for DOE for their funding of the proposed wind turbine project at the Pettisville School playing field. This report is a focused Section 106 compliance document and relies on technical studies prepared for this project by The Renaissance Group (TRG), who are acting as the Owner's Representative for Pettisville Schools. Also included in this submission are numerous other documents that were prepared as appendices for the National Environmental Policy Act (NEPA) compliant Environmental Assessment (EA) that DOE is preparing for this project. While all of the documents are attached to this Section 106 submission, the most pertinent of the documents which were used in this evaluation are referenced herein and located in Enclosure 1. The most relevant attachments are: Attachment 5, Pettisville Project Area Maps, and Attachment 6, Non-Listed Properties. Also useful for your review are Attachment 8, the Visualization Report, used to analyze visual impacts, Attachment 7, Sound Analysis, used to analyze the potential for noise impacts, and Attachment 9, Flicker Analysis, used to analyze shadow flicker impacts. The findings of these technical reports are summarized below to analyze the potential for adverse effects.

1. Qualifications of Preparer

This Section 106 Compliance Document was prepared by Stephen D. Mikesell. Mr. Mikesell is a senior architectural historian with ICF International. He has worked for 30 years in the Section 106 compliance field. Before coming to ICF in February 2010, he worked for nine years as the Deputy State Historic Preservation Officer for the State of California. Between 1991 and 2001, he was a partner in a mid-sized cultural resource management firm, specializing in Section 106 compliance. Before 1980 and 1991, he worked as an architectural historian with the State of California, first with the State Historic Preservation Office (SHPO) and later with the California State Department of Transportation.

2. Summary of Findings

Based on a review of the documents and data provided by TRG, DOE has determined that the proposed project will result in No Adverse Effect to properties that might qualify for listing in the National Register of Historic Places. Because the Area of Potential Effects (APE) for this undertaking is large – a two mile radius, or four mile diameter from the turbine site – there are hundreds of potentially eligible properties within the APE. For the purpose of analyzing potential effects to historic properties, this report assumes that all pre-1960s properties are eligible for listing in the National Register of Historic Places (NRHP). This assumption applies only to this proposed undertaking. This report concludes that, even if every older property was National Register eligible, there would not be an adverse effect to any historic properties.

3. Project Description

DOE has provided a SEP grant to ODOD, which selected Pettisville Local School District to receive a portion of its SEP grant funds. DOE would authorize the recipient to continue to expend Federal funding to design, permit, and construct the proposed project for which an EA is underway. The proposed project is a single 750-kilowatt wind turbine, and approximately 2,000 feet of associated electrical underground transmission equipment, at Pettisville's Pre-Kindergarten through Twelfth Grade School which is located at 232 Summit Street, Pettisville, Ohio. The proposed project would provide electricity directly to the high school, reducing electrical demands of the school and lowering the carbon footprint associated with daily operations. The proposed project would be an Aeronautica 750kW turbine mounted on a tower that is 213 feet tall with a 177 feet diameter rotor. At its tallest extent, when a rotor is straight up, the total height of the proposed project would be about 300 feet. (Attachment 1 contains a more detailed project overview).

The proposed turbine site is a parcel that has been farmed continuously until recently. The site has been under construction since 2009 for development of a high school ball field. (Attachment 2 contains the site location on a USGS Topographic Map).

The proposed project is an undertaking (36 CFR 800) because the majority of funding derives from a American Recovery and Reinvestment Act funded SEP grant, which is appropriated to the DOE and distributed through the state of Ohio.

4. Consulting Party Participation

As part of the public notification for the EA for the proposed project, public participation as allowed per 36 CFR Part 800 will be integrated into the NEPA EA. Documentation of DOE Section 106 consultation with OHPO will be included in the EA, which will be open for public comment for 15 days.

The following are some of the organizations notified of the project through the DOE EA scoping process and these organizations will be invited to comment on the Draft EA when it is released to the public.

- Fulton County Historical Society
- Fulton County Commissioners
- Western Reserve Historical Society
- Western Reserve Heritage Association
- The Clinton Township Trustees

According to Indian Entities Recognized and Eligible to Receive Services from the US Bureau of Indian Affairs in Federal Register, Volume 72, Number 55 dated March 22, 2007 (72 FR 13648) and the National Association of Historic Preservation Officers at <http://www.nathpo.org>, there are no Federally-recognized Tribes in the State of Ohio nor is there a Tribal Historic Preservation Officer for Ohio.

However, DOE has provided the Notice of Availability to 57 tribal representatives that are regularly notified of Federal Actions in the state of Ohio.

Prior to this submission, the proposed project was reviewed and made available for public comment at both School Board and Village Planning and Zoning meetings. The proposed project has also been extensively covered in the local media. Attachment 3 contains a list of public meetings and newspaper articles related to the proposed project.

5. Inventory and Evaluation

The proposed project will directly impact a very small piece of land. The foundation for the turbine and associated equipment, and associated construction zones, are expected to be less than one acre in an area that is already under construction for the school's new ball field. The actual foundation will permanently affect approximately 256 square feet. The proposed turbine has the potential to have visual and noise impacts to properties far from the school grounds where the turbine would be installed.

a. Area of Potential Effect

The Pettisville turbine project has two APEs. First, the direct APE, is the area of actual ground disturbance, the 1,600 square foot area that would be excavated for the 256 square foot foundation and an additional 2,000 feet that would be excavated for the associated underground electrical transmission equipment. The staging area would be approximately two acres, but no other excavation would take place within this area.

Second is indirect APE. There is no definitive rule for determining the indirect APE for a wind turbine, which can create both visual and audible effects on the adjacent properties. The proposed undertaking involves installation of a tower that is approximately 213 feet tall, with a total height of about 300 feet when the rotor is vertical. As a conservative measure, the proponent has elected to study a two mile APE for indirect effects. This indirect APE was developed based on the height of the proposed project, the surrounding topography, tree cover, and urban forest in the vicinity of the proposed project and simulated visualizations of the proposed project. Noise and flicker effects are quite localized and do not extend far beyond the school property. The two mile APE was selected as the maximum distance from which the proposed project will be seen.

b. Inventory of Properties Identified

There are no previously-identified historic properties (properties previously listed in or determined eligible for listing in the National Register of Historic Places) within the direct or indirect APEs for this proposed undertaking (Attachment 4). The absence of designated properties does not indicate that no properties could be listed or determined eligible. Pettisville is a small farming community of approximately 2,000 people and has likely been bypassed by many of the activities from which determinations of eligibility typically arise, such as Tax Act projects, federally-funded highway projects, etc.

c. National Register eligibility of properties, direct APE

There are no National Register-listed properties within the direct APE for the proposed undertaking. The direct APE, as discussed earlier, is the construction zone for the proposed project. The direct APE is illustrated in the photograph below. As noted, the parcel for the proposed project was farmed until a year ago and is currently under construction to serve as a playing field for the school district. There are no buildings on the site. The parcel is so extensively modified, as shown in the photograph, that there is no reason to suspect that an intact archaeological site exists at this property.



d. National Register eligibility of properties, indirect APE

To determine the potential for adverse effects to historic properties TRG inventoried all buildings and structures built before 1960, located within the 2 mile radius from the proposed project. The results of this inventory may be seen in Attachment 5 “Pettisville Project Area Maps,” and Attachment 6, “Pettisville Non-Listed Properties.” Each entry in Attachment 6 includes a photograph of the property as well as the estimated date of construction (which was provided by the local auditor). Each entry also includes a “located in” field, with the name of the quadrant in which that property is located and a Map ID number, which corresponds to a number highlighted on the quadrant map in which the property is

located. To facilitate an assessment of potential visual impacts, each entry also includes a note of the radius (.5 mile, 1 mile, 1.5 mile, or 2 miles) in which the property is located.

There are 140 properties shown in Attachment 6. These properties fall into two categories: urban use properties (nearly all are single family homes) found in the Central Quadrant and rural properties (nearly all are farmhouses and farm structures), located within the other four quadrants. The qualities of these properties differ considerably from one quadrant to the next. The discussion below summarizes the properties within each quadrant. Attachment 6 contains photographs and more specific information about the properties discussed below.

Central Quadrant Properties: The Central Quadrant properties were mostly built in the first two decades of the 20th century. These were likely in-town homes for prosperous farmers or local merchants and service sector workers. There are 26 properties that were inventoried within this quadrant. All but six of these are single family urban homes. The other properties are two churches, a cemetery, a grain elevator, a store, and a barn which is now used as a store. Nearly all of the homes have an estimated date of construction around 1900, which was used by the local auditor for homes constructed in the 1880 to 1910 range. All of these properties are within ½ mile of the proposed project.

Northwest Quadrant Properties: There are only four properties within this quadrant, two of which are not 50 years old. The two older properties are a farm built in 1900 (423), which is one mile from the proposed project and a barn dating to 1900 (645), which is located two miles from the proposed project.

Northeast quadrant properties: There are six older farm complexes in this quadrant (23, 57, 158, 277, 287, and 295). Four of these have estimated dates of construction in 1900. 277 has an estimated date of construction in 1844, although from the picture it appears likely that the structure was constructed approximately a century later. 287 has an estimated date of construction in 1960 but it is likely a 19th century home. Three of these properties are 1.5 miles from the proposed project and the other three are 2 miles away.

Southwest quadrant properties: There are 16 potentially historic properties in this quadrant, one church and farms. The vast majority of these farm houses have an estimated date of construction of 1900 (an estimate used by the local auditor). Four of these properties are within the .5 mile radius from the proposed project and the rest are 1.5 mile to 2 miles from the proposed project.

Southeast quadrant properties: This quadrant has 15 potentially historic properties, a Mennonite Church and farms. Most of these properties have an estimated date of construction in 1900 (an estimate used by the local auditor). There are two homes from the 1860s, one from the 1940s (although it appears to be much older), and the Mennonite Church, which dates to 1960. Most of these properties are a considerable distance from the proposed project. Five are 2 miles away, three are 1.5 miles away, six are 1 mile away, and one farm is located less than a mile away from the proposed project.

6. Application of Criteria of Adverse Effect

In applying the Criteria of Adverse Effect, it is useful to consider both the nature of the potential impacts and the character of the resources, specifically the qualities that make them eligible for listing in the National Register. The definition of an adverse effect in 36 CFR 800.5 (a) (1) is when “an undertaking may alter, directly or indirectly, any of the characteristics that qualify the property for listing in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling or association.”

The ACHP regulations also provide specific examples of adverse effects. These examples are discussed below, as there are different examples that might apply to potential impacts from ground disturbance, noise, and visual impacts.

a. Assessment of impacts from ground disturbance.

As noted in Section 4 above, there are no buildings at the project site and there is no reason to suspect that any intact archaeological sites could have survived the many years of farming and the more recent construction activity arising from conversion of this site from farming to school uses. DOE has determined that the proposed undertaking will have No Effect within the direct APE because there are no properties there that qualify for listing in the National Register and no intact archeological sites.

b. Assessment of impacts from noise.

Potential noise impacts for this undertaking are discussed in detail in Attachment 7, “Pettisville Local Schools Wind Turbine Project Ambient and Turbine Produced Sound Level Analysis.” The analysis concludes two things which are pertinent to a potential adverse effect. First, the ambient noise level in the immediate vicinity of the proposed project site is relatively high because of the presence of a busy rail line nearby, as well as truck and automobile traffic. Second, it concludes that the projected project noise output will only exceed 50 dB within a 200 foot radius, which restricts this impact to the playfield in which the proposed project will be constructed.

Relying upon the analysis in Attachment 7, DOE has determined that there will be No Effect to historic properties owing to auditory impacts associated with the installation of the proposed project.

c. Assessment of impacts from visual impacts.

Visual impacts vary due to at least three variables: the distance of a historic property from the visual intrusion; intervening barriers that might diminish visual impacts; and the degree to which the significance of a property hinges upon the presence or absence of visual intrusions.

The potential visual effects from the proposed project are simulated in a series of photo simulations in Attachment 8, “Pettisville Local Schools Wind Turbine Project Turbine Visualization and Photo Analysis.” These simulations take into account the distance from the turbine and intervening barriers. These

simulations do not take into account the degree to which the potential significance of historic properties hinge upon the absence of visual intrusions, which is discussed in this report.

As noted in Section 5 above, the potential historic resources within the indirect APE fall into two categories: urban properties which are mapped on the Central Quadrant; and rural properties, which are mapped on the other four quadrants. The Central Quadrant properties are mostly within a half mile of the proposed project, with a few located a mile away.

In Attachment 8, the photo simulations P-V-4, 6, 7, and 9 all illustrate the view of the proposed project within the Central Quadrant (within one-half mile of the proposed project). PV-4 shows the proposed project from just across the street, where it is highly visible. PV-6 shows the proposed project from a cemetery not far from the school. However, at the remainder of the downtown sites the proposed project cannot be seen, because of the dense urban forest of mature trees that block the view of the turbine. The photo simulation below is a typical scene near the center of Pettisville and the turbine is entirely masked by the urban forest. Most of the trees in this view will lose their leaves during fall and winter but the density of the tree cover makes it unlikely the turbine would be visible from this view, even during winter and fall.



PV-8 shows the view of from approximately 1.11 miles away from the proposed project. From here, the proposed project is invisible because of the urban forest, which disguises the proposed project from in most of the downtown area. PV-11 is 1.2 miles away and is from the vantage point of a historic resource (528). At this distance, the proposed project is scarcely visible and represents a small presence on the horizon (photo simulation below). The proposed project is barely visible to the left of the wooden power pole, near the center of the photo simulation.



PV-2 shows the turbine at less than two miles away but from an unbroken sightline across agricultural fields. The turbine can hardly be seen. PV-10 shows the turbine at a distance more than two miles. It can barely be detected.

The photo simulations in Attachment 8 show two things clearly. First, the downtown properties (those in the Central Quadrant) are protected from visual impacts by the presence of the urban forest. Second, the farm properties (in the other four quadrants) are protected chiefly by distance from the turbine.

Attachment 8 also helps analyze the impact of visual intrusions on the significance of the potential historic properties within the APE. The photographs on pages 17 and 18 and the table on pages 19 and 20 indicate that tall industrial structures are not unusual aspects of the rural landscape of Ohio. The photographs on page 17 show the visual presence of granaries, which are nearly as tall as the proposed project and larger in other respects. The photograph at the bottom of that page shows the visual presence of granaries behind a historic home, a 1900 residence in the southeast quadrant (352). The photographs on page 18 show other types of tall buildings in the area, including a communication tower that appears to be taller than the proposed project. A photograph at the bottom of that page shows one of the potential historic resources, a tall silo that appears to be as tall as a six or seven story building (170). The communications tower photograph is reproduced below.



The general conclusion from Attachment 8 is that the urban and rural properties in and near Pettisville do not exist in a setting free from industrial-type visual impacts. The granaries and silos are integral parts of the agricultural context while other tall structures such as communication towers are located where they can be free from obstructions. These types of tall structures have long been a part of this and most other rural areas of the United States.

This analysis shows that the potential significance of the many properties within a two mile radius of the proposed tower do not derive their significance from the absence of tall structures and visual intrusions. Therefore, it is unlikely that construction of the proposed project would diminish the setting for one of the properties within that radius and render it ineligible for listing in the National Register.

Visual impacts are based on at least three variables: the distance of a historic property from the visual intrusion; intervening barriers that might diminish visual impacts; and the degree to which the significance of a property hinges upon the presence or absence of visual intrusions.

Relying upon the analysis and photo simulations in Attachment 8, DOE has determined that there will be No Adverse Effect to historic properties because the proposed undertaking will not introduce a visible element that will diminish the integrity of the significant historic features of any of the properties within the APE. The closest properties, those located in the community of Pettisville, are shielded from visual impacts by the urban forest. The rural properties do not benefit from the urban forest but are generally at a distance as to make the visual impact insignificant. Finally, the presence of other vertical elements

such as granaries, silos, and communication towers indicate that the potential significance of these properties does not derive from a pristine setting. In fact, many of these tall elements, particularly silos and granaries, have been around for as long as most of the potential historic properties. Taking into account the three elements of visual impacts, DOE has determined that the proposed undertaking will result in No Adverse Effect to any of the assumed historic properties within the APE.

d. Assessment of impacts from shadow flicker impacts.

A shadow flicker analysis (Attachment 9) was completed for the proposed project area to determine the amount of shadow flicker that would be experienced for local receptors as a result of proposed turbine construction. The analysis considered several aspects affecting the casting of shadows and potential impacts on local receptors, including the distance to receptors, angle of incoming solar insolation, and the amount of sunlight experienced at the project site during each of the four seasons.

Results of the shadow flicker analysis indicate that no homes or occupied business structures outside the school would receive significant flickering shadows of over 30 hours per year. While some of the farm to the southwest would receive summer morning shadows, the farm's outbuildings would block most of the shadows from reaching the farmhouse.

Relying upon the analysis in Attachment 9, DOE has determined that there will be No Effect to historic properties owing to shadow flicker impacts associated with the installation of the proposed project.

7. Conclusions

This report supports DOE's conclusion that the proposed project will result in No Adverse Effects to properties that may qualify for listing in the National Register of Historic Places.



February 7, 2011

Melissa Rossiter
 NEPA Document Manager
 U.S. Department of Energy
 1617 Cole Boulevard
 Golden, CO 80401

Dear Ms. Rossiter:

RE: Pettisville Local Schools Wind Energy Project, Fulton County, Ohio

This is in response to your correspondence dated October 25, 2010, (received October 28, 2010). Our comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

The Pettisville Local School District proposes to use funds from the Ohio Department of Development (ODOD) State Energy Program to facilitate the construction of a 300' wind turbine adjacent to the new school playing fields south of County Road D. You have requested the comments of the Ohio Historic Preservation Office regarding the effects of this project on historic properties.

We have reviewed the information submitted by the Renaissance Group, consultant for this Section 106 submission. The Renaissance Group's report concludes that the proposed wind turbine will have no adverse effect on properties listed in or eligible for listing in the National Register of Historic Places (NRHP) located within the Area of Potential Effects (APE). Since the proposed wind turbine site is buffered by the Pettisville Local Schools complex, fields and several blocks of apparently non-historic development, mainly houses built in the later decades of the twentieth century, it is our opinion that no historic properties will be affected by this project. In addition, the project site is unlikely to yield significant archeological resources. In future submissions, however, please identify the location of all areas of ground disturbance.

No further coordination with this office is necessary unless there is a change in the project. If historic properties are identified during implementation of the project, please notify our office pursuant to 36 CFR Section 800.13.

If you have any questions, please contact me by phone at (614) 298-2000 or by email at jbertram@ohiohistory.org. Thank you.

Sincerely,

Jamie Bertram, Project Reviews Manager
 Resource Protection and Review

Cc: James Huth, Advanced Energy Program Manager, Ohio Energy Resources Division, Ohio Department of Development, Post Office Box 1001, Columbus, Ohio 43216-1001

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