

**Courtenay Wind Farm
Case No. PU-13-64**

EXHIBIT 15

At the public hearing on the Certificate of Site Compatibility application (“Application”) for the Courtenay Wind Farm (“Project”), held on July 12, 2013, Courtenay Wind Farm, LLC (“Courtenay”), testified that certain cultural resource survey field work still needed to be completed for the Project. Courtenay indicated that it would file a late-filed exhibit with updated cultural resource survey information.

Cultural resource survey work has now been completed for all Project facility locations. An Updated Technical Memorandum – Cultural Resources Investigation is attached as **Exhibit A**, which provides a complete discussion of all cultural resource survey work completed for the Project. As discussed in the Updated Technical Memorandum, ten cultural resource sites and four site leads were identified within the surveyed area. Courtenay’s environmental consultant recommended avoidance of two sites and, based on conversations with the North Dakota State Historical Society, State Historic Preservation Office (“SHPO”), Courtenay anticipates receiving a concurrence letter from SHPO in the near future. A copy of the SHPO’s letter will be submitted to the North Dakota Public Service Commission upon receipt.

In consultation with SHPO, Courtenay relocated two portions of the collector line system to avoid the two noted cultural resource sites. The new collector line locations are within the Project’s wetland and cultural resource survey corridors, and are addressed in the Wetlands and Waters Survey Report provided in late-filed Exhibit 17 and in the attached Updated Technical Memorandum – Cultural Resources Investigation. As a result of the adjustments noted above, no cultural resources will be impacted by the Project.

In order to avoid identifying the location of cultural resource sites, Courtenay has not provided information on the specific locations of the two collector line changes made. However, the updated collector line locations are depicted in the final Project layout map provided as Exhibit C to late-filed Exhibit 17.

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October 17, 2013

Mr. Patrick Smith, Director of Environmental Planning
Geronimo Wind Energy
7650 Edinborough Way, Suite 725
Edina, Minnesota 55435

Subject: **Updated Technical Memorandum – Cultural Resources Investigation**
Courtenay Wind Energy Project
Stutsman County, North Dakota

Dear Mr. Smith:

This updated technical memorandum supersedes the previous technical memorandum dated July 3, 2013 and presents the findings of a Class III Cultural Resource Inventory report dated October 2013 for the proposed 200 megawatt (MW) Courtenay Wind Energy Project (the Project) located 15 miles (mi) north of Jamestown in Stutsman County, North Dakota (see Figure 1). Work was performed by Tetra Tech under contract to Geronimo Energy (Geronimo). The Project includes the construction of between 100 and 133 turbines (dependent upon final turbine model selected) and associated access roads, electrical collection system, permanent meteorological towers, and substation. Tetra Tech's cultural resources investigation included a review of a Class I Literature Review conducted in February 2013 (updated in August 2013) and the completion of a pedestrian survey based on the current Project layout. The results of the pedestrian survey based on the current Project layout and appropriate management recommendations for mitigation based on the resources' eligibility for listing in the National Register of Historic Places (NRHP) or cultural significance are summarized below.

FILE REVIEW

A Class I Cultural Resources Literature Search was conducted by Westwood Professional Services, Inc. (Westwood) at the North Dakota Heritage Center in October 2012. The results of this investigation were summarized in a Class I Cultural Resources Literature Search dated February 11, 2013. Tetra Tech completed an updated literature search on August 13-14, 2013. **No archaeological sites or architectural properties considered eligible for listing on the NRHP were identified within the Project area.**

SHPO CONSULTATION

On February 26 2013, Westwood received a response from Ms. Susan Quinnell, SHPO Review and Compliance Coordinator (ND SHPO REF: 13-0633), requesting:

- Agency consultation (Public Service Commission [PSC]);
- Consultation with tribal nations, North Dakota Indian Affairs, and the North Dakota Department of Transportation;



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- Completion and submission of a Class II Reconnaissance Survey for standing structures in the Area of Potential Effects (APE) for visual effects;
- Completion and submission of a Class III Pedestrian Survey for all areas directly impacted by the project, including crane paths, service roads, transmission line, and turbine pads;
- Inclusion of tribal monitors during the Class III Pedestrian Survey; and
- Completion of site forms.

On October 11, 2013, Ms. Susan Quinnell contacted Tetra Tech in regards to recommendations made in the Class III Cultural Resource Inventory report submitted to the SHPO on October 9, 2013. Ms. Quinnell indicated that Tetra Tech’s recommendation for on-site monitoring contradicted the recommendation of no avoidance of Site 32SN758. Tetra Tech brought the concerns of Ms. Quinnell to the attention of the Geronimo and it was determined that the best course of action was avoidance of the site. Geronimo agreed to move Project facilities outside the boundaries of the Site 32SN758 and Tetra Tech notified Ms. Quinnell of this decision on October 11, 2013.

FIELD SURVEY

From June 12 to June 26, 2013, from August 13 to August 15, 2013, and from September 18 to September 20, 2013, Tetra Tech conducted a pedestrian survey of the proposed Project layout. The proposed Project layout included:

- Up to 136 wind turbine locations;
- approximately 36.8 mi of access roads;
- approximately 58.9 mi of the electrical collection system;
- a 12-acre substation; and
- 4 permanent meteorological towers.

The APE for direct effects (i.e., the extent of permanent and temporary ground disturbances) for these facilities includes a 135-foot (ft) radius centered on the proposed turbine locations, a 100-ft corridor for the access roads, a 100-ft corridor for the collection lines, and a 10-ft radius centered on the permanent meteorological towers (Table 1). To allow for some flexibility in construction, Tetra Tech surveyed a 300-foot radius centered on the proposed turbine locations, a 250-ft corridor for the access roads, a 150-ft corridor for the collection lines, a 100-ft radius centered on the permanent meteorological towers, and a 12 acre area for the substation (collectively known as the survey corridor) (Table 1). The majority of the survey corridor consisted of agricultural cropland with 50 to 100 percent surface visibility.

Table 1. The APE for direct effects and the survey corridor for the Project facilities.

Facility	Permanent Impacts	Temporary Impacts	Survey Corridor
Turbine	21 ft radius	135 ft radius	300 ft radius
Access Road	16 ft corridor	100 ft corridor	250 ft corridor
Collection Line	None	100 ft corridor	150 ft corridor
Substation	6 acres	10 acres	12 acres
Meteorological Towers	4 ft radius	10 ft radius	100 ft radius

During these surveys, Tetra Tech documented 10 previously unrecorded archaeological sites and

4 site leads¹ within the current survey corridor. The four archaeological site leads (32SNx254 [Field No. C_002], 32SNx255 [Field No. C_007], 32SNx256 [Field No. C_009], and 32SNx257 [Field No. C_020]), consisted of temporally non-diagnostic Native American chipped stone isolated finds. All of the isolated finds were documented in agricultural cropland and do not appear to contain any intact archaeological material in the subsurface.

The 10 archaeological sites consist of Euro-American artifact scatters and features that appear to be associated with Euro-American farming and settlement activities in the Project area. Using General Land Office Plat Maps (1882 and 1884), historic plat maps (1911 and 1930), and United Geological Survey Bureau Topographic Quadrangles from the 1950s, 1980s, and 1990s, 7 of the 10 Euro-American sites (32SN758 [Field No. C_001], 32SN759 [Field No. C_004], 32SN761 [Field No. C_008], 32SN765 [Field No. C_031], 32SN766 [Field No. C_033], 32SN767 [Field No. C_034], and 32SN768 [Field No. C_040]) coincide with the locations of former farmsteads. All of these sites with the exception of the 32SN767 consisted only of an artifact scatter. Site 32SN767 consisted of an artifact scatter and a standing outbuilding. The standing outbuilding at 32SN767 was located outside of the survey corridor.

Two of the remaining three sites (32SN760 [Field No. C_005] and 32SN763 [Field No. C_011]) contain archaeological materials similar to those observed at known farmsteads including construction materials (i.e., brick, cement, window glass), dinnerware fragments, glass and ceramic container fragments, and parts from farm implements. These artifacts would suggest the site was associated with a former farmstead. While the age of these scatters cannot be confirmed from historical documents, the artifacts present at Sites 32SN760 and 32SN763 included both blown and machine manufactured glass containers as well as sun-colored amethyst glass suggesting these scatters may date around 1900. The absence of newer materials including plastics, rubber, and aluminum may indicate these farmsteads ceased to be in operation after the 1930s.

Site 32SN764 (Field No. C_013) is a historic artifact scatter located south of Highway 9 west of the town of Courtenay. This artifact scatter does not appear to be associated with any historically documented structure. The materials observed on the surface included construction materials (brick, tile, and wood), dinnerware fragments, glass and ceramic container fragments, animal bone (likely bovine – some with cut marks), and miscellaneous metal artifacts (brass door bell, shovel handle, bolts, etc.). The presence of a wider variety of artifacts including ceramic tiles, animal bones with cut marks, brass door bells, etc. may indicate this is a dump historically utilized by the town of Courtenay. The artifacts present at Site 32SN764 included both blown and machine manufactured glass containers as well as sun-colored amethyst glass and the absence of modern refuse suggests this dump may have been used in the early 1900s.

RECOMMENDATIONS FOR PROJECT LAYOUT

Tetra Tech's recommendations for site avoidance are based on the type of site, the condition of the site, and the potential of the site to yield significant information regarding prehistoric and historic settlement in this region. Tetra Tech provided Geronimo with recommendations for site avoidance during the course of this investigation.

Based on the current layout, 10 historic scatters are located within the APE for direct effects. **Tetra Tech does not recommend avoidance for eight of these sites including 32SN759, 32SN760, 32SN761,**

¹ A site that has been incompletely recorded or reported by a non-professional is an unverified site and is considered a site lead. Isolated finds are also considered site leads.

32SN763, 32SN765, 32SN766, 32SN767, and 32SN768 (Table 2). These sites have been significantly impacted by years of agricultural activities which have reduced the potential for these sites to yield significant information regarding Euro-American settlement of the area. While the potential exists these sites may contain buried features (e.g., foundations, outhouse, wells, etc.) below the plowzone, the general age of these sites (ca. 1900 to ca. 1950 and later) is relatively new and spans into the modern period. Archaeological features in this context would not likely yield significant information regarding early Euro-American settlement of the area.

Tetra Tech recommends avoidance for Site 32SN758 during construction activities (Table 2, row in orange). Although this site has been disturbed through agricultural activities, historic documents indicate it was one of the earliest homesteads in the area. This homestead and several agricultural fields are present on the 1884 General Land Office Plat Map. There is the potential that intact archaeological features, if present, may be present from the early stages of the homestead which do have the potential to yield significant information regarding early Euro-American settlement of the area. Geronimo has agreed to drop or shift Project facilities to areas outside the current extent of Site 32SN758.

Tetra Tech also recommends avoidance for Site 32SN764 and its associated avoidance buffer during construction activities (Table 2, row in orange). Site 32SN764 may be the location of an early (ca. 1900s) dump used by the town of Courtenay. Historic town dumps can be quite extensive and contain buried intact archaeological deposits that can provide significant information regarding the establishment of rural towns in the late nineteenth and early twentieth centuries. Initial recommendations for site avoidance included directional drilling under the site; however, Geronimo has agreed to reroute Project facilities to areas outside the avoidance buffer for 32SN764. Therefore, directional drilling will not be necessary for the site avoidance.

Tetra Tech does not recommend avoidance for Site Leads 32SNx254, 32SNx255, 32SNx256, and 32SN257 (Table 2). These site leads are isolated finds located in agricultural fields that have been disturbed through agricultural activities and have a low potential to yield any significant information about prehistoric activities in the area.

Table 2. Archaeological sites documented within the APE for direct effects.

Site No./Field No.	Affiliation & Site Type	Recommendation
32SN758 (C_001)	Euro-American Artifact Scatter (Farmstead ca.1884 to 1950)	Avoidance is recommended for this site. Geronimo has agreed to move Project facilities to areas beyond the site boundary.
32SN759 C_004	Euro-American Artifact Scatter (Farmstead ca.1910 to 1930)	Avoidance is not recommended for this site.
32SN760 C_005	Euro-American Artifact Scatter (Farmstead ca.1900) and Native American Isolated Find	Avoidance is not recommended for this site.
32SN761 C_008	Euro-American Artifact Scatter (Farmstead ca.1910 to 1950)	Avoidance is not recommended for this site.
32SN763 C_011	Euro-American Artifact Scatter (Farmstead ca.1900)	Avoidance is not recommended for this site.
32SN764 C_013	Euro-American Artifact Scatter (Possible Courtenay Town Dump, ca. 1900)	Avoidance is recommended in addition to a 50 ft buffer around the site. Geronimo has agreed to move Project facilities to areas beyond the avoidance buffer.
32SN765 C_031	Euro-American Artifact Scatter (Farmstead ca.1910 to 1950)	Avoidance is not recommended for this site.
32SN766 C_033	Euro-American Artifact Scatter (Farmstead ca.1950 to 1980)	Avoidance is not recommended for this site.
32SN767 C_034	Euro-American Artifact Scatter and Standing Structure (Farmstead ca.1950 to 1980)	Avoidance is not recommended for this site.
32SN768 C_040	Euro-American Artifact Scatter (Farmstead ca.1910 to 1980)	Avoidance is not recommended for this site.
32SNx254 C_002	Native American Isolated Find	Avoidance is not recommended for this site.
32SNx255 C_007	Native American Isolated Find	Avoidance is not recommended for this site.
32SNx256 C_009	Native American Isolated Find	Avoidance is not recommended for this site.
32SNx257 C_020	Native American Isolated Find	Avoidance is not recommended for this site.

If you should have any questions or comments concerning this submittal, please feel free to contact our office at (612) 643-2224 or kim.gorman@tetrattech.com.

Sincerely,

TETRA TECH

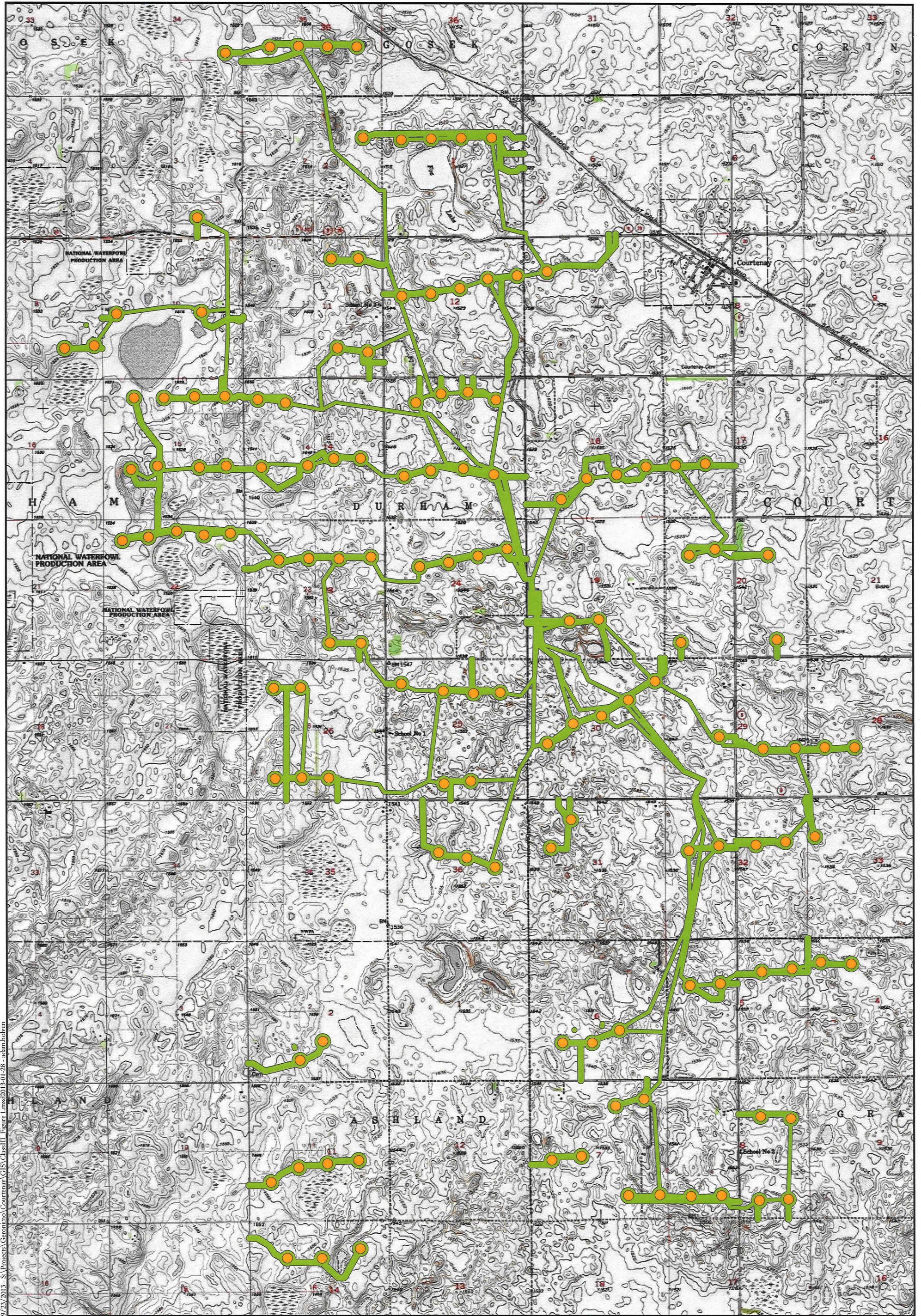


Adam C. Holven
Senior Archaeologist/Project Manager



Kimberely Gorman
Senior Project Manager

Attachments: Figure



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Source: Map adapted from data provided by Arc GIS Online (USA Topos), North Dakota State Historic Preservation Office, Tetra Tech, and Project Area data provided by Geronimo Energy.



Facility Layout

- Proposed Turbine Location (7/24/2013)
- Survey Corridor

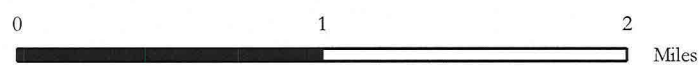


Figure 1 - Project Location
 Courtenay Wind Energy Project
 Stutsman County, North Dakota

