MANAGEMENT SUMMARY

During May of 2010, The 106 Group Ltd. (106 Group) conducted a Phase IA archaeological and architectural history survey for the University of Minnesota Outreach, Research, and Education (UMore) Park Research Wind Turbine project (project). The proposed project consists of the construction of a wind turbine, a 34.5 kV interconnect line, a meteorologic tower, and several associated roads and laydown areas. The survey was conducted under contract with Barr Engineering Company (Barr) on behalf of the University of Minnesota. This project is receiving federal funding from the Department of Energy (DOE) and, therefore, must comply with Section 106 of the National Historic Preservation Act of 1966 (Section 106), as well as the National Environmental Policy Act and other applicable state mandates governing cultural resources. The purpose of the Phase IA investigation was to determine whether the project area contains previously recorded archaeological sites and architectural history properties and/or has the potential to contain unrecorded archaeological sites or architectural history properties that may be eligible for listing in the National Register of Historic Places (NRHP).

The project area is located in Sections 25 and 36, T115N, R19W, Dakota County, Minnesota. The study area for archaeology is the same as the project area, and it includes all areas of proposed construction activities or other potential ground disturbing activities associated with construction of the wind turbine, 34.5 kV interconnect line, meteorologic tower, and associated roads and laydown areas, which encompasses approximately 33.25 acres (13.46 hectares [ha]). The archaeological investigation consisted of a review of documentation of previously recorded sites within one mile (1.6 kilometers [km]) of the project area and of surveys previously conducted within the project area. The investigation also included a Phase IA archaeological field survey to identify areas of high potential for containing intact archaeological sites, systematic pedestrian surface reconnaissance of high potential areas with adequate surface visibility, and documentation of any high potential areas with poor ground surface visibility to be shovel tested at a later date. The archaeological study area is within the Southeast Riverine West archaeological sub-region. Anne Ketz, M.A. served as principal investigator for archaeology.

The study area for architectural history accounts for any physical, auditory, atmospheric, or visual impacts to historic properties. Preliminary plans indicate that the proposed wind turbine, the tallest element of the proposed project, will be approximately 120 meters (393.7 feet [ft.]) tall. Therefore, the 106 Group assumes that visual effects has the greatest potential to impact architectural history properties; however, the effects of the proposed project on architectural history properties will need to determined by the DOE as the lead federal agency in consultation with the Minnesota State Historic Preservation Office (SHPO). Due to the proposed height of the wind turbine, the study area for architectural history includes a one-mile radius around the proposed wind turbine area to account for potential visual effects. The one-mile radius also encompasses 0.5 miles or more around the proposed interconnect line, which includes all properties that may be impacted by this portion of the proposed project. The Phase IA architectural history investigation consisted of a review of documents of previously inventoried properties and of surveys previously conducted within
the study area, as well as a field reconnaissance survey to identify properties that are 45 years of age or older within the study area. The architectural history study area included approximately 2,788.19 acres (1,128.34 ha). Greg Mathis, M.C.R.P. served as principal investigator for architectural history.

During the Phase IA archaeological investigation, the project area’s lack of topographically prominent areas or close naturally occurring water resources indicated it likely has low potential for containing precontact archaeological resources. In addition, historical maps and aerial photographs indicate that, although three small outlying structures associated with the historic Gopher Ordnance Works (GOW) property were located within the project area in the 1940s, the area appears to have been returned to agricultural use by 1951 and has continued in that use to the present day. As a result, the likelihood for intact post-contact sites within the project area is considered to be low.

No new or previously recorded archaeological sites were uncovered during field survey. Additionally, the project area consisted primarily of agricultural field exhibiting 50 to 95 percent ground visibility and, therefore, systematic pedestrian survey was used. During the archaeological investigation no areas were identified that warranted subsurface testing. As a result, no further archaeological work is recommended prior to construction as currently planned.

During the reconnaissance architectural history survey, the 106 Group identified 79 properties 45 years in age or older within the architectural history study area. Of these 79 properties, 19 were previously inventoried, nine were previously evaluated but not assigned SHPO inventory numbers, and 51 are newly identified. Of the 28 previously inventoried or evaluated properties, 26 have been previously determined not eligible for listing in the NRHP (25 of which are associated with the GOW). The two remaining previously inventoried properties have either been recommended for further research or have had no determination of eligibility.

The DOE, as the lead federal agency, is responsible for determining an APE. Once an APE has been defined, pursuant to Section 106, the 106 Group recommends that a Phase I architectural history survey be conducted of those properties that have not been previously inventoried or evaluated for listing in the NRHP located within the APE.
# TABLE OF CONTENTS

- MANAGEMENT SUMMARY ............................................................................................................. I
- LIST OF FIGURES ........................................................................................................................ IV
- LIST OF TABLES ............................................................................................................................ IV
- 1.0 INTRODUCTION ........................................................................................................................ 1
- 2.0 METHODS ................................................................................................................................ 3
  - 2.1 OBJECTIVES ............................................................................................................................. 3
  - 2.2 ARCHAEOLOGY .......................................................................................................................... 3
    - 2.2.1 Study Area ............................................................................................................................ 3
    - 2.2.2 Background Research ......................................................................................................... 3
    - 2.2.3 Field Methods ....................................................................................................................... 3
      - 2.2.3.1 Systematic Surface Reconnaissance ............................................................................... 4
  - 2.3 ARCHITECTURAL HISTORY .................................................................................................... 4
    - 2.3.1 Study Area ............................................................................................................................ 4
    - 2.3.2 Background Research ......................................................................................................... 5
    - 2.3.3 Field Methods ....................................................................................................................... 5
- 3.0 LITERATURE SEARCH ........................................................................................................... 6
  - 3.1 ENVIRONMENTAL HISTORY OVERVIEW .............................................................................. 6
  - 3.2 PREVIOUS ARCHAEOLOGICAL STUDIES .............................................................................. 6
  - 3.3 PREVIOUS ARCHITECTURAL HISTORY STUDIES ................................................................ 6
  - 3.4 HISTORICAL DOCUMENT REVIEW ......................................................................................... 11
- 4.0 RESULTS ................................................................................................................................ 13
  - 4.1 ARCHAEOLOGICAL INVESTIGATION ....................................................................................... 13
    - 4.1.1 Results ................................................................................................................................. 15
  - 4.2 ARCHITECTURAL HISTORY INVESTIGATION ........................................................................ 15
    - 4.2.1 Results ................................................................................................................................. 15
- 5.0 RECOMMENDATIONS ........................................................................................................... 19
  - 5.1 ARCHAEOLOGY ......................................................................................................................... 19
  - 5.2 ARCHITECTURAL HISTORY ................................................................................................... 19
- 6.0 REFERENCES CITED ............................................................................................................... 20

APPENDIX A: PHOTOGRAPHS OF PROPERTIES 45 YEARS OF AGE OR OLDER NOT PREVIOUSLY INVENTORIED OR EVALUATED WITHIN THE STUDY AREA

APPENDIX B: PHOTO SIMULATIONS OF THE PROPOSED WIND TURBINE

APPENDIX C: LIST OF PROJECT PERSONNEL
LIST OF FIGURES

FIGURE 1. PROJECT LOCATION............................................................................................................................................2
FIGURE 2. PREVIOUS INVESTIGATIONS ..............................................................................................................................7
FIGURE 3. OVERVIEW OF THE PROJECT AREA; FACING NORTH ................................................................................13
FIGURE 4. ARCHAEOLOGICAL SURVEY RESULTS............................................................................................................14
FIGURE 5. ARCHITECTURAL HISTORY SURVEY RESULTS ..............................................................................................18

LIST OF TABLES

TABLE 1. PREVIOUSLY INVENTORIED ARCHITECTURAL HISTORY PROPERTIES.................................................................9
TABLE 2. PROPERTIES 45 YEARS OF AGE OR OLDER NOT PREVIOUSLY INVENTORIED OR EVALUATED WITHIN THE ARCHITECTURAL HISTORY STUDY AREA........................................................................................................................................16
1.0 INTRODUCTION

During May of 2010, The 106 Group Ltd. (106 Group) conducted a Phase IA archaeological and architectural history survey for the University of Minnesota Outreach, Research, and Education (UMore) Park Research Wind Turbine project (project). The proposed project consists of the construction of a wind turbine, a 34.5 kV interconnect line, a meteorologic tower, and several associated roads and laydown areas. The survey was conducted under contract with Barr Engineering Company (Barr) on behalf of the University of Minnesota. This project is receiving federal funding from the Department of Energy (DOE) and, therefore, must comply with Section 106 of the National Historic Preservation Act of 1966 (Section 106), as well as the National Environmental Policy Act and other applicable state mandates governing cultural resources. The purpose of the Phase IA investigation was to determine whether the project area contains previously recorded archaeological sites and architectural history properties and/or has the potential to contain unrecorded archaeological sites and architectural history properties that may be eligible for listing in the National Register of Historic Places (NRHP).

The project area is located in Sections 25 and 36, T115N, R19W, Dakota County, Minnesota (Figure 1). The archaeological investigation consisted of a review of documentation of previously recorded sites within one mile (1.6 kilometers [km]) of the project area and of surveys previously conducted within the project area. The investigation also included a Phase IA archaeological field survey to identify areas of high potential for containing intact archaeological sites, systematic pedestrian surface reconnaissance of high potential areas with adequate surface visibility, and documentation of any high potential areas with poor ground surface visibility to be shovel tested at a later date. The archaeological study area is located within the Southeast Riverine West archaeological sub-region. The UTM coordinates for the survey area are Zone 15, northeast corner: E 496295 N 4953057; southeast corner: E 496296 N 4952548; southwest corner: E 495650 N 4952894; and northwest corner: E 495652 N 4953924. Anne Ketz, M.A. served as principal investigator for archaeology.

The Phase IA architectural history investigation consisted of a review of documents of previously inventoried properties and of surveys previously conducted within the architectural history study area, as well as a field reconnaissance to identify properties that are 45 years of age or older within the study area. Greg Mathis, M.C.R.P. served as principal investigator.

The following report describes project methodology, environmental setting, previous investigations, results, and recommendations for the project area. Because no archaeological resources were encountered during the survey, the inclusion of contexts would be extraneous to the report; therefore, none are presented here. Appendix A contains photographs of properties within the study area not previously inventoried. Appendix B contains photo simulations of the proposed wind turbine. Appendix C provides a list of project personnel.
Proposed 34.5 kV Interconnect Line
Proposed Wind Turbine
Proposed Meteorologic Tower

Project Location

UMore Park Research Wind Turbine Project
Phase IA Archaeological and Architectural History Survey
Dakota County, Minnesota

Figure 1
2.0 METHODS

2.1 OBJECTIVES

The primary objectives of this investigation were to determine whether the area to be affected by the proposed project:

- contains any known archaeological sites and architectural history properties; or
- has the potential to contain unknown archaeological sites and architectural history properties that may be eligible for listing in the NRHP.

All work was conducted in accordance with the Minnesota State Historic Preservation Office (SHPO) Manual for Archaeological Projects in Minnesota (Anfinson 2005), Guidelines for History/Architecture Projects in Minnesota (SHPO 2005), and The Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation [48 Federal Register 44716-44740] (National Park Service [NPS] 1983).

2.2 ARCHAEOLOGY

2.2.1 Study Area

The study area for archaeology is the same as the project area and includes all areas of proposed construction activities or other potential ground disturbing activities associated with the construction of a wind turbine, a 34.5 kV interconnect line, meteorologic tower, and several associated roads and laydown areas (see Figure 1). The study area for archaeology encompasses 33.25 acres (13.46 hectares [ha]).

2.2.2 Background Research

On May 21, 2010, prior to the start of the field survey, staff from the 106 Group conducted background research at the SHPO for information on previously identified sites within one mile (1.6 km) of the project area and on surveys previously conducted within the project area. In addition, USGS topographic quadrangles, historical plat maps, aerial photographs, and data on project soils were reviewed in order to assess the portions of the project area that possessed a higher potential for containing archaeological sites.

2.2.3 Field Methods

Intensive field investigation focused on areas assessed as having a greater probability to contain significant archaeological sites. These areas included undisturbed portions of the project area:

- within 500 feet (ft.) (150 meters [m]) of an existing or former water source of 40 acres (19 ha) or greater in extent, or within 500 ft. (150 m) of a former or existing perennial stream;
- located on topographically prominent landscape features;
• located within 300 ft. (100 m) of a previously reported site; or
• located within 300 ft. (100 m) of a former or existing historic structure or feature (such as a building foundation or cellar depression).

Areas assessed as having a relatively low potential for containing archaeological resources included inundated areas, former or existing wetland areas, poorly drained areas, and areas with a 20 percent or greater slope. Low potential areas and areas in which Holocene (less than 10,000 years old) deposits have been significantly disturbed were excluded from intensive field survey.

2.2.3.1 Systematic Surface Reconnaissance

Systematic pedestrian surface reconnaissance was conducted in areas exhibiting a greater potential to contain intact archaeological deposits where 25 percent or more of the ground surface was visible. Pedestrian reconnaissance was also employed to ascertain whether above-ground features, such as earthworks or abandoned structural foundations, were present within the survey area. Pedestrian transects were placed 15 m (49 ft.) apart to ensure adequate coverage. The majority of the project area consisted of agricultural fields and as a result exhibited 50 to 95 percent surface visibility.

2.3 Architectural History

2.3.1 Study Area

The study area for architectural history accounts for any physical, auditory, atmospheric, or visual impacts to historic properties.

It is unknown if footings for the wind turbine and for the poles for the 34.5 kV interconnect line will be excavated or pile driven. If they are excavated, it is anticipated that the project will not result in any direct physical impacts to architectural history resources outside of the project area. If the project will include pile driving, vibrations from this activity could result in vibratory effects, which could physically impact properties in the surrounding area. If pile driving is used, it is anticipated that vibrations will dissipate further away from the project area and will not impact an area more than 500 feet from the project limits.

The project is not expected to result in any permanent atmospheric impacts. Atmospheric impacts are expected to be limited to temporary increases in dust associated with earth disturbing activities during the construction of the project. While increases in wind may increase levels of dust, the wind will also quickly dissipate dust. Therefore, it is expected that atmospheric impacts from increases in dust will be limited to an area no greater than 500 feet from the project area.

It is anticipated that the wind turbine and 34.5 kV interconnect line will generate little, if any noise during operation; therefore, auditory impacts are expected to be limited to temporary increases in noise associated with the operation of construction equipment during project
construction. Since the project is anticipated to be constructed during daytime hours, generally from 6:00 a.m. to 6:00 p.m., when allowable day-night average sound levels (DNL) are higher, it is expected that noise from construction activities will fall within acceptable limits and will not impact areas more than 500 feet from the project limits.

Preliminary plans indicate that the proposed wind turbine, the tallest element of the proposed project, will be approximately 120 meters (393.7 ft.) tall. The study area includes a large ordinance plant and a rural landscape comprised of farms, rural homes, and a small community. A 120-meter tall structure would introduce a new vertical feature to the landscape that is inconsistent with the wide-open, relatively unobstructed views of the landscape, thereby changing the nature and feeling of the rural landscape. This in turn may impact the setting and feeling of rural resources. Therefore, the 106 Group assumes that visual effects has the greatest potential to impact architectural history properties; however, the effects of the proposed project on architectural history properties will need to determined by the DOE as the lead federal agency in consultation with the Minnesota SHPO. Due to the proposed height of the wind turbine, the study area for architectural history includes a one-mile radius around the proposed preliminary turbine area to account for potential physical, auditory, atmospheric, and visual effects.

The proposed project also includes a 34.5 kV interconnect line to be located along Blaine Avenue, south of Highway 42 / 145th Street East. The one-mile radius around the wind turbine encompasses 0.5 miles or more around the proposed interconnect line. The height of the proposed interconnect line is assumed to be no more than one-quarter of the height of the wind turbine. Therefore, the 106 Group recommends that 0.5 miles is sufficient to account for potential effects of the interconnect line. In addition, the area north of the interconnect line, where the study area boundary is at the minimum of 0.5 miles, is heavily forested and contains a number of hills which will effectively obstruct views from architectural history properties that are located north and northeast of the interconnect line. The total architectural history study area includes approximately 2,788.2 acres (1,128.34 ha).

2.3.2 Background Research

On May 21, 2010, prior to the start of the field survey, staff from the 106 Group conducted background research at the SHPO for information on previously inventoried properties and on surveys previously conducted within the architectural history study area. In addition, historical plat maps and aerial photographs were obtained from the University of Minnesota on June 1, 2010.

2.3.3 Field Methods

A windshield survey of the buildings, structures, and landscape features in the architectural history study area was conducted in order to identify those properties that appeared to be 45 years in age or older. Each of these properties was subsequently documented with brief field notes and digital photographs.
3.0 LITERATURE SEARCH

3.1 ENVIRONMENTAL HISTORY OVERVIEW

The project area is located in Sections 25 and 36, T115N, R19W, Dakota County, Minnesota. The wind turbine project will be constructed in a generally rural agricultural area.

Geologically, the project area lies within the Mississippi Valley Outwash geomorphic region. The project area lies within the SLWD soil landscape unit, described as loamy over sandy, well drained, dark colored soils. The SLWD soil landscape unit makes up approximately 30 percent of the Mississippi Valley Outwash geomorphic region (Agricultural Experiment Station 1973).

The United States Department of Agriculture – Natural Resources Conversation Service (USDA – NRCS) Soil Survey Division recognizes two soil series within the project area (U.S. Department of Agriculture 2010; USDA Soil Survey Staff 2010). The Dakota series consists of very deep, well drained soils formed in 50 to 100 centimeters of loamy alluvium and in the underlying sandy outwash. These soils are on outwash plains, stream terraces, and valley trains. Native vegetation is big bluestem, little bluestem, switchgrass, and other grasses of the tall grass prairie with scattered oak groves. The Waukegan series consists of very deep well drained soils that formed in 50 to 100 centimeters of loess or silty glacial alluvium and in the underlying sandy or sandy-skeletal glacial outwash. These soils are on slightly concave to convex slopes on glacial outwash plains and valley trains. The native vegetation is big bluestem, indiangrass, switchgrass, and other grasses of the tall grass prairie.

3.2 PREVIOUS ARCHAEOLOGICAL STUDIES

Research indicated that no archaeological surveys have been conducted within the project area. Additionally, no sites have been recorded with the project area or within one mile of the project area.

3.3 PREVIOUS ARCHITECTURAL HISTORY STUDIES

Research indicated that there have been six architectural history surveys conducted within the architectural history study area. In 1977, a visual reconnaissance survey of the city of Rosemount was undertaken for the SHPO. The reconnaissance survey identified several properties that were 50 years of age or older. Following the conclusion of the survey, four properties were identified as having greater architectural and/or visual interest than the other properties. These included: a residence, St. John’s Church, St. Joseph’s Church, and a residential district. Of these, only one, St. John’s Church (Field Number 42), is located within the current survey area (Figure 2 and Table 1); the NRHP-eligibility of the church was considered questionable due to the fact that it had been moved from its original location (Dabrowski 1977a).
Previous Investigations

UMore Park Research Wind Turbine Project
Phase IA Archaeological and Architectural History Survey
Dakota County, Minnesota

Figure 2
In 1977, a visual reconnaissance survey of the town of Coates was undertaken for the SHPO. Approximately seven properties 50 years of age or older were identified, however only two of the properties were deemed to have architectural and/or visual interest and received SHPO inventory numbers. These two properties include the St. Agatha Church (DK-COC-001) and a House (DK-COC-002), both of which are located within the project area (Figure 2 and Table 1). The house was determined not eligible for listing in the NRHP and the NRHP-eligibility of the church was considered questionable but was not determined at the time of survey (Dabrowski 1977b).

In 1993, Archaeological Research Services and Hess, Roise and Company conducted a cultural resources survey to explore the feasibility of the construction of an airport in Dakota County. The architectural history survey included three different candidate sites, one of which includes portions of the current study area. The survey inventoried a total of 99 properties. One potential historic district was identified during the survey and was recommended for further study to determine NRHP-eligibility. The district, the Gopher Ordinance Works (GOW), consists of several buildings and structures within a plant facility designed to produce propellant for small-arms ammunition (structures within the district located within the current project area are listed in Table 1 and identified in Figure 2). The district was recommended as potentially eligible under Criterion D, for its potential to reveal information about ordinance facility and munitions manufacturing (Roise 1993). Subsequent review by the Minnesota SHPO determined that the GOW property was not eligible for listing on the NRHP (Kelly Gragg-Johnson, personal communication 2006).

In 1998, BRW Inc. conducted a Phase I archaeological survey and Phase II architectural history survey of the GOW property for the County Road 46 project in Empire Township, Dakota County. The Phase II architectural survey of the GOW identified 54 extant buildings of the estimated 840 original buildings and structures (Sluss and Malmquist 1998; structures within the district located within the current project area are listed in Table 1 and identified in Figure 2). Due to the extensive amount of historic documentation for the GOW (site plans, building photographs, and historical narratives), the facility was recommended as not eligible under Criterion D, as it is unlikely to yield additional information important to prehistory or history. The GOW facility was also recommended as not eligible for listing in the NRHP under Criterion A for its lack of integrity. In addition, the study indicated that the GOW “does not appear to stand out in terms of production, technological or scientific innovation, construction techniques, or architect-influenced design” and that another facility, the Badger Ordnance Works in Baraboo, Wisconsin, “better represents the technology, scale, and magnitude of the process of producing, packaging, and shipping smokeless powder” (Sluss and Malmquist 1998:15). The SHPO concurred with the recommendation.

In 2006, a detailed history of the UMore Park property was prepared for the University of Minnesota by Historic Preservation and Community Planning (Lauber 2006). This study reiterated that “resources associated with the Gopher Ordinance Works have been determined ineligible for the National Register due to a lack of integrity” (Lauber 2006:10). In addition, the report stated that although the structures were not eligible for listing on the
NRHP, consultation with the SHPO was recommended prior to demolition of any of the structures.

From 2006-2008, the 106 Group conducted Phase I and II cultural resources surveys for the MinnCan pipeline project through 13 counties, including Dakota County. Four architectural history properties were identified in Dakota County. One, a railroad grade, is located within the current study area. The Minnesota & North Western Railway / Chicago Great Western Railway (DK-RSC-047; Figure 2 and Table 1) was recommended as not eligible for listing in the NRHP due to a lack of historical significance.

Nineteen architectural history properties have been previously inventoried within the survey area (Table 1; Figure 2). These properties consist of a church, a farmstead, houses, several former buildings of the GOW, and a railroad. Of these 19 properties, one (DK-RSC-028) is no longer extant and two (DK-COC-001 and DK-RSC-024) have either been recommended for further research or have had no determination of NRHP-eligibility. The remaining 16 properties have been previously recommended not eligible for listing in the NRHP.

### Table 1. Previously Inventoried Architectural History Properties

<table>
<thead>
<tr>
<th>Inventory No.</th>
<th>Property Name</th>
<th>Address</th>
<th>T</th>
<th>R</th>
<th>S</th>
<th>¼ Sec.</th>
<th>Date of Constr.</th>
<th>NRHP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK-COC-001</td>
<td>St. Agatha Church</td>
<td>3700 160th St. E.</td>
<td>115N</td>
<td>18W</td>
<td>6</td>
<td>NW</td>
<td>c. 1880</td>
<td>Undetermined</td>
</tr>
<tr>
<td>DK-COC-002</td>
<td>House</td>
<td>15944 Coates Blvd.</td>
<td>115N</td>
<td>18W</td>
<td>31</td>
<td>SW</td>
<td>1925</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-024</td>
<td>Farmstead</td>
<td>15102 Clayton Ave. E.</td>
<td>115N</td>
<td>18W</td>
<td>31</td>
<td>NW</td>
<td>1900</td>
<td>Further Research Recommended</td>
</tr>
<tr>
<td>DK-RSC-026</td>
<td>Gopher Ordnance Works Building 718-A</td>
<td>152nd St. E. and Baron Ave.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NE</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-027</td>
<td>Gopher Ordnance Works Buildings 102-A, 102-B, 102-C</td>
<td>152nd St. E.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NE</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-028</td>
<td>House</td>
<td>151st St.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NE</td>
<td>1925</td>
<td>Non Extant</td>
</tr>
<tr>
<td>DK-RSC-029</td>
<td>Gopher Ordnance Works Building 706-B</td>
<td>Blaine Ave. South of 152nd St. E.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NE</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
</tbody>
</table>
### Table 1. Previously Inventoried Architectural History Properties

<table>
<thead>
<tr>
<th>Inventory No.</th>
<th>Property Name</th>
<th>Address</th>
<th>T</th>
<th>R</th>
<th>S</th>
<th>¼ Sec.</th>
<th>Date of Constr.</th>
<th>NRHP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK-RSC-030</td>
<td>Gopher Ordnance Works Building 108-B</td>
<td>153rd Ave.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NE</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-031</td>
<td>Gopher Ordnance Works Building 717-A</td>
<td>Babcock Ave. And 153rd St. E.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NW</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-032</td>
<td>Gopher Ordnance Works Building 704-W</td>
<td>15325 Babcock Ave.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NW</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-033</td>
<td>Gopher Ordnance Works Building 411-B</td>
<td>152nd St. E. and Babcock Ave.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NW</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-034</td>
<td>Gopher Ordnance Works Building 746-C</td>
<td>155th St. E.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>NE</td>
<td>1943</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-035</td>
<td>Gopher Ordnance Works Building 208-B</td>
<td>155th St. E.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>SE</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-037</td>
<td>Gopher Ordnance Works Structure 401-A</td>
<td>Blaine Ave. And 155th St. E.</td>
<td>115N</td>
<td>19W</td>
<td>36</td>
<td>NW</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-038</td>
<td>Gopher Ordnance Works Building F</td>
<td>East of Blaine Ave.</td>
<td>115N</td>
<td>19W</td>
<td>36</td>
<td>NW</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-039</td>
<td>Gopher Ordnance Works 214 Buildings</td>
<td>South of 156th St. E. between Barbara and Blaine Aves.</td>
<td>115N</td>
<td>19W</td>
<td>35</td>
<td>SE</td>
<td>1942</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>DK-RSC-047</td>
<td>Minnesota &amp; North Western Railway / Chicago Great Western Railway</td>
<td>Between Blaine Ave. and Clayton Ave.</td>
<td>115N</td>
<td>19W</td>
<td>36</td>
<td>NE</td>
<td>1886</td>
<td>Not Eligible</td>
</tr>
</tbody>
</table>

Source: Minnesota SHPO Inventory Files
In addition, nine architectural history properties were previously evaluated but not assigned SHPO inventory numbers. These properties were evaluated as part of BRW’s Phase II investigation of the GOW potential historic district (Figure 2; Sluss and Malmquist 1998). The entire GOW property was recommended as not eligible for listing in the NRHP and SHPO concurred with the recommendation.

3.4 **HISTORICAL DOCUMENT REVIEW**

An examination of historical maps (Andreas 1874; W. W. Hixson & Company. 1916; Trygg 1966) indicated that at least one structure existed within the general area as early as 1874 and several structures existed in the general area by 1916. However, none of these structures resided within the actual project area. An industrial facilities inventory prepared by the U.S. Army Corps of Engineers in 1944 (Figure 3) indicates that three small outlying structures associated with the GOW property were constructed within the proposed project area in the 1940s (U.S. Army Corps of Engineers 1944). However, by 1953 the area was owned by the University of Minnesota and the structures appear to have been removed (Farm Plat Book Publishing Company 1953).

![Figure 3. 1944 GOW Facilities Inventory Map with Project Area Overlay](image-url)
Historical aerial photographs from 1937, 1940, 1951, 1957, and 1964 were also examined. The images indicate that by 1937 the land comprising the proposed project area had been cleared and tilled for agricultural purposes. A 1951 aerial photograph indicates that, although three small outlying structures associated with the historic GOW property were located within the project area in the 1940s, the area appears to have been returned to agricultural use by 1951 (Figure 4). The aerial photographs also demonstrate that the proposed project area continued to serve as cultivated agricultural land over the next six decades to the present. As a result, the likelihood for intact post-contact sites within the project area is considered to be low.

**Figure 4. 1951 Aerial Photograph with Project Area Overlay**
4.0 RESULTS

4.1 ARCHAEOLOGICAL INVESTIGATION

Staff from the 106 Group conducted a Phase IA archaeological survey of the project area on May 24, 2010. Anne Ketz, M.A. served as principal investigator and Mark Doperalski, B.S. conducted the fieldwork (see Appendix C for a list of project personnel).

At the time of the current survey, the project area consisted of portions of three agricultural fields broken up by wooded drainages and dirt roadways (Figures 5 and 6). The agricultural fields provided relatively flat to gently rolling topography with 50 to 95 percent surface visibility. The project area lacks topographically prominent areas and it does not lie within close proximity to naturally occurring water resources. Additionally, agricultural activities have altered the natural landscape. As a result, the project area was considered to possess a low potential for containing precontact archaeological resources.

As discussed in the literature review section, the project area has historically been used as cultivated agricultural land with exception to a brief period of use as part of the historic GOW property in the 1940s when three small outlying structures were constructed within the bounds of the project area (see Figure 3). A 1951 aerial photograph seems to demonstrate that, although three small outlying structures associated with the historic GOW property were located within the project area in the 1940s, the area appears to have been returned to agricultural use by 1951 (see Figure 4). The aerial photographs also demonstrate that the proposed project area continued to serve as cultivated agricultural land over the next six decades to the present. As a result, the likelihood for intact post-contact sites within the project area is considered to be low.
UMore Park Research Wind Turbine Project
Phase IA Archaeological and Architectural History Survey
Dakota County, Minnesota
4.1.1 Results

As mentioned above, the agricultural fields provided 50 to 95 percent surface visibility. As a result, intensive pedestrian surface survey along transects set at 15-m (49-ft) intervals was used to test the project area. Three small dump areas were identified within one of the wooded drainage areas (see Figure 4). The dump areas contained modern debris consisting of tennis shoes, clothing, blankets, fireworks packaging, plastic bags, and tarp-like material. None of the items noted were over 20 years old and much of it appeared to have been deposited within the last year. No archaeological materials were discovered within the project area and no areas were identified that warranted subsurface testing.

Additionally, intensive pedestrian survey was conducted along the proposed 34.5 kV interconnect line corridor. The corridor has been greatly disturbed, as it runs directly adjacent to the east side of Blaine Avenue and falls within the existing road right of way. The corridor crosses two documented railroad lines; however, as the interconnect line will be traversing the railroad corridors within the existing road right of way, there is little potential for encountering intact archaeological resources associated with the two railroad properties.

4.2 Architectural History Investigation

Staff from the 106 Group conducted a reconnaissance architectural history survey of the architectural history study area on May 24, 2010. Greg Mathis, M.C.R.P. served as principal investigator and Miranda Van Vleet, M.H.P. conducted the fieldwork (See Appendix C for a list of project personnel).

4.2.1 Results

During the reconnaissance architectural history survey, 79 properties 45 years of age or older were identified within the one-mile study area. Of these 79 properties, 19 were previously inventoried (see Table 1 and Figure 2), 9 were previously evaluated but not assigned SHPO inventory numbers (see Section 3.2 and Figure 2), and 51 are newly identified (see Table 2 and Appendix A). Of the 28 previously inventoried or evaluated properties, 26 have been previously determined not eligible for listing in the NRHP (25 of which are associated with the GOW); however, two properties (DK-COC-001 and DK-RSC-024) have either been recommended for further research or have had no determination of NRHP-eligibility (see Section 3.2 and Table 1). These two properties, as well as the 51 newly identified properties (Table 2; Figure 5), would need further investigation to determine their eligibility for listing on the NRHP.
### Table 2. Properties 45 Years of Age or Older Not Previously Inventoried or Evaluated Within the Architectural History Study Area

<table>
<thead>
<tr>
<th>SHPO/Field No.</th>
<th>Property Name</th>
<th>Address / Location</th>
<th>Property Type</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK-COC-001</td>
<td>St. Agatha Church</td>
<td>3700 160th St. E.</td>
<td>Religious</td>
<td>ca. 1900</td>
</tr>
<tr>
<td>DK-RSC-024</td>
<td>Farmstead</td>
<td>15102 Clayton Ave.</td>
<td>Residential</td>
<td>1885</td>
</tr>
<tr>
<td>1</td>
<td>Outbuilding</td>
<td>14110 Blaine Ave.</td>
<td>Outbuilding</td>
<td>ca. 1950</td>
</tr>
<tr>
<td>3</td>
<td>House</td>
<td>14217 Blaine Ave.</td>
<td>Residential</td>
<td>1955</td>
</tr>
<tr>
<td>4</td>
<td>House and Garage</td>
<td>14327 Blaine Ave.</td>
<td>Residential</td>
<td>1965</td>
</tr>
<tr>
<td>6</td>
<td>St. John's Lutheran Church Cemetery</td>
<td>14385 Blaine Ave.</td>
<td>Cemetery</td>
<td>ca. 1911</td>
</tr>
<tr>
<td>7</td>
<td>House and Garage</td>
<td>14380 Blaine Ct.</td>
<td>Residential</td>
<td>1954</td>
</tr>
<tr>
<td>8</td>
<td>Farmstead</td>
<td>1995 145th St. E.</td>
<td>Farmstead</td>
<td>1910</td>
</tr>
<tr>
<td>9</td>
<td>House and Outbuildings</td>
<td>2051 145th St. E.</td>
<td>Residential</td>
<td>1957</td>
</tr>
<tr>
<td>39</td>
<td>House and Outbuildings</td>
<td>14600 Blaine Ave.</td>
<td>Residential</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>House and Garage</td>
<td>2583 145th St. E.</td>
<td>Residential</td>
<td>1958</td>
</tr>
<tr>
<td>41</td>
<td>House and Outbuildings</td>
<td>2765 145th St. E.</td>
<td>Residential</td>
<td>1948</td>
</tr>
<tr>
<td>42</td>
<td>St. John’s Church and Parsonage</td>
<td>West of 2829 145th St. E.</td>
<td>Religious</td>
<td>ca. 1911</td>
</tr>
<tr>
<td>43</td>
<td>House and Outbuildings</td>
<td>2829 145th St. E.</td>
<td>Residential</td>
<td>1960</td>
</tr>
<tr>
<td>46</td>
<td>Outbuildings</td>
<td>3720 145th St. E.</td>
<td>Outbuildings</td>
<td>ca. 1930</td>
</tr>
<tr>
<td>47</td>
<td>House and Outbuildings</td>
<td>3275 145th St. E.</td>
<td>Residential</td>
<td>1942</td>
</tr>
<tr>
<td>48</td>
<td>Farmstead</td>
<td>3330 145th St. E.</td>
<td>Farmstead</td>
<td>1955</td>
</tr>
<tr>
<td>49</td>
<td>House and Outbuildings</td>
<td>3381 145th St. E.</td>
<td>Residential</td>
<td>1964</td>
</tr>
<tr>
<td>52</td>
<td>Virblas and Son Concrete Supply</td>
<td>16120 Coates Blvd.</td>
<td>Industrial</td>
<td>1964</td>
</tr>
<tr>
<td>54</td>
<td>House and Garage</td>
<td>16070 Coates Blvd.</td>
<td>Residential</td>
<td>1870</td>
</tr>
<tr>
<td>55</td>
<td>House</td>
<td>16048 Coates Blvd.</td>
<td>Residential</td>
<td>1910</td>
</tr>
<tr>
<td>56</td>
<td>Coates Corner</td>
<td>16022 Coates Blvd.</td>
<td>Commercial</td>
<td>1946</td>
</tr>
<tr>
<td>57</td>
<td>House and Garage</td>
<td>3590 160th St. E.</td>
<td>Residential</td>
<td>1880</td>
</tr>
<tr>
<td>58</td>
<td>House</td>
<td>3610 160th St. E.</td>
<td>Residential</td>
<td>1959</td>
</tr>
<tr>
<td>59</td>
<td>House</td>
<td>3660 160th St. E.</td>
<td>Residential</td>
<td>1955</td>
</tr>
</tbody>
</table>
## TABLE 2. PROPERTIES 45 YEARS OF AGE OR OLDER NOT PREVIOUSLY INVENTORIZED OR EVALUATED WITHIN THE ARCHITECTURAL HISTORY STUDY AREA

<table>
<thead>
<tr>
<th>SHPO/Field No.</th>
<th>Property Name</th>
<th>Address / Location</th>
<th>Property Type</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>House and Garage</td>
<td>15951 Comstock Ave.</td>
<td>Residential</td>
<td>1964</td>
</tr>
<tr>
<td>62</td>
<td>House and Garage</td>
<td>15993 Comstock Ave.</td>
<td>Residential</td>
<td>1955</td>
</tr>
<tr>
<td>63</td>
<td>House and Garage</td>
<td>15974 Clayton Ave.</td>
<td>Residential</td>
<td>1890</td>
</tr>
<tr>
<td>64</td>
<td>House</td>
<td>15950 Clayton Ave.</td>
<td>Residential</td>
<td>1920</td>
</tr>
<tr>
<td>65</td>
<td>House and Garage</td>
<td>15944 Clayton Ave.</td>
<td>Residential</td>
<td>1929</td>
</tr>
<tr>
<td>68</td>
<td>House</td>
<td>15820 Clayton Ave.</td>
<td>Residential</td>
<td>1950</td>
</tr>
<tr>
<td>69</td>
<td>House</td>
<td>15800 Clayton Ave.</td>
<td>Residential</td>
<td>1960</td>
</tr>
<tr>
<td>70</td>
<td>House and Garage</td>
<td>15744 Clayton Ave.</td>
<td>Residential</td>
<td>1890</td>
</tr>
<tr>
<td>71</td>
<td>House and Garage</td>
<td>15700 Clayton Ave.</td>
<td>Residential</td>
<td>1910</td>
</tr>
<tr>
<td>72</td>
<td>House and Garage</td>
<td>15690 Clayton Ave.</td>
<td>Residential</td>
<td>1910</td>
</tr>
<tr>
<td>73</td>
<td>House</td>
<td>15660 Clayton Ave.</td>
<td>Residential</td>
<td>1910</td>
</tr>
<tr>
<td>74</td>
<td>House</td>
<td>15646 Clayton Ave.</td>
<td>Residential</td>
<td>1914</td>
</tr>
<tr>
<td>78</td>
<td>House and Garage</td>
<td>15643 Clayton Ave.</td>
<td>Residential</td>
<td>1957</td>
</tr>
<tr>
<td>79</td>
<td>House</td>
<td>15679 Clayton Ave.</td>
<td>Residential</td>
<td>1957</td>
</tr>
<tr>
<td>80</td>
<td>House and Outbuilding</td>
<td>15697 Clayton Ave.</td>
<td>Residential</td>
<td>1950</td>
</tr>
<tr>
<td>81</td>
<td>House and Garage</td>
<td>15717 Clayton Ave.</td>
<td>Residential</td>
<td>1947</td>
</tr>
<tr>
<td>82</td>
<td>House</td>
<td>15777 Clayton Ave.</td>
<td>Residential</td>
<td>1954</td>
</tr>
<tr>
<td>83</td>
<td>House and Garage</td>
<td>15901 Clayton Ave.</td>
<td>Residential</td>
<td>1945</td>
</tr>
<tr>
<td>84</td>
<td>House and Garage</td>
<td>15915 Clayton Ave.</td>
<td>Residential</td>
<td>1925</td>
</tr>
<tr>
<td>85</td>
<td>House and Garage</td>
<td>15933 Clayton Ave.</td>
<td>Residential</td>
<td>1954</td>
</tr>
<tr>
<td>86</td>
<td>House and Garage</td>
<td>15981 Clayton Ave.</td>
<td>Residential</td>
<td>1925</td>
</tr>
<tr>
<td>89</td>
<td>House</td>
<td>15150 Clayton Ave.</td>
<td>Residential</td>
<td>1951</td>
</tr>
<tr>
<td>92</td>
<td>House and Outbuildings</td>
<td>3405 145th St. E.</td>
<td>Residential</td>
<td>1956</td>
</tr>
<tr>
<td>94</td>
<td>House and Garage</td>
<td>14727 Clayton Ave.</td>
<td>Residential</td>
<td>1964</td>
</tr>
<tr>
<td>95</td>
<td>Bridge 19001</td>
<td>U.S. Highway 52 Southbound</td>
<td>Bridge</td>
<td>1962</td>
</tr>
<tr>
<td>96</td>
<td>Bridge 19002</td>
<td>U.S. Highway 52 Northbound</td>
<td>Bridge</td>
<td>1961</td>
</tr>
<tr>
<td>97</td>
<td>Vic's Crane and Heavy Haul</td>
<td>3000 145th St. E.</td>
<td>Industrial</td>
<td>1960</td>
</tr>
</tbody>
</table>

*Source: 106 Group Field Notes, Dakota County Tax Assessor Website*
UMore Park Research Wind Turbine Project
Phase IA Archaeological and Architectural History Survey
Dakota County, Minnesota

Architectural History Survey Results

Figure 7

Project Area
Architectural History Study Area
Property 45 Years of Age or Older Not Previously Inventoried/Evaluated

Source: 7.5 Minute USGS Quadrangles; LMIC; The 106 Group Ltd.
5.0 RECOMMENDATIONS

5.1 ARCHAEOLOGY

During the Phase IA archaeological survey of the project area for the UMore Park Research Wind Turbine Project, no archaeological sites were discovered within the archaeological study area. Additionally, no areas were identified that warranted subsurface testing. As a result, the 106 Group recommends no further archaeological work prior to construction as currently planned.

5.2 ARCHITECTURAL HISTORY

During the reconnaissance architectural history survey, the 106 Group identified 79 properties 45 years in age or older. Of these 79 properties, 19 were previously inventoried, nine were previously evaluated but not assigned SHPO inventory numbers, and 51 are newly identified.

The proposed project area is located in a relatively open rural area. Photo simulations of the proposed wind turbine and meteorologic tower prepared by Barr Engineering (Appendix B) indicate that in open areas, the turbine and tower may be visible from distances of 0.5 miles or more (see simulation VP 02). However, a photo simulation of the view from an area in the Town of Coates (VP 01) indicates that from some areas within the one-mile architectural history study area, trees and other vegetation may block views of the project area. Unfortunately, due to confidentiality issues, that photo simulation could not be included in this report.

The DOE, as the lead federal agency, is responsible for determining an APE. Once an APE has been defined, pursuant to Section 106, the 106 Group recommends that a Phase I architectural history survey be conducted of those properties that have not been previously inventoried or evaluated for listing in the NRHP located within the APE.
6.0 REFERENCES CITED

Agricultural Experiment Station

Andreas, A.T.

Anfinson, S. F.

Dabrowski, Mario


Dakota County Tax Assessor

Farm Plat Book Publishing Company

Lauber, John

Minnesota State Historic Preservation Office (SHPO)


National Park Service
Roise, Charlene

Sluss, Jackie and Chandra Malmquist

Trygg, J. W.

U.S. Army Corps of Engineers
1944  *Gopher Ordnance Works Industrial Facilities Inventory Map.*  U.S. Army Corps of Engineers, Fort Worth, Texas.

United States Department of Agriculture

USDA Soil Survey Staff
2010  Official Soil Series Descriptions.  Electronic document

W. W. Hixon Company
APPENDIX A: PHOTOGRAPHS OF PROPERTIES 45 YEARS OF AGE OR OLDER NOT PREVIOUSLY INVENTORIED OR EVALUATED WITHIN THE STUDY AREA
SHPO Inventory No. DK COC-001, St. Agatha Church, facing SW

SHPO Inventory No. DK COC-002, Farmstead, facing NE
Field No. 1, Outbuilding, facing SE

Field No. 3, House, facing SW
Field No. 4, House and Garage, facing W

Field No. 6, St. John’s Lutheran Church Cemetery, facing S
Field No. 7, House and Garage, facing NE

Field No. 8, Farmstead, facing N
Field No. 9, House and Outbuildings, facing NW

Field No. 39, House and Outbuildings, facing W
Field No. 40, House and Garage, facing N

Field No. 41, House and Outbuildings, facing N
Field No. 42, St. John’s Church and Parsonage, facing N

Field No. 43, House and Outbuildings, facing NE
Field No. 46, Outbuildings, facing S

Field No. 47, House and Outbuildings, facing N
Field No. 48, Farmstead, facing SE

Field No. 49, House and Outbuildings, facing NW
Field No. 52, Virblas and Son Concrete Supply, facing NE

Field No. 54, House and Garage, facing NE
Field No. 55, House, facing NE

Field No. 56, Coates Corner, facing SE
Field No. 57, House and Garage, facing SW

Field No. 58, House, facing SE
Field No. 59, House, facing S

Field No. 61, House and Garage, facing SW
Field No. 62, House and Garage, facing W

Field No. 63, House and Garage, facing N
Field No. 64, House, facing E

Field No. 65, House and Garage, facing E
Field No. 68, House, facing E

Field No. 69, House, facing NE
Field No. 70, House and Garage, facing E

Field No. 71, House and Garage, facing E
Field No. 72, House and Garage, facing NE

Field No. 73, House, facing NE
Field No. 74, House, facing SE

Field No. 75, Olson Carriers, facing NE
Field No. 78, House and Garage, facing SW

Field No. 79, House, facing SW
Field No. 80, House and Outbuilding, facing W

Field No. 81, House and Garage, facing SW
Field No. 82, House, facing W

Field No. 83, House and Garage, facing NW
Field No. 84, House and Garage, facing SW

Field No. 85, House and Garage, facing W
Field No. 86, Jake’s Exotic Dancers, facing NW

Field No. 89, House, facing SW
Field No. 92, House and Outbuildings, facing W

Field No. 94, House and Garage, facing NW
Field No. 95, Bridge 19001, Unavailable

Field No. 96, Bridge 19002, Unavailable

Field No. 97, Vic’s Crane and Heavy Haul, facing S
APPENDIX B: PHOTO SIMULATIONS OF PROPOSED TURBINE
Barr Engineering - Minnesota Single Turbine

VP 01  Corner of Clayton Ave E and 160th St E
Looking Northwest Toward Turbine

VP 02  Co Road 42
Looking South Toward Turbine

VP 03  145th St W
Looking East Toward Turbine
VP 01 removed for confidentiality reasons
Viewpoint 02 - Co Road 42 - Looking toward South
[Viewpoint 03 - Corner of 145th St W and Auburn Ave - Looking toward East]
APPENDIX C: LIST OF PROJECT PERSONNEL
LIST OF PERSONNEL

Principal-In-Charge  Anne Ketz, M.A., RPA
Project Manager  Jennifer Bring, B.A.
Principal Investigators
Archaeology  Anne Ketz, M.A., RPA
Architectural History  Greg Mathis, M.C.R.P.
Field Archaeologist  Mark Doperalski, B.S.
Field Historian  Miranda Van Vleet, M.H.P.
Graphics and GIS  Nathan Moe, B.A.