Appendix L
Archaeological Reconnaissance Survey Report

Badger Wind, LLC
February 2024

THIS PAGE INTENTIONALLY BLANK

MANUSCRIPT DATA RECORD FORM

1. Manuscript Number: [SHPO assigns]
2. SHPO Reference #:
3. Author(s): Rigden A. Glaab, M.A., RPA
4. Title: Class III Archaeological Survey of the Badger Wind Project in Logan and McIntosh Counties, North Dakota
5. Report Date: January 24, 2024
6. Number of Pages: 38
7. Type – I, T, E, O: I

   I=Inventory; T=Formal Testing; E=Excavation; O=Other
8. List formally tested or excavated sites (not probes): N/A
9. Acres: 1,092
10. List the legal description* and study unit. For study unit assignment, use the township tables in the *State Plan*, http://history.nd.gov/hp/stateplan_arch.html. Study Units: LM, CB, KN, HE, SM, GA, JA, GR, NR, SR, SO, SH, YE

    **For inventory*, *formal testing* and *excavation* projects, *list the CLASS III legal locations only*.

County Township Range Section Study Unit

Township (T)	Range (R)	Section	County	Study Unit
132 N	70 W	6, 7	McIntosh	SM
132 N	71 W	2, 6–8, 16–21, 28–34	McIntosh	SM
132 N	72 W	1–3, 8–13, 15, 16	McIntosh	SM
133 N	70 W	8, 17–20, 28–33	Logan	SM
133 N	71 W	18–23, 25–36	Logan	SM
133 N	72 W	13, 24, 25, 35, 36	Logan	SM
134 N	71 W	31	Logan	SM

THIS PAGE INTENTIONALLY BLANK

A REPORT FOR CLASS III ARCHAEOLOGICAL SURVEY

Badger Wind Project – 2023 Expansion Areas

Logan and McIntosh Counties, North Dakota

JANUARY 24, 2024

PREPARED FOR:

Ørsted

PREPARED BY:

Westwood

Westwood

Class III Archaeological Survey

Badger Wind Project – 2023 Expansion Areas

Logan and McIntosh Counties, North Dakota

Prepared For:
Badger Wind, LLC.
401 North Michigan Avenue, Suite 501
Chicago, Illinois 60611

Prepared By:
Rigden Glaab – Senior Archaeological Principal Investigator
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343
(952) 937-5150

Project Number: R0031120.00
Date: January 24, 2024

Abstract

Ørsted Onshore North America, LLC (Ørsted) retained Westwood Professional Services, Inc. (Westwood), to conduct an archaeological survey in support of developing the Badger Wind Project (Project or Project Area) in Logan and McIntosh Counties, North Dakota. This report is being provided to Ørsted to facilitate an understanding of the cultural resources present in the Project identified during Westwood's October and November surveys. The work performed here is for an expansion of the Project and supplements previous surveys performed by Cultural Resource Analysts, Inc in 2022 (Ferriman and Thurman 2022; Thurman and Weston 2022). It is assumed the project is being conducted at a state level review due to anticipated requirements of the Public Service Commission (PSC) as part of the Certificate of Site Compatibility (Site Permit) required under the North Dakota Energy Conversion and Transmission Facility Siting Act (North Dakota Century Code Chapter 49-22).

The North Dakota State Historic Preservation Office (SHPO) requires that cultural resource investigations be conducted by qualified archaeologists who meets the Secretary of the Interior's qualifications as outlined in 36 Code of Federal Regulations (C.F.R.) 61. Westwood archaeologists Rigden Glaab, Master of Arts (MA), Register of Professional Archaeologists (RPA), Dean Sather, MA, RPA, and Ryan Steeves, MA, RPA, meet these qualifications and directly oversaw all cultural resource work. Ryan Grohnke, Bachelor of Arts (BA), Registered Archaeologist (RA), served as Cultural Resource Manager for the Project facilitating client interactions and budget management. Mr. Glaab, Mr. Grohnke, and Mr. Sather are all permitted to conduct archaeological investigations in North Dakota.

Fieldwork on the Project was carried out October 23 through November 22, 2023, over the course of three field sessions. Fieldwork was overseen by Principal Investigator Rigden Glaab, MA, RPA, with assistance from Ryan Steeves, MA, RPA, Lindsay Schwartzkopf, BA, Dean Sather, MA, RPA, and Abigail Kennedy, Master of Science (MSc). Field investigators utilized pedestrian survey to examine the APE, which are locations of proposed ground disturbance. The cultural resource surveys were conducted to comply with state permitting requirements. The archaeological survey was completed within the Area of Potential Effect (APE) of the Project as currently designed. The APE currently consists of locations of potential ground disturbance including the proposed locations of access roads, turbines, MET towers, and utility corridors (e.g., crane paths, collections lines, gen-tie, and fiber optic lines). The APE surveyed by Westwood in 2023 is 1,092 acres.

There are no previously recorded cultural resources in the current APE. Westwood archaeologists identified a total of one new historic site (32LO174) and one new prehistoric isolated find (32LOX76) in the Project APE. Site 32LO174 is a historic farmstead consisting of three structure foundations and associated trash from the 1940s through 1970s. Isolated Find 32LOX76 is a prehistoric utilized flake made from Knife River flint (KRF). A second piece of KRF shatter was identified to the northwest of the utilized flake. These resources are recommended *not eligible* for inclusion in the National Register of Historic Places (NRHP). No further avoidance measures are recommended on behalf of Ørsted by Westwood. Should any proposed Project design be located outside of previously constructed or previously surveyed areas, that aspect of the design should first be surveyed for unrecorded cultural resources.

Table of Contents

Tables

Exhibits

Appendices

1.0 Introduction

Ørsted Onshore North America, LLC (Ørsted) contracted Westwood Professional Services, Inc. (Westwood), to perform a Class III Archaeological Survey of the Badger Wind Project in Logan and McIntosh Counties, North Dakota (Project or Project Area; **Exhibits 1 and 2**; **Appendix A**). The content of this document reflects the Project based on client layout in a KMZ dated to November 28, 2023. The Project's proposed 250 megawatts (MW) generating capacity is conceptually placed on 34,867 acres of leased land. Westwood conducted a Class III Archaeological Survey of the Area of Potential Effects (APE), which is for expansion areas of the Project encompassing 1,092 acres in this conceptual area. This 1,092-acre APE currently covers aspects of Project developments including the proposed locations of access roads, turbines, MET towers, and utility corridors (e.g., crane paths, collections lines, gen-tie, and fiber optic lines). This work supplements previous surveys performed for the Project by Cultural Resource Analysts, Inc. (CRA) in 2022 (Ferriman and Thurman 2022; Thurman and Weston 2022). This report is being provided to Ørsted to discuss the cultural resources present in the Project identified during Westwood's October and November 2023 surveys. The Project is being conducted at a state level review due to anticipated requirements of the Public Service Commission (PSC) as part of the Certificate of Site Compatibility (Site Permit) required under the North Dakota Energy Conversion and Transmission Facility Siting Act (North Dakota Century Code Chapter 49-22).

The Project surrounds the town of Wishek, North Dakota, in Logan and McIntosh Counties. The legal location of the Project is listed in **Table 1** below.

Table 1: Legal Description of the Badger Wind Project

Township (T)	Range (R)	Section	County
132 N	70 W	6, 7	McIntosh
132 N	71 W	2, 6–8, 16–21, 28–34	McIntosh
132 N	72 W	1–3, 8–13, 15, 16	McIntosh
133 N	70 W	8, 17–20, 28–33	Logan
133 N	71 W	18–23, 25–36	Logan
133 N	72 W	13, 24, 25, 35, 36	Logan
134 N	71 W	31	Logan

The North Dakota State Historic Preservation Office (SHPO) requires that archaeological investigations be conducted by a qualified archaeologist who meets the Secretary of the Interior's qualifications as outlined in 36 Code of Federal Regulations (C.F.R.) 61. The North Dakota SHPO also outlines standards and guidelines for conducting work in the state. Rigden Glaab, Master of Arts (MA), Register of Professional Archaeologists (RPA), of Westwood meets the Secretary of Interior's Professional Standards for Archaeology, as stipulated in 36 C.F.R. Part 61, and served as Principal Investigator for the archaeological survey. Mr. Glaab resides in North Dakota and has performed cultural resource inventories in the state since 2011. Westwood's cultural resource field team for the Project included Mr. Glaab (Principal Investigator), Ryan Steeves, MA, RPA, Lindsay Schwartzkopf, Bachelor of Arts (BA), Dean Sather, MA, RPA, and Abigail Kennedy, Master of Science (MSc; Westwood Archaeologists). Westwood's Cultural Resources Manager, Ryan Grohnke, provided administrative oversight in schedule development and client communication.

2.0 Scope of Work

A Class III Archaeological Survey was conducted to determine whether any undocumented, significant archaeological resources are present within the proposed Project's APE and to define vertical and horizontal boundaries of identified sites. If new sites are identified, archaeologists assess proposed construction impacts and provide recommendations on avoidance or additional work. The APE for this Project is any location where ground disturbance could occur, including the entire 1,092-acre APE surveyed by Westwood in October and November of 2023 (**Exhibits 1 and 2**). This APE surveyed by Westwood excludes all areas previously surveyed.

3.0 Survey Methods

Project survey methods included background research, a literature review, and field investigations in the form of pedestrian survey. Environmental background and historic contexts were used to assess site probability and determine site types most likely to be encountered in the area. A catalog of previously identified and recorded cultural resources for the area was compiled from the records maintained at the North Dakota SHPO. The data collected from these sources includes the state archaeological site files, historic property files, the North Dakota National Register inventory, and archival collections of published and unpublished reports of previous cultural resource investigations. (See **Section 5: Literature Review**.)

The methodology for the pedestrian survey involved walking the APE in parallel transects no more than 15 meters apart. In locations where artifacts or features were observed, an intensive pedestrian survey at transects no more than 5 meters apart was performed over the landform to assist in delineating the site boundaries. The APE is comprised of locations of potential ground disturbance including the proposed locations of access roads, turbines, MET towers, and utility corridors (e.g., crane paths, collections lines, gen-tie, and fiber optic lines). The field inventory consisted of a Class III intensive archaeological survey of a 250-foot radius around 32 turbines. Additionally, this area included approximately 10.5 miles of new corridor, and five proposed MET towers. These corridor locations included access roads (100 feet [ft] wide), collection lines (75 ft wide), and a 150-foot buffer around turning radii. Crane walks generally followed same corridors as collection lines. No shovel testing was performed due to the excellent ground surface visibility (GSV) across the project (e.g., 60–95 percent). Locations excluded from survey included wetlands, terrain with a significant slope (greater than 20 percent), and obviously disturbed areas. All cultural resources were mapped using GPS equipment. All cultural resources were documented to standards accepted by the North Dakota SHPO.

4.0 Results of Background Investigations

4.1 Environmental Background

The Project is located in a sparsely populated agricultural region of south-central North Dakota in Logan and McIntosh Counties surrounding the town of Wishek (**Exhibits 1 and 2**). The entirety of the Project is located on agricultural land with corn, wheat, hay, and soybeans being the dominant crops. Rocky fields unsuitable for cultivation are also commonly used for livestock pasture. GSV throughout the Project ranged from 60 percent to 95 percent.

4.1.1 Landscape and Climate

The Project is located in the Southern Missouri River Study Unit as defined by the North Dakota SHPO in Logan and McIntosh Counties (Gregg et al. 2021:5.6). This study unit is located in the Glaciated Missouri Plateau Subsection of the Missouri Plateau Section of the Great Plains physiographic province (Bluemle 2016). The Project region broadly encompasses aspects of the Missouri Coteau and Coteau Slope east of the Missouri River Trench. The Coteau region was formed by glacial dead-ice moraines and ice-disintegration features, which also includes potholes and sloughs. Beaver Creek is the largest drainage in the Project Area, which is located north and northwest of the Project (Gregg et al. 2021:5.7).

The climate of the Project Area is characterized as a semiarid continental type with significant seasonal fluctuation in temperatures. For example, the mean temperature in January is 9° Fahrenheit (F), while the mean temperature in July is 72° F (Gregg et al. 2021:5.7). The Project Area receives an average of 14 to 17 inches (in) per year (Gregg et al. 2021:5.7). Temperatures during Westwood's October and November 2023 fieldwork ranged from 20° F to 45° F that included intermittent snowstorms. (Westwood field measurements in 2023 were taken using weather applications, such as WeatherBug.)

4.1.2 Flora and Fauna

Prior to European settlement in the region, grasses would have dominated a Prairie Grassland Biome. Forested areas in the region tend to be concentrated along the major drainages (e.g., Beaver Creek, Missouri River). Common native trees in these locations include cottonwoods (*Populus* sp.), bur oak (*Quercus* sp.), willow (*Salix* sp.), box elder (*Acer negundo*), and green ash (*Fraxinus lanceolate*; Gregg et al. 2021:5.9). Endemic prairie grasses are green needlegrass (*Stipa viridula*), blue grama (*Bouteloua gracilis*), and western wheatgrass (*Agropyron smithii*). Prairie turnip (*Psoralea esculenta*) was an important vegetal food source for Native Americans in the past.

Common large mammals historically in the Project Area were white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), bison (*Bison bison*), elk (*Cervus elaphus*), and antelope (*Antilocapra americana*). Predators include wolf (*Canis lupis*), coyote (*Canis latrans*), and fox (*Vulpes* sp.). Catfish (*Ictalurus* sp.) was a common fish that would have been available to Native Americans in the Project Area. Various turtles and mussels would have been procured along drainages. Eagles, hawks, owls, pelicans, and a diverse assortment of waterfowl are also present seasonally across the Project today.

4.1.3 Soils

Westwood, and Thurman and Weston (2022) reviewed the Project Area in the Web Soil Survey database, which is maintained by the Natural Resources Conservation Service (NRCS 2023). The Project Area is characterized by loams overlaying horizons of clay loams that cover a substrate of gravely and sandy loams. Common soil series across the Project are Typic Calciustolls, Typic Pachic Argiustolls, and Typic Pachic Haplustolls (NRCS 2023). Soils of these types develop in very deep, well-drained contexts of till and alluvium on glacial plains and moraines (Thurman and Weston 2022).

4.1.4 Geology and Geomorphology

According to macrostrat.org (2023), the bedrock geology of the Project Area is comprised of the Hell Creek Formation and Fox Hills Formation, which are Late Cretaceous-age (100.5–66 million years ago) stratigraphic units. Pierre Formation shales are also present. The major lithology of the Hell Creek Formation is sandstone, siltstone, and claystone, while the Fox Hills Formation is made up of principally shale. These layers formed during the retreat of the Western Interior Seaway. The geomorphology of the Project Area surface is comprised of rolling hills with interspersed pothole lakes and wetlands (Wilk et al. 2022:4–5). Glacial deposits from the Pleistocene cover the region and consist of sand and gravel outwash ranging in thickness from 0 ft to 50 ft (Wilk et al. 2022:4–5).

4.2 Cultural History

In general, there are five major archaeological traditions in North Dakota that consist of the Paleoindian, Plains Archaic, Plains Woodland, Plains Village, and the Contact and Post-Contact Periods (Gregg et al. 2021). These traditions represent varying degrees of cultural adaptations to changing environmental conditions, endemic population growth, and the movement of Native American and Euroamerican groups in the past. The following cultural context presents a brief interpretation of this history based on current archaeological research and broadly accepted models for pre-contact and post-contact social lifeways. Gregg et al. (2021) have synthesized this work in the *Southern Missouri River Study Unit* of the *North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component*.

4.2.1 Paleoindian Period (13,000 to 9000 Before Present [B.P.])

The Paleoindian Period represents the earliest evidence of human occupation in North Dakota. This is typically separated into an Early Paleoindian (13,000–12,500 B.P.) and Late Paleoindian (12,500–9000 B.P.) periods (Frison 1998; Gregg et al. 2021). Spear technology is important during this time frame, as opposed to the emphasis on atlatl and bow and arrow lithic technology seen during later periods. This reflects a subsistence strategy focused on large game hunting and high mobility (Gregg et al. 2021:5.61).

Clovis culture is commonly regarded as the earliest occupation in North Dakota during the Early Paleoindian period. Its signature implement, the Clovis projectile point, is made from high quality lithic materials, and has a central channel flake that extends part way up the proximal shaft of the tool (Frison 1998). Folsom is another technology that temporally follows Clovis during the Paleoindian Period. Its projectile point is typically also made from high quality materials; however, the central channel flake extends the entire length of the implement to the distal tip (Hofman 1995).

The Late Paleoindian Period in North Dakota is characterized by an unfluted variety of projectile points similar to earlier lanceolate forms that are associated with the Plano Complex (Dobbs 1990). Agate Basin, Eden, Hell Gap, and Scottsbluff are varieties of projectile points found during this time, which are often associated with bison kill sites (Gregg et al. 2021:5.62).

4.2.2 Plains Archaic Period (9000 to 2500 B.P.)

Approximately 9000 B.P., a new mode of subsistence strategy began to emerge in the archaeological record across North America (Emerson et al. 2011). The general pattern of this

change is the replacement of lanceolate spear points used during the Paleoindian Period, and the adoption of atlatl technology with the presence of some ground stone implements. This represents a fundamental difference from earlier forager behavior with a diversification of economy that incorporated more plants into the diets of Native Americans (Gregg et al. 2021:5.62–5.63).

Xeric environmental conditions began around 9000 B.P. with the spread of prairie grassland across much of North Dakota and western Minnesota (Anfinson 1997). Many of the lakes that had been created as a product of Pleistocene glaciation started to dry during this time leading to a reduction in game (e.g., bison, fish, birds, etc.) dependent on these resources. These environmental transformations promoted a diversification in hunting strategies, which differed dramatically from the Paleoindian Period (Gregg et al. 2021:5.62–5.63). The Plains Archaic Period is found across North Dakota and western parts of Minnesota representing an adaption to grassland environments.

4.2.3 Plains Woodland Tradition (3000 B.P. to 950 B.P.)

Substantial cultural changes began to occur in North Dakota approximately 2,500 to 3,000 years ago with Native American adaptations mirroring broader trends across the southern and eastern US (Arzigian 2008). This timeframe, known as the Woodland Period, is marked by the presence of burial mounds, pottery, bow and arrow technology (ca. 1450 B.P.), and intensive plant cultivation. Archaeological settlement patterns show Native American groups beginning to aggregate into larger populations along lakes, rivers, and associated drainages. The "Three Sisters" of squash, beans, and corn were grown in small garden plots, which were further supplemented with other resources, such as fish and aquatic mammals (Gregg et al. 2021:5.70–5.71).

Woodland archaeological sites are often broken into one of a classic tripartite temporal division of Early Woodland (3000–2150 B.P.), Middle Woodland (2150–1450 B.P.), and Late Woodland (1450–950 B.P.) periods (Emerson et al. 2008). Traditionally, variations in the Woodland Period across time and space are argued to derive from broader influences that shaped significant trends in cultural practices. These interaction spheres include the Adena (Early Woodland Period), Hopewell (Middle Woodland Period), and Mississippian (Late Woodland Period) cultures (Anfinson 1997; Gibbon 2012; Gregg et al. 2021).

4.2.4 Plains Village Period (950 B.P. to European Contact)

The Woodland Period ends throughout most of North Dakota and surrounding regions around 950 B.P. (Arzigian 2008; Gibbon 2012). The dominant major regional influence was the site of Cahokia in the American Bottom near the modern city of St. Louis, Missouri, on the Mississippi River (Pauketat 2009). A widespread cultural complex called Oneota to the east of North Dakota is concurrent with the regional influences of Cahokia lasting from approximately 950 B.P. until the time of French contact (Gibbon 2012). These mobile groups shared Middle Mississippian traits that included corn horticulture and shell-tempered ceramics (e.g., globular vessels with high rims), but lacked permanent structures such as burial mounds (Gregg et al. 2021:5.77–5.79).

Plains Village groups from the region of the Missouri River in the Dakotas began to interact with the Oneota in western Minnesota after 950 B.P. (Anfinson 1997; Ahler and Kay 2007). These groups hunted bison and practiced corn horticulture and lived within earth-lodges protected within palisaded forts. Globular-shaped ceramic jars with crushed rock temper are a hallmark

technology of this period. Psinomani groups are believed to be the ancestors of the modern Dakota people who lived in east-central Minnesota (Gibbon 2012).

4.2.5 Contact Period and Post-Contact (A.D. 1700 to Present)

The introduction of the horse had a profound effect on Native American lifeways beginning in the early-1700s in North Dakota (Gregg et al. 2021:5.82). This period is also referred to as protohistoric, a time when the indigenous people were coming into contact with and being influenced by European culture (Gregg et al. 2021:5.82). This contact was not always direct interaction between Native and Euro-American peoples, but sometimes through contact with items of Euro-American cultural material being traded throughout the area (Gregg et al. 2021:5.82).

Later in the 1800s, Euro-Americans pushed westward and increasingly settled in the Dakotas. Although North and South Dakota were initially within the Missouri Territory, the Dakota Territory was eventually established in 1861 and encompassed North Dakota, South Dakota, and much of Montana and Wyoming (North Dakota History-American Settlement 2024). Dakota Territory was opened to homesteaders in 1862 (North Dakota History-American Settlement 2024). Following the opening of the Dakota Territory several railroads that served the territory, including the Dakota Southern and Manitoba (known later as the Great Northern) Railways, were built, and the Gold Rush of 1876 began (North Dakota History-Statehood 2024). These events led to massive Euro-American settlement of the Dakota Territory between 1872 and 1887 (North Dakota History-Statehood 2024). This period is known as the Great Dakota Boom; a severe drought brought the Boom to an end between 1886 and 1887 (North Dakota History-Statehood 2024).

In 1889 North and South Dakota were admitted to the Union as the 39th and 40th states, in no particular order (North Dakota History-Statehood 2024). The states were the leading producers of wheat until the drought and Great Depression in the 1930s, and railroads continued to expand and run until the collapse of the farming industry in the 1980s (North Dakota History-Postwar Economics and Politics 2024). Significant events witnessed by residents of North and South Dakota throughout the twentieth century included discovering oil in 1927 and 1951, enduring record blizzards, creating numerous military bases and nuclear missile silos, and constructing dams (North Dakota History-Postwar Economics and Politics 2024).

5.0 Literature Review

The Project Area has been subject to several intensive cultural resource literature reviews from 2020 to present on behalf of Ørsted (Bring and Freshwater 2021; Ferriman and Thurman 2022; Thurman and Weston 2022; Wilk et al. 2022). These reviews led to Project-related archaeological fieldwork during three separate surveys (Ferriman and Thurman 2022; Thurman and Weston 2022; Wilk et al. 2022). The archaeological work conducted by CRA, over the summer of 2022 reflects the Project layout closest to Westwood's 2023 inventory (Ferriman and Thurman 2022; Thurman and Weston 2022).

The Class I Literature Review performed by Atwell, LLC (Atwell), encompasses a broad study area (57,413 acres), which generally overlaps all iterations of Project layout subsequently surveyed by Atwell, CRA, and Westwood (Wilk et al. 2022). Previously recorded resources identified by this

literature review consist of nine historic architectural sites, 11 historic archaeological sites, one prehistoric archaeological site, and 36 previous cultural resource inventories in the Project Area. In addition, Atwell's Class III Cultural Resource Survey that followed documented seven historic archaeological sites, one site historic cemetery site lead, and two prehistoric isolated finds (Wilk et al. 2022).

A cultural resource literature of the Project Area was performed by CRA in May and July of 2022, which included archaeological surveys that summer (Ferriman and Thurman 2022; Thurman and Weston 2022). The larger, May 2022 search identified 18 previous inventories, one isolated find, 20 archaeological sites, and one site lead. In addition, a related literature review cataloged 578 architectural resources principally concentrated in the town of Wishek, North Dakota (see Dickerson and Ball 2022). The 2022 inventories by CRA recorded two new historic sites, one historic isolated find, and three prehistoric isolated finds.

A search of Bureau of Land Management (BLM) General Land Office (GLO) records was conducted by Thurman and Weston (2022) to assess the potential for historic resources to be present in earlier configurations of the Project. Westwood performed a GLO search specific to the Project area that was surveyed in 2023 and is overlapped by CRA's study (Westwood Architectural Historian S. Nelson, December 2023). GLO maps published from 1868 to 1902 have been digitized and provided by the North Dakota Department of Water Resources (NDDWR) and were viewed in ArcPro GIS software (NDDWR 2022). There are several small and intermittent unnamed streams crisscrossing the Project, but the GLO maps do not show indications of settlement or land claims. Bluffs are indicated along many of the creek beds. One road is depicted in T 133, R 71 on the Logan County map: it runs along a southeasterly route through sections (from the northwest corner) 18, 17, 20, 29, 28, 33, and 34. The road begins 5 miles northwest of the Project where it runs southeast from an east-west route along the south side of Beaver Creek. The road does not continue south onto the McIntosh County (T 132) map. The roadway is not depicted in later maps such as the 1916 Logan County atlas and topographic maps published since 1953 (Topoview 2023). By 1916, the county atlas shows the Minneapolis, St. Paul & Sault Ste. Marie railroad corridor had been laid through the center of T (s) 132 and 133, Range 71 along a northerly track (Ogle 1916).

Ørsted has used these data discussed above to aid in creating the current Project layout, which avoids all known cultural resources in relation to the APE (**Exhibits 1 and 2**). Out of due diligence, Mr. Glaab performed a check of the North Dakota SHPO records in Bismarck on October 23, 2023. No additional cultural resources have been documented in the current APE since the 2022 review by CRA. No previously recorded resources were present in the APE surveyed by Westwood in 2023. The previous literature reviews and surveys indicated the Project's potential for architectural (e.g., houses, farmstead structures, sheds), prehistoric archaeological (e.g., stone features, lithic scatters, isolated tools), and historic archaeological (e.g., trash scatters [> 50 years], foundations, collapsed structures) sites to be present.

6.0 Field Investigations

Fieldwork in the Project Area was carried out by Westwood between October 23 and November 22, 2023. The Class III Cultural Resource Inventory was performed by Westwood's cultural resource field team comprised of Principal Investigator Rigden Glaab, MA, RPA, and Ryan Steeves, MA, RPA, Lindsay Schwartzkopf, BA, Dean Sather, MA, RPA, and Abigail Kennedy, MSc.

(Westwood Archaeologists). The Project Area consists of rolling hills with coulees and drainages flowing northwest and north towards Beaver Creek. Internally draining areas are also present along with wetlands that were excluded from survey. The field methods utilized were pedestrian survey. Weather was conducive to survey with partly cloudy conditions and temperatures ranging from 20° F to 45° F. The GSV throughout the Project Area averaged 60 to 95 percent, which permitted pedestrian survey throughout the APE (**Exhibits 1 and 2; Appendix A**). No previously recorded cultural resources are present in the 2023 APE surveyed by Westwood. Two newly recorded cultural resources were documented (*Site 32LO174*; *Isolated Find 32LOX76*). The discussion below focuses on these archaeological results and provides management recommendations for the National Register of Historic Places (NRHP).

6.1 Site 32LO174 (Historic Foundations and Cultural Material Scatter [CMS]; Temp. No. Site Badger-HIS-2)

Site 32LO174 is a historic farmstead that is comprised of three heavily eroded concrete foundations (Features A, B, and C) and a linear CMS dating from the 1940s to 1970s (**Exhibits 1, 2, and 3**; **Appendix A**). The site is located directly northeast of the intersection of 43rd Avenue SE and 76th Street SE. Access to the farm was probably from 43rd Avenue SE in the past. The site is in the northeast APE of the Project, and the GSV throughout averaged 40 percent. Significant exposures of ground surface are created across the site by areas cattle frequent. The site boundary, including the features and CMS, measures 296 ft east-west by 348 ft north-south. The topography is comprised of open pasture generally trending to the northeast at a 4 to 6° slope; the ground surface is level near features. Elevated at 2,196 ft above sea level (asl), the legal location for the site is the [redacted] Logan County, North Dakota.

Site 32LO174 contains three concrete foundation features (Features A–C). Feature A measures 29 ft 6 in east-west by 65 ft 7 in north-south. The probable house foundation has three visible walled areas each oriented east-west with one entrance to the north, three opening east, and one to the south. The northern room (13 ft 5 in north-south x 29 ft 6 in east-west) may be a foyer, the central space (29 ft 6 in east-west x 33 ft 5 in north-south) a living room, and the southern room (18 ft 8 in north-south x 29 ft 6 in east-west) a kitchen. The remnants of a collapsed fireplace are visible in the southernmost partition. Located 70 ft to the northeast from Feature A, Feature B is a concrete foundation that measures 24 ft east-west by 48 ft north-south, has no visible partitions, and was accessed from two openings located on the northern and southern sides. Feature C is the concrete foundation of a barn and is approximately 100 ft to the south from Feature B. Feature C measures 20 ft east-west by 70 ft north-south and is comprised of a single space with no visible entry points.

A linear CMS of mixed historic-period trash from the 1940s through the 1970s is present in a 100 ft northwest-southeast oriented drainage ditch that is 67 ft south from Feature C. These artifacts were not fully documented due to an abundance of recent trash, but a sample of the older materials was recorded. It is unclear if the source of these materials is related to the occupation of the main site, or if it is an area of roadside deposits from 76th Street SE. Observed artifacts that may be contemporaneous with the site include several clear glass food or condiment bottles bearing pre-1954 and post-1954 Owens-Illinois trademarks with possibly 1953 and 1959 dates (Owens-Illinois Trademarks 2023). Older appearing metal scrap is in the ditch as well that may be from stove or automobile body parts.

A review of BLM GLO records did not identify any land patents at the specific location of Site 32LO174 in the [redacted] of Section [redacted] Logan County, North Dakota. Available records in Section [redacted] show a patent for 160 acres issued (Document #9388) to Sadie Miles in the [redacted] of Section [redacted] on September 21, 1908 (BLM GLO 2023). An internet search of this individual's name did not produce information regarding their historic importance (*sensu* Criterion B). The GLO search conducted by Thurman and Weston (2022) did not reveal any other patent records near the site location.

Westwood contacted the Logan County Recorder's Office in Napoleon, North Dakota, via email on December 11, 2023, and provided the legal location of the site. The Logan County Recorder's Office provided two deeds that pertain to the age of the artifact and feature assemblages observed during site documentation. The first (Document #56049) is an indenture drafted on December 4, 1944, between Logan County and William E. Huber (unclear if he is the father of or individual referenced below) of Wishek, North Dakota (Logan County Recorder's Office 2023). It appears the property was acquired by Logan County during deed proceedings following nonpayment of taxes between the years of 1929 and 1940. On November 17, 1940, Mr. Huber paid $512.94 to reacquire the land from the county and settle unpaid taxes. If the father, Mr. Huber may have originally purchased the land from Sadie Miles referenced above in the GLO search.

The second attachment provided by Logan County (Document #60884) is a deed made on June 26, 1950, between Harold Mattes, and Emelia Huber (Mr. Huber's mother), William E. Huber, and his wife Phyllis M. Huber (Logan County Recorder's Office 2023). The form indicates they all maintained post office boxes in Wishek, North Dakota. No cost is provided for the property exchange. An internet search of these individuals did not produce significant information regarding their importance in North Dakota or regional history (*sensu* Criterion B). An obituary for Mr. Huber notes he had a career as a real estate, insurance, and tax accounting specialist in Wishek (Bismarck Tribune 2023) Harold Mattes is associated with an Appaloosa breeding registry and is noted for the horse Dogtown Eris (T-19628), which was a mare born in 1961(Appaloosa Territory 2023). The horse was sold to Wheeler and Horton of Tilden, Texas.

Site 32LO174 is recommended *not eligible* for inclusion in the NRHP, and Westwood recommends no other avoidance measures for this site. The location of the concrete foundations may be important to know for safety considerations during construction. The site exhibits minimal importance with respect to the seven aspects of NRHP integrity. The significance of the "Location," "Design," "Setting," and "Materials" of the site is limited to its construction as a standard farmstead in central North Dakota. The site condition is in a heavily degraded state and it does not retain any maintain any important aspects of architectural form. The site integrity of "Workmanship," "Feeling," and "Association" cannot be demonstrated as a significant aspect of the historic farmstead. Its layout and utilitarian design follow a template found at many farmsteads across North Dakota.

Regarding its potential NRHP eligibility, Site 32LO174 is not associated with broad patterns of a discernable history beyond the utilitarian nature of a farmstead (Criterion A). It cannot be related to historically important individuals (Criterion B). The degraded concrete foundations lack meaningful architectural elements emblematic of an important style (Criterion C). Finally, the data potential of the site has been fully exhausted during the current documentation. The site contains no potential for additional cultural materials that could address significant archaeological research paradigms (Criterion D).

6.2 Isolated Find 32LOX76 (Knife River Flint [KRF] Utilized Flake and Shatter; Temp. No. Isolated Find Badger-PRE-3if)

Isolated Find 32LOX76 consists of a utilized flake and a piece of lithic shatter made from KRF (**Exhibits 1 and 2**; **Appendix A**). The isolated find is located on the southeast-trending slope (average 10° slope) of a rolling hill to the northwest, and is 317 ft west of 37th Avenue SE. The isolated find is in the northwest APE of the Project, and the GSV throughout averaged 70 percent. The area is currently used for hay production. The isolated find is at 2,110 ft asl, and the legal location is the [redacted] Logan County, North Dakota.

The KRF utilized flake measures 4.0 x 3.6 x .7 centimeters (cm), bears no cortex, has eight dorsal scars, and five ventral scars. The tool was used along 1.3 cm of one margin. It may have served as a cutting implement for butchering. A single piece of KRF shatter was identified 8 meters northwest of the utilized flake. It is unclear if it is prehistoric in age, or the product of mechanical plow shearing. Small, naturally-occurring nodules of KRF (range 1–4 cm diameter) were observed in this portion of the Project's APE. Bipolar lithic reduction may have been a preferred method for creating tools from these diminutive cores. No other cultural materials were identified after an extensive field search by three archaeologists.

The isolated find does not exhibit any of the seven aspects of NRHP integrity. The significance of the "Location," "Design," "Setting," "Workmanship," "Feeling," and "Association" would not apply as this is likely an expediently used tool with a focused, limited purpose. It does not have any characteristics (e.g., bifacial flaking) found in formally produced tools, such as projectile points. The resource is also limited in density (e.g., two artifacts). Integrity of "Materials" is also limited because of the implement being made from KRF, which is a common lithic tool stone found across western and central North Dakota.

Isolated Find 32LOX76 is recommended by Westwood *not eligible* for inclusion in the NRHP, and the Project does not need to avoid this resource. Considering its potential NRHP eligibility, Isolated Find 32LOX76 cannot be linked to broad patterns history (Criterion A), nor can it be related to historically important individuals (Criterion B). There are no architectural components to this isolated find (Criterion C). The archaeological research potential of the isolated find has been completely documented by the 2023 inventory (Criterion D).

7.0 Summary and Recommendations

Westwood recommends no further work at Site 32LO174 and Isolated Find 32LOX76. These resources are recommended *not eligible* for inclusion in the NRHP. Westwood also recommends no further cultural resource work for the Project within the surveyed APE as of the most current layout in November 2023. Westwood stresses that if construction plans are altered to include areas not previously surveyed, those locations must be examined for cultural resources. Although an archaeological survey was completed, the possibility of unidentified resources remains. If unrecorded archaeological sites are discovered during construction, all ground-disturbing activities in the area should stop and the archaeologist on record and ND SHPO should be contacted. Further, if human remains are encountered during construction activities, all ground-disturbing activity must cease, and local law enforcement along with professional archaeologists, must be notified.

8.0 References Cited

Ahler, S., and M. Kay
2007 *Plains Village Archaeology: Bison-hunting Farmers in the Central and Northern Plains*. The University of Utah Press, Salt Lake City.

Anfinson, S.
1997 Southwestern Minnesota Archaeology: 12,000 Years in the Prairie Lake Region. Minnesota Historical Society, St. Paul.

Appaloosa Territory
2023 Appaloosa Horse Pedigree for Dogtown Eris (T 19628). Electronic document, https://appaloosaterritory.com/Articles/tentative19601.html, accessed December 2023.

Arzigian, C.
2008 *Minnesota State Multiple Property Documentation Form for the Woodland Tradition*. Submitted to the Minnesota Department of Transportation (MnDOT). Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse (Report No. 735).

Bismarck Tribune
2023 Obituary for William E. Huber from July 9, 1997. Electronic document, https://www.legacy.com/us/obituaries/bismarcktribune/name/william-huber-obituary?pid=198040098, accessed December 2023.

BLM GLO
2023 Bureau of Land Management General Land Office Records. Electronic application, https://glorecords.blm.gov/, accessed December 2023.

Bluemle, J.
2016 *North Dakota's Geologic Legacy: Our Land and How it Formed*. North Dakota State University Press, Fargo, North Dakota.

Bring, J., and J. Freshwater
2021 *Badger Wind Project Class I Archaeological Literature Search*. Memorandum on file at Atwell, LLC, Boulder, Colorado.

Dickerson, J., and R. Ball
2022 Class I Literature Review and Class II Architectural Reconnaissance Inventory for the Proposed Badger Wind Project in Logan and McIntosh Counties, North Dakota. Report on file at Cultural Resource Analysts, Inc., Sheridan, Wyoming.

Dobbs, C.
1990 Outline of Historic Contexts for the Prehistoric Period (CA. 12,00B.P.-A.D. 1700): A Document in the Series Minnesota History in Sites and Structures: A Comprehensive Planning Series. Institute for Minnesota Archaeology Reports of Investigations Number 37, Minneapolis.

Emerson, T., D. McElrath, and A. Fortier (editors)
2008 Late Woodland Societies: Tradition and Transformation across the Midcontinent. University of Nebraska Press, Lincoln.

2011 Archaic Societies: Diversity and Complexity across the Midcontinent. State University of New York Press, Albany.

Ferriman, C., and M. Thurman
2022 Intensive Cultural Resource Inventory of Collection Line Reroutes Associated with the Ørsted North America, Inc., Badger Wind Project in Logan County, North Dakota. Report on file at Cultural Resource Analysts, Inc., Sheridan, Wyoming.

Frison, G.
1998 Paleoindian Large Mammal Hunters on the Plains of North America. *Proceedings of the National Academy of Sciences of the United States of America* 95 (24):14576–14583.

Gibbon, G.
2012 Archaeology of Minnesota: The Prehistory of the Upper Mississippi River Region. University of Minnesota Press, Minneapolis.

Gregg, M., A. Bleier, and F. Swenson
2021 *The Southern Missouri River Study Unit*. Electronic document, https://www.history.nd.gov/hp/PDFinfo/5_SouthernMissouriRiverStudyUnit.pdf, accessed December 13, 2023.

Hofman, J.
1995 Dating Folsom Occupations on the Southern Plains: The Lipscomb and Waugh Sites. *Journal of Field Archaeology* 22(4):421–437.

Logan County Recorder's Office
2023 Document #56049 and Document #60884. Logan County Recorder, Napoleon, North Dakota.

Macrostrat.org
2023 Review of the Badger Wind Project Area. Electronic application, https://macrostrat.org/map/layers#x=-99.5378&y=46.378&z=9.2&show=bedrock, accessed December 14, 2023.

Natural Resources Conservation Service (NRCS)
2023 Web Soil Survey. Electronic application, https://websoilsurvey.nrcs.usda.gov/app/, accessed December 13, 2023.

North Dakota Century Code
2022 Chapter 49-22 Energy Conversion and Transmission Facility Siting Act. Electronic document, https://www.ndlegis.gov/cencode/T49C22.pdf, accessed December 2023.

North Dakota Department of Water Resources (NDDWR)
2023 General Land Office (GLO) Plats of North Dakota, 1868–1902. Originally created and maintained by the Bureau of Land Management. Digitized and hosted online by NDDWR. Electronic application, https://www.arcgis.com/home/item.html?id=c7accd0ce06a47edb7a97beef2cb4cb7, accessed December 2023.

North Dakota History-American Settlement
2024 Summary of North Dakota History: American Settlement. Electronic document, https://www.history.nd.gov/ndhistory/settlement.html, accessed January 3, 2024.

North Dakota History-Postwar Economics and Politics
2024 Summary of North Dakota History: Postwar Economics and Politics. Electronic document, https://www.history.nd.gov/ndhistory/postwar.html, accessed January 3, 2024.

North Dakota History-Statehood
2024 Summary of North Dakota History: Statehood. Electronic document, https://www.history.nd.gov/ndhistory/statehood.html, accessed January 3, 2024.

Ogle, G. A. & Co.
1916 Standard Atlas of Logan County, North Dakota. Chicago: G.A. Ogle & Co. Electronic document, https://historicmapworks.com/Atlas.php?cat=Maps&c=US&a=16921, accessed December 2023.

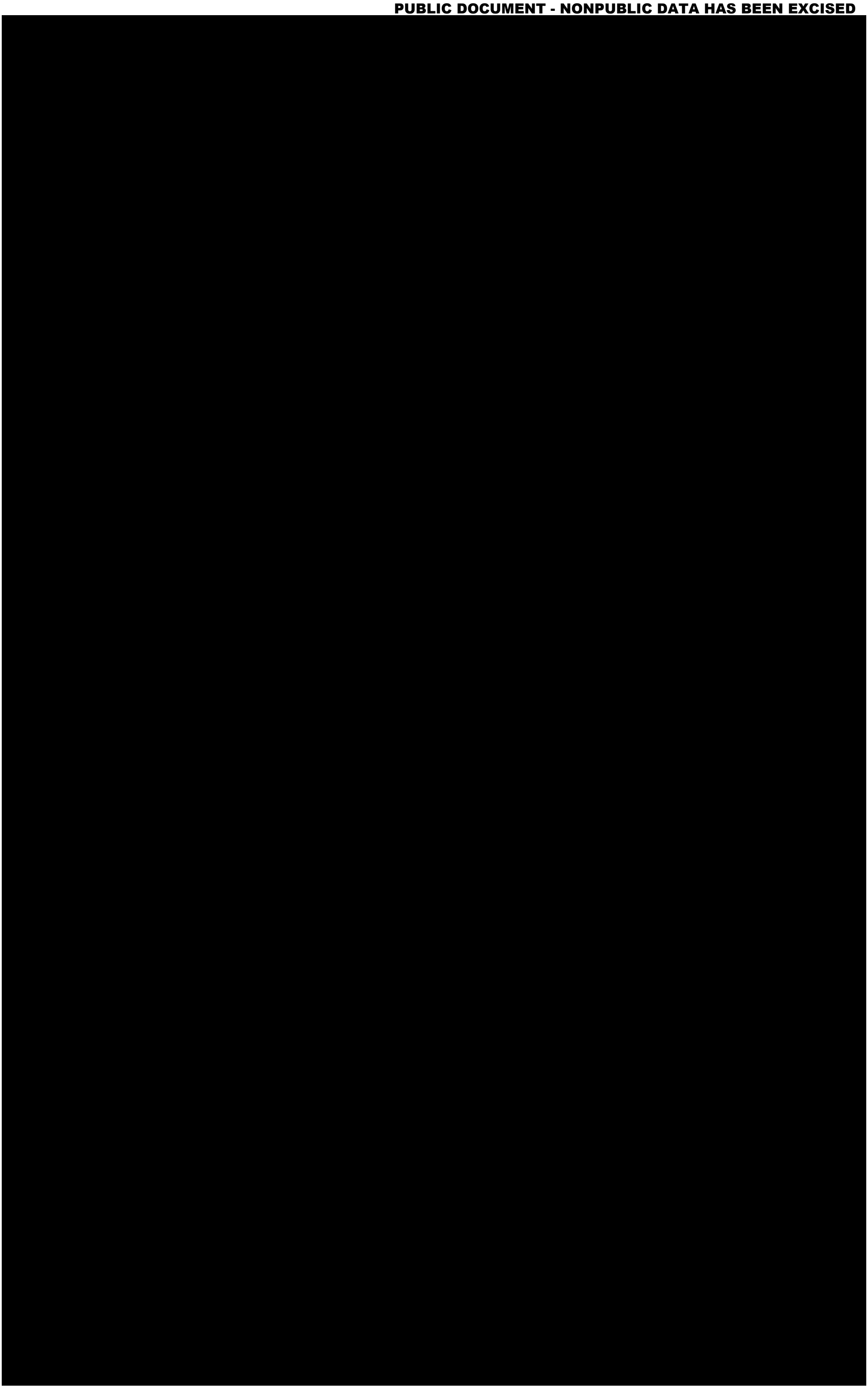
Owens-Illinois Trademarks
2023 Owens-Illinois Glass Company. Electronic document, https://glassbottlemarks.com/owens-illinois-glass-company/, accessed December 2023.

Pauketat, T.
2009 Cahokia: Ancient America's Great City on the Mississippi. Penguin Books, London, England.

Thurman, M., and J. Weston
2022 2022 Intensive Cultural Resource Inventory of Targeted Components of the Ørsted North America, Inc., Badger Wind Project, Logan and McIntosh Counties, North Dakota. Report on file at Cultural Resource Analysts, Inc., Sheridan, Wyoming.

United States Geological Survey (USGS)
2023 Topoview USGS Topographic Maps interactive mapping viewer. Washington, DC: USGS. Electronic application, https://ngmdb.usgs.gov/topoview/, accessed December 2023.

Wilk, E., P. Barber, J. Bring, and T. Johnson
2022 A Class III Cultural Resources Inventory for the Badger Wind Project, Logan and McIntosh Counties, North Dakota. Report on file at Atwell, LLC, Boulder, Colorado.



[redacted]

[redacted]

[redacted]

THIS PAGE INTENTIONALLY BLANK

APPENDIX A

Representative Photos of the Project Area, Isolated Find, and Site.

Badger Wind Project – 2023 Expansion Areas

Logan and McIntosh Counties, North Dakota

THIS PAGE INTENTIONALLY BLANK

Photo 1: Overview of the northern Project Area, facing south.

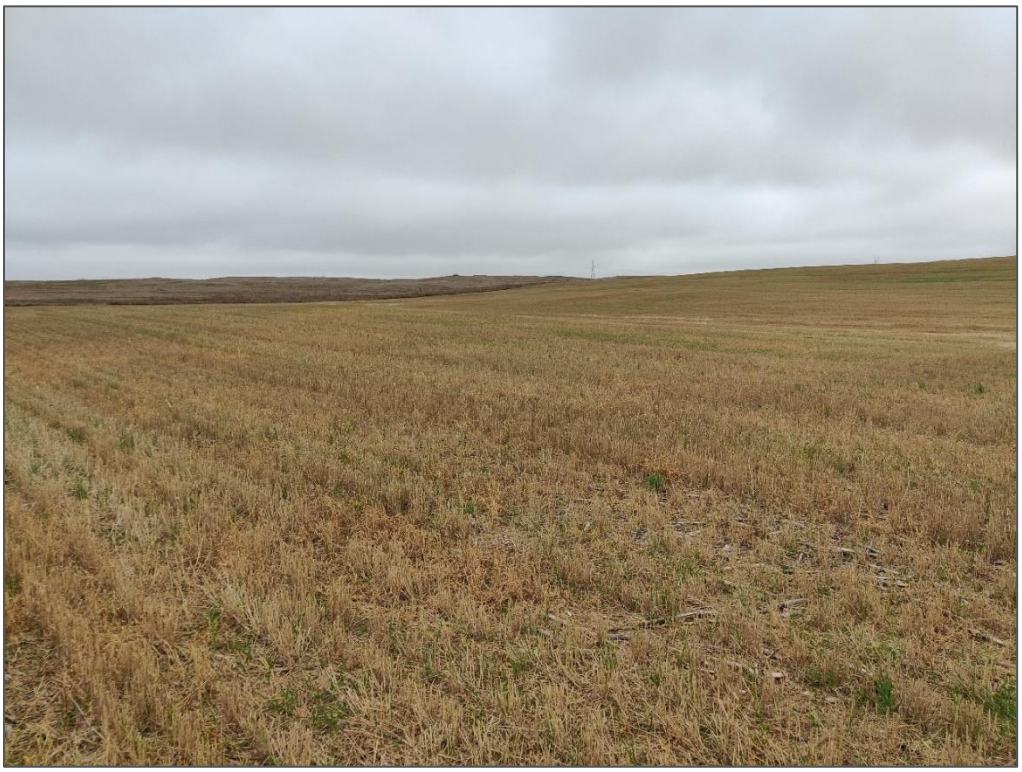


Photo 2: Overview of the northern Project Area, facing southwest.

Photo 3: Overview of the eastern Project Area, facing west.

Photo 4: Overview of the eastern Project Area, facing west.

Photo 5: Overview of the southern Project Area, facing north.

Photo 6: Overview of the southern Project Area, facing north.

Photo 7: Overview of the western Project Area, facing east.

Photo 8: Overview of the western Project Area, facing east.

Photo 9: Overview of the central Project Area, facing east.

Photo 10: Overview of the central Project Area, facing east.

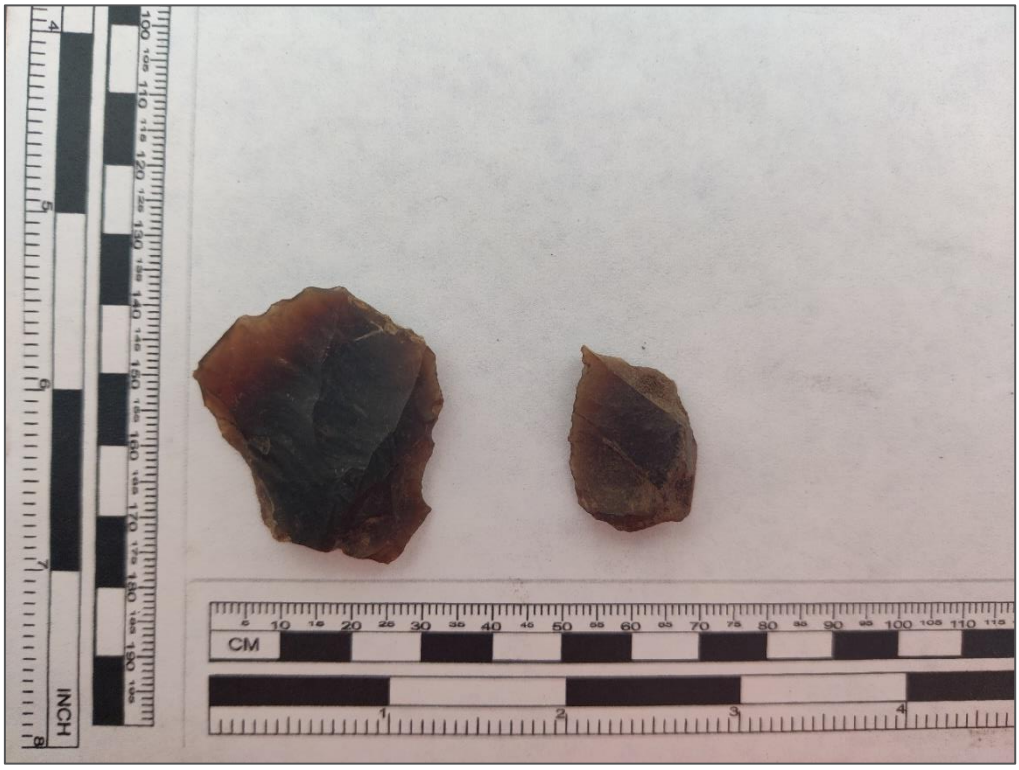
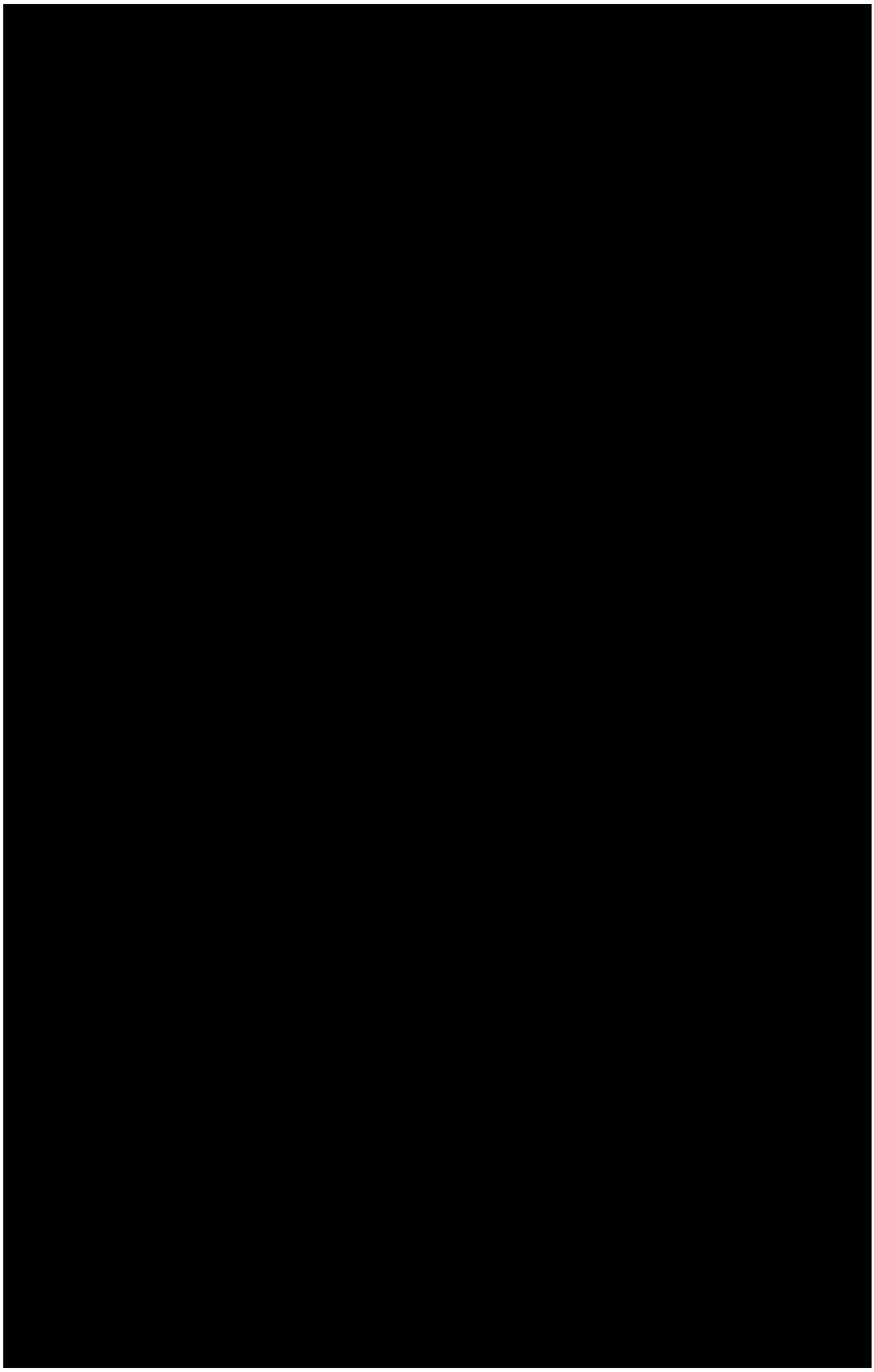
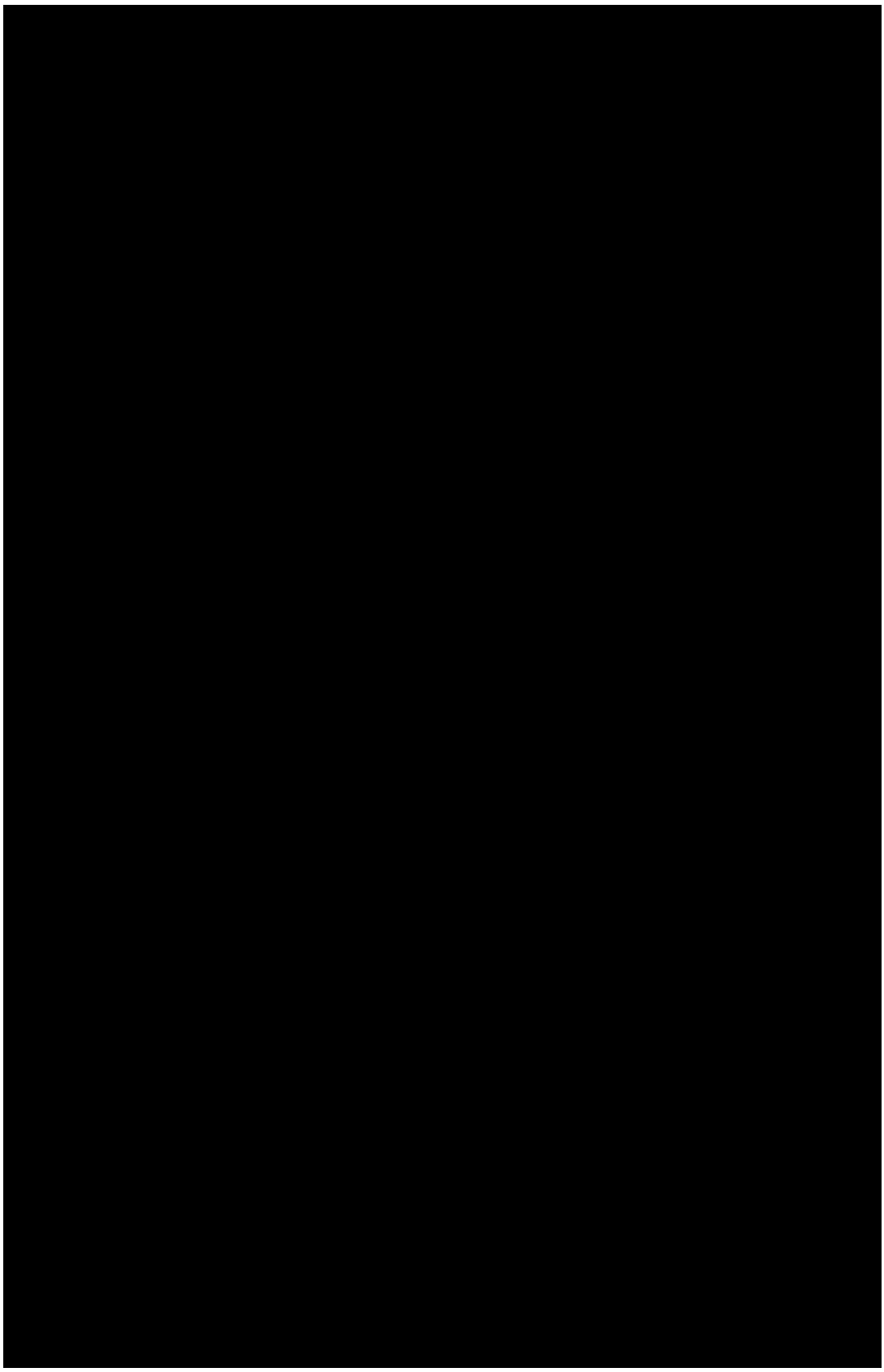
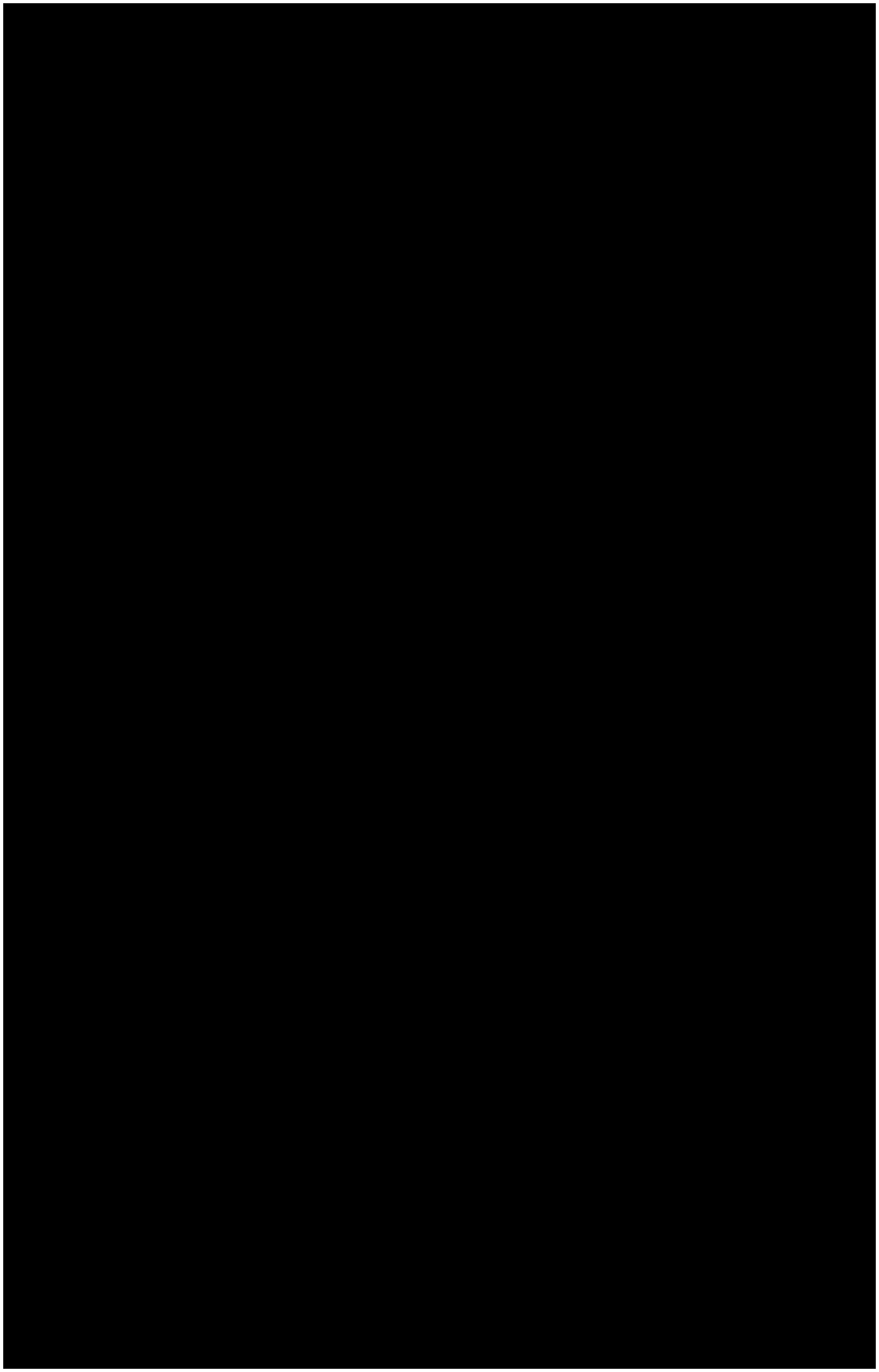


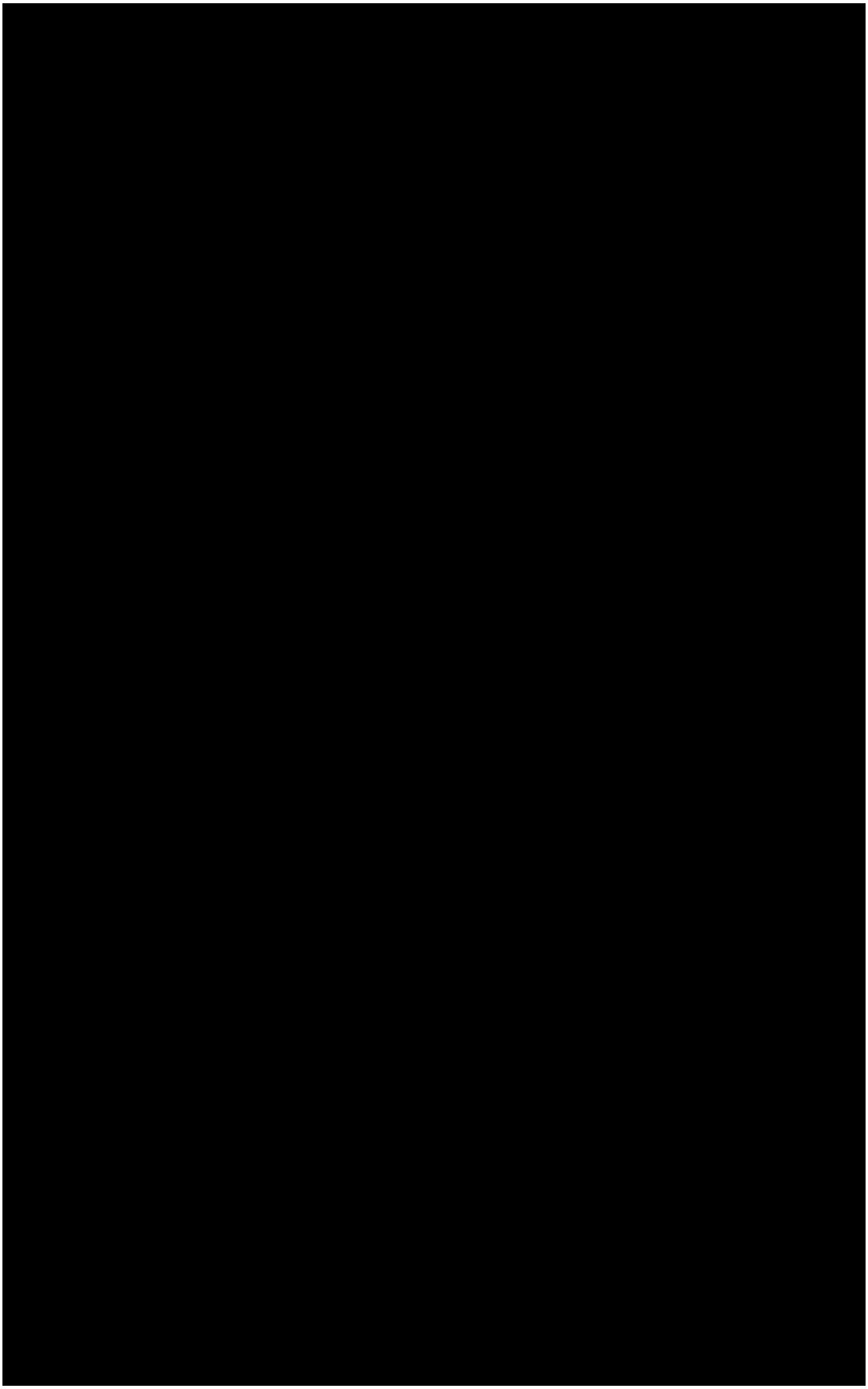
Photo 11: Isolated Find 32LOX76, Knife River flint utilized flake and shatter.

[redacted]









You have a package coming.

Scheduled Delivery Date: Friday, 01/26/2024

This message was sent to you at the request of WESTWOOD PROFESSIONAL SERV to notify you that the shipment information below has been transmitted to UPS. The physical package may or may not have actually been tendered to UPS for shipment. To verify the actual transit status of your shipment, click on the tracking link below.

Shipment Details

From:	WESTWOOD PROFESSIONAL SERV
Tracking Number:	1ZF444191398264933
Ship To:	Lorna Meidinger State Historical Society of ND 612 East Boulevard Avenue BISMARCK, ND 585056100 US
UPS Service:	UPS NEXT DAY AIR SAVER
Number of Packages:	1
Scheduled Delivery:	01/26/2024
Weight:	2.0 LBS
Reference Number 1:	R0031120.00 7 4210
Reference Number 2:	RAG

Discover more about UPS:

Visit www.ups.com
Sign Up For Additional E-Mail From UPS
Read Compass Online

De Caro, David

From: Rigden Glaab <Rigden.Glaab@westwoodps.com>
Sent: Friday, January 26, 2024 10:50 AM
To: Andrew Krieger; De Caro, David; Wallace, Erin
Cc: Ryan Grohnke; Ryan Steeves
Subject: FW: Westwood Submittal: Badger Wind Project, Logan and McIntosh Counties, ND

Follow Up Flag: Follow up
Flag Status: Flagged

Confirmation email to the ND SHPO.

Thanks,

Rigden

Rigden Glaab, RPA
Senior Archaeological Principal Investigator
rigden.glaab@westwoodps.com

cell (701) 425-9523
direct (952) 697-5791
main (952) 937-5150

Westwood
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

westwoodps.com
(888) 937-5150

From: Rigden Glaab
Sent: Friday, January 26, 2024 9:49 AM
To: Meidinger, Lorna B. <lbmeidinger@nd.gov>
Cc: Reed, Timothy A. <treed@nd.gov>; Ryan Grohnke <Ryan.Grohnke@westwoodps.com>
Subject: Westwood Submittal: Badger Wind Project, Logan and McIntosh Counties, ND

Good morning Lorna,

We have mailed the report for the Badger Wind Project along with the processing check. The GIS data and digital version of the document have also been uploaded to the FTP site (Badger_Wind_Project folder).

Thank you, and please let me know if you have any questions.

Best regards,

Rigden

Rigden Glaab, RPA
Senior Archaeological Principal Investigator
rigden.glaab@westwoodps.com

cell (701) 425-9523
direct (952) 697-5791
main (952) 937-5150

Westwood
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

westwoodps.com
(888) 937-5150

THIS PAGE INTENTIONALLY BLANK