MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.

400 North Fourth Street
Bismarck, ND 58501
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ORIGINAL

RECEIVED
JUN 13 2011
PUBLIC SERVICE COMMISSION

June 10, 2011

Executive Secretary
North Dakota Public Service Commission
State Capitol Building
Bismarck, ND 58505

Re: Case No. PU-10-164
230 kV Transmission Line — McIntosh & Dickey counties Siting Application

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc. herewith submits Late Filed Exhibit 19, The Class III Archaeological Resource Inventory Report for the above referenced transmission line. The original and ten (10) copies of MDU Exhibit 19 have been provided to the Commission.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed stamped envelope.

Sincerely,

Tamie A. Aberle
Regulatory Affairs Manager

Enclosure
Cc: Mitchell D. Armstrong –
Special Assistant Attorney General for the
Public Service Commission

Class III Archaeological Resource Inventory for a 230 kV Transmission Line from the Merricourt Wind Farm to the Ellendale Junction Substation, Dickey and McIntosh Counties, North Dakota

Prepared for:

Montana-Dakota Utilities Co.
Bismarck, ND

Prepared by:

HDR

701 Xenia Avenue South
Suite 600
Minneapolis, MN 55416

Dylan Eigenberger, MA
and
Stephen Sabatke, MA
with contributions by
Megan M. Mueller, BS

Principle Investigator:

Dylan Eigenberger, MA

June 2011

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SHPO Project Number: 10-1440

June 2011

Abstract

In November of 2010 and May of 2011, HDR Engineering, Inc. (HDR) on behalf of Montana-Dakota Utilities Co. (Montana-Dakota), completed a Class III Intensive Archaeological Resources Inventory for the Merricourt Wind Farm to Ellendale (MWFE) 230 kilovolt (kV) Transmission Line Project in Dickey and McIntosh Counties, North Dakota. The project entails construction of an approximately 30 mile long 230 kV transmission line between the existing Ellendale Junction Substation, located about 1.5 miles west of Ellendale in Dickey County, and a proposed Merricourt Wind Farm substation, located about 15 miles east-northeast of Ashley in McIntosh County. The MWFE Project will increase the transfer capacity on the current transmission system in the area, providing an outlet for electricity generated from the proposed Merricourt Wind Farm.

In May 2010, Montana-Dakota contacted the North Dakota State Historic Preservation Office (SHPO) to inform them of the proposed transmission line project. SHPO responded with a letter (NDSHPO REF.: 10-1440) in May 2010, stating that the potential for recorded and unrecorded properties exists within the project corridor. SHPO recommended that Montana-Dakota complete a Class I Literature Search for the project corridor and conduct a Class III Intensive Archaeological Resource Inventory of the project route, with pedestrian survey being the preferred method of investigation. SHPO recommended the inventory focus on areas where ground disturbing activity is likely to occur, such as at structure locations, access routes, and ancillary facilities. SHPO also recognized that, as it is currently defined, the project is not a federal undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR 800).

Montana-Dakota completed a Class I Literature Search to determine the location of previously recorded cultural resources and surveys and to assess the potential for the presence of as yet unrecorded archaeological resources within an initial 8-mile by 27-mile project corridor. Subsequent to completion of the literature search, the transmission line route was finalized and the Project corridor was refined. The literature search results presented in this report have been modified to reflect the final transmission line route and refined Project corridor.

The Class III Intensive Archaeological Resources Inventory was performed to identify any new or previously recorded archaeological resources that may be eligible for listing on the National Register of Historic Places (NRHP) within the Project route and along shoofly routes. The Project route right-of-way (ROW) is 120 feet (37 meters) wide and approximately 30 miles long. The shoofly routes surveyed were approximately 100 feet (30 meters) wide. Approximately 820 acres received pedestrian and/or shovel testing review for this inventory, which consisted of:

- pedestrian survey of the transmission line route and associated alternate access, or "shoofly" routes,
- shovel testing at transmission line structure locations in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials, and

- investigation of an approach to a construction equipment laydown area near the Ellendale Junction substation.

The Class III inventory resulted in the identification of 12 previously unrecorded cultural resources including 10 precontact archaeological sites and two historical archaeological sites. All 12 sites indentified in the transmission line route are unevaluated for listing on the NRHP. Further work would be needed at these sites before their eligibility for listing can be determined. Montana-Dakota has engineered the transmission line and its construction to avoid all cultural resources identified during this Class III inventory.

Montana-Dakota feels the cultural work completed in the transmission line ROW and shoofly routes is adequate and complete and suggests this Project constitutes a determination of "No Historic Properties Affected." Montana-Dakota recommends the Project be completed as designed and documented.

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Introduction

In November of 2010 and May of 2011, HDR Engineering, Inc. (HDR) on behalf of Montana-Dakota Utilities Co. (Montana-Dakota), completed a Class III Intensive Archaeological Resources Inventory for the Merricourt Wind Farm to Ellendale (MWFE) 230 kilovolt (kV) Transmission Line Project in Dickey and McIntosh Counties, North Dakota (Figure 1). The project entails construction of an approximately 30-mile long 230 kV transmission line between the existing Ellendale Junction Substation, located about 1.5 miles west of Ellendale in Dickey County, and a proposed Merricourt Wind Farm substation, located about 15 miles east-northeast of Ashley in McIntosh County. The MWFE Project will increase the transfer capacity on the current transmission system in the area, providing an outlet for electricity generated from the proposed Merricourt Wind Farm.

To aid in selection of a new transmission line route, Montana-Dakota developed an approximately 8-mile by 27-mile initial project corridor in western Dickey County and eastern McIntosh County. In July 2010, Montana-Dakota contracted with HDR to complete a Class I Literature Search for the initial project corridor. In September 2010, HDR completed a Class I Literature Search to determine the location of previously recorded cultural resources and surveys and to assess the potential for the presence of as yet unrecorded archaeological resources within the initial project corridor. In October 2010, subsequent to completion of the literature search, the transmission line route was finalized and the project corridor was refined. The transmission line route consists of a 30-mile long 120-foot wide right-of-way (ROW) (Figure 2). The refined project corridor consists of a 3-mile wide buffer (1.5 miles on either side of the route centerline) surrounding the transmission line route (Table 1). The literature search results presented in this report have been modified per SHPO standards to reflect a 1-mile buffer (one-half-mile on either side of the route centerline) surrounding the final transmission line route.

In October 2010, Montana-Dakota contracted with HDR to complete a Class III Intensive Archaeological Resources Inventory of the transmission line route. In November 2010, pedestrian survey was complete across approximately 26 miles of the 30-mile transmission line route. At the end of November 2010, field work was halted for the year due to the onset of winter. The remaining field work was completed from May 1 to 8, 2011.

In January 2011, Montana-Dakota discovered that the footprint of the proposed Merricourt Wind Farm Substation had been previously surveyed in 2010 for enXco's Merricourt Wind Farm Project (Harty et al. 2010). Also during late January 2011, Montana-Dakota produced construction plans detailing the use of access or "shoofly" routes, used by heavy machinery to avoid wetlands or steep slopes during transmission line construction. These shoofly routes deviate from the 120-foot transmission line route ROW.

In May 2011, Montana-Dakota, per the direction of the North Dakota Department of Transportation, requested that an approach to a proposed construction equipment laydown area near the Ellendale Junction substation be evaluated for its potential to affect cultural resources as part of the Class III inventory.

The Class III Intensive Archaeological Resources Inventory was performed to identify any new or previously recorded archaeological resources within project route, and along shoofly routes, that may be eligible for listing on the National Register of Historic Places (NRHP). The project route is 120 feet (37 meters) wide and approximately 30 miles long. The shoofly routes surveyed were approximately 100 feet (30 meters) wide. Approximately 820 acres received pedestrian and/or shovel testing review for this project.

The Class III Archaeological Resources Inventory was conducted from November 2 to 12, 2010, and from May 1 to 8, 2011. Archaeologist Dylan Eigenberger acted as principal investigator, and performed the survey with Archaeologist Stephen Sabatke and Archaeological Technicians Michelle Porwoll, Megan Mueller, and Mark Glauner. The principal investigator meets *The Secretary of the Interior's Professional Qualification Standards for Archaeology* as published in 36 CFR 61. This report presents the environmental and historical contexts, modified background research, objectives, methods, fieldwork results, and management recommendations for the Class III inventory.

SHPO Coordination

In May 2010, Montana-Dakota contacted the North Dakota State Historic Preservation Office (SHPO) to inform them of Montana-Dakota's proposed transmission line project. SHPO responded with a letter (NDSHPO REF.: 10-1440) in May 2010, stating that the potential for recorded and unrecorded properties exists within the project corridor. SHPO recommended that Montana-Dakota complete a Class I Literature Search for the project corridor and conduct a Class III Intensive Archaeological Resource Inventory of the project route, with pedestrian survey being the preferred method of investigation. SHPO recommended the inventory focus on areas where ground disturbing activity is likely to occur, such as at structure locations, access routes, and ancillary facilities. SHPO also recognized that, as it is currently defined, the project is not a federal undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36CFR 800).

Montana-Dakota had a conference call with SHPO in October 2010 to discuss the project route, Montana-Dakota's proposed methodology for the Class III survey, regulatory framework, the existing environment of the project corridor, and the potential for encountering different types of unknown resources along the transmission line route. SHPO acknowledged that they were familiar with the project route, agreed with Montana-Dakota's proposed survey methodology, and stated they understood the regulatory framework of the project. Further, SHPO shared specific knowledge about the types of sites already inventoried in the vicinity of the project corridor and about possible uninventoried types of sites that may be encountered within the transmission line route.

In January 2011, Montana-Dakota had a conference call with SHPO to confirm that previous survey coverage and methodology were adequate and that no further investigation was needed for the Merricourt Wind Farm Substation location. SHPO reviewed the enXco report, and at the end of January confirmed that the survey was adequate and complete.

In February 2011, Montana-Dakota had a conference call with SHPO to discuss the shoofly routes. SHPO indicated that these shoofly routes required survey as they had the potential to impact known or unknown archaeological resources. Montana-Dakota had a follow up conference call with SHPO in April 2011 to discuss which shoofly routes would need survey. Montana-Dakota proposed a methodology for survey that focused on shoofly routes located in areas with high potential to retain intact archaeological resources (i.e., on the Coteau, on range land, in areas of suspected natural prairie, and in the vicinity of previously identified sites). During the call SHPO agreed to the shoofly route survey methodology.

USFWS Coordination

The transmission line route passes through a United States Fish and Wildlife Service (USFWS) grassland easement and a USFWS Waterfowl Production Area (WPA). The route traverses the USFWS grassland easement in the E ½ of the NE ¼ of Section 2, and the NW ¼ of Section 1 in Township 129 N, Range 66 W. The route traverses the USFWS WPA in the NE ¼ of Section 1 in Township 129 N, Range 66 W. In October 2010, HDR, on behalf of Montana-Dakota, obtained an Archaeological Resources Protection Act (ARPA) permit in advance of performing a Class III inventory on these USFWS administered lands.

As apart of receiving the ARPA permit, Montana-Dakota had a conference call in October 2010 with Barry Williams, USFWS Region 6 archaeologist, to discuss the methodological approach to the survey of the USFWS grassland easement and WPA. In particular, guidance for the documentation of artifacts was discussed, whether artifacts were found as surface finds or via shovel testing. The call concluded with USWFS agreeing with Montana-Dakota's survey and artifact documentation approach.

Montana-Dakota had a conference call with USFWS in January 2011 to discuss the cultural surveys that had been completed on the USFWS grassland easement and WPA land. In the call, USFWS requested a memo describing the survey and any artifacts found, including detail on what more would need to be completed to finish the survey. By the end of January 2011 the memo was complete and sent USFWS for review.

Montana-Dakota sent an updated memo to USFWS via e-mail at the end of March 2011 to detail the shooflys planned on the USFWS grassland easement and WPA. The update specified the location of the shoofly routes and the methodology that would be used to survey them. The USFWS replied in April 2011 that they agreed with the survey methodology for the shoofly access routes.

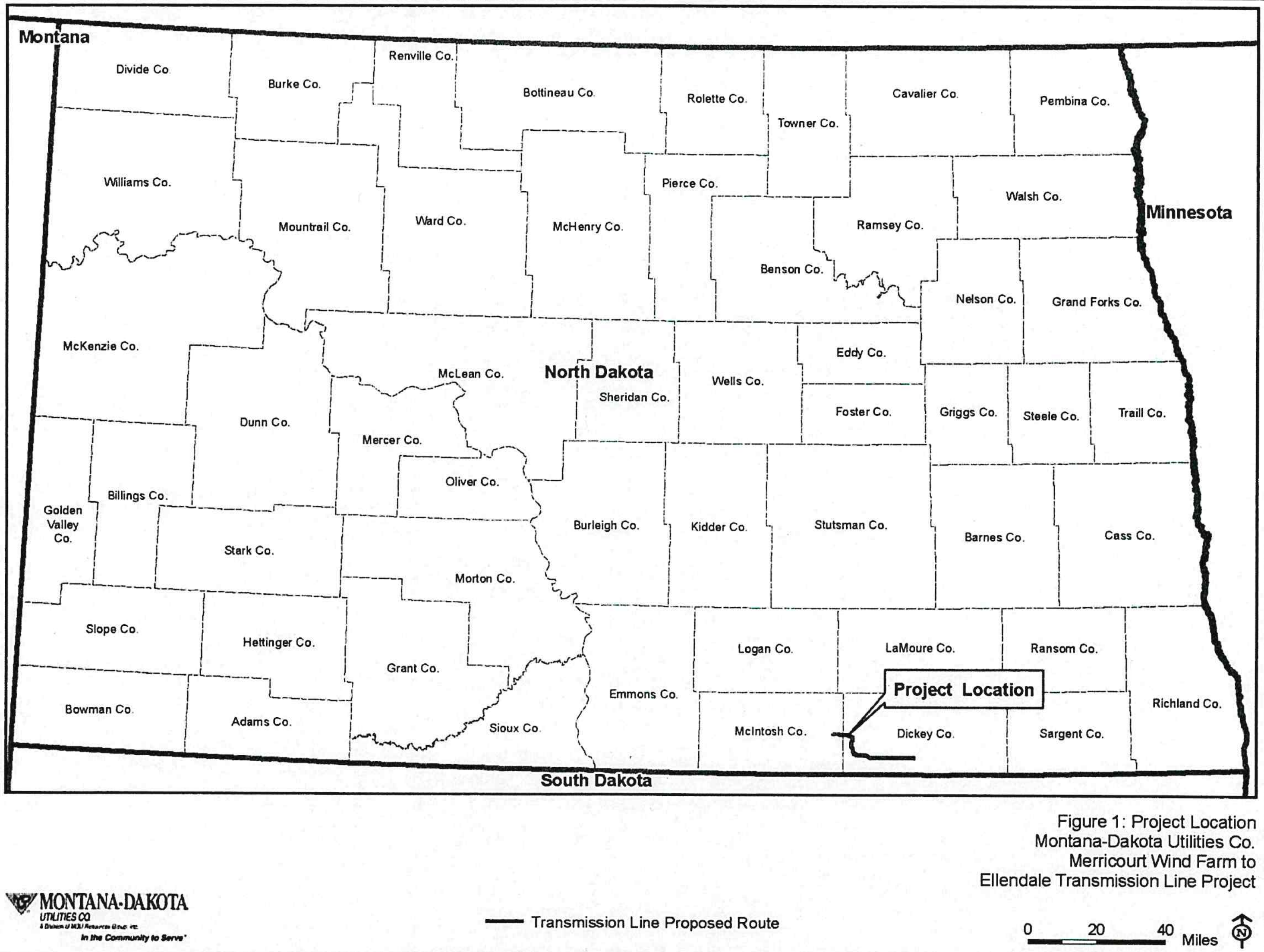
Montana-Dakota had a conference call with USFWS in May of 2011 to discuss reporting on the USFWS grassland easement and WPA survey. Barry Williams, USWFS Region 6 archaeologist, agreed to receive the same report that SHPO is sent, but requested that it include a cover letter detailing the sections under USFWS jurisdiction. Montana-Dakota noted that only one site was found on USFWS easement or property, and that engineering plans had been made to avoid the site. The USFWS was agreeable to this outcome.

Project Description

Heading west from the Ellendale Junction Substation, the proposed 30-mile long, 120-foot wide transmission line route follows an existing 41.6 kV transmission line for 17 miles before turning north in Section 3 of Township 129 N, R 66 W. For this portion of the route the 41.6 kV structures will be removed and new 230 kV structures will be constructed. The new structures will be double-circuited with both the 230 kV and 41.6 kV transmission lines. After turning north for a short distance, the proposed route crosses Highway 11, then heads to the west as it parallels the highway. The route turns north again near the intersection of Highway 11 and Highway 56. The route heads north for 5 miles as it follows Highway 56. The route deviates from Highway 56 for 2 of those 5 miles when it heads west and then north and follows the centerline of sections 16 and 21 of Township 130 N, Range 66 W, bypassing the village of Wirch, before it heads back east and then north to parallel Highway 56 again. At the junction of Highway 56 and 91st Street SE the route turns west and parallels 6 miles of existing 230-kV transmission line until the proposed Merricourt Wind Farm substation footprint is reached.

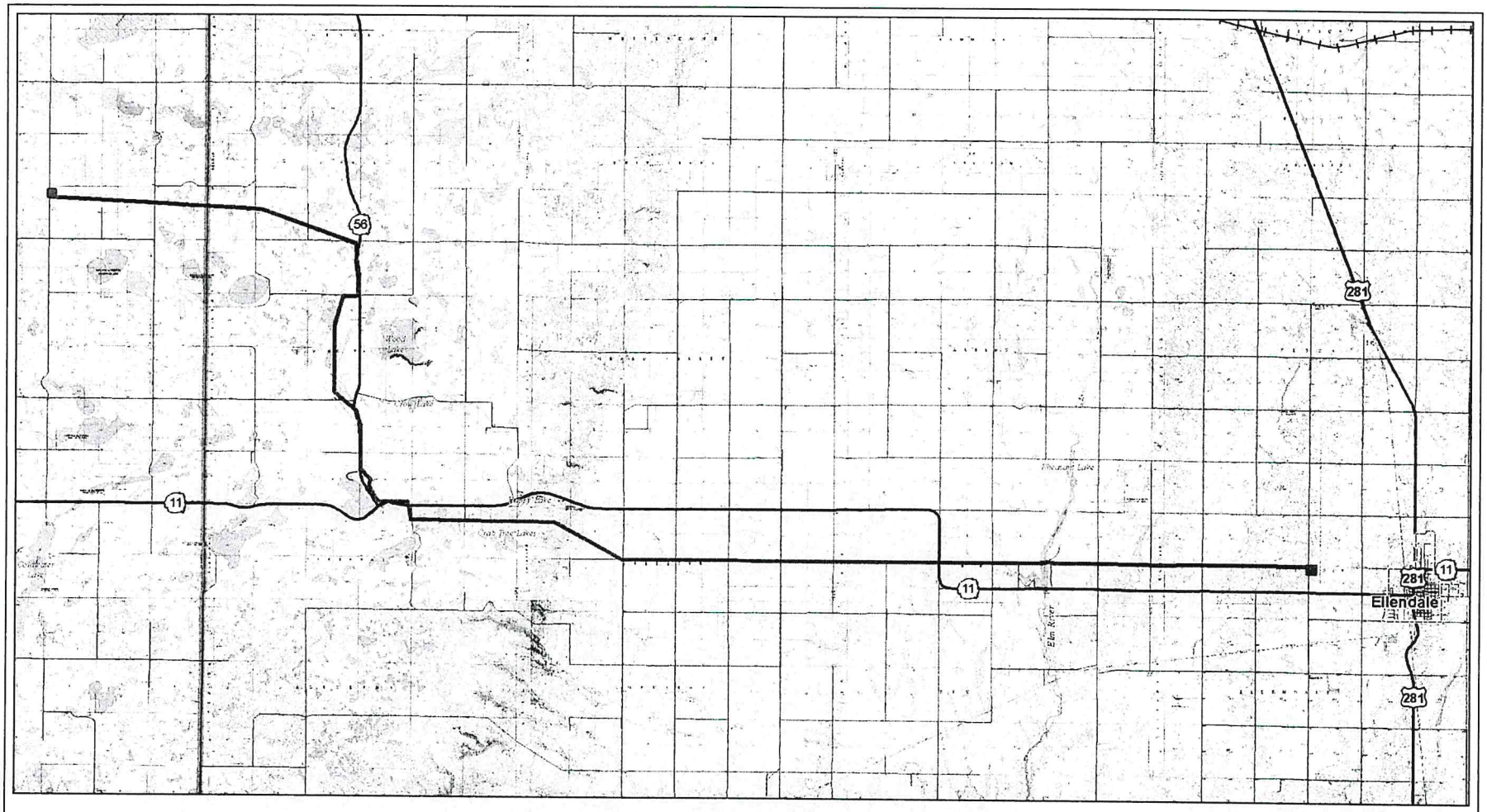
Table 1: Project Corridor

County	Township	Range	Sections
Dickey	T129N	R63W	2-11, 14-18
Dickey	T129N	R64W	1-18
Dickey	T129N	R65W	1-18
Dickey	T129N	R66W	1-5, 9-12
Dickey	T130N	R63W	31-35
Dickey	T130N	R64W	31-36
Dickey	T130N	R65W	31-36
Dickey	T130N	R66W	2-6, 7-11, 14-17, 20-23, 25-29, 32-36
Dickey	T131N	R66W	29, 30, 31-35
McIntosh	T130N	R67W	1-5, 8-12
McIntosh	T131N	R67W	25-29, 32-36



MONTANA-DAKOTA UTILITIES CO.
In the Community to Serve

Figure 1: Project Location
Montana-Dakota Utilities Co.
Merricourt Wind Farm to
Ellendale Transmission Line Project



MONTANA-DAKOTA UTILITIES CO
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Existing MDU Ellendale Jct. Substation
Proposed Merricourt Interconnect Substation
Transmission Line Route (120ft)
Incorporated Area
Highway
In-Use Railroad
Local Road
Stream
Wetland
County Boundary

Figure 2: Transmission Line Route
Montana-Dakota Utilities Co.
Merricourt Wind Farm to
Ellendale Transmission Line Project

0 1 2 Miles

Physiography and Environmental Overview

This project is located within the Central Lowlands physiographic province of North Dakota (Bluemle and Biek 2007). Within this province, the corridor traverses three physiographic regions: the Missouri Coteau, the Glaciated Plains, and the Glacial Lake Basin of Glacial Lake Dakota (Bluemle and Biek 2007, USGS 2006).

Glaciated Plains

The eastern portion of the project corridor from the Ellendale substation to just west of Pheasant Lake is located within the Glaciated Plains physiographic province. The Glaciated Plains region is characterized by a rolling landscape with numerous temporary and seasonal wetlands formed by glacial till deposited by the Wisconsinan glacier as it slowly retreated. Historically, this region was a mix of tall- and short-grass prairie with natural vegetation consisting of western wheatgrass, big and little bluestem, switchgrass, and indiangrass. The current land use consists almost completely of agriculture (spring wheat and other small grains, sunflowers, and alfalfa). The mean annual precipitation in this region is 17 to 19 inches. The average January high temperature is 16°F, while the average July high is 83°F. The average frost free season lasts from 95 to 125 days (USGS 2006).

Glacial Lake Dakota Basin

The relatively flat plain from just west of Pheasant Lake to the edge of the Missouri Coteau is the lake basin of a small northward arm of Glacial Lake Dakota, the main body of which is located mostly within South Dakota. This region is characterized by fewer wetlands and flatter terrain than the Glaciated Plains to the east and the Missouri Coteau to the west. Historically, this region was a mix of western wheatgrass, needleandthread, blue grama, and green needlegrass. The current land use is intensive agriculture with corn and soybean crops (USGS 2006).

Missouri Coteau

The western portion of the project corridor is located on the Missouri Coteau, which rises dramatically from the flat Glacial Lake Dakota basin to the east. The Missouri Coteau is characterized by rolling, hummocky topography containing numerous pothole wetlands. This region's distinctive pothole topography was formed when the Wisconsinan glacier stalled on the Missouri escarpment during its retreat and gradually melted beneath a mantle of sediment. Historically this region was a mixed-grass prairie with natural vegetation including western wheatgrass, bluestem, needleandthread, and green needlegrass, along with prairie cordgrass and northern reedgrass near wetlands. Patches of native prairie can be found throughout this region on unbroken rangeland. The current land use consists of a mix of cattle grazing on steeper terrain and agriculture (winter wheat, hay) in areas of less topographical relief (USGS 2006). The mean annual precipitation in this region is 15 to 19 inches. The average January high temperature is 16°F, while the average July high is 84°F. The average frost free season lasts from 110 to 130 days (USGS 2006).

Historical/Cultural Context

Precontact Cultural Contexts

This section provides a summary of the five precontact/protohistoric cultural traditions identified in the North Dakota State Historical Society (NDSHPO) planning document, *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: Paleo-Indian; Plains Archaic; Plains Woodland; Plains Village; and Equestrian Nomadic* (Gregg et al. 2008). These cultural traditions are differentiated based on technical innovations (e.g., changes in projectile point form or pottery decoration) and changes in resource exploitation and mobility patterns that can be observed in the archaeological record.

This section also presents an overview of the state's contact, historical, and modern period contexts. These contexts examine historical events and trends important to the development of North Dakota as a state. The following discussion of precontact cultural traditions has been adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component* (Gregg et al. 2008), and *The Handbook of North American Indians* (DeMallie 2001). The following overview of the Contact, Historic, and Modern period contexts in North Dakota has been adapted from *Early History of North Dakota: Essential Outlines of American History* (Lounsberry 1919), *Out Where the West Begins: Early and Romantic History of North Dakota* (Trinka 1920), and the chapter "North Dakota History: Overview and Summary" from *North Dakota Blue Book* (Remele 1998).

Paleo-Indian

The Paleo-Indian Tradition (9500-5500 BC) begins with what is thought to be the initial peopling of the state following the recession of the Wisconsinan glacier, and lasts until the transition of Paleo-Indian lifeways into Plains Archaic lifeways. Boreal climatic conditions dominated the early part of this tradition. Grasslands and spruce-aspen parklands surrounding major rivers and large lakes were common throughout the state and were popular locations for Paleo-Indian settlement. This tradition is characterized by a highly mobile, nomadic settlement pattern and a subsistence strategy based largely on the hunting of Pleistocene megafauna such as mammoths, camels, and giant bison, and later, smaller species of bison closer in size to modern forms. Wild plant foods were gathered as well, but archaeological evidence regarding this activity is sparse. Large lanceolate and fluted projectile points diagnostic of this tradition are used to mark the various Paleo-Indian cultural complexes represented in North Dakota: Clovis, Goshen, Folsom, Hell Gap-Agate Basin, Cody, Parallel Oblique Flaked, Pryor Stemmed, and Caribou Lake. Site types include camps, Knife River flint quarry sites, other lithic procurement areas, lithic workshops and isolated artifact finds.

Plains Archaic

The Plains-Archaic Tradition (5500 BC-400 BC) is characterized by hunting and gathering adaptations to a plains ecosystem with a greater variety of resources available for exploitation. Climatic shifts during this period brought about more arid and droughty conditions, broken up by short periods of more mesic conditions. These climatic conditions may have led to declining

populations and a reduction in the extent of interaction between population groups. Settlement patterns for this tradition are not as well known as other traditions because comparatively few Archaic period sites have been identified in the state. Projectile point styles became more regionalized, indicating the beginnings of regional cultural variation. Diversified technologies associated with hunting, trapping, fishing, foraging, wood working, and plant processing are represented in the material culture from Plains-Archaic sites. Of particular note, the atlatl weapon is developed during this tradition, and ground stone tools appear in the archaeological record. Side-notched projectile points and chipped stone scrapers, knives, punches, and drills also appear in the Plains-Archaic toolkit. Plains Archaic complexes recognized in North Dakota include Logan Creek-Mummy Cave, Oxbow, McKean Lanceolate, Duncan, Hanna, Yonke, and Pelican Lake. Site types include animal kill sites, camps, Knife River flint quarry sites, lithic workshops, and burial sites.

Plains Woodland

The Plains Woodland Tradition (400 BC-AD 1200) is characterized by the emergence of ceramic technology, mound burials, and limited horticulture in addition to the continued subsistence strategies and settlement patterns exhibited in the Plains Archaic Tradition. The climate began to stabilize and resembled the climate that exists today. The development of horticulture and construction of burial mounds indicate a transition to a more sedentary lifestyle in this tradition. Interaction between population groups broadened during this period, and trade networks with other parts of the country expanded. The bow and arrow was developed during this tradition. Smaller side and corner-notched projectile points along with a variety of chipped stone cutting tools, ground stone tools, and ceramic pottery are common in the Plains Woodland toolkit. The Plains Woodland complexes recognized in North Dakota are based largely on ceramic wares and include Sonota/Besant, Laurel, Avonlea, Brainerd, Blackduck, Mortlach, Old Women's, and Sandy Lake. Site types include burial mounds and other burial sites, occupations, camps, quarries and lithic procurement areas, and bison kill sites.

Plains Village

The Plains Village Tradition (AD 1200-ca. 1780) is characterized by an intensification of agriculture and the emergence of larger, more complex societies. Subsistence strategies included an equal mixture of cultivating river floodplains for garden crops and hunting game, primarily bison, in the upland grasslands. Corn was the primary crop cultivated during this tradition. Dried corn was stored in subterranean storage pits, creating a dependable surplus of food. This surplus supported semi-permanent earthlodge villages, situated on the higher terraces and uplands overlooking river channels and floodplains. The Plains Village cultures in North Dakota were concentrated primarily along the Missouri River Trench and within the James and Sheyenne River basins, although hybrid Woodland/Plains Village cultures existed in other parts of the state. Material culture from this tradition includes distinctly decorated ceramic pottery, triangular chipped-stone side-notched and unnotched projectile points, chipped stone end scrapers, drills, and bifaces, bison or elk scapulae hoes and digging tools, an array of bone tools and decorations, mollusk shell beads and ornaments, a variety of ground stone tools, and various smoking pipes. Luxury items include native copper from the Great Lakes, shells from the Gulf or Atlantic

coasts, snails from the southeastern United States, steatite from northern Wyoming, obsidian from near Yellowstone Park in Wyoming, dentallium from the Pacific Coast, and catlinite from southwestern Minnesota. In North Dakota, the Plains Village tradition is subdivided into the Middle Missouri and Coalescent Traditions, and the Northeastern Plains Village Complex. Site types include occupations (fortified and unfortified earthlodge villages), winter villages, camps (hunting), flint quarries, eagle trapping sites and conical timber lodges, burials, lithic workshops, bison kill sites, and rock art sites.

Equestrian Nomadic

The Equestrian Nomadic period (AD 1780-1880) encompasses both the late Protohistoric and Historic times, following the arrival of European trade goods and the introduction of the horse. The horse replaced the dog as a beast of burden and allowed a more nomadic settlement pattern. Subsistence economies changed as well, as groups were able to travel further from residential bases to hunt bison and other large game. The new Equestrian Nomadic lifeway spread throughout the region and was adopted by different cultural groups, eventually leading to greater interactions between these groups. Less complex bands came together and formed larger tribes as migration increased and competition for resources grew. An increasing number of European trade goods appear in the material culture of this period. Site types include camps, battle sites, and animal kill sites.

Fur Trade/Contact

One of the first known Euro-American expeditions into North Dakota was by Pierre Gaultier de la Verendrye, a French explorer and fur trader, who in 1738 visited Mandan villages near present day Bismarck. By the 1790s the Canadian North West Company and Hudson's Bay Company erected trading posts along the Red River of the North and in the northeastern corner of the state. Euro-American interest in this part of the country increased with the United States' purchase of the Louisiana Territory in 1803. The Lewis and Clark expedition was organized to explore and report on this new territory, and in 1804 they passed through North Dakota. During their time in North Dakota, Lewis and Clark visited Mandan, Hidatsa, and Arahami villages along the Missouri River, and wintered in Fort Mandan, which they built 6 miles below the mouth of the Knife River. The following year, the expedition made its way through the rest of North Dakota on its way into present day Montana.

Increasing numbers of explorers and fur tradesmen would reach the area in the following years. This time period is recognized by the establishment, operation, and adaptation of gathering the hides of fur bearing mammals in exchange for other goods and materials. This exchange linked the Northern Plains to a world-wide economic and political system. Increased demand for furs by European societies lead to the establishment of settlements or forts in strategic locations throughout the Northern Plains. These areas of centered interaction allowed furs to be procured in an orderly fashion and transport to markets in Europe as quickly as possible. One of the earliest settlements in North Dakota was a colony set up by white settlers from Winnipeg in 1812 at the confluence of the Pembina River and the Red River of the North near present day Pembina. The Red River Valley was also occupied by the Metis, a group of people of mixed

European and Native American ancestry. The Metis were active in the fur trade in the region, and they carried furs and merchandise between Winnipeg and St. Paul, Minnesota, by way of oxcart. By 1859 steamboats were being used to transport goods between the two cities. Known site types include fur trading posts and forts, trails, loading and shipping facilities, trapping, trading, and hunting grounds, camps and camp sites, steamboat docks, stores, dwellings, warehouses, and residences of prominent fur trade participants.

Historic Period

Military Confrontation

This time period, defined as between 1862 and 1870, is characterized by an increasing US government presence in form of a chain of military outposts. An unfulfilled treaty between the federal government and the Dakota led to a violent uprising in Minnesota in 1862. This in turn led to major military expeditions by the US government in 1863, 1864, and 1865. Battles at Whitestone Hill and Killdeer Mountain in 1863, and battles in the Badlands in 1864 diminished Dakota resistance. However, strained relations between federal entities and Dakota populations existed well into the 1890s and to some extent still exist today. Known site types of sites include forts, posts, armories, battlefields, trails, roads, bridges, fords, mail stations, cemeteries, villages, camps, camp sites, dumps, defensive work corrals, barns, storage areas, and dwellings and residences.

American Settlement/Statehood

The American Settlement time period ran from 1861 through North Dakota's statehood on November 2, 1889. The settlement of North Dakota was a direct tie to creation of railroads and railroad lines across the state. In 1862 gold was discovered in present day Montana and Idaho, leading to waves of settlers traveling west across North Dakota. In 1864, the Northern Pacific Railroad Company was granted rights to build a railroad through the territory, and in 1871 an expedition with a military escort was sent to scout and survey potential routes. In 1872 the Northern Pacific was built as far as Bismarck, and by the end of the 1870s, railroad links from the east brought homesteaders, including many Norwegian and German immigrants, into the state. Throughout the 1870s and 1880s towns and settlements developed in order to serve the homesteaders, frontier citizens, and railroad crews working in the territory.

Around 1879, a population boom occurred that had direct ties to the development of organized, highly mechanized, and large bonanza farms. These bonanza farms had a dramatic effect on the landscape. For the first time, large sections of the area were cultivated and farmed. On November 2, 1889, President Benjamin Harrison approved the admission of North Dakota to the United States. The new state was a Republican stronghold, with the state government dealing with issues concerning large amounts of resources and wealth being extracted from the state with no reinvestment. This eventually led to the Democratic Party winning elections and in turn reinvesting wealth and resource back into the state. Known site types may include towns, colonies, settlements, reservations, businesses, residences, farms, courthouses, city halls, township halls, government office buildings, office jails, police and sheriff's offices, fire stations, maintenance shops, storage yards, buildings and facilities, dumps, warehouses, roads,

highways, streets, alleys, bridges, water and sewer treatment facilities, and homes of prominent local leaders.

Modern Period

The Great Depression

During the Great Depression (1929-1940), a slowing national economy, heavy from debt, low prices for agricultural goods, crop failures, dust storms, and extreme weather resulted in series of farm foreclosures, bank failures, and residence and business abandonment. Known site types may include abandoned farms, banks, business buildings, city parks, civic improvements, relief facilities, Works Progress Administration projects, and Civilian Conservation Corps camps and project sites.

Modern Industrial Development

Remele (1998) defines this time period as the 1940s, 50s, and 60s. During this time period, a post-war economy was driving the development of large industrial facilities in order to change raw materials into products for local and national consumption. Large construction projects, such as dam building and reservoirs, allowed farms, corporations, and citizens of the state to control their access to water resources throughout the year in a more predictable manner. Discovery of natural resources, such as oil and coal, allowed the development of these industries in the state. Additionally, the beginnings of Cold War stress between the US and foreign governments generated decisions for strategic placement of military bases. In 1960, two large Air Force bases were built in North Dakota at Grand Forks and Minot. Known site types include Air Force installations, armories, storage areas, dwellings and residences, brick plants, concrete plants, blotting plants, meat packing plants, food processing plants, assembly plants, factories, foundries, saw mills, gristmills, gravel potash and uranium mines, tipples, mines, mine entrances, loading and transportation facilities, storage yards, railroad spurs, office buildings, camps, oil wells, gas wells, petroleum product refineries, tank batteries, pipelines, and pumping stations.

North Dakota Archaeological Study Units

The North Dakota SHPO has divided the state into thirteen archaeological study units, based on the state's major drainage basins. These study units were developed to enable a better analysis of prehistory or history in terms of regional adaptations to geography and environmental conditions (Gregg et al. 2008b). This project is located mainly within the James River study unit, with a small portion near the western terminus located within the Southern Missouri River study unit.

James River

The James River archaeological study unit (JRSU) is centered on the James River, flowing north to south in eastern North Dakota. This study unit falls within the Central Lowlands physiographic province and traverses the Glaciated Plains physiographic region (Bluemle and Biek 2007). The following discussion of the JRSU is adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: James River Study Unit* (Swenson and Bleier 2008).

Landscape

Following the recession of the Wisconsinan glacier, the deglaciated terrain of this study unit was colonized by a boreal forest with openings dominated by sagebrush. By the mid-Holocene, the boreal forest had shifted east of the Red River, being replaced by prairie grasslands. This prairie grassland ecosystem has persisted into the present. A variety of landforms are present in the study unit and include uplands, valley wall side slopes, valley wall foot slopes, alluvial fans, river terraces, flood plains, and lake plains. The rolling uplands are characterized by ground moraines, end moraines, and valley trains.

Floral and Faunal Resources

Floral resources historically available in the JRSU include the willow, elm, ash, box elder, cottonwood, and bur oak trees that comprise the gallery forests of the James River and associated drainages, along with edible plants such as prairie turnips, chokecherries, wild plums, currants, raspberries, snowberries, juneberries, and gooseberries. Faunal resources historically available in the JRSU include large and small mammals such as bison, elk, pronghorn antelope, white-tailed deer, beaver, badger, raccoon, muskrat, fox, coyote, wolf, skunk, jack rabbit, cottontail rabbit, mink, weasel, ground squirrel, and some insectivores; aquatic species include painted turtles, snapping turtles, bullheads, yellow perch, northern pike, and numerous species of mollusks; and avian species include geese, ducks, raptors, and song birds. Pleistocene megafauna such as mammoths and camels were available in the JRSU until their extinction in the early Holocene.

Lithic Resources

Lithic raw material sources available in this unit can be found in both stream gravels and the glacial till and include Tongue River silicified sediment (TRSS), Swan River chert, chalcedony, quartzite, and occasionally Knife River flint (KRF). The glacial till also provided small boulders that were used for securing tipi covers, building cairns, capping caches and burials, and creating game drive alignments, amongst other purposes. Granite was used to make ground and pecked stone artifacts. Rocks were also used for stone boiling and sweat bathing.

Site Types

Within the JRSU, common site/feature types include cultural material scatters and mounds. A number of other site/feature types, including graves, other rock features, and stone circles, are also present within this study unit, along with a couple of earthlodge villages. The majority of the recorded sites in the JRSU are located on hills, knolls, or bluffs, although a number of sites are located on floodplains, ridges, and upland plains as well. This section presents the common site types associated with each of the major prehistoric/protohistoric cultural traditions identified in North Dakota.

Paleo-Indian Tradition

Sites dating to the Paleo-Indian period are rare in the JRSU. A few scattered surface finds consisting of lithic tools or projectile points have been found throughout the unit, mostly in the uplands and on valley rims. Only one subsurface Paleo-Indian site has been found within the study unit. This site consisted of a partially excavated mammoth with no associated artifacts

located just west of the James valley in Stutsman County. Although no artifacts were found, a portion of this site remains intact for future study.

Plains Archaic Tradition

As of 2008, the only site/feature types associated with the Plains Archaic Tradition identified in the JRSU were cultural material scatters, one burial site, and isolated finds of projectile points. Based on studies in other study units, site/feature types associated with the Plains Archaic Tradition likely to be found in the JRSU include hearths, jump sites, rock cairns, rock alignments, stone circles, and storage and refuse pits.

Plains Woodland Tradition

Plains Woodland functional site types identified in the JRSU include mortuary sites, field camps, and residential bases. Most of the mortuary sites are located in mounds in the uplands. The residential bases, special purpose mortuary sites, and temporary campsites should be present near these mound sites in both the floodplain and uplands. Site/feature types associated with the Plains Woodland Tradition indentified in the JRSU include cultural material scatters, earthworks, graves, hearths, mounds, rock cairns, and storage and refuse pits. Based on studies in other study units, site/feature types associated with the Plains Woodland Tradition likely to be found in the JRSU include jump sites, lithic procurement areas, and stone circles.

Plains Village Tradition

Previously recorded Plains Village residential sites have all been located on floodplain and terrace settings. Mounds attributed to the Plains Village Tradition are mostly situated along the bluffs of the James River Valley, although some are located on terraces as well. Plains Village site/feature types identified in the JRSU include cultural material scatters, earthlodge villages, earthworks, fortifications, graves, hearths, mounds, pits, and lithic procurement areas.

Nomadic Equestrian Tradition

Tribes likely to have been in the JRSU during early historic times include the Dakota (Yankton and Yanktonai), Cheyenne, Awaxawi Hidatsa, and Assiniboine. The most common sites attributed to the Nomadic Equestrian Tradition are stone circle sites. These sites can be found along ridges or hill crests, often with commanding views of the surrounding country. Previous archaeological investigations indicate that some sites with large numbers of ring features were used recurrently.

Southern Missouri River

The Southern Missouri River archaeological study unit (SMSU) is centered on the north to south oriented portion of the Missouri River Trench located in south-central North Dakota. This study unit falls within the Great Plains physiographic province and traverses the Missouri Coteau, the Coteau Slope, and the River Breaks physiographic regions as well as a small portion of the Missouri Plateau region west of the Missouri River (Bluemle and Biek 2007, USGS 2006). The following discussion of the SMSU is adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: Southern Missouri Study Unit* (Gregg et al. 2008a).

Landscape

Before modern dam impoundments, the original course of the Missouri River flowed through a broad, deeply entrenched valley. The Missouri River Valley and some of its larger tributaries are composed of several landforms that have been utilized by human populations since the end of the Pleistocene: floodplains, terraces, and breaks terrain. The floodplains of the Missouri River and its tributaries are composed of alluvial sediments that have built up to variable thicknesses since the final retreat of the last Pleistocene glacier. These floodplain deposits may vary in thickness from several to many meters. The terraces of the Missouri River and its tributaries are composed of lateral, uneroded margins of prior stream beds or remains of former floodplains that are currently located above the existing floodplain. Three terraces have been identified within the Missouri River Valley. The uppermost Holocene sediments in these terraces are eolian in origin and classified in the Oahe Formation. These terraces were flood-free and well drained and were heavily occupied as warm weather residential settlements. The Missouri River "breaks" are the eroded and steeply dissected margins of the River Trench, and often appear as woody draws. The breaks were important resource procurement areas exploited for both faunal and floral resources. Outside of the Missouri River Valley, the upland plains landscape, characterized by the rolling uplands and pothole lakes of the Missouri Coteau, has been utilized since at least the Late Plains Archaic. Stone circles and other rock features such as cairns are common site types found in these rolling uplands.

Floral and Faunal Resources

Floral resources historically available in the SMSU include the cottonwood, willow, box elder, and green ash trees that comprise the forested areas within the floodplain of the Missouri River, stands of mixed deciduous trees in the valley breaks, wild plant foods with edible roots such as textile onion, biscuitroot, prairie turnip, and ground plums, and other edible plants including chokecherries, buffaloberries, gooseberries, and wild plums. Faunal resources historically available in the SMSU include large mammals such as white-tailed deer, mule deer, bison, elk, and antelope; semiaquatic mammals such as beaver; aquatic animals including numerous fish species, turtles, and various mussels; and a variety of avian species including eagles, hawks, owls, pelicans, magpies, and diverse waterfowl. Predators in this study unit include the wolf, coyote, and fox. Pleistocene megafauna such as mammoths and camels were available in the SMSU until their extinction in the early Holocene.

Lithic Resources

Knife River flint was the preferred raw material for making chipped stone tools in the northern half of the SMSU. Tongue River silicified sediment was an important lithic raw material used by both Plains Village and earlier peoples living to the south near the Missouri-Cannonball confluence.

Other Lithic materials such as granite and rocks of coal burn origin (clinker and scoria) were important for secular and ceremonial functions. Clinker and scoria were used for domestic chores as well as ritual functions in the Plains Village ceremonial practices. Granite cobbles were used

both as construction materials and as sources of heat transfer in food preparation and ceremonial sweatbathing. Granite was also used to fashion large hammering, grinding, and abrading tools.

Site Types

Within the SMSU, site types such as cultural material scatters, earthworks, fortifications, graves, hearths, mounds, pits, and trails are frequently found on the terraces of the Missouri River and its major tributaries. The majority of earthlodge village sites found within the SMSU are also located on terraces. Site types including stone rings, other rock features, and rock art sites are more commonly found on hills, knolls, bluffs, and ridges. This section presents the common site types associated with each of the major prehistoric/protohistoric cultural traditions identified in North Dakota.

Paleo-Indian Tradition

During the Paleo-Indian Tradition, this study unit would have been dominated by spruce-aspen forests and wetlands. Landforms available for settlement would have included the remnant surfaces of old river terraces, and the rim of the uplands overlooking the Missouri River Valley. Site types associated with the Paleo-Indian Tradition in this study unit are limited to scattered finds of chipped stone projectile points.

Plains Archaic Tradition

During the Plains Archaic Tradition, the ecosystem transitioned to prairie as the boreal forest conditions withdrew. The terrace settings of the Missouri River and its tributaries would have been open prairie and unsheltered during this time. During dryer climatic conditions during this period, settlement in this study unit may have been limited to the Missouri River Trench. Site types associated with the Plains Archaic Tradition in this study unit are limited to chipped stone projectile points.

Plains Woodland Tradition

During the Plains Woodland period, the Missouri River Trench was the focus of residential settlement. Plains Woodland functional site types identified in the SMSU include mortuary sites, field camps, and residential bases. Site/feature types associated with the Plains Woodland Tradition found within the SMSU include cultural material scatters, earthworks, graves, hearths, mounds and animal processing sites. Based on studies in other study units, site/feature types associated with the Plains Woodland Tradition likely to be found in the SMSU include jump sites, lithic procurement areas, and stone circles.

Plains Village Tradition

The SMSU contains the majority of North Dakota's Plains Village period earthlodge villages and other settlements. These settlements were more intensively and continuously occupied here than in any other part of the state. Plains Village site/feature types identified in the SMSU include cultural material scatters, earthlodge villages, earthworks, fortifications, graves, hearths, mounds, and pits.

Nomadic Equestrian Tradition

The most common sites attributed to the Nomadic Equestrian period are stone circle sites located on the Coteau east of the river. These sites can be found along ridges or hill crests, often with commanding views of the surrounding country. Previous archaeological investigations indicate that some sites with large numbers of ring features were used recurrently.

Background Research Results

In September of 2010, HDR conducted a cultural site file search at the State Historical Society of North Dakota (SHSND). This site file search focused on previously identified sites, isolated finds/site leads, and structures, as well as previous cultural resources investigations located within the initial project corridor. In addition to the background research conducted at SHSND, HDR reviewed historical plat maps and documents regarding the history of Dickey County at the Coleman Museum in Ellendale. HDR also reviewed General Land Office maps accessed online through the North Dakota State Water Commission at http://survey.swc.nd.gov/ and performed online research of the National Park Service's NRHP to identify registered sites and districts located within the initial project corridor. Deed research was conducted at the Dickey County Courthouse in Ellendale.

After the transmission line route was finalized and the project corridor was refined in October 2010, a study area for the background research was created to encompass a half-mile buffer on either side of the route centerline. This section presents the results of the background research for this study area.

Previous Surveys

A total of eight cultural resources investigations have been completed within the study area (Table 2). These reports illustrate a variety of investigations done in the vicinity of the study area, including those conducted in support of road reconstruction, water pipelines, and wind farms.

Table 2. Previous Cultural Resources Investigations in the Vicinity of the Study Area

Manuscript Number	Report Date	Manuscript Title	Author
006391	1994	Dickey County Rural Water Distribution System: A Class II and Class III Cultural Resource Inventory in Dickey County, North Dakota	Stine, E.
006631	1995	Interstate Engineering's Dickey County Rural Water Pipeline Phase 2, Plan B: A Class II and Class III Cultural Resource Inventory in Dickey and LaMoure Counties, North Dakota	Kulevsky, A.
008093	2002	Highway 11, Pleasant Lake, Class III Inventory Report, Dickey, Co., ND	Borchert, J.
008390	2002	Dakota 1 Windtower Survey: A Class III Cultural Resource Inventory, Dickey Co., ND	Bluemle, W.
009309	2005	An Archaeological Survey of a Proposed Communications	Salkin, P.

Manuscript Number	Report Date	Manuscript Title	Author
		Tower Site in the Township of Ellendale, Dickey Co., ND	
010398	2008	Tatanka Wind Farm, Dickey and McIntosh Counties, ND	Grohnke, R., S. Blondo, A. Anderson, A. Gronhovd
010820	2008	Rough Rider I Wind Farm Project: A Class III Cultural Resource Inventory, Dickey Co., ND	Burns, C.
Unassigned at time of research	2010	Merricourt Wind Farm: A Class III Cultural Resource Inventory, Dickey and McIntosh Counties, North Dakota	Harty, J.L., and A. Leuchtmann

Previously Recorded Cultural Resources

The files provided by NDSHPO indicate there are 43 previously identified cultural resources within the study area including 38 archaeological sites, and five site leads (Table 3). The archaeological sites are all precontact and include 37 stone feature sites and one mound. Two of these sites are associated with Native American burials. Site 32MT203 is a burial mound, and site 32DI86 is a rock lined depression that may contain mortuary remains. The site leads consist of three precontact stone feature site leads, one historical site lead, and one architectural site lead. Precontact site lead 32DIX117 is the site of a possible grave. All of the previously identified cultural resources within the study area remain unevaluated.

Table 3: Previously Identified Cultural Resources within the Study Area

Site Number	Site Type	Township	Range	Section	Comments	NRHP Recommendations
32DI00043	Archaeological	130	65	31	Ten stone circles	Not Evaluated
32DI00085	Archaeological	129	65	6	One stone circle	Not Evaluated
32DI00086	Archaeological	129	65	6	Rock lined depression, site may contain mortuary remains	Not Evaluated
32DIX0115	Archaeological	129	65	6	Fourteen stone circles	Not Evaluated
32DIX0117	Archaeological	130	65	31	Multiple rock-lined depressions, six stone circles, and possible grave site	Not Evaluated
32DIX0118	Archaeological	130	65	31	One stone circle	Not Evaluated
32DIX0029	Historical	130	66	15	Possible location of historical Wirch Post Office	Not Evaluated
32MT00121	Archaeological	130	67	4	One cairn, one stone arc, and one stone circle	Not Evaluated
32MT00122	Archaeological	130	67	4	One cairn and two stone arcs	Not Evaluated
32MT00127	Archaeological	130	67	4	Multiple stone features including cairns, arcs, stone circles, a linear	Not Evaluated

Site Number	Site Type	Township	Range	Section	Comments	NRHP Recommendations
					stone alignment, and a rock formation in the shape of the dipper	
32MT00130	Archaeological	130	67	4	One stone arc	Not Evaluated
32MT00131	Archaeological	130	67	4	One cairn	Not Evaluated
32MT00132	Archaeological	130	67	4	One cairn	Not Evaluated
32MT00134	Archaeological	130	67	3	Five arcs, two cairns, and three stone circles	Not Evaluated
32MT00135	Archaeological	131	67	34	One stone circle, two stone arcs	Not Evaluated
32MT00136	Archaeological	131	67	34	One stone circle, two multi-component stone features	Not Evaluated
32MT00137	Archaeological	131	67	34	Numerous small features that combine to form a large arc	Not Evaluated
32MT00138	Archaeological	130	67	3	Three cairns, four stone arcs, and three stone circles	Not Evaluated
32MT00139	Archaeological	130	67	3	Two cairns, five stone arcs, five stone circles, and a rock alignment in the shape of the big dipper	Not Evaluated
32MT00140	Archaeological	130	67	2	One stone circle	Not Evaluated
32MT00151	Archaeological	130	67	4	Two stone arcs and one stone circle	Not Evaluated
32MT00181	Archaeological	130	67	2	Two multi-component stone features	Not Evaluated
32MT00182	Archaeological	130	67	2	Two interconnecting stone arcs	Not Evaluated
32MT00183	Archaeological	130	67	2	Multiple stone features including cairns, arcs, stone circles, linear alignments, stone altars, a stone man effigy, and a lightning bolt effigy	Not Evaluated
32MT00184	Archaeological	130	67	2	One stone arc	Not Evaluated
32MT00185	Archaeological	130	67	2	One stone arc	Not Evaluated
32MT00190	Archaeological	130 and 131	67	3 and 34	Stone arc, linear rock alignment, small depression, stone circle with stone altar	Not Evaluated
32MT00191	Archaeological	130	67	3	Stone circle, rock alignment, two cairns	Not Evaluated

Site Number	Site Type	Township	Range	Section	Comments	NRHP Recommendations
32MT00192	Archaeological	130	67	4	Stone circle, stone arc, linear stone feature	Not Evaluated
32MT00193	Archaeological	130	67	3	Stone crescent and cairn	Not Evaluated
32MT00194	Archaeological	130	67	4	Rock alignment, cairn, stone arc	Not Evaluated
32MT00198	Archaeological	130	67	4	Five stone circles	Not Evaluated
32MT00203	Archaeological	130	67	3	One mound (Burial)	Not Evaluated
32MT00204	Archaeological	130	67	3	One cairn	Not Evaluated
32MT00205	Archaeological	130	67	3	Large triangle and stone arc	Not Evaluated
32MT00206	Archaeological	130	67	3	One stone circle and six stone arcs	Not Evaluated
32MT00207	Archaeological	130	67	4	Two cairns, one rock alignment and cairn	Not Evaluated
32MT00208	Archaeological	130	67	3	Six cairns, two stone arcs	Not Evaluated
32MT00209	Archaeological	130	67	3	Cairn and stone arc	Not Evaluated
32MT00210	Archaeological	130	67	3	One stone arc	Not Evaluated
32MT00239	Archaeological	131	67	35	One stone altar	Not Evaluated
32MT00244	Archaeological	131	67	35	One rock alignment	Not Evaluated
32MTX0062	Architectural	130	67	3	Farmstead with small wood storage shed, small wooden building, possible wooden silo, wooden barn	Not Evaluated

NRHP Listed Properties

The online review of the NRHP was done to identify NRHP-registered sites and districts located within the study area. A search of the NRHP's online database revealed no NRHP registered historic properties or historic districts located within the study corridor.

Government Land Office Research

Official Government Land Office survey plat maps (GLOs) corresponding to the study area were examined to identify areas that may have potential for containing historical era cultural resources. Archaeological sites may be present in locations where historic resources have been documented on the GLO maps. The most common resources identified on the GLO maps were structures, often with associated cultivated fields, representing farmsteads. The majority of these farmsteads were located within the eastern portion of the study area, on the relatively flat terrain east of the Missouri Coteau. Detailed information regarding the location and resource types found within the study area is presented in Table 4.

Table 4: GLO Resources

Township	Range	Section	Survey Date	Cultural Features/Locations
129	64	1	May 1883	Structure (Annie McCall) in NW 1/4 of SW 1/4
129	64	2	May 1883	Structure (W.H. Batson) in NE 1/4 of SE 1/4
129	64	7	May 1883	Structure (W.H. Gray) in SW 1/4 of NW 1/4. Structure (S.G. Gray) in NW 1/4 of SW 1/4. Structure and cultivated field (Jennie Johnson) in NE 1/4 of SE 1/4
129	64	11	May 1883	Structure (M.L. Riley) in NE 1/4 of NE 1/4. Structure and cultivated field (J.F. Wilson) in E 1/2 of SE 1/4
129	65	3	May 1883	Structure and cultivated field (John Ingram) in SW 1/4 of SW 1/4
129	65	4	May 1883	Structure (Geo. H. Kayes) in SE 1/4 of SE 1/4. Cultivated field (Geo. H. Kayes) takes up SE 1/4 east of drainage.
129	65	9	May 1883	Structure (Ole Christianson) in NW 1/4 of NW 1/4
129	65	10	May 1883	Structure and cultivated field (W.H. Finley?) in S 1/2 of NW 1/4.

Whitestone Hill Battlefield

The Whitestone Hill Battlefield State Historic Site is located approximately 6 miles north of the study area in Whitestone Township (T 131N, R 65 W). This historic site marks the location of a battle between Native Americans and US Soldiers in 1863. After the battle, detachments of US soldiers were sent out in all directions to overtake retreating Indians (Black 1930). Although this battlefield is located outside of the study area, resources related to the skirmishes that occurred after the battle may be located within the study area. Resources related to ceremonies and burials by the Native American survivors of the battle may also be located within the study area. Previous investigations for the Merricourt Windpower Project, located adjacent to the northwestern portion of the study area on the prominent east to west ridge on the Coteau, indicate that many of the stone feature sites located on this ridge may be related to Native American ceremonial practices associated with the battle and its aftermath (Harty et al. 2010).

Research Design

Objectives

The Class III Cultural Resources Inventory was performed to identify any new or previously recorded archaeological resources that may be present within the Project area. HDR's work complies with *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* [48 FR 44716-44740] (National Park Service 1983) and the State of North Dakota's guidelines for archaeological investigations as presented in the manual, *North Dakota SHPO Guidelines Manual for Cultural Resources Inventory Projects* (SHSND 2006).

Methods

The transmission line route, along with shoofly routes considered to be in areas with high potential for archaeological sites, were pedestrian surveyed with transects spaced at 15 meter or

less intervals. A Trimble GPS unit loaded with the transmission line and shoofly routes guided the survey. Portions of the transmission line and shoofly routes with slopes of 15 percent or greater, that have been disturbed by earth-moving or development, or are within wetland habitat were not systematically surveyed.

The locations of cultural features identified within the project route during pedestrian survey were recorded using Trimble GeoXT and/or Trimble Geo XH Global Positioning System units with sub-meter accuracy. A close interval survey (transects spaced at 1 meter or less) was performed in an approximately 15 meter (50 foot) area surrounding the feature, or until the extent of the landform was encountered. All features were described in the field notebook and photo-documented with a digital camera.

Shovel tests were excavated at proposed transmission line structure locations in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials. Shovel tests were generally 30-40 centimeters in diameter and were excavated to depths of up to one meter. All excavated soils were screened through a quarter-inch hardware cloth mesh. Shovel test data were recorded on standard forms and in the field notebook, which included the survey area location, shovel test location, shovel test depth, soil profile, soil texture and inclusions, and Munsell color. All shovel test locations were recorded using Trimble GeoXT and/or Trimble Geo XH Global Positioning System units with sub-meter accuracy. Shovel tests were backfilled after all information was recorded.

Results

From November 2 to 12, 2010, and from May 1 to 8, 2011, HDR, on behalf of Montana-Dakota, performed a Class III Archaeological Resources Inventory for the Merricourt Wind Farm to Ellendale 230 kV Transmission Line Project. The archaeological inventory included pedestrian survey of the 30-mile long 120-foot wide transmission line corridor and select 100-foot wide shoofly routes. Shovel testing was conducted at proposed transmission line structure locations in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials.

The Class III survey was completed on 28.75 miles of the proposed transmission line route. A half mile section of the route located in NE ¼ of Section 9 in Township 130 N, Range 66 W was not surveyed due to landowner denial of access. A ¾ mile section of the route located in the N ½ of Section 2 in Township 129 N, Range 66 W was pedestrian surveyed in November of 2010, but survey of this section during the May 2011 investigations to examine shoofly routes and potential shovel test areas at proposed structure locations was not completed due to landowner denial of access. A summary of the cultural survey completed for the Montana-Dakota 230 kV Transmission Line is presented below. Areas along the proposed transmission line and shoofly routes that were pedestrian surveyed and shovel tested are outlined with descriptions of the location and type of landform(s) present, and a description of any cultural features observed.

Township 130N, Range 67W, Section 3

The route passes through the northern portion of this section along the southern edge of a prominent east to west running ridge. The route in this section traverses cattle-grazed prairie with patchy 25 percent visibility. Pedestrian survey of the transmission line route in this section was conducted along four transects. Although prairie grasses obscured surface visibility throughout this section of the route, gopher mounds were opportunistically examined along the route. The route in this section crossed extremely undulating terrain along the south edge of the ridge, and many steep slopes were encountered. No cultural materials were identified during pedestrian survey of the route in this section.

Four shoofly routes were also pedestrian surveyed in this section. In addition, one transmission line structure (Structure 245) was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Shoofly Routes

Four shoofly routes were pedestrian surveyed in this section. Pedestrian survey for all shoofly routes was conducted along four transects.

Structures 244-243, 243-242, and 240-239

The shoofly routes between structure locations 244 and 243, between 243 and 242, and between 240 and 239 traversed fairly steep slopes, so alternate routes along less-steep terrain were surveyed. No cultural materials were identified during survey of these alternate shoofly routes.

Structures 241-240

No cultural materials were identified during pedestrian survey along the shoofly route between structure 241 and 240.

Structure Location 245

Structure 245 is located on a flat area in cattle-grazed prairie along the south edge of the prominent east to west running ridge. A three-pole structure is proposed for this location. One shovel test (ST 1) was placed at the proposed location of the southernmost pole, located approximately 5 meters south of a small wetland. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Merricourt Wind Farm Substation

In the northwest corner of this section, Montana-Dakota plans to build an interconnection substation for a proposed adjacent wind project. The wind project is known as the Merricourt Wind Power Project (SHPO Reference Number: 09-1186B). Survey of the interconnect-substation location was completed by Kadrmas Lee & Jackson in the fall of 2010. At the time of that survey, no cultural resources were identified in the interconnect-substation location. This report has been reviewed by SHPO. SHPO found that the survey and report are accurate and complete and that further survey for the interconnect-substation location will not be

necessary as it has already undergone adequate cultural resource survey (ND SHPO REF: 09-1186B).

Township 130N Range 67W Section 2

The route passes through the northern portion of this section along the southern edge of a prominent east to west running ridge. From west to east the route in this section traverses cattle-grazed prairie with patchy 25 percent visibility, then a small portion of a cut hayfield with 25 percent visibility is encountered at the eastern end of the section. Pedestrian survey of the transmission line route in this section was conducted along four transects. Gopher mounds were opportunistically examined along the route. The route in this section crosses slightly undulating to gently rolling terrain, with fewer steep slopes being encountered here than in the previous section. No cultural materials were identified during pedestrian survey of the route in this section.

One shoofly route was also pedestrian surveyed in this section. In addition, one transmission line structure (Structure 232) was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Shoofly Routes

Structures 238-237

One shoofly route, between structure locations 238 and 237 was pedestrian surveyed in this section. Pedestrian survey for this shoofly route was conducted along four transects. No cultural materials were identified. The shoofly route between structure locations 232 and 65th Avenue SE was not systematically surveyed as it was located in a highly deflated hayfield.

Structure Location 232

Structure 232 is located on a relatively flat landform amongst a gently rolling landscape. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 130N Range 67W Section 1

The route passes through the northern portion of this section near the eastern edge of a prominent east to west running ridge. The eastern end of the ridge is located approximately 0.3 miles to the north of the proposed route. Pedestrian survey of the transmission line route in this section was conducted along three transects. Although visibility was less than adequate in portions of this section, gopher mounds were opportunistically examined along the route. At the time of survey, the western portion of the proposed route in this section traversed a cultivated hayfield with 0 to 15 percent visibility. Due to previous cultivation this field has low potential for archaeological resources. No cultural materials were recovered from this field.

To the east of the hayfield, the proposed route in this section traversed a recently planted winter wheat field with 80 to 90 percent visibility. Near the eastern end of the winter wheat field a small

surface scatter of historic artifacts was identified and recorded as site MDU-1, described in more detail below. To the east of the wheat field where the historic artifacts were identified, the proposed route traversed a small disturbed grassy area located on a slight rise before crossing a hayfield to the east end of the section with 10 to 20 percent visibility. A large rock pile surrounding a tree was identified within the disturbed grassy area and five historical features were identified within the hayfield to the north of a small grove of trees. Due to the proximity of these features to the historic artifact scatter in the adjacent wheat field, they were recorded as part of site MDU-1, described in more detail below. The field crew observed that this area had been used as a hayfield for some time.

MDU 1

Site MDU-1 consists of several historical features and a cultural material scatter likely associated with a former farmstead. This site is located on a small rise overlooking a large wetland to the south that encompasses portions of a winter wheat field, a cultivated hayfield, and a disturbed grassy area. The historic cultural material scatter is located at the eastern edge of the planted winter wheat field, on the border of the grassy disturbed area. The artifacts identified include multiple pieces of glass (cobalt), two pieces crockery/pottery (one piece was wheel constructed and the other was slab constructed), a few fragments of white-ware, and cut bone.

The five features are located within the hayfield to the north of a small grove of trees, and to the east of the disturbed grassy area, which contains a tree surrounded by a large rock pile.

- Feature 1 is a square-shaped shallow depression measuring approximately 13 feet by 13 feet.
- Feature 2 is a foundation/wall and depression located 49 feet south of Feature 1. The depression is surrounded by a fieldstone foundation/wall. Feature 2 is square shaped and measures approximately 13 feet by 13 feet, and is approximately 10 to 20 inches deep.
- Feature 3 is a shallow, irregularly shaped depression located 2 feet east of Feature 2. Feature 3 measures 26 feet by 26 feet. An earthen berm surrounds Feature 3 and parts of the berm consist of fieldstone, which is especially noticeable on the eastern side of the depression.
- Feature 4 consists of a shallow depression approximately 1.3 feet in diameter and is located southwest of Feature 2.
- Feature 5 is located 6.5 feet east of Feature 4 and consists of a shallow depression with an approximate 1.6 foot diameter.

One brick fragment with no markings or words was found in the vicinity of these features as well. No artifacts were collected from this site, but photographs were taken of a sample of the artifacts in case reference was needed.

Recommendation

Site MDU-1 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the features and artifacts present. As a part of any additional

work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site. A conversation was held with Paul Picha (chief archaeologist from the North Dakota State Historic Preservation Office) on January 13, 2011, at 9:00 a.m. regarding this site. After the site location was described to him, he stated that he agreed with the treatment plan Montana-Dakota proposed for the area. Montana-Dakota's treatment plan states that structure locations will be modified in the area so they will not affect the integrity of the site and will avoid impact to the site.

Township 130N Range 66W Section 6

The route passes through the northern portion of this section near the eastern edge of a prominent east to west running ridge. The eastern end of the ridge is located approximately 0.5 miles to the north of the proposed route. The western portion of the route in this section traversed a harvested wheat field with 70 to 80 percent visibility. To the east of the harvested wheat field, the proposed route crosses an approximately 100-meter wide brome grass/hayfield with 10 percent visibility. This field was likely previously cultivated and has low potential for archaeological resources. On the other side of the brome grass/hayfield, the route enters a prairie grass field with 25 percent visibility. Plow scars were visible in the field and along the edges of the field. Due to previous cultivation this field has low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. However, during pedestrian survey of the eastern portion of this section, two potential rock piles/cultural features located 75 meters to the north and 75 meters to the south of the project route were noted outside of the route. Montana-Dakota does not plan to disturb these areas.

Township 130N Range 66W Section 5

After entering this section from the west, the route passes diagonally through the middle of this section. The route in this section is located to the southeast of the prominent east/west running ridge and 6 to 7 miles west of the Coteau edge. The proposed route in this section goes through four different field types. At the time of survey, the western portion of the proposed route was in a Private Land Open to Sportsmen (PLOTS) brome grass field with 0 to 15 percent visibility. This field was likely previously cultivated and has low potential for archaeological resources. To the east of the PLOTS brome grass field, the proposed route passes through a harvested soybean field with 70 to 90 percent visibility. To the east of the harvested soybean field, the proposed route passes through a likely native prairie field. To the east of this prairie field, the proposed route passes through a harvested soybean field with 50 to 60 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials

were identified during pedestrian survey of the route in this section. One transmission line structure (Structure 212), located in what appeared to be native prairie field, was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 212

Structure 212 is located on a rise in what appeared to be native prairie overlooking a large wetland/pothole lake located approximately 50 meters to the southwest. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 130N Range 66W Section 4

The route passes through the southwestern quarter of this section. The route in this section is located to the southeast of the prominent east/west running ridge 5 to 6 miles west of the Coteau edge. The proposed route in this section traverses gently undulating cattle-grazed prairie with 15 to 25 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. Three transmission line structures (Structures 209, 208, and 207) were identified as needing shovel testing as they are located in areas with less than 25 percent visibility that are considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 209

Structure 209 is located on a small rise in cattle-grazed prairie overlooking a small pothole lake approximately 50 meters to the southeast. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 208

Structure 208 is located on a small rise in cattle-grazed prairie between several small pothole lakes. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 207

Structure 207 is located on a relatively flat upland plain in cattle-grazed prairie. One shovel test (ST 3) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 130N Range 66W Section 9

The route follows the eastern border of this section as it deviates from the existing transmission line and heads south. The route in this section is located to the southeast of the prominent east to west running ridge 5 to 6 miles west of the Coteau edge.

The route in the NE ¼ of this section was not surveyed as access was being negotiated with the landowner. The route in the SE ¼ of the section traverses undulating cattle-grazed prairie with 0 to 15 percent visibility.

Pedestrian survey of the transmission line route in the SE ¼ of the section was conducted along four transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. One transmission line structure (Structure 198) was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that is considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 198

Structure 198 is located on a rise in cattle-grazed prairie overlooking a pothole lake to the southwest, and several pothole lakes to the east and southeast. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 130N Range 66W Section 16

The route follows the north edge of this section along 92nd Street SE to the west for approximately 0.25 miles before it turns south again and passes through the middle of this section. The route in this section is located to the southeast of the prominent east/west running ridge 5 to 6 miles west of the Coteau edge. The proposed route in this section goes through four different field types.

The east to west portion of the proposed route traverses a disturbed grassy area used for grazing that is most likely associated with a house located approximately 300 meters to the south. The grassy area was grazed heavily at the time and since horses could be seen in the vicinity, it is suspected that this area is a horse pasture. At the very edge of this pasture area, where it abuts 92nd Street SE, many large boulders are present. Visibility in the pasture was 25 percent. The boulders are likely not natural for the area and could be associated with the road construction of 92nd Street or Highway 56. No distinct landform features or cultural resources were identified within this field. Just to the west of the horse pasture, the proposed route passes through a narrow, cut hayfield with 25 percent visibility situated at the high spot between an unnamed lake to the east and an unnamed lake to the west.

To the east and south of the hayfield the proposed route traverses a large horse-grazed prairie. This prairie extends south from 92nd Street SE for a half mile to the half section line. At the time of survey, approximately 30 to 50 horses were present in the field. Visibility in the area was 25 percent. No obvious signs of cultivation in this field could be determined, but a few areas of uncovered ground could be seen. The cause of the open ground areas could not be determined. The soil matrix in these open areas was gravelly and sandy. South of the half-section line, the route traverses a brome grass hayfield with 25 percent visibility. The hayfield appeared to be part of a larger cattle grazing field as cattle could be seen in the distance within the field.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. During pedestrian survey within this section of the route, one stone circle and two collapsed historic structures were identified in the horse-grazed prairie. The stone circle was recorded as site MDU-2 and the collapsed historic structures were recorded as site MDU-3. Both of these sites are described in more detail below. Five shoofly routes were also pedestrian surveyed in this section. In addition, one transmission line structure (Structure 192) was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Shoofly Routes

Five shoofly routes were pedestrian surveyed in this section. Pedestrian survey for all shoofly routes was conducted along two transects.

Structures 190-189

The shoofly route between structure locations 190 and 189, located in the horse-grazed prairie, contained a water pumphouse and a concrete well. An alternate route to the east is recommended to avoid these structures. The alternate route to the east was pedestrian surveyed during this visit. No cultural materials were identified during survey of this alternate shoofly route.

Structures 189-188

The shoofly route between structure locations 189 and 188 is a bump-out to avoid site MDU-2. Shovel testing is recommended if a large amount of ground disturbance is planned along this shoofly route. No cultural materials were identified during pedestrian survey of this shoofly route.

Structures 188-187

The shoofly route between structure locations 188 and 187 follows the east edge of large pothole lake in the horse grazed prairie. One stone cairn was identified along the shoofly route on a point of land over where a small stream surrounded by wetlands enters the large pothole lake. This cairn was recorded as site MDU-14, described in more detail below. An alternate shoofly route was surveyed to avoid this site. No cultural materials were identified during survey of this alternate shoofly route.

Structures 187-186 and 185-184

No cultural materials were identified during pedestrian survey along the shoofly routes between structure locations 187 and 186, and 185 and 184.

Structure Location 192

Structure 192 is located on a rise in a cut hayfield overlooking an unnamed lake to the east and an unnamed lake to the west. One shovel test (ST 1) was placed off center of the proposed pole locations to more accurately test the landform for cultural materials. This shovel test was negative for cultural materials. Excavation of this test revealed that this hayfield has been previously cultivated. The soil profile for this test can be found in Appendix A.

MDU 2

Site MDU-2 is a precontact stone feature site identified during pedestrian survey of the transmission line route in Township 130 N, Range 66 W, Section 16. This site is located in a large horse-grazed prairie area on a relatively flat terrace adjacent to a large pothole lake to the west. Good views to the south and west are available from this site. One stone feature was identified here. Feature 1 is a stone circle composed of approximately 50 cobbles with an approximately 7 meter diameter. Numerous other rocks and fieldstones are scattered across the terrace the feature is located on, but no other distinct patterns were identified.

Recommendation

Site MDU-2 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended to further define the horizontal extent of the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to that recorded at site MDU-2 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-2 may be eligible under NRHP Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the feature. HDR suggests that MDU-2 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-2, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

MDU 3

Near the southern edge of the large horse-grazed prairie, the field crew observed two collapsed buildings very near the shore of the unnamed pothole lake. Feature 1 is a small collapsed structure. The construction style suggested that it may have been a one room cabin. The collapsed structure had shiplap siding, was held together with wire nail construction, and had green composite shingles on its roof. A few other pieces of metal could be seen strewn around the collapsed building. Feature 2 is a collapsed structure located approximately 10 meters to the south of the first structure. The second structure was very small, but had a gabled roof, shiplap siding, was held together with wire nails, and had wooden roof shingles.

Recommendation

MDU-3 appears to retain integrity of setting, but because of construction techniques present and the types of construction materials used, it is not old enough to qualify to be a historic property. Probable dates of construction and use of the structures is between 1960 and 1980. MDU does not plan any further work for these structures and suggests that the ruins do not represent a

significant historic property. Montana-Dakota will not seek a State of North Dakota archaeological site number for this site.

MDU 14

Site MDU-14 is a precontact stone feature site identified during pedestrian survey of a shoofly route between transmission line structures 188 and 187 in Township 130 N, Range 66 W, Section 16. This site is located in cattle-grazed prairie on a point of land where a small stream surrounded by wetlands enters a large pothole lake. The eastern portions of this cattle-grazed prairie may have been cultivated at one time. Parcels of this prairie area appear to have been cut for hay. One stone feature was identified here. Feature 1 is a well-sodded, collapsed cairn composed of approximately 20 medium to large cobbles in a roughly circular area with an approximate diameter of 2 meters. Other stone features are visible to the south and southwest of this site at roughly the same elevation overlooking the stream/wetland area.

Recommendation

Site MDU-14 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended to further define the horizontal extent of the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-14 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-14 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the feature. HDR suggests that MDU-14 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-14, MDU has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

Township 130N Range 66W Section 21

The route passes through the middle of this section and is located to the southeast of the prominent east/west running ridge and 5 to 6 miles west of the Coteau edge. From north to south, the northern portion of the proposed route passes through a large rolling grass field with patchy 25 percent visibility. This field comprises most of the northeast quarter section. The proposed route crosses over several small knolls in this area with wide, low swales between them. Long north to south trending wetlands/small pothole lakes were located on either side of the route in this area. The field had been cut for hay at the time of survey. The field crew could not determine any obvious signs of cultivation within this field. South of the rolling grass field, the proposed route passes through cattle-grazed prairie that appeared to be native, with patchy 25 percent

visibility. Toward the southern end of the section, old disturbance areas, possibly associated with a former farmstead, were visible.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. During pedestrian survey within this section of the route, one stone circle was identified in the cattle-grazed prairie in the SE ¼ of the section. This stone circle was recorded as site MDU-4. Several historical features associated with a former farmstead were also identified in the cattle-grazed prairie in the SE ¼ of the section. These historical features, along with a cemetery associated with the historical features identified to the west of the transmission line route in the SW ¼ of the SE ¼ of the section, were recorded as site MDU-5/MDU-6. Site MDU-5/MDU-6 is spread over an area of approximately 30 acres. Montana-Dakota is aware of this large archaeological resource area and has modified the placement of the structures in this section to retain resource integrity. All three sites are described in more detail below. In addition, two transmission line structures (Structures 182 and 181) were identified as needing shovel testing as they are located in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 182

Structure 182 is located on a small rock-covered rise in cattle-grazed prairie overlooking a large pothole lake to the west. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 181

Structure 181 is located on a small rock-covered rise in cattle-grazed prairie overlooking a large pothole lake to the northwest. One shovel test (ST 2) was placed at the westernmost proposed pole location, which was closer to the top of the rise. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

MDU 4

Site MDU-4 is a precontact stone feature site identified during pedestrian survey of the transmission line route in Township 130 N, Range 66 W, Section 21. This site is located in cattle-grazed prairie on a relatively flat knoll adjacent to a moderate-sized wetland. Numerous rocks were scattered across the landform. The location of this site offered good views in all directions. One stone feature was identified here. Feature 1 is a stone circle composed of approximately 30 cobbles with an approximately 5 meter diameter.

Recommendation

Site MDU-4 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended to further define the horizontal extent of the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-4 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-4 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this sites exhibits traditional values and if they can offer interpretational information concerning the feature. HDR suggests that MDU-4 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-4, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

MDU 5/MDU 6

Site MDU-5/MDU-6 consists of several historical features, a cemetery, and a cultural material artifact scatter associated with the Johannes Wirch Farmstead.

Johannes Wirch Farmstead

The features associated with the farmstead are located in the SE ¼ of the SE ¼ of Section 21 in Township 130 N, Range 66 W on a rise of land surrounded by wetlands to the north, east, and west. The site is bordered to the south by 94th Street SE and Highway 56 is located immediately east of the site. This farmstead location has good views in all directions, and in particular, it has an obvious view of the Wirch Cemetery to the west. The farmstead area contains 21 surface features. The Johannes Wirch farmstead is considered an element of a larger archaeological resource area, that includes the Wirch cemetery, based on the visual connection of the two sites. Due to its distance from the cemetery, the farmstead will have a site boundary separate from the boundary created for the cemetery.

- Feature 1 consists of the remains of fieldstone and concrete foundations. Fieldstone cobbles form a square that measures approximately 33 feet east to west by 33 feet north to south. Portions of the west, east, and south walls are intact, but not much remains of the north wall. Large fieldstone cobbles make up the west, south, and north walls, while smaller cobbles make up the east wall. A north to south oriented interior wall made of concrete is located approximately 8 feet east of the west fieldstone wall. This interior concrete wall is approximately 9.5 inches wide.
- Feature 2 is located approximately 13 feet north of Feature 1. Feature 2 is a circular depression measuring approximately 8 feet in diameter and 1.5 feet deep. Some cobbles line portions of the depression.
- Feature 3 is located approximately 16.5 feet west of Feature 2. Feature 3 is an irregular shaped shallow depression measuring approximately 3 feet by 3 feet. Several cobbles were located in the center of the depression.
- Feature 4 consists of concrete foundations and a depression. The concrete foundations are approximately 6 inches thick and present in chunks in the north and east walls, forming

the northeast corner of the former structure. The portion of foundation present along the north wall measures approximately 11.5 feet. The portion of foundation present along the east wall also measures approximately 11.5 feet. A chunk of overturned concrete and fieldstone foundation is located at the northwest corner of the depression. The depression occupies the eastern portion of the foundations. The depression is rectangular and measures approximately 10 feet east to west by 16.5 feet north to south. A few metal buckets are located within the depression.

- Feature 5 consists of a concrete foundation located under six large trees, possibly cottonwood. The remnants of two concrete walls form the SW corner of the former structure. Each wall is approximately 4 inches thick. The foundation present along the west wall is approximately 4.9 feet long. The foundation present along the south wall measures approximately 5.5 feet long. A flat concrete block is located where the southeast corner is presumed to be. No remnants of the east and north walls were found.
- Feature 6 is a shallow, circular depression with a diameter of approximately 3 feet. This feature is located just to the east of Feature 5.
- Feature 7 is shallow, circular depression with a diameter of approximately 3 feet. The feature is located to the east of Feature 5, near the northern end of the west wall.
- Feature 8 is a shallow depression measuring approximately 10 feet by 10 feet. This feature is located approximately 19.5 feet north of Feature 5, just north of a large tree.
- Feature 9 is a large circular depression located on the northeast point of the northwest to southeast trending ridge overlooking wetlands to the north. This depression has a diameter of approximately 19.5 feet and a depth of approximately 1.5 feet.
- Feature 10 is a large, irregularly shaped depression located along the northwest to southeast trending ridge overlooking wetlands to the north. The depression measures approximately 26 feet by 20 feet. Cobbles are scattered throughout the depression.
- Feature 11 consists of fieldstone foundations and an associated dugout/depression built into the south slope of the northwest to southeast trending ridge. The fieldstone foundations are present on all four sides of the dugout and measure approximately 49.2 feet east to west by 33 feet north to south. A remnant fieldstone and mortar wall is present in the north wall of the dugout. This wall remnant is approximately 19.6 feet long and 3.3 feet tall. The depression at the bottom of the dugout extends approximately 13 feet south of the south fieldstone foundations. The fieldstone foundations along the south side of the dugout are degraded, and an opening in them may be present here.
- Feature 12 is a circular depression located approximately 39 feet southeast of Feature 11 on the northwest to southeast trending ridge. The depression has a diameter of approximately 6.5 feet and is approximately 1 foot deep.
- Feature 13 is a circular depression located approximately 49.2 feet east Feature 12 on the northwest to southeast trending ridge. The depression has a diameter of approximately 6.5 feet and is approximately 4 inches deep.
- Feature 14 consists of fieldstone and concrete foundations found south of the northwest to southeast trending ridge. Fieldstone foundations represent the exterior walls of this former structure. The fieldstone foundations form a rectangle measuring approximately

11.5 feet north to south by 26.2 feet east to west. Many of the stones are well sodded, but visible along the east, south, and west walls. The north wall is not as well defined. Interior concrete foundations are present approximately 9.8 feet west of the east wall. These interior concrete foundations comprise a west wall and a south wall and form a southwest corner. Approximately 9.8 feet of concrete foundation is present along the west wall, and approximately 5 feet of concrete foundation is present along the south wall. Cut-wood fragments were found near and within the foundations.

- Feature 15 consists of a rectangular concrete slab/foundation that measures approximately 3.6 feet east to west by 5.9 feet north to south.
- Feature 16 is a circular depression with a diameter of approximately 9.8 feet and a depth of 7.8 inches.
- Feature 17 consists of a fieldstone and concrete foundations and a slight depression. Only portions of walls are evident. Based on the location of the fieldstones, along with pulled-out portions of the fieldstone foundation, the north wall measures approximately 42.6 feet east to west. A north to south fieldstone wall is located just south of and approximately 3 meters west of the eastern extent of the north wall. This fieldstone wall measures approximately 32.8 feet long. Four square concrete support slabs, each measuring 9 inches by 9 inches, are found spaced equally along this north to south wall. It is uncertain if the north to south wall is an interior or exterior wall. No portions of an eastern exterior wall were evident. Scattered fieldstones where the south and west exterior wall are presumed to be may be the remnants of these walls. A slight depression is located approximately 6.5 feet west of the north to south wall and just within where the southern exterior wall is presumed to have been.
- Feature 18 consists of concrete foundations and an associated depression. Sections of concrete foundation are built into the side of a slight slope to the south. A narrow, oblong depression is located within these foundations. An earthen berm is located along the north edge of the depression. Sections of poured concrete measuring approximately 5.9 inches wide and 7.9 inches tall lie upon a composite of concrete and fieldstones. The feature measures 32.8 feet east to west by 16.4 feet north to south. Miscellaneous pieces of rusted metal, including fencing material, are located in and around this feature.
- Feature 19 consists of two metal pipes protruding from the ground in a low spot along the northwest to southeast ridge. These pipes have a 1.5 inch diameter and are located approximately 4.2 feet apart.
- Feature 20 is a prairie-covered road bed that runs roughly northwest to southeast through the property. The roadbed is approximately 8.2 feet wide. Ruts are still visible in the road bed, with the space between the two main ruts measuring 3.3 feet apart. Numerous piles of rocks are located to either side of the road bed. The roadbed loses definition as it reaches the fenceline near the southeast corner of the section. A secondary roadbed branches off from the main road bed and heads due east before terminating in a wetland. This roadbed is approximately 9.8 feet wide and is ditched to the south, sharing this ditch with the main roadbed. Another smaller roadbed branches off the main road to the west

for a short distance before ending at a wide depression excavated out of a rocky knoll. This roadbed is approximately 5.6 feet wide.

- Feature 21 is a rock pile near the southeast end of the main road (Feature 20). This pile is approximately 32.8 feet long and built up along a slight slope to the south.

In addition to the features, historical cultural material was found scattered across this site. Cultural materials observed here include approximately 50 pieces of miscellaneous metal fragments, approximately 12 pieces of wood, one stoneware fragment, one yellow brick, two red bricks, and one tan brick. In addition, a large stone with a wire wrapped around it was found in the roadbed.

Wirch Cemetery

The Wirch cemetery is located in the SW ¼ of the SE ¼ of Section 21 on the east facing slope of a larger ridge and overlooks the Johannes Wirch farmstead. The Wirch cemetery is considered an element of a larger archaeological resource area that includes the Johannes Wirch farmstead, based on the visual connection of the two sites. Due to its distance from the farmstead, the Wirch cemetery will have a site boundary separate from the boundary created for the farmstead. The cemetery area is overgrown with thick scrub brush. Within this small family cemetery there are six clearly marked graves, however, there may be more unmarked graves present within the dense scrub brush. One modern-looking granite headstone is present along with one intact iron cross, one broken iron cross, and several older limestone headstones. The six clearly marked grave markers read:

- Johaness Wirch 4-10-1846 to 1-16-1933 Father
- Maria C. Wirch 10-17-1848 to 10-12-1921 Mother
- Herbert (G. C. F. ?) Wirch 5-15-1904 to 5-25-1904
- Nathanial Zahn 4-15-1896 to 12-28-1898
- Margaretta Wirch 7-21-1883 to 11-12-1897
- Gottfried Zahn 9-14-1875 to 9-14-1918

Wirch Family History

The Wirch family immigrated from Bassarabia, South Russia, to Edgeley, North Dakota, in 1889. The family consisted of Elizabeth Herman Wirch, her son Johannes, his wife Marie, and their five children, John, Margaretta, Gottlieb, Maria, and David. They stayed in Edgeley less than a year before moving to Kulm. From Kulm, Johannes Wirch and his son John began looking for suitable land to homestead. John set up a farm in 1894 a mile and an half north of his father's on Township 160 N, Rand 66 W, Section 15. This parcel became the town of Wirch, which had a post office, school, and church and a general store that John ran out of his house (Black 1930; Flakoll 2005; Forbes Jubilee Committee 1980). Johannes stayed in the Kulm area until he and his family moved and settled in the east half of Township 130 N, Range 66 W, Section 21 (Spring Valley Township) in 1893 a mile and a half south of John's farmstead. Here Johannes set up a homestead, and in 1902 he officially received the patent to the land from the General Land Office. Johannes and his wife retained their farm until they retired. After selling the property to their son John they moved into a house on his farm.

The most significant portion of the Johannes Wirch homestead is a cemetery deeded to the Wirch family from Elizabeth Schulz. Johannes and his wife Maria are both buried in the cemetery, as is their daughter Margaretta (July 21, 1883 – November 12, 1897), and another Wirch, Herbert (May 15, 1904 – May 25, 1904). In addition, Nathaniel Zahn (April 15, 1896 – December 28, 1896), and Gottfried Zahn (September 14, 1875 – September 14, 1918) are there, but their relationship to the Wirch family is unknown. The rest of the homestead deteriorated, and all that remains are filled in foundations.

Deed Research

The first recorded document for the SE ¼ of Township 130 N, Range 66 W, Section 21 (Spring Valley Township) is from January 14, 1896. This warranty deed states that the Township of Spring Valley purchased a piece of land for one dollar cash from Elizabeth Schulz. The piece of land was slightly less than one acre and was "to be used as a burial ground" (Dickey County Courthouse, Ellendale, North Dakota [DCC] 1896: Deed Book [DB] ??: 554). In 1901, both Johannes Wirch and Elizabeth Schulz filed separately for homesteads on this quarter under the original Homestead Act of 1862 allowing them to file on up to 160 acres. The General Land Office approved the application and Wirch paid the filing fee for the west half of the quarter (DCC 1901: Book 13: 177), and Schulz the east half (DCC 1901: Book 13: 179). On April 15, 1902, Wirch received the patent for the full 160 acres (DCC 1902: DB 48: 181) and Schulz received hers on the September 26, 1902 (DCC 1902: DB 48: 229). On March 11, 1914, Schulz (now listed as a widow) sells her property to Johannes Wirch for "one dollar and other good and valuable consideration" (DCC 1914: DB 54: 295). On December 26, 1917, Johannes and his wife Marie sold their land to his son, John Wirch of Wirch, North Dakota. The warranty deed had an exception for the "12 square rods in the Southwest corner of the Southeast quarter of said section twenty one (21) being 144/160 of an acre, which is reserved as a burying ground" (DCC 1917: DB 58: 546), the original parcel set aside by Schulz. John Wirch paid $10,000 for the land and all real estate.

Recommendation

Site MDU-5/MDU-6 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended to further define the horizontal extent of the site and to better articulate the features and artifacts present. As a part of any additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Montana-Dakota has moved and lengthened the span between the structures in this section so they will not affect the visual connection between the cemetery and the farmstead. By moving and lengthening the span between the structures in this section, impact to this site will be avoided and an unimpeded visual connection between the sites will be retained. Montana-Dakota has also established "no construction" buffers around the two elements (farmstead and cemetery) of the site.

A conversation was held with Paul Picha (chief archaeologist from the North Dakota State Historic Preservation Office) on January 13, 2011, at 9:00 a.m. regarding this site. After the site

location was described to him, he stated that he believed the cemetery and farmstead locations were related. He also stated that he agreed with the treatment plan Montana-Dakota proposed for the area.

Township 130N Range 66W Section 28

The route passes through the northwest portion of this section and is located to the southeast of the prominent east/west running ridge 5 to 6 miles west of the Coteau edge. The proposed route in this section goes through two different field types and crosses Highway 56. West of Highway 56 the route traverses cattle-grazed prairie with patchy 25 to 35 percent visibility. This prairie area trends down in elevation to Highway 56. East of Highway 56 the route traverses cattle-grazed prairie with patchy 25 percent visibility. At the time of survey, no animals could be seen in the field and it appeared as though it may not have been used for this purpose for some time. Just south of where the route crosses Highway 56 in this section, on the eastern edge of the highway, the field crew encountered what appeared to be an old road bed. Because the road bed was fairly well defined, fairly long, and fairly wide, the field crew suspects that it represents an old alignment of Highway 56.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during the pedestrian survey. One transmission line structure (Structure 175) was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 175

Structure 175 is located on a small spur of land in cattle-grazed prairie overlooking wetlands to the north, east, and south. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. Heavy sand and gravel was present in this test, indicating that this landform was possibly part of a suspected road bed. Possible elements of this road bed were visible to the north and south of the shovel test location. The soil profile for this test can be found in Appendix A.

Township 130N Range 66W Section 27

The route here follows the western border of the section and is located to the southeast of the prominent east/west running ridge and 3 to 4 miles west of the Coteau edge. The route passes through cattle-grazed prairie with patchy 25 to 30 percent visibility that gradually slopes up from Highway 56. The landscape here is rolling with small knolls and low swales. Along a narrow ridge near the northwest corner of the section an old road leading to some standing structures approximately a quarter mile to the east was observed. This prairie did not show any obvious signs of cultivation.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials

were identified during the pedestrian survey. However, at the very southern edge of the section, within the proposed route, the field crews identified a US Coast and Geodetic Survey Azimuth Marker dated 1963. Montana-Dakota contacted the US National Geodetic Survey Agency and spoke to Mark Aughtman, state geodetic coordinator, to see if any special restrictions or regulations should be followed in relation to the marker. He responded stating, "The agency asks that you don't disturb the marker, but other than that, no special considerations apply to the marker" (Mark Aughtman, personal communication, February 4, 2011). Montana-Dakota will provide a 50 foot "no disturbance" buffer around the marker.

Township 130N Range 66W Section 34

The route passes through the western portion of this section and is located to the southeast of the prominent east/west running ridge and 4 to 5 miles west of the Coteau edge. In the southwest quarter of the section, the proposed route turns and heads east toward the Ellendale substation. In the northern part of the section, the proposed route passes through a large cattle-grazed prairie with patchy 25 percent visibility. To the south of the cattle prairie, the proposed route passes through a narrow hayfield that had been cut within the last 4 to 6 weeks. The grass was short at the time of the pedestrian survey and visibility here was 25 percent. Obvious signs of cultivation within the field were observed. South of the hayfield, the proposed route traverses a moderately sized gravel pit. Surface visibility in this area was excellent, generally around 90 to 100 percent. The field crew observed obvious signs of disturbance caused by heavy equipment used in excavating gravel. Because of the exposed nature of the area, the field crew took a little time to try and identify appropriate material types for lithic tools that may have been contained in the subsurface matrix. Only a very limited amount of appropriate lithic tool material was identified.

To the south of the gravel pit, the proposed route passes through a narrow cattle pasture and hayfield that had been cut within the last 4 to 6 weeks. The cattle pasture was very small and adjoined a barn/farmstead location. The hayfield was also small and the grass was short. Visibility in this area was 25 to 35 percent. The field crew could not determine obvious signs of cultivation within the hayfield. To the south of the cut hayfield, the proposed route turns east and trends upward in elevation through cattle-grazed prairie with 15 to 20 percent visibility that extends east to the section line. No obvious signs of cultivation within the prairie could be determined.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. During pedestrian survey within this section of the route, a precontact rock alignment, recorded as site MDU-7, was identified in the cattle-grazed prairie in the NW ¼ of the section. In addition a stone cairn, recorded as site MDU-8, was identified at the half-section line near the southern edge of the section. A cairn and large rock alignment, recorded as site MDU-9, was identified east of the half-section line and MDU-8, near the southern edge of the section. Two rock alignments, recorded as site MDU-10, were identified near the east edge of the section. All of these sites are described in more detail below.

One shoofly route was also pedestrian surveyed in this section. The shoofly route between Highway 56 and Structure 162 follows an existing two-track road through a working farmstead, so no survey was needed. In addition, three transmission line structures (Structures 168, 159, and 158) were identified as needing shovel testing as they are located in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials.

Shoofly Routes

One shoofly route was pedestrian surveyed in this section. Pedestrian survey for the shoofly route was conducted along four transects.

Structures 154-155

The shoofly route between structure locations 154 and 155 was located in cattle-grazed prairie and goes around site MDU-9, which consists of a cairn and a large rock alignment. No cultural materials were identified during survey of this alternate shoofly route.

Structure Location 168

Structure 168 is located on a flat saddle between two rises in cattle-grazed prairie. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 159

Structure 159 is located on a rise in a cut hayfield overlooking a lake, located approximately 200 meters from and across Highway 56 to the west. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 158

Structure 158 is located on a rise in a cut hayfield overlooking a lake, located approximately 200 meters and across Highway 56 to the west. One shovel test (ST 3) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

MDU-7

Site MDU-7 is a precontact stone feature site identified during pedestrian survey of the transmission line route in the NW ¼ of Section 34 in Township 130 N, Range 66 W. This site is located in cattle-grazed prairie near the base of a knoll slope. A few other rocks were scattered throughout the area. Good views to the south and southeast were available from this site. One stone feature was identified here. Feature 1 is a stone alignment oriented southeast to northwest. This alignment is approximately 2 meters long and is made up of approximately 10 larger cobbles.

Recommendation

Site MDU-7 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended to further define the horizontal extent of

the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-7 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-7 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the feature. HDR suggests that MDU-7 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-7, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

MDU-8

Site MDU-8 is a precontact stone feature site identified during pedestrian survey of the transmission line route in the SE ¼ of Section 34 in Township 130 N, Range 66 W. This site is located in cattle-grazed prairie on the southeast slope of a knoll. A few other rocks were scattered throughout the area. Good views to the south and southeast were available from this site. One stone feature was identified here. Feature 1 is a cairn composed of approximately 50 cobbles in a 2 meter area.

Recommendation

Site MDU-8 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-8 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-8 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the feature. HDR suggests that MDU-8 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-8, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

MDU-9

Site MDU-9 is a possible precontact, multi-component stone feature site identified during pedestrian survey of the transmission line route in the SE ¼ of Section 34 in Township 130 N, Range 66 W. This site is located in cattle-grazed prairie and encompasses the westward slope of a small knoll and a small, flat landform to the west. A few other rocks were scattered throughout the area. Good views in all directions were available from this site. Two stone features were identified here. Feature 1 is a large north to south oriented rock alignment located on the slight westward slope of a small knoll. The alignment measures approximately 100 meters long and is composed of hundreds of cobbles. Feature 2 is a cairn located on a small, flat landform approximately 20 meters west of Feature 1. The landform slopes down to a wetland to the west. This cairn is composed of approximately 75 cobbles in a 2 meter area. Although the cairn appears to be a precontact feature, the origins of the rock alignment cannot be ascertained at his time. No obvious signs of mechanical disturbance could be found to explain possible Euro-American origins of the rock alignment. What appears to be a rock-picker pile is located on the crest of the same knoll where the rock alignment is located. Although this rock-picker pile appears to be Euro-American in origin, it may overlay an earlier precontact feature. For this reason, the rock-picker pile has been included within the site boundary.

Recommendation

Site MDU-9 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the features present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-9 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-9 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the features. HDR suggests that MDU-9 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-9, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

MDU-10

Site MDU-10 is a stone feature site of indeterminate origin identified during pedestrian survey of the transmission line route in the SE ¼ of Section 34 in Township 130 N, Range 66 W. This site is located in cattle-grazed prairie on a slight southeast facing slope overlooking a wetland to the east. A few other rocks were scattered throughout the area. Good views to the north, east, and south were available from this site. Two stone features were identified here. Feature 1 is a

circular arrangement of approximately 50 large cobbles and boulders covering an approximately 3 meter area. Feature 2 is a large concentration of boulders and cobbles in an approximately 8 meter area. The origins of these rock features cannot be ascertained at his time. The cobbles and boulders appear to be larger than those typically found at precontact stone feature sites. However, no obvious signs of mechanical disturbance could be found to explain possible Euro-American origins of the rock alignment. If these features are Euro-American in origin, they may overlay earlier precontact features.

Recommendation

Site MDU-10 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the features present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

If the features identified at site MDU-10 are precontact in origin, they may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-10 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the features. HDR suggests that MDU-10 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-10, Montana-Dakota has modified the route and structure locations within this area and established a 50 foot "no construction" buffer around the site. Site MDU-10 is no longer in the route as the route has been shifted to the west.

Township 129N Range 66W Section 3

The route in this section is located 3 to 4 miles west of the Coteau edge. The route enters this section from the north after crossing Highway 11, and follows the eastern border of this section until it reaches the existing 41.6 kV transmission line and heads due east. The route here traverses sheep-grazed prairie with patchy 25 percent visibility. In November 2010, the proposed route alignment was located just to the west of 70th Avenue SE, and ran along the eastern section line over mostly sloped and low terrain. By the time of the May 2011 survey, the route had shifted slightly to the west and traversed the top of a rise at the northern edge of the section before sloping down to low, undulating terrain.

Pedestrian survey of the original transmission line route in this section in November 2010 was conducted along three transects. Pedestrian survey of the revised transmission line route in this section in May 2011 was conducted along three transects as well. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. One transmission line structure (Structure 152) was

identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 152

Structure 152 is located in sheep-grazed prairie near the southern edge of a rise near the north edge of the section that overlooks several small pothole lakes to the southwest and southeast. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 129N Range 66W Section 2 (E ½ of NE ¼ - USFWS Grassland Easement)

The route in this section is located approximately 2 to 3 miles west of the Coteau edge. The route passes through the northern portion of the section over rolling uplands covered in tall prairie grasses with 5 to 10 percent visibility. This area did not appear to be native prairie. Moderately sized wetlands are located to the north and south of the route. The portion of the route located in the E ½ of the NE ¼ of the section passes through a USFWS grassland easement.

In November 2010, pedestrian survey of the transmission line route in the NW ¼ ,and the W ½ of the NE ¼ of the section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. Two shoofly routes and one partial shoofly route here were identified as needing survey in May 2011. The shoofly routes between 70th Avenue SE and Structure 149, between Structures 149 and 148, and a portion of the route between Structures 143 and 142 in the NW ¼ and the W ½ of the NE ¼ of the section were not surveyed as the property owner did not allow access for survey.

In May 2011, pedestrian survey of the transmission line route in the E ½ of the NE ¼ was conducted along four transects. This area is located in a USFWS grassland easement. One shoofly route and one partial shoofly route were pedestrian surveyed here.

Shoofly Routes

One shoofly route and one partial shoofly route were pedestrian surveyed in the E ½ of the NE ¼ of this section, which is located in a USFWS grassland easement. Pedestrian survey for the shoofly route was conducted along four transects.

Structures 143-142

The shoofly route between structure locations 143 and 142 was located in cattle-grazed prairie and follows the southern edge of a large wetland. Only the portion of the shoofly route located in the E ½ of the NE ¼ of the section was surveyed as access to the portion in the W ½ of the NE ¼ was not granted at the time of survey. The landforms crossed by the route were determined to be too narrow or sloped for there to be archaeological potential. No cultural materials were identified during survey of this portion of the shoofly route.

Structures 143-Farmstead Driveway

The shoofly route between structure location 143 and a farmstead driveway at the west edge of the section traversed cattle-grazed prairie along a narrow ridge that wound between two large wetlands before entering a small cut-grass farm yard right before the driveway. The landforms crossed by the route were determined to be too narrow or sloped for there to be archaeological potential. No cultural materials were identified during survey of this shoofly route.

Township 129N Range 66W Section 1 (W ½ - USFWS Grassland Easement, E ½ - USFWS WPA)

The route in this section is located 1 to 2 miles west of the Coteau edge. From west to east the route passes through a cattle yard of a working farmstead, then traverses rolling uplands covered in tall grass, cattle-grazed prairie with 5 to 10 percent visibility. At the eastern edge of this section, the route passes through some oddly shaped cattle pastures with 25 to 35 percent visibility. Numerous small pothole lakes and wetlands are found along this section of the route. The portion of the route located in the NW ¼ of this section passes through grassland easement while the portion of the route located in the NE ¼ of the section passes through a USFWS WPA.

In November 2010, pedestrian survey of the transmission line route in the NE ¼ of the section was conducted along three transects. In May 2011, pedestrian survey of the transmission line route in the NW ¼ of the section was conducted along four transects. Gopher mounds were opportunistically examined along the route. During pedestrian survey within this section of the route, a precontact stone circle, recorded as site MDU-11, was identified in the cattle-grazed prairie in the NE ¼ of the section. Site MDU-11 is described in more detail below. Four shoofly routes were also pedestrian surveyed in this section. In addition, one transmission line structure (Structure 132) was identified as needing shovel testing as it is located in an area with less than 25 percent visibility that was considered to have moderate to high potential to contain buried archaeological materials.

Shoofly Routes

Four shoofly routes were pedestrian surveyed in this section. Pedestrian survey for the shoofly route between Structures 139 and 138 was conducted along four transects. Pedestrian survey for the shoofly routes between Structures 136 and 135, 134 and 133, and between 132 and 131 was conducted along two transects spaced at 15 meter intervals.

Structures 139-138

The shoofly route between structure locations 139 and 138 was located in cattle-grazed prairie in the NW ¼ of the section and follows a narrow ridge between two small pothole lakes. This landform crossed by the route was determined to be too narrow for there to be archaeological potential. No cultural materials were identified during survey of this shoofly route.

Structures 136-135

The shoofly route between structure locations 136 and 135 was located in cattle-grazed prairie in the NE ¼ of the section. This route follows the south edge of a small pothole lake. No cultural materials were identified during survey of this shoofly route.

Structures 134-133

The shoofly route between structure locations 134 and 133 was located in cattle-grazed prairie in the NE ¼ of the section. This route follows the south edge of a small pothole lake. No cultural materials were identified during survey of this shoofly route.

Structures 132-131

The shoofly route between structure locations 132 and 131 was located in cattle-grazed prairie and goes around site MDU-11, which consists of a stone circle. No cultural materials were identified during survey of this shoofly route.

Structure Location 132

Structure 132 is located in cattle-grazed prairie on a saddle between two wetlands. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

MDU-11

Site MDU-11 is a precontact stone feature site identified during pedestrian survey of the transmission line route in the NE ¼ of Section 1 in Township 129 N, Range 66 W. This site is located in cattle-grazed prairie on broad flat area between a pothole lake to the north and a small wetland/pothole lake to the southeast. Numerous rocks were scattered throughout the area. Good views to the north and east were available from this site. One stone feature was identified here. Feature 1 is a stone circle composed of approximately nine large cobbles with an approximately 3.5 meter diameter. This circle has a possible opening to the east.

Recommendation

Site MDU-11 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-11 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-11 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the feature. HDR suggests that MDU-11 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-11, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

Township 129N Range 65W Section 6

The route in this section is located at the west of the Coteau edge. From west to east the route traverses rolling uplands until more dramatic topography is reached at the lip of the Coteau. This entire section of the route is covered in tall grass, cattle-grazed prairie with 5 to 10 percent visibility. Numerous small pothole lakes and wetlands are found along this section of the route, and an unnamed drainage is present at the lip of the Coteau near the eastern edge of the section.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. During pedestrian survey within this section of the route, a precontact stone feature site, recorded as site MDU-12, was identified in the cattle-grazed prairie in the NW ¼ of the section. Site MDU-12 is described in more detail below. Two shoofly routes were also pedestrian surveyed in this section. In addition, four transmission line structures (Structures 132, 128, 127, and 126) were identified as needing shovel testing as they were located in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials.

Shoofly Routes

Two shoofly routes were pedestrian surveyed in this section. Pedestrian survey for the shoofly routes were conducted along two transects.

Structures 130-129

The shoofly route between structure locations 130 and 129 was located in cattle-grazed prairie in the NW ¼ of the section and goes around site MDU-12, which consists of a stone circle and two cairns. No cultural materials were identified during survey of this shoofly route.

Structures 125-124

The shoofly route between structure locations 125 and 124 was located in cattle-grazed prairie in the NE ¼ of the section at the edge of the Coteau. This swings to the south to avoid the steep slopes of a small, unnamed drainage. No cultural materials were identified during survey of this shoofly route.

Structure Location 131

Structure 131 is located in cattle-grazed prairie on a slight slope 15 meters west of a pothole lake. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 128

Structure 128 is located in cattle-grazed prairie on a small rise on the Coteau. Numerous rocks were scattered across the landform. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 127

Structure 127 is located in cattle-grazed prairie on a rise near the edge of the Coteau. Numerous rocks were scattered across the landform. One shovel test (ST 3) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 126

Structure 126 is located in cattle-grazed prairie on a rise on the edge of the Coteau. Numerous rocks were scattered across the landform. One shovel test (ST 4) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

MDU-12

Site MDU-12 is a precontact stone feature site identified during pedestrian survey of the transmission line route in the NW ¼ of Section 6 in Township 129 N, Range 65 W. This site is located in cattle-grazed prairie on the top of a knoll near the eastern edge of a large ridge. Numerous rocks were scattered across the landform. Good views to the north and east were available from this site. Three stone features were identified here. Feature 1 is a stone circle composed of approximately 15 well-sodded cobbles with an approximately 2 meter diameter. Feature 2 is a cairn with 5 well-sodded cobbles visible on an area of mounded earth. More cobbles are likely to be found within the mounded earth. Feature 3 is a large cairn composed of approximately 40 well-sodded cobbles in an approximately 1.5 meter by 1.5 meter area. More cobbles are likely to be found under the sod.

Recommendation

Site MDU-12 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the features present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-12 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-12 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the features. HDR suggests that MDU-12 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-12, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

Township 129N Range 65W Section 5

The route here runs northwest to southeast through the southern half of the section as it follows the Coteau slope down to the broad flatlands at its base. The route here traversed cattle-grazed prairie with patchy 25 percent visibility. Small springs and streams flow out of the Coteau edge in this area.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. During pedestrian survey within this section of the route, a precontact stone feature site, recorded as site MDU-13, was identified in the cattle-grazed prairie in the SW ¼ of the section. Site MDU-13 is described in more detail below. In addition two transmission line structures (Structures 119 and 121) were identified as needing shovel testing as they were located in areas with less than 25 percent visibility that were considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 119

Structure 119 is located in cattle-grazed prairie on the broad, flat plain at the base of the Coteau. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 121

Structure 121 is located in cattle-grazed prairie on the broad, flat plain at the base of the Coteau. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

MDU-13

Site MDU-13 is a precontact stone feature site identified during pedestrian survey of the transmission line route in the SW ¼ of Section 5 in Township 129 N, Range 65 W. This site is located in cattle-grazed prairie on the broad, flat plain at the base of the Coteau. A small stream is located just to the north of the site. Numerous rocks were scattered across the area. Good views to the north, east, and south are available from this site. Three stone features were identified here. Feature 1 is a stone circle composed of approximately 50 cobbles with a 4 meter diameter. Feature 2 is a small stone circle composed of approximately 30 cobbles in a 1 meter diameter. Feature 3 is a stone arc composed of approximately 25 cobbles. This arc measures approximately 4 meters at its widest point and opens to the northeast.

Recommendation

Site MDU-13 appears to retain integrity of setting. If construction plans show that impact to this resource will occur, additional work is recommended here to further define the horizontal extent of the site and to better articulate the feature present. As part of the additional work, further research should be completed to understand if this resource is significant under any of the NRHP eligibility criteria.

Features similar to those recorded at site MDU-13 may be important expressions of Native American traditional religious and cultural activities. Consequently, MDU-13 may be eligible under Criterion A as a property of traditional religious and cultural importance. Consultation with tribes may be needed to determine if this site exhibits traditional values and if they can offer interpretational information concerning the features. HDR suggests that MDU-13 may also be eligible for the NRHP under Criterion D for its potential to yield important information regarding the nature and distribution of feature types as expressions of social, economic, and subsistence activities characteristic of sites in the region. Further investigation is needed before eligibility can be determined for this site under any of the criteria.

To avoid impacts to site MDU-13, Montana-Dakota has moved and lengthened the span between the structures in this section and established a "no construction" buffer around the site.

Township 129N Range 65W Section 8

The route here is located on the broad, flat agricultural landscape east of the Coteau. The route passes through the very northeast corner of this section in an area that has already been disturbed by previous transmission line construction and road construction. Visibility in this area was 25 percent.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 65W Section 9

The route here is located on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed two cut hayfields with patchy 25 percent visibility, cattle-grazed prairie with patchy 25 percent visibility, and a planted wheat field with 70 to 80 percent visibility. The cattle-grazed prairie was likely previously cultivated and has low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 65W Section 10

The route here is located on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a harvested corn field with 50 to 70 percent visibility, a tilled wheat field with 90 to 100 percent visibility, a planted wheat field with 70 to 80 percent visibility, and another planted wheat field with 50 to 70 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 65W Section 11

The route here is located on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a harvested corn field with 50 to 70 percent visibility and a harvested soybean field with 25 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 65W Section 12

The route here is located on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a cattle-grazed prairie with patchy 25 percent visibility, a harvested corn field with 80 to 90 percent visibility, a tilled wheat field with 70 to 80 percent visibility, and a harvested soybean field with 70 to 80 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. Five transmission line structures (Structures 86, 85, 84, 83, and 82) were identified as needing shovel testing as they are located in areas with less than 25 percent visibility that are considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 86

Structure 86 is located in a gently rolling cattle-grazed prairie. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 85

Structure 85 is located on a relatively flat landform in a gently rolling cattle-grazed prairie. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 84

Structure 84 is located in a gently rolling cattle-grazed prairie near a small wetland to the southeast. One shovel test (ST 3) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 83

Structure 83 is located on a flat, grassy plain used as a field road that overlooks a small drainage and wetland area to the north and east. One shovel test (ST 4) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 82

Structure 82 is located on a grassy area overlooking a small drainage and wetland area to the west. One shovel test (ST 4) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 129N Range 64W Section 7

The route here is located on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a tilled wheat field with 70 to 80 percent visibility, a standing corn field with 80 percent visibility, a small strip of fallow field with no visibility, and a tilled wheat field with 70 to 80 percent visibility. The fallow field was likely previously cultivated and has low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 64W Section 8

The route here is located on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a planted wheat field with 25 to 50 percent visibility, a harvested soybean field with 25 percent visibility, and a planted wheat field with 25 to 50 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

The proposed shoofly routes between structures 69 and 68 and between structures 68 and 67 followed 97th Street SE and did not require survey.

Township 129N Range 64W Section 9

This route is located to the west of Pheasant Lake on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a planted wheat field with 40 to 50 percent visibility, cattle-grazed prairie with 15 to 20 percent visibility, and a harvested soybean field with 60 to 70 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. Two transmission line structures (Structures 58 and 57) were identified as needing shovel testing as they are located in areas with less than 25 percent visibility that are considered to have moderate to high potential to contain buried archaeological materials.

Structure Location 58

Structure 58 is located on a rise in a gently rolling cattle-grazed prairie. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 57

Structure 57 is located on a relatively flat plain in cattle-grazed prairie overlooking a small unnamed stream approximately 30 meters to the east. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 129N Range 64W Section 10

This route is located to the west of Pheasant Lake on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a planted hayfield with no visibility, a grass covered yard of an abandoned farmstead with no visibility, a small area of cattle-grazed prairie east of an unnamed stream with no visibility, a harvested soybean field with 70 to 100 percent visibility, and a small grass covered yard of an operating farmstead along the shore of Pheasant Lake. The planted hayfield in the NW ¼ of the section was likely previously cultivated and has low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. Gopher mounds were opportunistically examined along the route. No cultural materials were identified during pedestrian survey of the route in this section. Two transmission line structures (Structures 52 and 51) were identified as needing shovel testing as they are located in areas with less than 25 percent visibility that are considered to have moderate to high potential to contain buried archaeological materials.

Within the route, four grain bins were located adjacent to the lake in the yard of the operating farmstead. Two of the grain bins were constructed of wood, while the other two were constructed of steel. At this time, Montana-Dakota does not consider these structures as historic properties and has no plans to further evaluate them.

The proposed shoofly route between structures 52 and 51 followed 97th Street SE and did not require survey.

Structure Location 52

Structure 52 is located in a grass covered yard of an abandoned farmstead that overlooks an unnamed stream to the east. One shovel test (ST 1) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Structure Location 51

Structure 51 is located in a cattle-grazed prairie on a terrace on the east bank of an unnamed stream. One shovel test (ST 2) was placed between the proposed pole locations. This shovel test was negative for cultural materials. The soil profile for this test can be found in Appendix A.

Township 129N Range 64W Section 11

This route is located to the east of Pheasant Lake on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a tilled soybean field with 90 to 100 percent visibility and a harvested corn field with 50 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 64W Section 12

This route is located to the east of Pheasant Lake on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. At the time of the survey the route traversed cattle-grazed prairie with patchy 25 percent visibility throughout the entire section.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section. All structure locations in this section were located on sloped or low areas with low potential for archaeological resources. One shoofly route was also pedestrian surveyed in this section.

The shoofly route between structure locations 31 and 30 was located near a large wetland and was inundated with water. No survey was done for this shoofly route.

Shoofly Routes

One shoofly route was pedestrian surveyed in this section. Pedestrian survey for this shoofly route was conducted along four transects.

Structures 34-33

The shoofly route between structure locations 34 and 33 was located in cattle-grazed prairie in the NW ¼ of the section and follows the north edge of a large wetland. The entire shoofly route was located in a low, wet area. No cultural materials were identified during survey of this shoofly route.

Township 129N Range 63W Section 7

This route is located to the east of Pheasant Lake on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a harvested soybean field with 60 to 70 percent visibility, a harvested

corn field with 35 to 50 percent visibility, and a harvested soybean field with 25 percent visibility.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 63W Section 8

This route is located to the west of the Ellendale Junction substation on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed a tilled soybean field with 90 to 100 percent visibility, a prairie area with patchy 25 percent visibility, and a harvested corn field with 50 to 60 percent visibility. The prairie area was likely previously cultivated and has low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 63W Section 9

This route is located to the west of the Ellendale Junction substation on the broad, flat agricultural landscape east of the Coteau and follows the northern edge of the section. From west to east, at the time of the survey the route traversed cattle-grazed prairie with patchy 25 percent visibility and a fallow field with patchy 25 percent visibility. The prairie and fallow field were likely previously cultivated and both have low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

Township 129N Range 63W Section 10

This route is located on the broad, flat agricultural landscape east of the Coteau and connects to the Ellendale Junction substation in the northwest corner of the section. The route here is located in a flat, grassy area that appears to have been graded, likely during substation construction. The soil visible here was compact, gravely, and uniform. These obvious signs of construction indicate this area has been previously disturbed and has low potential for archaeological resources.

Pedestrian survey of the transmission line route in this section was conducted along three transects. No cultural materials were identified during pedestrian survey of the route in this section.

The North Dakota Department of Transportation requested that Montana-Dakota evaluate an approach to a proposed construction equipment laydown area in a cultivated cornfield in the SW ¼ of the section for its potential to affect cultural resources. During the May 2011 survey, HDR

examined this laydown area approach. The proposed laydown area approach consists of an existing field entrance accessed from Highway 11, which borders the section to the south. The existing field entrance is approximately 7 meters wide and crosses the ditched ROW from Highway 11 to the edge of the corn field. Investigation of this approach area revealed it was disturbed by the Highway 11 ROW and has low potential for archaeological resources. Widening of this approach would not affect any cultural resources.

Summary of Survey Results and Recommendations

In November of 2010 and May of 2011, HDR, on behalf of Montana-Dakota, completed a Class III Intensive Archaeological Resources Inventory for the MWFE 230 kV Transmission Line Project in Dickey and McIntosh Counties, North Dakota. The project entails construction of an approximately 30 mile long 230 kV transmission line between the existing Ellendale Junction Substation, located about 1.5 miles west of Ellendale in Dickey County, and a proposed Merricourt Wind Farm substation, located about 15 miles east-northeast of Ashley in McIntosh County.

The Class III survey was completed on 28.75 miles of the proposed transmission line route. A half mile section of the route located in NE ¼ of Section 9 in Township 130 N, Range 66 W was not surveyed due to landowner denial of access. A ¾ mile section of the route located in the N ½ of Section 2 in Township 129 N, Range 66 W was pedestrian surveyed in November of 2010, but survey of this section during the May 2011 investigations to examine shoofly routes and potential shovel test areas at proposed structure locations was not completed due to landowner denial of access.

The Class III inventory resulted in the identification of 13 previously unrecorded cultural resources including 10 precontact archaeological sites, two historical archaeological sites, and a site that consists of two modern collapsed structures (Table 5). The 10 precontact archaeological sites are all stone feature sites. Both historical archaeological sites are former farmsteads. One site (MDU-11), a precontact stone feature site consisting of one stone circle, was identified on USFWS WPA land. All 12 sites identified in the transmission line route are unevaluated for listing on the NRHP. Montana-Dakota had engineered the transmission line to avoid all cultural resources identified in this Class III inventory, however, if Montana-Dakota determines that these sites need to be disturbed by construction, further work is needed at these sites before their eligibility for the NRHP can be determined..

Montana-Dakota feels the cultural work done in the transmission line ROW is adequate and complete and suggests this Project constitutes a determination of "No Historic Properties Affected." Montana-Dakota recommends the Project be completed as designed and documented.

Table 5: Summary of Results and Recommendations

Site Number	Field Number	Site Type	NRHP Recommendation	Management Recommendation	Assessment of Effect

Site Number	Field Number	Site Type	NRHP Recommendation	Management Recommendation	Assessment of Effect
	MDU 1	Historical Farmstead	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 2	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 3	Modern Collapsed Structures	Not Eligible	Site is not old enough to qualify to be a historic property. No further work needed at this site.	There will be no effect. This site does not represent a significant historic property. Montana-Dakota will not seek a State of North Dakota archaeological site number for this site.
	MDU 4	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 5 and MDU 6	Historical Farmstead and Cemetery	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 7	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 8	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.

Site Number	Field Number	Site Type	NRHP Recommendation	Management Recommendation	Assessment of Effect
	MDU 9	Precontact/ Possibly Multi-component Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 10	Possibly Multi-component Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Transmission line structures and construction access routes have been designed to avoid the site.
	MDU 11	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 12	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site
	MDU 13	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.
	MDU 14	Precontact Stone Feature	Unevaluated	Avoidance. If site cannot be avoided, further work will be needed	There will be no effect. Although the site is within the transmission line ROW, structures and construction access routes have been designed to avoid the site.

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Appendix A – Shovel Test Results

Table A-1: Shovel Test Results for Structure Location 245 (T130 R67 S3)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test located in cattle-grazed prairie on top of a large east/west running ridge and about 5 m south of wetland	Negative	0-13 cm 10 YR 3/2 silt loam, 13-30 cm 10 YR 4/2 silt clay loam, 30-45 cm 10 YR 5/3 loamy silt	45 cm

Table A-2: Shovel Test Results for Structure Location 232 (T130 R67 S2)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test located in cattle-grazed prairie on a flat spot near a large east/west running ridge	Negative	0-19 cm 10 YR 3/2 silt loam, 19-32 cm 10 YR 4/2 silt loam, 32-42 cm 10 YR 6/2 silt loam with darker mottles	42 cm

Table A-3: Shovel Test Results for Structure Location 212 (T130 R66 S5)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test is located on a rise in a native prairie overlooking a large wetland/pothole lake	Negative	0-23 cm 10 YR 3/2 silt loam, 23-31 cm 10 YR 4/2 silt loam, 31-40 cm 10 YR 6/2 silty clay loam	40 cm

Table A-4: Shovel Test Results for Structure Locations 207, 208 and 209(T130 R66 S4)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 209)	Test is located on a small rise in cattle-grazed prairie overlooking a small pothole lake	Negative	0-31 cm 10 YR 3/2 silt clay loam, 31-39 cm 10 YR 4/3 sandy clay loam with heavy gravel and cobbles	39 cm
2 (Structure 208)	Test is located on a small rise in cattle-grazed prairie overlooking a small pothole lake	Negative	0-28 cm 10 YR 3/2 silty clay loam, 28-41 cm 10 YR 4/2 silty loam 41-47 cm 10 YR 6/2 loamy silt with gravel	47 cm
3 (Structure 207)	Test is located on a flat upland plain in cattle-grazed prairie	Negative	0-25 10 YR 3/2 silty clay loam 25-38 10 YR 4/2 silty loam 38-47 10 YR 6/2 loamy silt with gravel	47 cm

Table A-5: Shovel Test Results for Structure Location 198 (T130 R66 S9)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test is located on a rise in cattle-grazed prairie overlooking a pothole lake to the southwest, and several pothole lakes to the east and southeast	Negative	0-23 cm 10 YR 2/1 silty clay loam with some light mottling, 23-47 cm 10 YR 4/2 silt clay loam with some dark mottles and gravel, 47-55 cm 10 YR 5/2 silty loam with gravel	55 cm

Table A-6: Shovel Test Results for Structure Location 192 (T130 R66 S16)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test is located on a	Negative	0-25 cm 7.5 YR 3/1 silt	49 cm

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
	rise in a cut hayfield overlooking an unnamed lake to the east and an unnamed lake to the west		loam with some large cobbles, 25-34 cm 10 YR 4/2 sand silt with smaller gravel, 34-49 cm 10 YR 4/3 sand clay	

Table A-7: Shovel Test Results for Structure Locations 181 and 182(T130 R66 S21)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 182)	Test is located on a small rock covered rise in cattle-grazed prairie overlooking a large pothole lake to the west	Negative	0-28 cm 10 YR 3/2 silt loam, 28-45 cm 10 YR 4/3 silt loam with heavy shale	45 cm
2 (Structure 181)	Test is located on a small rock covered rise in cattle-grazed prairie overlooking a large pothole lake to the northwest	Negative	0-12 cm 10 YR 2/2 silt loam, 12-26 cm 10 YR 3/2 sandy silt loam 26-37 10 YR 5/3 sandy silt loam with gravel	37 cm

Table A-8: Shovel Test Results for Structure Location 175 (T130 R66 S28)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test is located on a small spur of land in cattle-grazed prairie overlooking wetlands to the north, east, and south	Negative	0-14 cm 10 YR 2/1 silt sand with light mottled spots and small gravel, 14-26 cm 7.5 YR 4/4 sand with heavy gravel, 26-33 cm 7.5 YR 3/1 sand silt with light mottled spots and large cobbles	33 cm, surroundings indicate area was probably cultivated at sometime in the past

Table A-9: Shovel Test Results for Structure Locations 158, 159, and 168 (T130 R66 S34)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 168)	Test is located on a flat saddle between two rises in cattle-grazed prairie	Negative	0-20 cm 10 YR 2/1 silty loam, 20-29 cm 10 YR 3/2 silt loam, 29-40 cm 10 YR 5/4 silty clay loam with gravel and some large cobbles	40 cm
2 (Structure 159)	Test is located on a rise in a cut hayfield overlooking a lake, located approximately 200 meters across HWY 56 to the west	Negative	0-22 cm 10 YR 3/1 sandy loam with gravel 22-45 cm 7.5 YR 3/2 sandy silt clay with dark mottles	45 cm, surroundings indicate area was probably cultivated at sometime in the past
3 (Structure 158)	Test is located on a rise in a cut hayfield overlooking a lake, located approximately 200 meters across HWY 56 to the west	Negative	0-22 cm 10 YR 3/1 sandy loam with gravel 22-34 cm 7.5 YR 3/2 silt clay sand with dark mottles 34-41 cm 2.5 Y 3/2 clay silt	41 cm, surroundings indicate area was probably cultivated at sometime in the past

Table A-10: Shovel Test Results for Structure Location 152 (T129 R66 S3)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test is located in sheep grazed prairie on a rise that overlooks several small pothole lakes to the southwest and southeast	Negative	0-22 cm 10 YR 2/1 silt loam, 22-29 cm 10 YR 4/2 silt loam, 29-37 cm 10 YR 5/3 silty clay loam	37 cm

Table A-11: Shovel Test Results for Structure Location 132 (T129 R66 S1)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1	Test is located in cattle-grazed prairie on a saddle between two wetlands	Negative	0-14 cm 10 YR 2/1 silt loam with some gravel, 14-24 cm 7.5 YR 3/4 silt clay with dark mottles, 24-37 cm 2.5 Y 5/4 clay with mottles and iron staining	37 cm

Table A-12: Shovel Test Results for Structure Locations 126, 127, 128 and 131(T129 R65 S6)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 131)	Test is located in cattle-grazed prairie on a slight slope just west of a pothole lake	Negative	0-15 cm 10 YR 2/1 silt loam with some gravel, 15-27 cm 7.5 YR 3/4 silt clay with darker mottles, 27-42 cm 10 YR 4/3 sand silt with iron staining	42 cm
2 (Structure 128)	Test is located in cattle-grazed prairie on a small rise on the edge of the Coteau	Negative	0-10 cm 10 YR 2/1 silt loam 10-31 cm 10 YR 4/2 silt loam 31-38 cm 10 YR 5/3 silt loam	38 cm
3 (Structure 127)	Test is located in cattle-grazed prairie on a small rise on the edge of the Coteau	Negative	0-13 cm 10 YR 2/1 silt loam 13-42 cm 10 YR 4/2 silt loam with some gravel 42-46 cm 10 YR 5/3 silt loam with some gravel	46 cm
4 (Structure 126)	Test is located in cattle-grazed	Negative	0-10 cm 10 YR 2/1 silt loam,	37 cm

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
	prairie on a small rise on the edge of the Coteau		10-33 cm 10 YR 4/2 silt loam with some gravel, 33-37 cm 10 YR 5/3 silt loam with some gravel	

Table A-13: Shovel Test Results for Structure Locations 119 and 121 (T129 R65 S5)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 119)	Test is located in cattle-grazed prairie on the broad, flat plain at the base of the Coteau	Negative	0-10 cm 10 YR 3/2 silt loam, 10-24 cm 10 YR 4/2 silt loam, 24-36 cm 10 YR 5/4 silt clay loam	36 cm
2 (Structure 121)	Test is located in cattle-grazed prairie on the broad, flat plain at the base of the Coteau	Negative	0-26 cm 10 YR 2/1 silty clay loam, 26-39 cm 10 YR 4/2 silty clay loam that was moist 39-43 cm 10 YR 5/3 loamy silt with gravel that was wet	43 cm

Table A-14: Shovel Test Results for Structure Locations 82, 83, 84, 85 and 86 (T129 R65 S12)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 86)	Test is located in a gently rolling cattle-grazed prairie	Negative	0-17 cm 10 YR 2/1 silt loam, 17-49 cm 10 YR 2/1-10 YR 4/2 sandy silt loam, 49-54 cm 10 YR 5/4 loamy clay	54 cm
2 (Structure 85)	Test is located in a gently rolling cattle-	Negative	0-23 cm 10 YR 2/1 silt loam	46 cm

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
	grazed prairie		23-46 cm 10 YR 5/4 loamy clay	
3 (Structure 84)	Test is located in a gently rolling cattle-grazed prairie near a small wetland to the southeast	Negative	0-22 cm 10 YR 2/1 silt loam 22-49 cm 10 YR 4/2 sandy silt loam with 49-57 cm 10 YR 5/4 loam clay	57 cm
4 (Structure 83)	Test is located on a flat, grassy plain used as a field road that overlooks a small drainage and wetland area to the north and east	Negative	0-14 cm 10 YR 2/1 silty clay loam, 14-23 cm 10 YR 4/2 silty clay loam, 23-43 cm 10 YR 4/3 coarse sand and shale with gravel and some clay	43 cm
5 (Structure 82)	Test is located on a grassy area overlooking a small drainage and wetland area to the west	Negative	0-25 cm 10 YR 2/1 silt loam 25-32 cm 10 YR 3/2 silt clay loam 32-38 cm 10 YR 6/3 silty clay	

Table A-15: Shovel Test Results for Structure Locations 58 and 57(T129 R64 S9)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 58)	Test is located on a rise in a gently rolling cattle-grazed prairie	Negative	0-22 cm 10 YR 3/2 silt loam, 22-40 cm 10 YR 4/1 silt loam with heavy shale	40 cm
2 (Structure 57)	Test is located on a relatively flat plain in cattle-grazed prairie overlooking a small unnamed stream to the east	Negative	0-30 cm 10 YR 3/2 silt loam, 30-40 cm 10 YR 6/2 silt clay loam with shale	40 cm

Table A-16: Shovel Test Results for Structure Locations 51 and 52 (T129 R64 S10)

Shovel Test Number	Location	Positive/Negative	Soil Description	Final Depth/Comments
1 (Structure 52)	Test is located in a grass covered yard of an abandoned farmstead that overlooks an unnamed stream to the east	Negative	0-90 cm 10 YR 2/1 silt clay loam to clay loam,	90 cm
2 (Structure 51)	Test is located in a cattle-grazed prairie on a terrace on the east bank of an unnamed stream	Negative	0-25 cm 10 YR 2/1 silt loam 25-41 cm 10 YR 4/2 silt clay loam, 41-42 cm 10 YR 5/6 sand, 43/53 cm 10 YR 4/2 silt clay loam	53 cm