Appendix F
Cultural Resources Class I Literature Search

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Class I Literature Search

Proposed Minnkota Power Cooperative, Inc.
Center to Grand Forks 345 kV Line

Prepared for

Minnkota Power Cooperative, Inc.
and
U.S. Department of Agriculture
Rural Utilities Service

Prepared by

HDR Engineering, Inc.

March 2010

Tables that list site type and name in Appendices A - D and Figures 3.1 to 3.55 (Appendix E) containing sensitive information have been redacted from this version of the report.

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Introduction

Minnkota Power Cooperative, Inc., (Minnkota) proposes to build an approximately 260-mile-long 345 kilovolt (kV) Transmission Line (Project) from the Center 345 kV Substation, near Center, North Dakota, to the Prairie Substation, located just west of Grand Forks, North Dakota (Figure 1). The U.S. Department of Agriculture Rural Utilities Service (RUS) is considering a request for funding for the project. RUS has determined that the Project constitutes an undertaking which requires consultation under Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). Section 106 requires federal agencies to consider the potential effects of undertakings within their jurisdictions on properties listed, or eligible for listing, on the National Register of Historic Places (NRHP). The project also requires consideration of cultural resources under Section 101(b) of the National Environmental Policy Act (NEPA).

In October 2009, Minnkota and its consultant, HDR Engineering Inc (HDR), prepared a Macro-Corridor Study (MCS) for RUS that defined the project study area; a large macro-corridor that varies from 3 to 6 miles in width and traverses North Dakota from the Missouri River in the west to the Red River Valley in the east. The macro-corridor was identified based on environmental, engineering, economic, and permitting constraints, along with an analysis of available land use/land cover data and existing infrastructure. The corridor was developed with the intention that multiple route options could be considered that pass a limited number of residences, minimize environmental impacts, cross the rivers near existing linear infrastructure, and avoid conflicting land uses.

From December 2009 to February 2010, HDR completed a Class I cultural resources inventory (literature search) for the proposed Project. This literature search was based on the macro-corridor, and was performed under contract with Minnkota. The purpose of the literature search is to determine the location of previously recorded historic properties and surveys (archaeological surveys, archaeological sites, and architectural structures) within the study area, and to assess the potential for the presence of as yet unrecorded archaeological resources within the macro-corridor.

Because of the large amount of data associated with the macro-corridor as a whole, this literature search will present the relevant data based on the three distinct macro-corridor sections defined in the MCS:

Center to Mercer

The Center to Mercer section begins at the Center 345 kV Substation and proceeds east across the Missouri River, then north toward the city of Mercer. This section contains portions of Oliver, McLean, Burleigh, and Sheridan counties. Minnkota is assessing at least three potential Missouri River crossing corridors within this section.

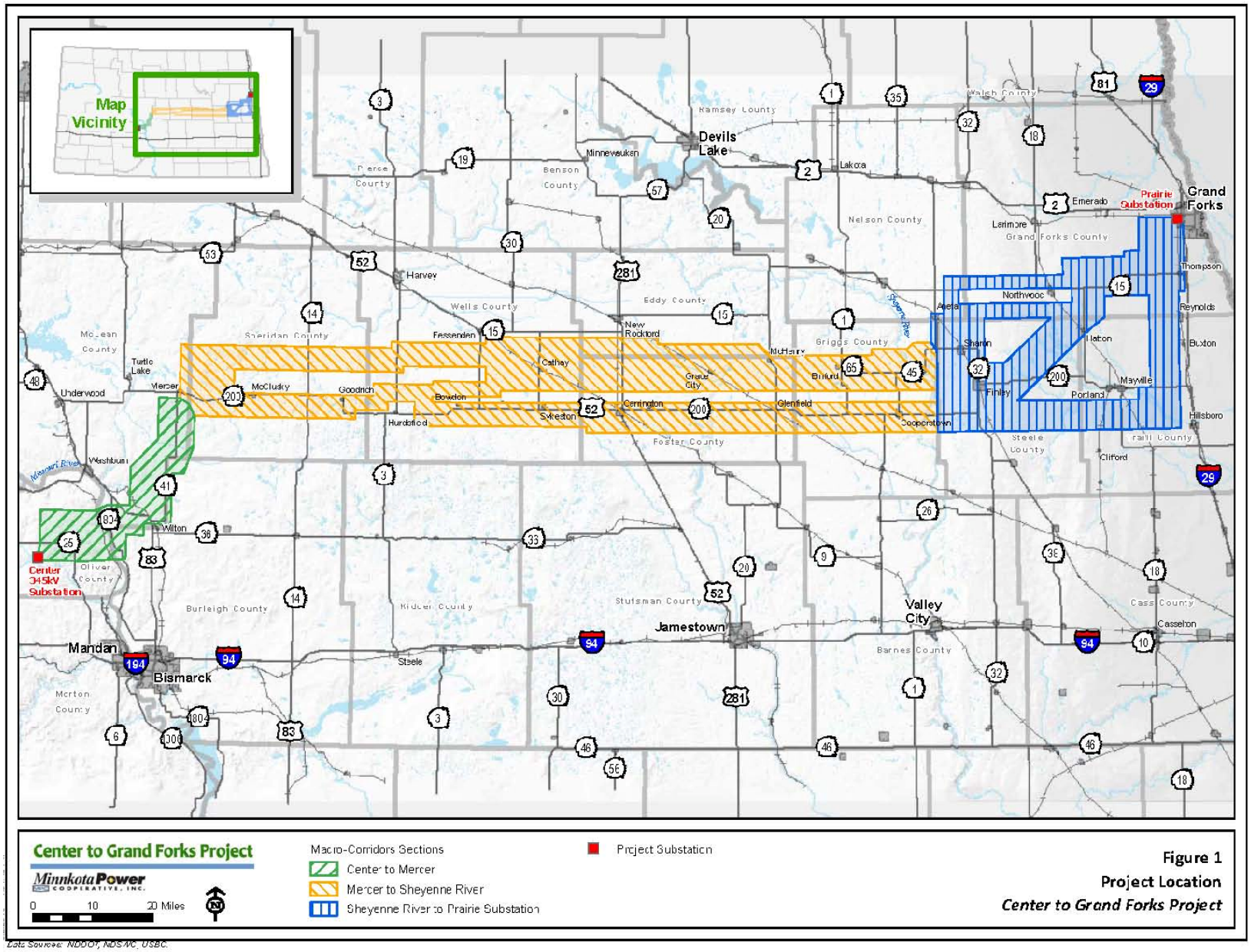
Mercer to Sheyenne River

This section has a north and south corridor, plus a crossover between them. Beginning at Mercer, the section turns to the east and divides into a north and south corridor. Generally, the south corridor follows Highway 200 to the Sheyenne River, while the north corridor traverses the middle portions of Sheridan and Wells counties, the south portion of Eddy County, the north portion of Foster County, then goes through Griggs County to the Sheyenne River. The north corridor crossover segment is located north of the city of Bowden.

Sheyenne River to Prairie Substation

This section crosses the Sheyenne River and contains three distinct corridors. The first proceeds north to Aneta, then east toward Northwood, and north to the Prairie Substation. The second potential corridor continues diagonally northeast-southwest along an existing Western Area Power Administration 230 kV transmission line. The third potential corridor advances east to about the city of Hillsboro, then proceeds north to the Prairie Substation. This section traverses portions of Griggs, Nelson, Steele, Traill, and Grand Forks counties.

This report presents the physiography and environmental overview, cultural contexts, and archaeological study units relevant to the macro-corridor, discusses the results of the background research, and makes recommendations for archaeological investigations for each macro-corridor section.


Map Vicinity
Center to Grand Forks Project
Minnkota Power Cooperative, Inc.
0 10 20 Miles
Macro-Corridors Sections
Center to Mercer
Mercer to Sheyenne River
Sheyenne River to Prairie Substation
Project Substation
Figure 1
Project Location
Center to Grand Forks Project
Data Sources: NDDOT, NDSMC, USBC.
Devils Lake
Grand Forks
Prairie Substation
Center 345kV Substation
Jamestown
Valley City
Bismarck
Mandan
Harvey
Underwood
Turtle Lake
Mercer
McClusky
Goodrich
Fessenden
Bowdon
Cathay
New Rockford
Sykeston
Cerrington
Hurdsfield
Grace City
Carrington
Glenfield
Cooperstown
Binford
McHenry
Sharon
Finley
Portland
Northwood
Larimore
Emerado
Thompson
Reynolds
Buxton
Hillsboro
Clifford
Mayville
Wilton
Washburn
Steele
Ramsey County
Benson County
Pierce County
Nelson County
Grand Forks County
Walsh County
Eddy County
Griggs County
Wells County
Sheridan County
McLean County
Foster County
Steele County
Traill County
Oliver County
Burleigh County
Kidder County
Stutsman County
Barnes County
Cass County
Morton County

Physiography and Environmental Overview

From west to east the macro-corridor crosses the Great Plains and Central Lowlands physiographic provinces of North Dakota (Bluemle and Biek 2007). Within these provinces, the macro-corridor traverses seven physiographic regions: the Missouri Plateau, the River Breaks, the Coteau Slope, the Missouri Coteau, the Glaciated Plains, the Glacial Lake Agassiz Sand Deltas and Beach Ridges, and the Red River Valley (Bluemle and Biek 2007, USGS 2006).

Missouri Plateau

The Missouri Plateau region is an unglaciated landscape characterized by rolling plains, isolated sandstone buttes, and a complex stream drainage pattern (USGS 2006). Historically this region was a shortgrass prairie with natural vegetation including blue grama, wheatgrass/needlegrass association, little bluestem, and prairie sandreed. Patches of native prairie can still be found on unbroken rangeland throughout this region. The current land use consists of a mix of dryland agriculture (spring wheat, barley, oats, and sunflowers) and cattle grazing. The mean annual precipitation is 15-17 inches. The average January high temperature is 21° F, while the average July high is 83° F. The average frost free season lasts from 95 to 130 days (USGS 2006).

River Breaks

The River Breaks region encompasses the floodplains, terraces, and steeply dissected upland margins of the Missouri River and its major tributaries (USGS 2006). Due to the steep and broken nature of the topography, this region retains more natural vegetation than surrounding areas. Native grasses, including blue grama, western wheatgrass, buffalograss, and some bluestem, can still be found throughout this region. Juniper and deciduous trees can be found in draws and on north-facing slopes. Cottonwood gallery forests line the floodplains, although they have been largely eliminated along the Missouri River due to impoundments. Due to the steep terrain, current land use is largely restricted to cattle grazing. The mean annual precipitation in this region is 16 to 18 inches. The average January high temperature is 21° F, while the average July high is 87° F. The average frost free season lasts from 80 to 125 days (USGS 2006).

Coteau Slope

The Coteau Slope is characterized by a gently rolling topography with fewer pothole wetlands and more streams as it slopes down from the Missouri Coteau to the Missouri River Trench (USGS 2006). Historically this region was a mixed-grass prairie with natural vegetation including western wheatgrass, needleandthread, prairie junegrass, and green needlegrass. The current land use consists mostly of agriculture (spring wheat, barley, alfalfa, silage corn) with some cattle grazing on the steeper slopes along drainages. The mean annual precipitation is 15 to 18 inches. The average January high temperature is 20° F, while the average July high is 86° F. The average frost free season lasts from 110 to 130 days (USGS 2006).

Missouri Coteau

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 on unbroken rangeland throughout this region. 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). This region's climate is semiarid continental, with long, cold winters and hot summers (Gregg et al. 2008). 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 to130 days (USGS 2006).

Glaciated Plains

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 shortgrass 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 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 Agassiz Sand Deltas and Beach Ridges

The Glacial Lake Agassiz Sand Deltas and Beach Ridges region is characterized by topographical relief at the western edge of the flat Red River Valley. The beach ridges are parallel lines of sand and gravel up to several miles wide that were deposited by wave action on the varying shorelines during fluctuations in the level of Glacial Lake Agassiz. The sand deltas are made up of sand lenses and were formed where major rivers entered Glacial Lake Agassiz and deposited sediment. Some of these deposits were windblown and formed dunes. Historically this region was covered by tallgrass prairie, with oak savannah in the sand delta areas. The current land use consists of agriculture on the beach ridges (sunflowers, potatoes, and small grains) and cattle grazing on the sand deltas. The mean annual precipitation is 18 to 21 inches. The average January high temperature is 12° F, while the average July high is 82° F. The average frost free season lasts from 95 to 125 days (USGS 2006).

Red River Valley

The Red River Valley is the basin of Glacial Lake Agassiz, composed of thick, lacustrine sediments underlain by glacial till. This region is extremely flat, with the majority of land under cultivation. Meandering streams and tributaries drain into the Red River from the uplands to the east and west. This region has fewer lakes and pothole wetlands than surrounding regions, with most wetlands being drained and ditched for agriculture. Historically, this region was mostly tallgrass prairie, with woodland found along rivers and streams. Natural vegetation included big and little bluestem, switchgrass, and indiangrass, along with Cottonwood, willow, green ash, burr oak, and American elm trees. The current land use consists almost exclusively of intensive agriculture (sugar beets, potatoes, edible beans, and wheat) with wooded areas along streams and rivers and within shelterbelts. Urban and residential developments are also increasing in size. The mean annual precipitation in this region is 18 to 21 inches. The average January high temperature is 12° F, while the average July high is 82° F. The average frost free season lasts from 95 to 125 days (USGS 2006).

Cultural Contexts

This section provides a summary of the five precontact/protohistoric cultural traditions identified in the State Historical Society of North Dakota's (SHSND) State Historic Preservation Office (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. Within these contexts we 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 hunting 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. These include 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 isolate 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 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, 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 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 among them. 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 six 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 led to the establishment of settlements or forts in strategic locations throughout the Northern Plains. These areas of centered interaction allowed the furs to be procured in an orderly fashion and transported 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 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 U.S. federal 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 U.S. 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 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 in 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 out 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, to 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 project area were able to be cultivated. 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 political 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 forecloses, bank failures, and abandonment of residential dwellings and businesses. Known site types may include abandoned farms, banks, business buildings, city parks, civic improvements, relief facilities, WPA projects, and Civilian Conservation Corps camps and project sites.

Modern Industrial Development

Remele defines this time period as the 1940s, 50s, and 60s. During this time period, a postwar economy was driving the development of large industrial facilities in order to change raw materials into products for local and national consumption. Large construction project, 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 for the development of these industries in the state. Additionally, the beginnings of Cold War stress between the U.S. and foreign governments generated a perceived need 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. 2008). The Project macro-corridor encompasses portions of four archaeological study units: The Southern Missouri River, the James River, the Sheyenne River, and the Northern Red River (Figure 2).

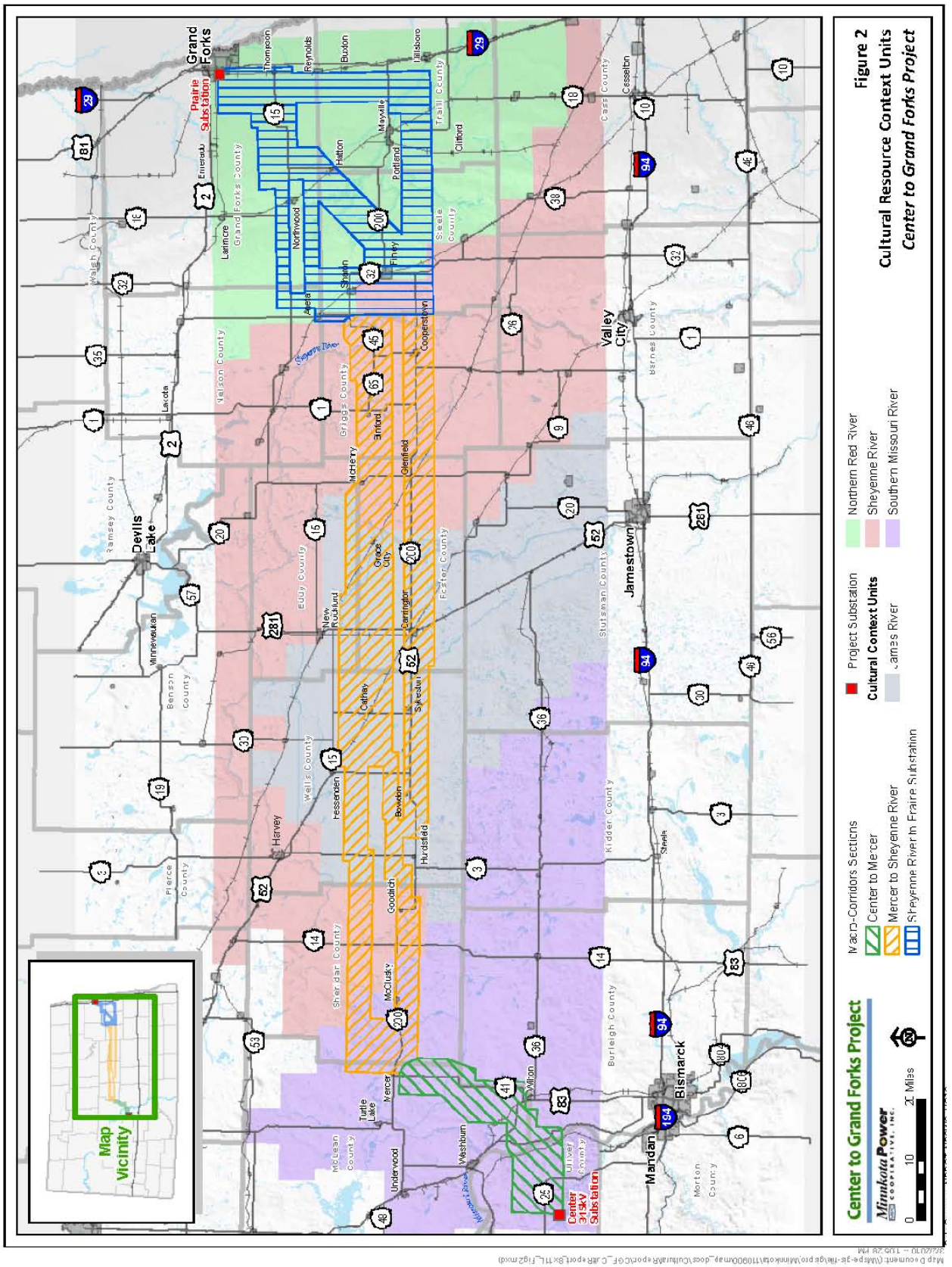


Figure 2
Cultural Resource Context Units
Center to Grand Forks Project
Center to Grand Forks Project
Minnkota Power
Map Vicinity
Project Substation
Cultural Context Units
James River
Northern Red River
Sheyenne River
Southern Missouri River
Macro-Corridors Sections
Center to Mercer
Mercer to Sheyenne River
Sheyenne River to Prairie Substation
Miles
Grand Forks
Devils Lake
Valley City
Jamestown
Bismarck
Mandan
Prairie Substation
Center 345kV Substation

Southern Missouri River

The Southern Missouri River archaeological study unit (SMSU) is centered on the north to south 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. 2008).

Landscape

Before modern dam impoundments, the Missouri River flowed through a broad, deeply entrenched valley. The Missouri River Valley and some of its larger tributaries are made up 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 made up of alluvial sediments that have built up to variable thicknesses since the final retreat of the last Pleistocene glacier. These floodplain deposits may vary from several to many meters thick. The terraces of the Missouri River and its tributaries are made up 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, ground plum, 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 SMRSU. Tongue River silicified sediment was an important lithic raw material utilized 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 coalburn origin (clinker and scoria) were important for secular and ceremonial functions. 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. Clinker and scoria were used for domestic chores as well as ritual functions in the Plains Village ceremonial practices.

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 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 SMRSU include mortuary sites, field camps, and residential bases. Site/feature types associated with the Plains Woodland Tradition found within the SMRSU 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 SMRSU include bison 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 SMRSU 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.

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 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, and was 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 included 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 included painted turtles, snapping turtles, bullheads, yellow perch, northern pike, and numerous species of mollusks; and avian species included 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, Swan River chert, chalcedony, quartzite, and occasionally Knife River flint. 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, among 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 two 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, bison 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 identified 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 bison 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.

Sheyenne River

The Sheyenne River archaeological study unit (SRSU) is centered on the Sheyenne River as is flows east to west, then north to south through eastern North Dakota. This study unit falls within the Central Lowlands physiographic province and the majority of it traverses the Glaciated Plains physiographic region, with a small portion of it traversing the Missouri Coteau physiographic region to the west, and a small portion traversing the Red River Valley physiographic region to the southeast (Bluemle and Biek 2007). The following discussion of the SRSU is adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: Sheyenne River Study Unit* (Swenson and Bleier 2008).

Landscape

The landscape of this region is characterized by gently rolling hills, low ridges, swales, and prairie pothole lakes and wetlands. The southeastern part of the SRSU encompasses part of the flat, featureless plain of the Red River Valley. The Sheyenne River flows through a deep and wide entrenched valley formed by water flowing along the front of the ice sheets during the Late Wisconsinan glaciations. Large volumes of water and sediment dumped into the river from glacial lakes Souris and Minnewaukan created many of the morphological features of the modern channel. Landforms found in the SRSU include floodplains, terraces, beach ridges, valley walls, alluvial/colluvial fans, and upland plains.

Floral and Faunal Resources

Floral resources historically available in the SRSU include American elm, green ash, burr oak, and basswood trees in the wooded areas along portions of the older terraces, valley slopes, and floodplain along the Sheyenne River; prairie turnips, sage and wolfberry in the uplands; and fruit-bearing shrubs such as chokecherry, plum rose, and currant. Faunal resources historically available in the SRSU include bison, elk, pronghorn antelope, foxes, coyotes, wolves, jack rabbits, ground squirrels, and at times, moose and caribou in the grasslands. White-tailed deer, bear, raccoons, wolf, wildcat, martin, mink, skunk, and cottontail rabbits were found in the forests. Beaver, muskrat, shore birds, and migratory waterfowl were found in the riparian areas. Avian species included raptors, songbirds, and game birds such as wild turkey, grouse, prairie chickens, and mourning doves. Aquatic species included northern pike, perch, and freshwater mussels. Pleistocene megafauna such as mammoths and camels were available in the SRSU 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, Swan River chert, and other cherts. 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, among 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 SRSU, common site/feature types include cultural material scatters, mounds, stone circles, and other rock features. The majority of the recorded sites in the SRSU are located on upland plains, hills, knolls, bluffs, and ridges. This section presents the common site/feature types associated with each of the major prehistoric/protohistoric cultural traditions identified in North Dakota.

Paleo-Indian Tradition

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

Plains Archaic site types identified in the SRSU include isolated finds of projectile points, cultural material scatters, and a possible burial location. Based on studies in other study units, feature types associated with the Plains Archaic Tradition likely to be found in the JRSU include hearths, bison jump sites, rock cairns, rock alignments, stone circles, and storage and refuse pits. Site types including field camps, residential bases, locations, stations, caches, and ceremonial areas are likely to be present as well.

Plains Woodland Tradition

Plains Woodland functional site types identified in the SRSU include mortuary sites, field camps, residential bases, and animal processing sites. 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.

Plains Village Tradition

Several Plains Village sites are located in the Devils Lake area and along the Sheyenne River and its tributaries. Fortified Plains Village encampments are located along the Sheyenne and Maple rivers in the SRSU. Plains Village groups in the SRSU resided in earthlodges nearly identical to those of the Mandan, Hidatsa, and Arikara along the Missouri River. Plains Village functional site types identified in the SRSU include residential bases, mortuary sites, and bison kill and

processing areas. Plains Village site/feature types identified in the SRSU 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 SRSU during early historic times include Dakota (Yankton and Yanktonai), Cheyenne, Assiniboine, and Plains Ojibwa and Ottawa. 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.

Northern Red River

The Northern Red River archaeological study unit (NRRSU) is located in the northeastern corner of North Dakota with the south to north flowing Red River comprising the eastern boundary of both the study unit and the state. This study unit falls within the Central Lowlands physiographic province and traverses the Glaciated Plains, Glacial Lake Agassiz Sand Deltas and Beach Ridges, and Red River Valley physiographic regions (Bluemle and Biek 2007, USGS 2006). The following discussion of the NRRSU is adapted from *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component: Northern Red River Study Unit* (Picha et al. 2008).

Landscape

Several prominent landforms are present within the NRRSU: upland plains, glacial beach ridges and sand deltas, terraces, floodplains, and the Glacial Lake Agassiz plain. The upland plains are characterized by rolling hills, low ridges, swales, and prairie pothole lakes and wetlands. The topographically prominent glacial beach ridges are the beach lines that mark the former levels of Glacial Lake Agassiz along the western edge of the Red River Valley, and the sand deltas are sandy deposits marking the confluence of major rivers with Glacial Lake Agassiz. The former floodplains of rivers which lie at elevations above their modern, entrenched counterparts comprise the terraces in this study unit. Some of the present-day tributaries of the Red River occupy former glacial meltwater channels which drained into Lake Agassiz. The nearly level Glacial Lake Agassiz plain encompasses much of the eastern portion of the study unit. The broad expanses of bottomlands along the Red River and its major tributaries comprise the floodplains of the NRRSU.

Floral and Faunal Resources

Floral resources historically available in the NRRSU include aspen trees, woody shrubs, and grasses on the slopes of the Pembina Escarpment along the west edge of the Red River Valley, and elm, ash, box-elder, and bur oak trees, numerous shrubs and forbs, and a variety of nuts, berries, and tubers in the floodplain gallery forests in the bottomlands along the Red River and its principal tributaries. Faunal resources historically available in the NRRSU include large game animals such as elk, deer, antelope, moose, caribou, and bison. Grizzly bears were also reported to have been in the Devils Lake region. Fur-bearing mammals in the NRRSU include muskrat, beaver, rabbit, lynx, wolf, fox, ermine, mink, marten, fisher, wolverine, otter, skunk, badger, and raccoon. Waterfowl in riparian settings along the Red River and wetland marshes and prairie potholes throughout the NRRSU include various species of ducks and geese. Other avian species available in the NRRSU include eagles, hawks, and other raptors. Pleistocene megafauna such as mammoths and camels were available in the NRRSU, west of Glacial Lake Agassiz, until their extinction in the early Holocene.

Lithic and Other Resources

Lithic resources in the NRRSU are sparse, with most lithic raw materials being available only in the glacial till. Most of the rocks used for cooking and sweatbathing at sites along the Red River were transported from the beach ridges at the margins of the glacial lake plain. Alkali lakes and streams within the NRRSU were sources of salt for early traders and trappers.

Site Types

Within the NRRSU common site/feature types include cultural material scatters, mounds, and graves. The majority of recorded sites in the NRRSU are located in upland erosional settings such as upland plains, terraces, hills, knolls, bluffs, and ridges. Ecologically diverse areas such as the "Hair Hills," an area of upland terrain dissected by steep valleys located west of the Pembina Escarpment, were ideal locations for prehistoric settlement. Flood-free and resource-rich terrace settings along major tributaries such as the Pembina and Tongue rivers were also ideal locations for prehistoric settlement. This section presents the common site/feature types associated with each of the major prehistoric/protohistoric cultural traditions identified in North Dakota.

Paleo-Indian Tradition

After Glacial Lake Agassiz was formed following the retreat of the Wisconsinan glacier, the western portions of the NRRSU were open to peoples of the Paleo-Indian Tradition for initial settlement. Toward the end of the Paleo-Indian Tradition, after the drainage of Glacial Lake Agassiz, all of the NRRSU was open to settlement. Only a few known site locations dating to the Paleo-Indian Tradition are located in this study unit. These sites consist of diagnostic lithic artifacts and are located on landforms adjacent to glacial meltwater paleochannels, and on early Holocene terraces.

Plains Archaic Tradition

Plains Archaic site types identified in the NRRSU consist of cultural resource scatters, mostly made up of lithic materials, although bison and canid bones were recovered from one site, a bone tool was recovered from another site, and copper tools were found in several sites.

Plains Woodland Tradition

Plains Woodland functional site types identified in the SRSU include campsites and mounds.

Plains Village Tradition

Three Plains Village sites have been identified in the NRRSU. Site/feature types associated with the Plains Village Tradition found in the NRRSU include temporary camps, stone chipping scatters, bison butchering stations, and mortuary and other ceremonial sites. No fortified Plains Village encampments similar to those found in neighboring study units have been found in the NRRSU.

Nomadic Equestrian Tradition

Tribes likely to have been in the NRRSU during early historic times include the Dakota, Chippewa, Plains Cree, Plains Ojibwa, and Assiniboine. Several possible fur-trade related archeological sites have been identified along the Red River.

Background Research Results

The background research consisted of online research of the National Park Service's NRHP, online research of historical General Land Office (GLO) plat maps, an analysis of cultural resources data

provided by NDSHPO, and a review of the NDSHPO planning document: *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component.*

The online review of the NRHP was done to identify registered sites and districts located within the macro-corridor. The GLO maps corresponding with the macro-corridor sections were reviewed to identify any potential historical resources that may be present within the macro-corridor. The cultural resources data provided by the SHSND included GIS shapefiles that document the location of all previous cultural surveys, previously identified archaeological sites, and recorded architectural properties within the macro-corridors. The NDSHPO archaeological planning document was reviewed to obtain information regarding the expected locations of archaeological sites within the various archaeological study units.

To date, a total of 242 cultural resources investigations have been completed throughout the macro-corridor. These cultural resources investigations yielded 270 archaeological sites, 410 architectural properties, and 277 isolated finds/site leads. The archaeological sites include both precontact and historical sites. The architectural properties include resources such as homes, farms, cemeteries, churches, courthouses, government and commercial buildings, and bridges. Isolated finds are archaeological find spots consisting of five or less artifacts recovered from the ground surface where no linear dimension on the location exceeds 100 meters, and no intact subsurface cultural deposits can be demonstrated (Gregg et al. 2008). Site leads are suspected, but unconfirmed, archaeological sites and architectural properties. Because complete information on the nature of the individual isolated finds/site leads is not available at this level of investigation, they are classified together for this literature search. Due to the large amount of cultural resources information available for the macro-corridor as a whole, the results of the background research are presented here by macro-corridor section. Overview maps showing the locations of the cultural resources investigations done in the macro-corridor, along with the locations of previously recorded archaeological sites and architectural properties, can be found in Figures 3.1 through 3.55 in Appendix E.

Center to Mercer

The Center to Mercer section of the macro-corridor traverses the Missouri Plateau, the River Breaks, the Coteau Slope, and the Missouri Coteau physiographic regions of North Dakota and encompasses a portion of the Southern Missouri River Archaeological Study Unit (Bluemle and Biek 2007, USGS 2006, Gregg et al. 2008).

Previous Surveys, Recorded Archaeological Sites and Architectural Properties

A total of 75 cultural resources investigations have been completed in the Center to Mercer section of the macro-corridor (Appendix A, Table 1). The files provided by NDSHPO indicate there are 123 previously identified archaeological sites within this section of the macro-corridor (Appendix A, Table 2). These sites include 93 precontact sites, 24 historical sites, one multi-component (precontact and historical) site and 5 historical sites with associated standing structures. The files provided by NDSHPO also indicate there are 57 site leads/isolated finds located within this section of the macro-corridor (Appendix A, Table 3).

In addition to archaeological sites, the files provided by NDSHPO indicate there are seven recorded architectural properties within this section of the corridor. These properties include one cemetery, one church, one bridge, one homestead, one school, one town site, and one property not identified in the database (Appendix A, Table 4).

There is one NRHP-registered historic district and one NRHP-registered historic property located within this section of the macro-corridor. The Cross Ranch Archaeological District is located along the Missouri

River and contains a very high concentration of recorded Native American heritage sites. The historic property is the Zion Lutheran Cemetery, Wrought-Iron Cross Site.

General Land Office Map Research

Official GLO survey plats corresponding with the Center to Mercer section of the macro-corridor 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. These maps reveal that from 1874 to 1891 nine townships contained evidence of Euro-American settlement (United States 1874-1891). Table 1 briefly summarizes the location and resource types found within these townships. Detailed information is presented in Appendix D.

Table 1. Center to Mercer GLO Resources

Township	Range	Section(s)	County	Civil Township	Resource Type
142	80	8, 9	Burleigh	Painted Woods	Unnamed Road(s)/Trail(s)
143	79	6, 18, 31	Burleigh	Grass Lake	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
144	79	9-10, 16-17, 30-31	Burleigh	Wilson	Unnamed Road(s)/Trail(s)
142	81	4-6, 8-10, 15, 17, 20-23, 25, 27-28, 33-36	Burleigh/Oliver	Painted Woods/Unorganized Territory	Ft. Buford Stage Rd; Telegraph Line; Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
143	80	1-7, 9,11, 14-15, 17, 19-21, 24-36	McLean	Unorganized Territory	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
143	81	16, 19-21, 28-33	McLean	Unorganized Territory	Ft. Buford Stage Rd; Telegraph line; Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
144	80	13-15, 17-19, 23, 25-29, 31-36	McLean	Unorganized Territory	Unnamed Road(s)/Trail(s); Unidentifiable Feature(s); Residence(s)/Structure(s); Tilled Field(s)
143	83	22, 27, 34, 35	McLean/Oliver	Unorganized Territory	Unnamed Road(s)/Trail(s)
142	83	21-22, 26-27, 33, 35-36	Oliver	Unorganized Territory	Mandan to Stanton Rd; Unnamed Road(s)/Trail(s)

Archaeological Site Distribution

Precontact/Protohistoric Sites/Site Leads

Large concentrations of precontact archaeological sites/site leads are located within the Missouri River Trench and in the surrounding uplands, especially west of the river. To the east of the river, site density decreases dramatically and a small number of precontact archaeological sites are scattered throughout the uplands. A small concentration of sites is located along Yanktonai Creek, and a couple of sites are located along small unnamed drainages.

Within this section of the macro-corridor, most Paleo-Indian sites are expected be found on the remnant surfaces of old river terraces, and the rim of the uplands overlooking the Missouri River Valley. Previous

archaeological investigations indicate that intact surfaces of Paleo-Indian age occur in buried terrace settings within the trench. Most Plains Archaic sites within the Missouri River Trench and tributary valleys are likely deeply buried in alluvial, aeolian, and colluvial fill. Plains Archaic sites may also be encountered in upland settings that have had minimal soil deposition since the Early Holocene. Warm season residential bases are expected to be found on terraces, while winter residential bases are expected to be found in the more sheltered floodplain (Gregg et al 2008).

Plains Woodland occupation sites are located on valley rim settings overlooking the floodplains and within the breaks of the Missouri River Trench and its major tributaries. Single mounds and mound complexes are located in the uplands near the rim of the valley. Campsites are located near game butchering locations in the breaks areas, and near mortuary mound complexes. The earthlodge village sites and other settlements are located on the terraces within the Missouri River trench. Mortuary sites and cemetery areas can be located within the bounds of the villages, and in mounds on the valley rims overlooking the valley. Solitary graves can be located around village peripheries, while other human remains can be found in pits on hilltops and ridgetops, capped with stacked rock monuments. Rock art sites can be found on exposed rock surfaces suitable for painting, incising, and pecking. 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 (Gregg et al 2008).

Historical Sites/Site Leads and Architectural Properties

Historical sites/site leads in this section of the macro-corridor are largely concentrated within the Missouri River Trench and in the surrounding uplands. To the east of the river, site density decreases, with sites/site leads scattered throughout the uplands. A few sites are located along Painted Woods Creek and a couple of sites are located along the McClusky Canal and associated lakes. Architectural properties are not well represented in this section of the macro-corridor.

Within this section of the macro-corridor, historical period sites/site leads associated with former and existing farmsteads are expected to be found widely scattered throughout the countryside. Other historical period sites/site leads are expected to be found in greater densities near the Missouri River and in the vicinity of former and current communities.

Mercer to Sheyenne River

The Mercer to Sheyenne River section of the macro-corridor traverses the Missouri Coteau and Glaciated Plains physiographic regions of North Dakota and encompasses portions of the Southern Missouri, James River, and Sheyenne River Archaeological Study Units (Bluemle and Biek 2007, USGS 2006, Gregg et al. 2008).

Previous Surveys, Recorded Archaeological Sites and Architectural Properties

A total of 96 cultural resources investigations have been completed in the Mercer to Sheyenne River section of the macro-corridor (Appendix B Table 1). The files provided by NDSHPO indicate there are 131 previously identified archaeological sites within this section of the macro-corridor (Appendix B Table 2). These sites include 83 precontact sites, 36 historical sites, three multi-component sites (precontact and historical) site and nine historical sites with associated standing structures. The files provided by NDSHPO also indicate there are 158 site leads/isolated finds located within this section of the macro-corridor (Appendix B Table 3)

In addition to archaeological sites, the files provided by NDSHPO indicate there are 340 recorded architectural properties within this section of the macro-corridor. These properties include a wide array

of homes, churches, cemeteries, courthouses, government and commercial buildings, and bridges in and around the communities of Binford, Bowden, Carrington, Cathay, Chasely, Cooperstown, Denhoff, Glenfield, Goodrich, Grace City, Jessie, Martin, McCluskey, McHenry, Sutton, and Sykeston (Appendix B Table 4)

There are 11 NRHP-registered historic properties located within this section of the macro-corridor. These historic properties include the Foster County Courthouse, U.S. Post Office, Lincoln Building, and Thomas Nichols Putnam House in Carrington; the Grace City Bridge in Grace City; the McHenry Railroad Loop near McHenry; the Griggs County Courthouse and Northern Lights Masonic Lodge in Cooperstown; the Romness Bridge near Cooperstown; the Sylvanus Marriage Octagonal Barn near New Rockford; and the Sheridan County Courthouse in McCluskey.

General Land Office Map Research

Official GLO survey plats corresponding with the Mercer to Sheyenne River section of the macro-corridor 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. These maps reveal that from 1875 to 1901, 51 townships contained evidence of Euro-American settlement (United States 1875-1901). Table 2 briefly summarizes the location and resource types found within these townships. Detailed information regarding the location and resource types found within this section of the macro-corridor is presented in Appendix D

Table 2. Mercer to Sheyenne River GLO Resources

Township	Range	Section(s)	County	Civil Township	Resource Type
148	63	30-32	Eddy	Cherry Lake	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
148	64	27, 34	Eddy	Columbia	Unnamed Road(s)/Trail(s)
148	65	19, 28-32	Eddy	Pleasant Prairie	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
148	66	19-22, 24-28, 30, 34	Eddy	Superior	Residence(s)/Structure(s); Tilled Field(s)
148	67	21-24, 32, 34	Eddy	Rosefield	Residence(s)/Structure(s); Tilled Field(s)
145	62	5	Foster	Eastman	Residence(s)/Structure(s)
145	64	2, 6	Foster	Bucephalia	Jamestown and Ft. Totten Road. Residence(s)/Structure(s)
145	66	2, 6	Foster	Melville	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
145	67	2, 3, 4, 5	Foster	Longview	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
146	64	13-14, 23, 26, 35	Foster	Haven	Jamestown & Ft. Totten Road
146	65	18, 24, 30, 32	Foster	Rose Hill	Residence(s)/Structure(s)
146	66	14, 18, 20, 22, 26-27, 29-30, 32, 34-36	Foster	Carrington	Jamestown & Northern RR; Residence(s)/Structure(s); Tilled Field(s); Unnamed Road(s)/Trail(s).
146	67	13-14, 19, 28, 33-36	Foster	Wyard	Residence(s)/Structure(s); Unnamed Road(s)/Trail(s)

Township	Range	Section(s)	County	Civil Township	Resource Type
147	63	5-7, 17, 19, 20	Foster	Florance	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
147	64	2, 7, 11-13, 25-26, 36	Foster	Larrabee	Jamestown & Ft. Totten Road; Residence(s)/Structure(s)
147	65	6-7, 25-27, 30, 32-34	Foster	Nordmore	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
147	66	1, 4, 6-9, 12-24, 26-27, 30-34	Foster	Estabrook	Unnamed Road(s)/Trail(s). Residence(s)/Structure(s); Tilled Field(s)
147	67	2-4, 8, 10, 12, 14, 16-17, 22, 24, 26, 28, 30, 32, 33, 34	Foster	Birtsell	Residence(s)/Structure(s); Tilled Field(s)
145	58	2-4, 3, 6	Griggs	Sverdrup	Residence(s)/Structure(s); Tilled Field(s)
145	59	1-2, 4-5	Griggs	Ball Hill	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
145	60	2, 4	Griggs	Helena	Residence(s)/Structure(s); Tilled Field(s)
145	61	5	Griggs	Mabel	Residence(s)/Structure(s)
146	58	13-14, 16, 19-20, 22-24, 26, 28, 32, 34-36	Griggs	Washburn	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
146	59	13-14, 17-18, 20, 23-25, 27, 29, 32-36	Griggs	Cooperstown	Fort Abercrombie Wagon Road; Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
146	60	14, 18, 25-26, 28-30, 32-34, 36	Griggs	Clearfield	Residence(s)/Structure(s); Tilled Field(s)
146	61	16, 18-21, 24, 26, 28, 30, 32-34	Griggs	Kingsley	Residence(s)/Structure(s); Tilled Field(s)
147	58	1-3, 5-7, 9, 15-17, 19-27, 30-31, 35-36	Griggs	Romness	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
147	59	2, 4-8, 10, 12, 14-15, 17-18, 20, 22-24, 26-28, 30-32, 36	Griggs	Tyrol	Residence(s)/Structure(s); Tilled Field(s)
147	60	2-3, 9-10, 12-13, 22-26, 33, 36	Griggs	Addie	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
147	61	13, 24-26	Griggs	Bryan	Residence(s)/Structure(s); Tilled Field(s)

Township	Range	Section(s)	County	Civil Township	Resource Type
148	58	28, 31, 33-34	Griggs	Lenora	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s);
148	59	36	Griggs	Pilot Mound	Unnamed Road(s)/Trail(s); Tilled Field(s)
146	75	11, 12	Sheridan	Denhoff	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
146	78	28	Sheridan	Pickard	Possible Residence(s)/Structure(s)
147	75	4	Sheridan	Unorganized Territory	Possible Residence(s)/Structure(s)
148	75	32	Sheridan	Unorganized Territory	Possible Residence(s)/Structure(s)
146	68	16-24, 26-27, 32-33, 36	Wells	Bilodeau	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
146	69	13-16, 21-24	Wells	Sykeston	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
146	70	17	Wells	Speedwell	Residence(s)/Structure(s)
146	72	2	Wells	Chaseley	Residence(s)/Structure(s)
146	73	11, 12, 15, 22	Wells	Bull Moose	Unnamed Road(s)/Trail(s)
147	68	19, 32-33, 35	Wells	Woodward	Residence(s)/Structure(s)
147	69	12, 14, 22-24, 26-27, 32-36	Wells	Cathay	Residence(s)/Structure(s); Tilled Field(s)
147	70	12, 14, 26, 32, 36	Wells	South Cottonwood	Residence(s)/Structure(s); Tilled Field(s)
147	71	28-30, 33-36	Wells	West Ontario	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s); Tilled Field(s)
147	72	5-6, 8-10, 25	Wells	Delger	Unnamed Road(s)/Trail(s). Residence(s)/Structure(s); Tilled Field(s)
147	73	1, 32-34	Wells	Crystal Lake	Unnamed Road(s)/Trail(s)
148	69	24, 30-33	Wells	Germantown	Unnamed trail(s). Residence in section 24
148	70	22-25	Wells	Oshkosh	Unnamed Road(s)/Trail(s); Residence(s)/Structure(s)
148	72	34	Wells	Rusland	Residence(s)/Structure(s)
148	73	34-36	Wells	Pony Gulch	Unnamed Road(s)/Trail(s)

Archaeological Site Distribution

Precontact/Protohistoric Sites/Site Leads

A group of precontact archaeological sites/site leads is located within the topographically prominent Prophets Mountains just west of McClusky. The Prophets Mountains contain high concentrations of stone circles and other rock alignments. A number of sites/site leads are located along and in the vicinity of the James River. A cluster of sites/site leads is located near the confluence of Kelly Creek and the James River, both within the uplands overlooking the waterways, and within the bottomlands of Kelly Creek. Another group of sites/site leads is located near the James River just west of Grace City. A concentration of sites/site leads is located near Jessie Lake and other nearby lakes just to the south and

east of Binford. Numerous sites/site leads are located within the Sheyenne River Valley and in the surrounding uplands, with large concentrations located just to the southeast and northeast of Cooperstown. A large cluster of sites is located in the vicinity of Butte Michaud near Pilot Mound Township in Griggs County. Precontact sites/site leads are also widely scattered throughout the uplands, with a couple of small concentrations located near wetlands or pothole lakes.

Sites dating to the Paleo-Indian Tradition in this section of the macro-corridor are most likely to be encountered in the upland plains and on the valley rims of the James and Sheyenne Rivers and their major tributaries, especially in areas where the land surface has been deflated or has experienced minimal deposition. Paleo-Indian sites within the James and Sheyenne river valleys are expected to be found on the surfaces of early Holocene terraces as well as deeply buried within alluvial fans, valley wall foot slopes, and perhaps in the floodplain, although floodplain sites are most likely below the water table. Paleo-Indian sites are also expected to be found in upland areas where the land surface has been deflated or has experienced minimal deposition. Big game kill and butchering sites are also expected to be found in former playa lake settings in areas receiving an accumulation of sediments during the mid- Holocene. Plains Archaic sites in this section of the macro-corridor may be encountered in upland settings that have had minimal soil deposition since the Early Holocene. Plains Archaic sites should also be expected to be found buried in the floodplains, on the surfaces of terraces, and near the surface of alluvial fans and valley wall foot slopes of the James and Sheyenne rivers and their major tributaries (Swenson and Bleier 2008).

Plains Woodland sites in this section of the macro-corridor are likely to be found along and within the Sheyenne and James River valleys and associated major tributary valleys. Most of the mortuary sites are located in mounds in the uplands. Habitation sites, including residential bases, temporary camps, and special purpose mortuary sites, should be present near these mound sites in both the floodplain and uplands. Sites should also be expected to be found along the former shorelines of the larger lakes in the region. Middle Plains Woodland settlements in particular are likely to be found buried in the bottoms of the James River valley near groups of valley rim conical mounds. These sites are generally buried below the plow zone in most floodplain settings. Previous testing in the valley bottoms has indicated Woodland sites are typically buried 50 centimeters to 2 meters below the present ground surface. Plains Village sites in this section of the macro-corridor are likely to be found along the James and Sheyenne rivers and their major tributaries. 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 and Sheyenne river valleys, although some are located on terraces as well. 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 (Swenson and Bleier 2008).

Historical Sites/Site Leads and Architectural Properties

Architectural properties are concentrated within some of the larger communities found within this section of macro-corridor, with a few scattered throughout the countryside. Historical sites/site leads in this section of the macro-corridor are largely concentrated near both the larger and smaller communities. Some of the larger concentrations not in the immediate vicinity of the communities occur along the James River and Juanita Lake near Grace City, and near Sibley Lake and Lake Jessie near Binford. A number of sites are also located along the Sheyenne River. Historical sites/site leads are also widely scattered throughout the countryside of the macro-corridor.

Within this section of the macro-corridor, historical period sites/site leads associated with former and existing farmsteads are expected to be found widely scattered throughout the countryside. Other historical period sites/site leads are expected to be found in greater densities near former and current communities.

Sheyenne River to Prairie Substation

The Sheyenne River to Prairie Substation section of the macro-corridor traverses the Glaciated Plains, Glacial Lake Agassiz Sand Deltas and Beach Ridges, and Red River Valley physiographic regions of North Dakota and falls mainly within the Northern Red River Archaeological Study Unit, although it encompasses a small portion of the Sheyenne River Archaeological Study Unit as well (Bluemle and Biek 2007, USGS 2006, Gregg et al. 2008).

Previous Surveys, Recorded Archaeological Sites and Architectural Properties

A total of 71 cultural resources investigations have been completed in the Sheyenne River to Prairie Substation section of the macro-corridor (Appendix C Table 1). The files provided by NDSHPO indicate there are 16 previously identified archaeological sites within this section of the macro-corridor (Appendix C Table 2). These sites include eight precontact sites, seven historical sites, and one historical site with associated standing structures. The files provided by NDSHPO also indicate there are 62 site leads/isolated finds located within this section of the macro-corridor (Appendix C Table 3).

In addition to archaeological sites, the files provided by NDSHPO indicate there are 63 recorded architectural properties within this section of the macro-corridor. These properties include 23 bridges, one dam, one cemetery, one farm, one home in Thomson, two homes in Hatton, one courthouse in Finley, and multiple churches in and around the communities of Aneta, Finley, Hatton, Murray, Portland, Sharon, and Thompson (Appendix C Table 4).

There is one NRHP-registered historic district and five NRHP-registered historic properties located within this section of the macro-corridor. The Ellingson Farm District is located northwest of Hillsboro and consists of a residence and outbuilding dating to 1882. The historic properties include the Steele County Courthouse in Finley, the Beaver Creek Bridge near Finley, the Carl Ben Eielson House and Andres O. Ness House in Hatton, and the Norway Bridge near Mayville.

General Land Office Map Research

Official GLO survey plats corresponding with the Sheyenne River to Prairie Substation section of the macro-corridor 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. These maps reveal that from 1864 to 1880, five townships contained evidence of Euro-American settlement (United States 1864-1880).Table 3 briefly summarizes the location and resource types found within these townships. Detailed information regarding the location and resource types found within this section of the macro-corridor is presented in Appendix D

Table 3. Sheyenne River to Prairie Substation GLO Resources

Township	Range	Section(s)	County	Civil Township	Resource Type
149	52	9-10, 15	Grand Forks	Union	Unnamed Road(s)/Trail(s)
149	54	20, 32-33	Grand Forks	Northwood	Residence(s)/Structure(s); Tilled Field(s)
149	55	1-2, 23-26, 36	Grand Forks	Lind	Dart Road; Residence(s)/Structure(s); Tilled Field(s)
148	54	27, 34	Steele	Newburgh	Residence(s)/Structure(s); Tilled Field(s)
146	53	19, 29-30, 32-34	Traill	Roseville	Unnamed Road(s)/Trail(s)

Archaeological Site Distribution

Precontact/Protohistoric Sites/Site Leads

Precontact sites/site leads in this section of the macro-corridor are widely scattered. Several site leads are located near the North Branch Goose River and associated drainages. A couple of sites/site leads are located near Beaver Creek. A couple of site leads are located near the Goose River. A cluster of sites/site leads are located along a glacial beach ridge in Fairfield Township in Grand Forks County.

Paleo-Indian sites in this section of the macro-corridor are likely to be located on landforms adjacent to glacial meltwater paleochannels, and on early Holocene terraces. Sites may also be located on glacial lake beach settings. Plains Archaic sites in this section of the macro-corridor are suspected to be located along the Red River and its major tributaries Temporary camps can also be expected along minor drainages. Plains Archaic settlements may also be located on glacial beach ridges. Sites dating from the Middle and Late Archaic have been found in surface and near-surface contexts on alluvial/colluvial fan landforms formed by tributaries entering the main stem valley. Sites dating to the Early Archaic may be deeply buried within these fans due to valley infilling during dryer conditions throughout this period (Picha et al. 2008)

Plains Woodland sites in this section of the macro-corridor are likely to be campsites found in terrace settings along all the major tributaries such as the Pembina, Forest, Turtle, and Goose rivers, while mound groups should be located on nearby glacial beach ridges and other prominent upland settings. Plains Village sites in this section of the macro-corridor may be encountered within the greater Red River Valley. Sites associated with fur trade-trade related activities may be encountered within the greater Red River Valley as well. Nomadic Equestrian sites in this section of the macro-corridor may be encountered within the Red River Valley. Several possible fur-trade related archeological sites have been identified along the Red River (Picha et al. 2008).

Historical Sites/Site Leads and Architectural Properties

Historical sites/site leads in this section of the macro-corridor are mainly scattered throughout the countryside along the major tributaries of the Red River such as the different branches of the Goose River, and along some smaller drainages as well. A couple concentrations of sites/site leads, as well as most of the architectural properties, are located in the vicinity of the communities in this section of the macro-corridor.

Within this section of the macro-corridor, historical period sites/site leads associated with former and existing farmsteads are expected to be found widely scattered throughout the countryside near tributaries of the Red River and other smaller drainages. Other historical period sites/site leads are expected to be found in near former and current communities.

Recommendations

Center to Mercer

Previously recorded precontact/protohistoric archaeological sites within the project area can be associated with Paleo-Indian, Plains Archaic, Plains Woodland, Plains Village, and Nomadic Equestrian traditions. The potential for encountering additional precontact archaeological sites in those portions of the project area that have not been previously surveyed is highest on the terraces within the Missouri River Trench and on the valley rims overlooking the trench. There is also potential to encounter sites

within the breaks terrain throughout the trench, and in the uplands on prominent rises and near water sources.

A Class III archeological survey is recommended for the selected route within those portions of the macro-corridor that have not been previously surveyed and have potential for containing archaeological sites. Previous investigations have indicated that intact paleo-surfaces dating to the Paleo-Indian Tradition are located in buried terrace settings within the Missouri River Trench. NDSHPO also indicates that within the trench and tributary valleys, Plains Archaic sites may lie buried in alluvial, aeolian, and colluvial sediments (Gregg et al. 2008). A geomorphological assessment prior to archaeological survey is recommended to identify those areas within the trench that have potential to contain deeply buried archaeological sites.

Mercer to Sheyenne River

Previously recorded precontact/protohistoric archaeological sites within the project area can be associated with Paleo-Indian, Plains Archaic, Plains Woodland, Plains Village, and Nomadic Equestrian traditions. The potential for encountering additional precontact archaeological sites in those portions of the project area that have not been previously surveyed is highest in upland settings on prominent rises and near water sources, and on the valley rims of the James and Sheyenne rivers and their major tributaries. There is also potential to encounter sites within the James and Sheyenne river valleys on the surfaces of early Holocene river terraces, and deeply buried within alluvial fans, valley wall foot slopes, and perhaps in the floodplain. Potential also exists to encounter sites in former playa lake settings in areas that have received an accumulation of sediments during the mid-Holocene.

A Class III archeological survey is recommended for the selected route within those portions of the macro-corridor that have not been previously surveyed and have potential for containing archaeological sites. As a part of the historic preservation goals, priorities, and strategies for the Paleo-Indian Tradition in the James River and Sheyenne River Archaeological study units, NDSHPO recommends consulting with a geomorphologist to identify areas where early Holocene landform outcrops are exposed, and to complete intensive archaeological inventories on these landforms. NDSHPO also recommends consulting with a geomorphologist to identify land surfaces throughout the study area that correspond to Archaic, Plains Woodland, and Plains Village-aged land surfaces. NDSHPO states that deep testing should be conducted in the James and Sheyenne river valleys in order to locate buried Archaic and Woodland paleosols in the river bottoms (Swenson and Bleier 2008). A geomorphological assessment prior to archaeological survey is recommended to identify those areas within this section of the macro-corridor that have potential to contain deeply buried archaeological sites.

Sheyenne River to Prairie Substation

Previously recorded precontact/protohistoric archaeological sites within the project area can be associated with Paleo-Indian, Plains Archaic, Plains Woodland, Plains Village, and Nomadic Equestrian Traditions. The potential for encountering additional precontact archaeological sites in those portions of the project area that have not been previously surveyed is highest on landforms adjacent to glacial meltwater paleochannels, on early Holocene terraces, on glacial lake beach settings, and along the major tributaries of the Red River.

A Class III archeological survey is recommended for the selected route within those portions of the macro-corridor that have not been previously surveyed and have potential for containing archaeological sites. NDSHPO indicates that early Archaic Tradition-aged deposits may be deeply buried in alluvial/colluvial fans of tributaries entering the main Red River Valley (Picha et al. 2008). A geomorphological assessment prior to archaeological survey is recommended to identify landforms

within this section of the macro-corridor that have potential to contain surface archaeological deposits, such as the paleochannels and early Holocene terraces, and landforms that have potential to contain deeply buried archaeological deposits.

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Appendix A – Center to Mercer Background Research Tables

Table 1. Previous Cultural Resource Investigations - Center to Mercer

Table 2. Previously Identified Archaeological Sites - Center to Mercer

Table 3. Previously Identified Archaeological Isolated Finds/Site Leads - Center to Mercer

Table 4. Previously Identified Architectural Properties - Center to Mercer

Appendix B – Mercer to Sheyenne River Background Research Tables

Table 1. Previous Cultural Resource Investigations - Mercer to Sheyenne River

Table 2. Previously Identified Archaeological Sites - Mercer to the Sheyenne River

Table 3. Previously Identified Archaeological Isolated Finds/Site Leads - Mercer to Sheyenne River

Table 4. Previously Identified Architectural Properties - Mercer to the Sheyenne River

Appendix C – Sheyenne River to Prairie Substation Background Research Tables

Table 1. Previous Cultural Resource Investigations - Sheyenne River to Prairie Substation

Table 2. Previously Identified Archaeological Sites – Sheyenne River to Prairie Substation

Table 3. Previously Identified Archaeological Isolated Finds/Site Leads - Sheyenne River to Prairie Substation

Table 4. Previously Identified Architectural Properties - Sheyenne River to Prairie Substation

Appendix D – GLO Resources

Appendix E – Topographic Overview Maps

Maps 3.1 through 3.55