Appendix C

Cultural Resources Report

Class I and Class III Cultural Resource Investigation for the Applied Digital Fargo Communications Project, Cass County, North Dakota

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IN SITU
Archaeological Consulting

January 2, 2026

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Prepared for:
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Permitting Agency:
North Dakota Public Service Commission

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

County	Township	Range	Section	Study Unit
Cass	140N	49W	4	SR
Cass	140N	49W	9	SR

ABSTRACT

On behalf of Minnkota Power Cooperative and Applied Digital Corporation, Braun Intertec commissioned In Situ Archaeological Consulting, LLC (In Situ) to provide archaeological services in support of the Applied Digital Fargo Communications Project (Project). This report presents the results of an intensive Class I and Class III cultural resource investigation conducted by In Situ for the proposed Project.

The proposed Project consists of the construction of a 345-kilovolt (kV) transmission line, an associated 345-34.5-kV collector substation, three access drives, and six construction workspaces, just east of the city limits of Harwood, located north of Fargo, in Cass County, North Dakota. A larger survey of 176.2 acres (Survey Area) within and surrounding the then approximate 136-acre area of proposed development (Project Area) was subject to an intensive Class III cultural resource survey. At the present time, the Project is not subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108 [36 CFR 800]), as the Project will not require nor will seek any federal assistance, permitting, or authorization. However, the proposed Project will be seeking a permit through the North Dakota Public Service Commission (NDPSC). Therefore, a Class III cultural resource investigation was completed for the Project.

The Project is located on private land in Sections 4 and 9 of Township (T) 140 North (N), Range (R) 49 West (W) in Cass County, North Dakota. The Survey Area is located west of Interstate 29 and east of County Road 81 within an open area consisting of agricultural fields, mixed grasses, and rural development (roads, utilities, etc.). The Class I and Class III cultural resource investigation included a background literature review within and surrounding the proposed Project Area along with an intensive survey of the Survey Area.

For the 136-acre initial Project Area, a larger Survey Area of 176.2 acres was inventoried for the Project. One new cultural resource (32CS5414) was recorded during the archaeological survey of the proposed Project. Site 32CS5414 is recommended *not eligible* for the National Register of Historic Places (NRHP) and therefore no further archaeological work is recommended for this resource for this Project. Additionally, no previously identified resources were visited during the survey, as no previously identified resources are within or adjacent to the Survey Area. Therefore, In Situ recommends a finding of *No Significant Sites Affected* within the Class III Survey Area.

After fieldwork was completed, the proposed Project Area was altered. The northwestern most portions of the Project Area were removed and small areas to the south and southwest were added. The updated Project Area now consists of 71.8 acres (Revised Project Area). With these changes, the transmission line right of way (ROW) and several construction areas were extended beyond the original boundaries of the Survey Area. These changes cover areas that are approximately of a total of 15 acres in the Revised Project Area that were not within the Survey Area. Due to winter conditions, additional survey is not possible at this time. With this change, site 32CS5414 is now located outside of the proposed Revised Project Area, and, while recommended as *not eligible* for the NRHP, will not be affected by the Project. In addition, based on the initial Class I literature review conducted for this Project and the results of the Class III survey, these Revised Project Areas that were not subject to survey have a low potential for cultural resources and the Project is unlikely to impact any undocumented cultural resources within these areas. Therefore, In Situ recommends a finding of *No Significant Sites Affected* within the Revised Project Area. If the

agencies are in agreement with these findings, *No Further Cultural Resource Work* is recommended for the Project.

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INTRODUCTION

On behalf of Minnkota Power Cooperative and Applied Digital Corporation, Braun Intertec commissioned In Situ Archaeological Consulting, LLC (In Situ) to provide archaeological services in support of the Applied Digital Fargo Communications Project (Project). This report presents the results of an intensive Class I and Class III cultural resource investigation conducted by In Situ for the proposed Project.

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A larger survey of 176.2 acres (Survey Area) within and surrounding the original approximate 136-acre area of proposed development (Project Area) was subject to an intensive Class III cultural resource survey. At the present time, the Project is not subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108 [36 CFR 800]), as the Project will not require nor will seek any federal assistance, permitting, or authorization. However, the proposed Project will be seeking a permit through the North Dakota Public Service Commission (NDPSC). Therefore, a Class I and Class III cultural resource investigation was completed for the Project.

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After fieldwork was completed, the proposed Project Area was altered. The northwestern most portions of the Project Area were removed and small areas to the south and southwest were added. The updated Project Area now consists of 71.8 acres (Revised Project Area). With these changes, the transmission line right of way (ROW) and several construction areas were extended beyond the original boundaries of the Survey Area. These changes cover areas that are approximately of a total of 15 acres in the Revised Project Area that were not within the Survey Area. Due to winter

conditions, additional survey is not possible at this time. In addition, based on the initial Class I literature review conducted for this Project and the results of the Class III survey, these Revised Project Areas that were not subject to survey have a low potential for cultural resources and the Project is unlikely to impact any significant cultural resources within these areas.

The Class I literature review was conducted on October 14, 2025, the Class III cultural resource investigation was conducted on November 11-12, 2025, and an additional Class I literature review was conducted on December 12, 2025, to account for changes to the Project. Craig Picka served as Principal Investigator for the archaeological investigation. Mr. Picka meets the requirements for the Secretary of the Interior's Guidelines for Professional Qualifications in Archaeology. Mr. Picka has over 19 years of experience and received an M.S. in Applied Anthropology from Missouri State University in 2012 and a B.A. in Anthropology, with an emphasis in Archaeology from Minnesota State University Moorhead in 2009. Fieldwork was completed by the field crew consisting of Sylvia Sandstrom (Staff Archaeologist), Joseph Henry (Crew Member), and Matthew Johnson (Crew Member). The Class I literature review was conducted by Solli Frank on behalf of In Situ. Report figures were completed by Santos Ledezma. All field notes and photographs are maintained on file at In Situ's office located in Eden Prairie, Minnesota.

ENVIRONMENTAL AND GEOMORPHOLOGICAL CONTEXT

The Survey Area is located within agricultural fields, mixed grasses, and rural development (roads, utilities, etc.). At the time of the survey, the topography of the Survey Area was fairly flat. Vegetation observed during the inventory included bushes, trees, harvested and unharvested soybeans, haylage, and mixed grasses. Impacts to the Survey Area include natural erosion, agricultural practices, rural development (roads, utilities, etc.), and active construction activities that are not related to the Project undertaking.

ECOLOGICAL SETTING

The Survey Area is located within the Lake Agassiz Plain (48) Level III ecoregion, and more specifically, the Glacial Lake Agassiz Basin (48a) Level IV ecoregion. The Glacial Lake Agassiz Basin is defined as "an extremely flat patchwork of cultivated farmland. Because of the Red River of the North has a poorly defined floodplain and very low gradient, flooding can be a problem" (Bryce et al 1996).

Natural vegetation within the region consisted of tallgrass prairies; specifically big and little bluestem, switchgrass, and Indiangrass with some areas of deciduous woodland. Currently, agriculture is the dominant land use within the region (Bryce et al. 1996).

Hundreds of wildlife species are residents or seasonal visitors to the region along with hundreds of native fish species which live in the surrounding rivers and tributaries. Some of the fauna that would have been common and available for historic and prehistoric human use in the region include bison, elk, deer, antelope, moose, grizzly bear, caribou, muskrat, beaver, rabbit, lynx, wolf, fox, ermine, mink, marten, fisher, wolverine, otter, skunk, badger, raccoon, duck, geese, eagles, and hawks (Picha et al. 2021; Reid and Gannon 1928).

CLIMATE

The climate of North Dakota is characterized by large temperature variations along with light to moderate, irregular precipitation, plentiful sunshine, low humidity and nearly continuous wind. The average annual temperatures in North Dakota range from 37 degrees Fahrenheit (ºF) in northeastern North Dakota to 44°F along the southern border. The coldest temperature on record for North Dakota is -60ºF, which occurred in Parshall on February 15, 1936. The hottest temperature on record for North Dakota is 121ºF, which occurred in Steele on July 6, 1936 (National Climatic Data Center 2017). Cass County has a continental climate, with warm summers and cold winters. Total annual precipitation is about 20 inches, with precipitation well distributed throughout the year with a slight peak in the spring and summer when 80 percent of the annual precipitation is received between April and September. Snow covers the county throughout late fall through early spring. The average snowfall in the county is about 31 inches. The average winter temperature is 20ºF and the average summer temperature is 68ºF (U.S. Department of Agriculture 1985).

This undertaking was conducted on November 11-12, 2025. The weather was cool and sunny, typical for the region at that time of year.

PHYSIOGRAPHY AND HYDROLOGY

The physiography of the Survey Area is described as an "extremely flat glacial lake plain [with] streams and rivers sluggish, meandering, and highly turbid with large sediment loads; ditching and channelization [is] common" (Bryce et al. 1996). Elevations within the region range from about 1,200 feet (ft) above sea level with the lowest elevation at about 790 ft above sea level (Bryce et al. 1996).

In Cass County, the major drainages consist of the Red River of the North, the Maple River, and the Sheyenne River. There are also several deltas and unnamed draws and creeks throughout the county (U.S. Department of Agriculture 1985). One unnamed perennial stream is located north and west of the Survey Area, ranging from approximately 70 ft (21.3 meters [m]) to 1,800 ft (845.6 m) from the northern and western boundaries of the Survey Area. The nearest named waterbodies are the Sheyenne River, which is located approximately 1 mile west of the western boundary of the Survey Area, and the Red River of the North, which is located approximately 1.9 miles east of the eastern boundary of the Survey Area.

GEOLOGY

The geology of the Survey Area is characterized by the Coleharbor Formation- Offshore Sediment-Proglacial Lake Sediment, dating to the Pleistocene and Holocene. The Coleharbor Formation-Offshore Sediment-Proglacial Lake Sediment consists of "Laminated silt and clay of glacier-dammed lakes, as thick as 60 m (200 ft) [as well as] flat-bedded sediment of low-lying plains" (Clayton 1980).

SOILS

The Survey Area is located within the Fargo-Hegne soil association which is described as containing "deep, level and nearly level, poorly drained, fine textured soils" (U.S. Department of Agriculture 1985). Four specific soil series are present in the Survey Area, with the most prevalent soil series consisting of Fargo-Ryan, thick solum silty clays (I241A) (Natural Resources Conservation Service 2025; UC Davis 2025). The Project is located in an upland setting with nominal soil depositional processes present and the soil profiles for the soil series within the Survey Area revealed that there are no buried soils (UC Davis 2025). Within upland areas, and/or areas with minimal to no deposition, archaeological material, ranging from as early as the Paleoindian Period to present, are typically located at the ground surface or are shallowly buried (Hudak et al. 2002; Johnson 1993; Michlovic 2025; Running 1995). Table 1 summarizes the soils within the Survey Area.

Table 1: Summary of Soil Series within the Survey Area.

Soil Series	Parent Material	Drainage	Slope	Landform	Extent of Area	Buried Soils
I229A: Fargo silty clay	Clayey glaciolacustrine deposits	Poorly drained	0-1%	Flats	30.7%	N
I235A: Fargo silty clay, depressional	Clayey glaciolacustrine deposits	Poorly drained	0-1%	Depressions	28.9%	N

Table 1: Summary of Soil Series within the Survey Area.

Soil Series	Parent Material	Drainage	Slope	Landform	Extent of Area	Buried Soils
I241A: Fargo-Ryan, thick solum silty clays	Clayey glaciolacustrine deposits	Poorly drained	0-1%	Flats	51.2%	N
I370A: Rauville silty clay loam, frequently ponded	Fine-silty alluvium	Very poorly drained	0-1%	Depressions, oxbows	1.6%	N

CULTURAL CONTEXT

The purpose of a Class I and Class III survey is to identify and locate cultural resources within and near the proposed undertaking and assess if the undertaking will have any potential impact on significant cultural resources. A component of this is to complete a cultural context in relation to the Survey Area and surrounding region. For the purposes of a Class I and Class III survey, the following narrative presents a regionalized, condensed, and generalized pre-contact, contact, and post-contact cultural overviews based on multiple resources specific to North Dakota and the region to provide a context of potential archaeological and cultural resources that may be encountered within the Project Area.

NORTH DAKOTA ARCHAEOLOGICAL STUDY UNIT

The Survey Area is situated in Cass County, North Dakota and within the Southern Red River Study Unit. The Southern Red River Study Unit is in the southeastern area of North Dakota. It includes parts of Cass, Ransom, Richland, and Sargent counties. In all the study unit encompasses 2,401 miles squared (Picha et al. 2021).

PRE-CONTACT (BEFORE COMMON ERA (BCE) 1780)

Paleoindian Period (9,500–5,500 Before Common Era [BCE])

The Paleoindian Period in North Dakota dates between approximately 9,500–5,500 BCE. This is the period in which the first human populations came to North America and the last retreat of the glaciers. The defining characteristics of the Paleoindians were:

- the extensive use of exotic cherts,
- use of distinct lanceolate projectile point technologies,
- small and extremely mobile societies, and
- a hunting and gathering adaptation with focus on now-extinct big game mammals (Gregg et al. 2021; J. Morrow 1996; Schermer et al. 1995).

It is also very likely these societies gathered wild plant foods. However, not much is known about these plant foods or organic artifacts since they are less likely to survive within the archaeological record (Florin et al. 2016; Gibbon 2012). The known lithic technology complexes within North Dakota during this period are Clovis, Goshen, Folsom, Agate Basin, Hell Gap, Cody, Parallel-Oblique Flaked, Pryor Stemmed, and Caribou Lake (Gregg et al. 2021).

Plains Archaic Period (5,500–400 BCE)

The Plains Archaic Period within North Dakota dates between 5,500–400 BCE. Within North Dakota, the Plains Archaic period may have coexisted with the Paleoindian period with little definable timeframe. The Plains Archaic Period in North Dakota is characterized by:

- the expansion of a subsistence strategy that relied on a variety of modern game fauna (deer, moose, bison, rabbits, beavers, birds, and fish) and wild flora resources,
- absence of pottery manufacturing and burial mounds,
- appearance of a variety of notched and stemmed projectile points,
- emergence of pecked and groundstone tools,
- regionalization in projectile point styles,

- decline in the quality of flintknapping craftsmanship,
- reduction in the degree and extent of interaction between human populations in different archeological areas and subarea
- appearance of some exotic materials such as copper and marine shell (Florin et al. 2016; Gibbon 2012; Gregg et al. 2021; Stoltman 1997).

During this period, the climate was continuously changing toward a warm and dry climate, a change known as the Altithermal. The dry and hot weather continued for approximately 1,000 years before changing to a cooler, wetter climate that led to a more modern ecology by 3,000 BCE (Florin et al. 2016).

The Early Plains Archaic Period dates between 5,500–2,800 BCE. The Early Plains Archaic was a transitional period from hunting big game animals to increased use in modern flora and fauna (Gibbon 2012; Gregg et al. 2021). The known lithic complexes that are found during the Early Plains Archaic are Logan Creek-Mummy Cave and Oxbow points (Gregg et al. 2021).

The Middle Plains Archaic Period dates approximately between 2,800–1,000 BCE. The lithic technology of the Middle Plains Archaic is characterized by the presence of McKean Lanceolate, Duncan, and Hanna projectile point technologies (Gregg et al. 2021).

The Late Plains Archaic Period in North Dakota dates between 1,000–400 BCE and is identified by the presence of Yonkee and Pelican Lake projectile points (Gregg et al. 2021).

Plains Woodland Period (400 BCE–Common Era [CE] 1200)

The Plains Woodland Period lifeways were similar to those in the Plains Archaic Period. The main characteristics of the Plains Woodland Period are the appearance of ceramics and earthen burial mounds along with the increased use of seedy plants and grasses for food (Gregg et al. 2021; Johnson 1988). The appearance of these two cultural developments may suggest an increase in social complexity. Hunting and gathering continues within the Plains Woodland Period with the "intensification of food resource activities initiated in the Late Archaic Period" (Gibbon 2012:93).

The Early Plains Woodland Period (400-100 BCE) is not well known as there is a lack of identified sites within North Dakota. Most sites have been found within the James River valley in southeastern North Dakota and along the lower Red River, north of Winnipeg, Canada. The Early Plains Woodland Period in North Dakota has yet to be assigned to a named technological complex (Gregg et al. 2021).

The Middle Plains Woodland Period (100 BCE–CE 600) appears to be the period in which ceremonialism started in North Dakota. Gardening began to be utilized along with hunting and gathering as subsistence strategies. Social interactions between people also appear to be more extensive than the Early Plains Woodland Period as evident with the appearance of Knife River Flint, which originates in North Dakota, in Iowa. The Middle Plains Woodland Period is identified with the presence of Sonota, Besant, and Laurel technological complexes (Gregg et al. 2021).

The Late Plains Woodland Period (CE 600-1200) is characterized by the development of the bow and arrow along with thinner, better-made ceramics. It is identified by the presence of Avonlea,

Brainerd, Blackduck, Mortlach, Old Women's, and Sandy Lake technological complexes (Gregg et al. 2021).

Plains Village Period (CE 1200–1780)

The Plains Village Period (CE 1200–1780) was dominated by a horticultural-hunter-gatherer lifeway. It is characterized by the use of permanent earth-lodge dwellings, crop surplus, improved storage techniques, and the development of complex social organization within villages. Corn became a staple in the native diets along with bison meat. The cultures during this period also grew squash, beans, sunflowers, and tobacco (Gregg and Bleier 2021). There is also an increased appearance of bison bone tools within the archaeological record of this period. This is most-likely due to less time in the ground with which the bone can deteriorate (Gregg et al. 2021; Radford et al. 2015; Schermer et al. 2016).

Middle Missouri Tradition

The Middle Missouri Tradition "consists of the early horticultural villages in southeastern South Dakota and those along the Missouri River Trench as far upstream as west-central North Dakota" (Wood 2001a, p. 186). This village culture is a semisedentary, horticultural lifeway within the northern plains and is characterized by the use of permanent villages consisting of large, rectangular earth-lodge houses usually found on the rims of high terraces overlooking the flood plain and river channels. Often these villages would be fortified with ditches and palisades. These villages were usually found along the flood plains of the Missouri River and its tributaries to grow gardens and were close to the plains to exploit bison herds. Because each village was within reach of necessary resources, they were self-sufficient with little need for trade between villages. The proto-Mandans and some subgroups of proto-Hidatsas lived in these Middle Missouri village sites (Gregg and Bleier 2021; Gregg et al. 2021; Wood 2001a).

Coalescent Tradition

The Coalescent Tradition represents one adaptation of village-dwelling farmers to the Missouri River Valley in South Dakota. This tradition is similar to the Middle Missouri Tradition but has a blend of Middle Missouri attributes with village cultures from the southern plains. The people from this tradition are thought to be "immigrants" from the Central Plains that moved into the Missouri River Valley. Coalescent sites are typically found on flat lofty terrace tops or bluffs along the Missouri River. They lived in sub-rectangular earth lodges, similar to Central Plains villages, with fortifications similar to Middle Missouri villages. The Coalescent traditions were a semisedentary, horticultural lifeway that was a mix of bison hunting and horticulture. They cultivated corn, beans, squash, gourds, sunflowers, and tobacco. Although this cultural tradition is typically found in South Dakota, the Mandan, Hidatsa, Arikara, and Cheyenne have a material culture that were attributed to this tradition during the late prehistoric and proto-historic times (Gregg et al. 2021; Krause 2001).

Northeastern Plains Village Complex

The Northeastern Plains Village Complex flourished during a period of warmer and wetter climate, which supported the expansion of corn gardening and the productivity of hunting and gathering. These people lived in semi-sedentary villages, combining gardening with hunting and gathering, although their agricultural practices were not as intensive as those of the Middle Missouri or

Coalescent Traditions. Characteristic elements of this complex include specific types of ceramics, abundant Knife River Flint within chipped stone assemblages, and Catlinite artifacts, along with the presence of earthen mound mortuary features and distinct mortuary goods. The complex is primarily found in the southeastern part of the state, though its full extent is not yet clear. Sites with large collections of pottery often show evidence of interaction with neighboring groups, as pottery styles from various regions are represented. Pottery similar to Blackduck ware is found from the northeast, Sandy Lake ware from the east, Anderson High Rim ware from the south, and Riggs, LeBeau S-Rim, and Knife River wares from the west. Over time, ceramics from later sites display greater influence from the Middle Missouri and Coalescent Traditions to the west and southwest, suggesting evolving cultural connections (Gregg et al. 2021).

Historically Documented Native American Tribes

Disclaimer: The following discussion is written from a Euro-American perspective and may reflect inherent cultural and historical biases. Please note that the list of Native American tribes presented in this archaeological report is likely incomplete and may not represent the full diversity of peoples who inhabited what is now North Dakota prior to the Contact Period (Post-CE 1780). The individual tribes mentioned in this section are those for whom the most substantial documentation exists following initial contact with Europeans or individuals of European descent.

Arikara (Sahnish)

The Arikara are a Caddoan-speaking people who are closely related to the Pawnee to the south. The name Arikara (U 'ri ku ru) means "horn" which is a reference to the ancient Arikara hair style featuring two upright bones. The word *Tanish* or "Original People" is the self-designated name for the tribe, and today the people call themselves the *Sahnish* (MHA Nation 2025). Originally, the Arikara lived on the Loup River in Nebraska, close to the Pawnee. The Arikara separated from the Pawnee in the beginning of the 17th century and moved up the Missouri River into the Dakotas. Later, they established good relations with the Mandan and Hidatsa and in 1862, and joined them at Like-a-Fishhook Village on the Missouri River (Pritzker 2000).

The Arikara lived in villages comprised of between 50 to 200 earth-lodges, with a medicine lodge in the center. They lived along the high terraces of the Missouri River and later villages were fortified with ditches and palisades (Waldman 2006). Earth-lodges were circular or octagonal buildings with a 30 to 40 ft diameter that would hold two or more extended families. The structures were made of wood framework that was covered in grass and earth. Occasionally, skin tipis were used as temporary field dwellings, often for hunting trips (Pritzker 2000). The Arikara had a hybrid subsistence strategy that included gardening, gathering, and hunting bison. Their gardens were placed in the river floodplains, and they grew nine varieties of corn, as well as beans, squash, a small watermelon variety, sunflowers, and tobacco (Waldman 2006). Bison, deer, and other wild game were hunted, typically by men. To a lesser degree, they also fished and gathered wild plants (Malinowski et al. 1998; Parks 2001).

In 1870, the Arikara, along with the Mandan and Hidatsa of central North Dakota, were allotted a permanent reservation. The Mandan, Hidatsa, and Arikara Nation (MHA Nation) make up the Three Affiliated Tribes that live on the 988,000-acre Fort Berthold Reservation which includes land across parts of Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward counties in North Dakota (Pritzker 2000).

Assiniboine

The Assiniboine are a Siouan-speaking people closely related to the Dakota. The name *Assiniboine* is an Algonquian word that means "those who cook with stones" (Pritzker 2000). They were originally part of the Yanktonai Nakota but broke away to form their own distinct group by the mid-1500s. At the time of contact with non-Indians, the Assiniboine were a migrational people that relied on a hunting and gathering lifeway and lived in a vast area covering present-day Minnesota, North Dakota, Montana, Manitoba, Saskatchewan, and Alberta. The Assiniboine would occasionally exchange their meat and pelts for agricultural goods with farming tribes, and trade for guns and European goods with the English and French. Because ceramic pots are heavy and fragile, the Assiniboine opted for buffalo-hide bags that were more convenient for the trail (Waldman 2006).

Before the horse, the Assiniboine used dogs to carry their equipment using a sled-like apparatus called a travois. At that time, they used small, circular, portable tipis with a circumference of about 30 feet made from about 12 buffalo hides for shelter (DeMallie and Miller 2001). When horses were introduced to them, the Assiniboine started to use larger tipis that were covered with as many as 25 buffalo skins (Malinowski et al. 1998). Bison provided the basis of the Assiniboine subsistence. However, they also hunted deer, bighorn sheep, antelope, wolves, and bears. Meat was often roasted on a spit, smoked for preservation, or boiled in a skin-lined hole using hot rocks. They gathered wild flora including turnips, artichokes, berries, plums, sour grapes, rose hips, currants, and a wild rhubarb plant (Pritzker 2000).

Today, Assiniboine tribal communities retain their cultural identities at Fort Belknap in Blaine and Philips counties, Montana and Fort Peck in Daniels, Roosevelt, Sheridan, and Valley counties, Montana. There are also Canadian communities in Saskatchewan and Alberta (Pritzker 2000).

Dakota

"Dakota" is a self-designated name meaning "ally." The Dakota consists of 13 subdivisions of Siouan-speaking people (Dakota-Lakota-Nakota) that were all part of the *Oceti Sakowin*, or Seven Council Fires. This council of political divisions included the Mdewakanton, Wahpekute, Sisseton, Wahpeton, Yankton, Yanktonai, and Teton tribes. The Dakota originally lived in Wisconsin and north-central Minnesota before the Contact Period, however, they migrated to reside in the prairies and eastern plains of Minnesota, Iowa, Nebraska, and eastern South Dakota by the nineteenth century. The Dakota's first contact with Europeans was with French traders and Jesuit missionaries in the 1650s. The Dakota were originally a migrational people relying on a hunting and gathering subsistence strategy. They hunted bison, deer, and waterfowl and fished using spears and nets. They also foraged for wild flora resources including fruit, acorns, nuts, wild rice, and maple sap. During the 19th century, the Dakota practiced horticulture but planted at irregular intervals. They planted corn, squash, beans, and tobacco. Their crop yields were small and would only last a few weeks (DeMallie 2001; Malinowski et al. 1998; Pritzker 2000). When the Dakota occupied the Wisconsin-Minnesota area, they formed small (occasionally palisaded) villages near lakes and rice swamps, living in large heavily timbered bark houses with pitched roofs. During winter, some groups would live in conical houses covered in skins, and the Sisseton group sometimes used tipis after moving to the prairies (Pritzker 2000).

The descendants of the Dakota people have continued to maintain tribal identity throughout the northern Great Plains. Modern Dakota-Lakota-Nakota communities include: the Fort Peck Reservation in Roosevelt, Sheridan, Valley counties, Montana; the Devils Lake (formerly Fort Totten) Reservation in Benson, Eddy, Nelson, and Ramsey counties, North Dakota; the Lake Traverse Reservation in Richland and Sargent counties, North Dakota and Cadington, Day, Grant, Marshall, and Roberts counties, South Dakota; the Santee Sioux Reservation in Knox County, Nebraska; the Flandreau Santee Sioux Reservation in Mood County, South Dakota; the Lower Sioux Community, Redwood County, Minnesota; the Prairie Island Community, Goodhue County, Minnesota; the Upper Sioux Community in Yellow Medicine County, Minnesota; the Shakopee Mdewakanton Sioux Community in Scott County, Minnesota; and several communities in Saskatchewan, Canada (Pritzker 2000).

Hidatsa

The Hidatsa are a sedentary, Siouan-speaking people that lived on the Missouri and Knife Rivers and consisted of three divisions: Hidatsa-proper, Awatixa, and Awaxawi. Each of these groups had their own dialect and differed slightly culturally. They also preferred to stay in separate villages when possible. Beginning around the 12th or 13th century, the Hidatsa people hundted bison and grew gardens south of Lake Winnipeg. When pressured by bands of Ojibwe and Cree, the group was pushed southwest to Devil's like in present-day North Dakota in the mid-sixteenth century. Another move brought the Hidatsa toward the Upper Missouri River region, where they continued to grow gardens and hunt. When the Hidatsa first arrived in the Missouri River region, they settled upriver from the Mandan, along the Knife River. In 1845, the Hidatsa joined the Mandan at Like-a-Fishhook Village (Pritzker 2000).

Traditionally, the Hidatsa lived in earth lodge villages that were fortified with wooden palisades and were situated along the Missouri River or other local riverbanks. The earth lodges were circular and approximately 40 ft in diameter with four support posts in the middle. The walls were framed by wooden poles and covered with willow branches and grass matting (Pritzker 2000). In the winter, the Hidatsa would sometimes move to a winter village, which consisted of smaller, less carefully constructed earth lodges and were closer together to provide protection, access to water, wood, and game animals. The Hidatsa were horticulturalists who supplemented their food by hunting. They maintained gardens in the river-bottoms below their villages, in which they grew corn, sunflower, squash, and beans. Bison were hunted on annual hunting trips, but the Hidatsa also hunted and traded for deer, antelope, elk, bear, and small game animals. (Malinowski et al. 1998; Stewart 2001).

The Ford Berthod Reservation was created in 1870 for the Hidatsa, along with the Arikara and Mandan tribes. Together, these tribes make up the "Three Affiliated Tribes" also known as the MHA Nation. Most Hidatsas today live in Mandaree, North Dakota within the 988,000-acre Fort Berthold Reservation and some continue traditional cultural practices like sweat lodge ceremonies (Pritzker 2000).

Mandan

The Siouan-speaking Mandan people originally called themselves Numaki which means "People." The name "Mandan" is a Dakota word. The Mandan first came to the Upper Missouri River area near the mouth of the Heart River after gradually moving north upriver from other Siouan-speaking

people between 1,000CE and 1,200CE, however, it's possible they could have arrived as early as 600CE. The Mandan people, however, believe that they have always lived in the area and were created there (MHA Nation 2025). In 1738, the Mandan were the first people in North Dakota to encounter French Explorer Sieur de la Verendrye. Due to their friendliness and willingness to trade with Europeans, their villages became ideal locations for explorers, traders, and travelers to spend the winter (Malinowski et al. 1998, Wood and Irwin 2001). The Mandan have experienced multiple tragic smallpox epidemics starting as early as the 16th century and spanning until the year 1837, when a major outbreak dropped the population by over 90%, leaving only approximately 125 Mandan people left alive. After this devastation, the Mandan joined with the nearby Hidatsa people and established Like-a-Fishhook village along the Missouri River and were later joined by the Arikara (Sahnish) in 1862 (MHA Nation 2025).

The Mandan traditionally resided in permanent earth-lodge villages on high bluffs often overlooking the Missouri River or one of its tributaries, in an area with arable land and a good supply of wood. Mandan villages were most often well protected using natural landscapes like steep riverbanks as well as wooden stockades and barrier ditches. Mandan villages contained anywhere from twelve to 150 earth-lodges built around a central plaza, where games and ceremonies took place. The central plaza was some 150 feet in diameter (Pritzker 2000). Residential earth lodges would hold anywhere from 20 to 60 people and were made of large wooden frames sometimes semi-excavated into the ground that were covered in willow branches, sod, and earth. These earth-lodges were approximately 40 ft or more in diameter and contained raised platform beds along the edge, a central fire, storage pits, and altar, and furniture such as buffalo-robe couches. The domed roofs of Mandan earth-lodges were so strong that people would congregate on top of them to play games, dry maize, and store items (Waldman 2006). Bison hunts were a communal activity in the summer, and men hunted elk, deer, and smaller mammals throughout the year. Women were typically responsible for processing animal skins and tending to household garden plots that were contained within land held by lineages composed of several extended families. The gardens produced maize, sunflowers, beans, and squash. Older men grew tobacco (Pritzker 2000).

In 1870, a reservation was established for the newly recognized Three Affiliated Tribes (Mandan, Hidatsa, and Arikara). Much of the original eight million acres of the Fort Berthold Reservation has since been reduced by allotment and removal of large sections by the United States Government. Additionally, against the vehement opposition of the Three Affiliated Tribes, the United States built the Garrison Dam on the Missouri River in 1950. The dam created a reservoir called Lake Sakakawea that covered much of the remaining tribal land, farms, and homes (Pritzker 2000). As of November 2024, the Fort Berthold Reservation measures approximately 988,000 acres and is home to around 5,600 members of the MHA Nation, however, the total enrollment in the Three Affiliated Tribes is 17,492 members (MHA Nation 2025).

POST-CONTACT/HISTORIC PERIOD (POST- CE 1780)

Disclaimer: Portions of the following discussion is written with a lens of Euro-American bias. The Historic Period in eastern North Dakota begins in the late eighteenth century with intensified Indigenous–European interaction, the expansion of the fur trade, and increasing Euro-American political and economic influence. Although European goods entered the Northern Plains earlier

through indirect trade networks, sustained face-to-face contact increased markedly after CE 1780, resulting in profound social, economic, and demographic changes for Indigenous communities.

Equestrian Adaptations and the Fur Trade (CE 1780–1880)

The widespread adoption of the horse during the late eighteenth century fundamentally transformed Indigenous mobility, subsistence strategies, and territorial use across the Northern Plains. During this period, horses replaced dogs as the primary beasts of burden, greatly increasing the ability of Indigenous groups to acquire, transport, and store food and material goods. The Dakota, Assiniboine, and Cheyenne increasingly practiced highly mobile bison-hunting lifeways, incorporating seasonal rounds that emphasized access to key ecological zones, intertribal interaction, and participation in the fur trade (DeMallie 2001; Gregg et al. 2021).

At the same time, the Mandan, Hidatsa, and Arikara maintained a Plains Village lifeway centered on fortified earth-lodge villages along the Missouri River and its tributaries. These villages became important commercial centers and regional trading hubs where Indigenous producers exchanged bison robes, meat, and pelts for European trade goods, including metal tools, firearms, textiles, beads, and other manufactured items. Archaeologically, this period is characterized by the presence of Euro-American trade materials occurring alongside traditional Indigenous material culture, such as glass beads, brass ornaments, gunflints, and metal projectile points (Gregg et al. 2021; Remele 1989; Wood 2001b).

Early European Exploration and Political Expansion

European exploration of the Northern Plains intensified during the eighteenth century. French explorer Pierre Gaultier de Varennes, Sieur de La Vérendrye, reached the Missouri River in CE 1738 while seeking a western route to the Pacific Ocean. Prior to the early nineteenth century, most sustained interaction between Indigenous groups and Europeans occurred through the Canadian fur trade. Following the Louisiana Purchase in CE 1803, the region came under United States control, and federal interest in exploration, mapping, and trade increased substantially. The Lewis and Clark Expedition (CE 1804–1806) further documented Indigenous villages and lifeways, integrating the region more fully into national political and economic systems (Remele 1989).

During the late eighteenth and early nineteenth centuries, the fur trade became increasingly competitive, linking the Northern Plains to global economic networks. In CE 1801, Alexander Henry Jr. established a fur trade post at Pembina, which later developed into an agricultural colony under British control. The Convention of CE 1818 established the 49th parallel as the international boundary between the United States and British North America, bringing the Red River Valley firmly under U.S. jurisdiction and accelerating American political and economic influence in eastern North Dakota (Remele 1989; Wishart 2004).

Reservation Era, Disease, and Demographic Change

The nineteenth century was marked by severe population decline among Indigenous groups due to introduced diseases, particularly smallpox. The CE 1837 smallpox epidemic devastated the Mandan, Hidatsa, and Arikara populations, fundamentally altering settlement patterns and prompting the consolidation of survivors at Like-a-Fishhook Village. Subsequent treaty negotiations and federal policies resulted in the establishment of reservations, including the Fort

Berthold Reservation in CE 1870 for the Mandan, Hidatsa, and Arikara (Three Affiliated Tribes) (Pritzker 2000; Wood and Irwin 2001).

These developments significantly reshaped Indigenous land use, mobility, and subsistence practices. Archaeologically, reservation-era sites may include modified village layouts, short-term camps, agency buildings, mission-related features, military installations, and associated material culture reflecting increased federal presence.

Euro-American Settlement, Agriculture, and Statehood (CE 1860s–1900)

Euro-American settlement of eastern North Dakota accelerated following the organization of Dakota Territory in CE 1861 and the passage of the Homestead Act in CE 1862, which encouraged agricultural settlement by offering land to citizens and prospective citizens. The construction of the Northern Pacific Railroad to the Missouri River in CE 1872–1873 spurred rapid population growth, town development, and commercial expansion. Communities such as Fargo emerged along the rail line, serving settlers, railroad workers, and regional markets.

Between CE 1878 and 1887, the "Great Dakota Boom" brought more than 100,000 settlers into the territory. The Red River Valley was among the earliest and most intensively settled areas, becoming nationally significant for wheat production, particularly through the development of large, mechanized bonanza farms. Many settlers were immigrants from northern Europe, especially Scandinavia, Germany, and Norway (Remele 1989; State Historical Society of North Dakota 2014).

On November 2, CE 1889, North Dakota was admitted to the Union as a state. Archaeological resources associated with this period may include farmsteads, railroad grades, townsites, commercial buildings, wells, refuse deposits, and other features related to transportation and agricultural development.

North Dakota in the 20th Century (CE 1900-Present)

During the early twentieth century, agriculture remained the dominant economic activity in North Dakota. Wheat became the state's most profitable crop, along with barley, flax, corn, and soybeans, while ranching expanded in areas less suitable for farming. Technological innovations such as mechanized equipment, electricity, improved irrigation, refrigeration, and modern storage facilities transformed farmsteads and agricultural practices, shifting farming toward more scientific and capital-intensive methods (State Historical Society of North Dakota 2014).

The first half of the twentieth century also brought significant challenges. World War I created labor shortages while encouraging increased agricultural production. Postwar economic collapse led to widespread bank failures in the early 1920s. The Great Depression and Dust Bowl of the 1930s caused substantial farm loss and population decline, although the Red River Valley was less severely affected by drought. World War II again increased demand for agricultural production, and postwar consolidation led to fewer but larger farms, reflecting broader economic and technological trends in rural North Dakota (Remele 1989; State Historical Society of North Dakota 2014).

Cass County

Cass County is located in the southeastern part of North Dakota along the North Dakota/Minnesota border at the Red River of the North. It was established on January 4, 1873, and organized on October 27, 1873. The county seat is the city of Fargo. The county is named after George Washington Cass, president of the Northern Pacific Railroad. Before Europeans visited and settled the area the Assiniboine, Cheyenne, Blackfeet, Crow, Dakota, Mandan, Hidatsa, Arikara, and Chippewa tribes had been living in, or passing through, the area that became Cass County. The first railroad to be constructed in Cass County was the Northern Pacific Railroad which entered Fargo in 1871. In 1920, the population of Cass County had grown to 41,477 residents (Hoheisel and Nielson 2007; Long 2006, U.S. Department of Agriculture 1924; U.S. Department of Agriculture 1985).

Agriculture has been the main industry in the county. In 2022, there were 801 farms in the county with an average of 1,175 acres. The main crops are soybeans, corn, wheat, sunflower seeds, and barley. Beef cattle are the most extensively raised livestock within Cass County (U.S Department of Agriculture 1985; U.S. Department of Agriculture 2022).

RESEARCH DESIGN AND METHODOLOGY

The Class I and Class III cultural resource investigation was conducted in accordance with the North Dakota State Historic Preservation Office (SHPO) Guidelines Manual for Cultural Resource Inventory Projects (State Historical Society of North Dakota 2020). Fieldwork and reporting were completed in a reasonable and good faith effort to identify archaeological resources and historic properties within the Project Area. Because the North Dakota SHPO guidelines do not define specific numeric thresholds for slope, ground surface visibility, or sampling intensity, In Situ applied internally defined methodological thresholds to ensure a consistent, transparent, and replicable approach to survey coverage and resource identification. These thresholds were used as professional guidelines to support good-faith identification efforts and were adjusted in the field as necessary based on environmental conditions and professional judgment.

CLASS I LITERATURE REVIEW

A Class I literature review was conducted using a 1-mile radius surrounding the Project. This task was completed using site files, cultural resource investigation records, and prior inventory reports maintained by the North Dakota SHPO, a division of the State Historical Society of North Dakota (SHSND). Additional background research included reviews of historic maps and atlases, General Land Office plat maps, aerial imagery, soil survey data, topographic mapping, and geomorphic information relevant to evaluating archaeological potential, prior disturbance, and historic land use. The literature review was used to determine whether the Project Area had been previously inventoried to North Dakota SHPO standards, identify known cultural resources and prior investigations, and develop expectations regarding the types and distribution of archaeological resources that could reasonably be present. Results of the Class I review informed the design and implementation of the Class III field methodology.

CLASS III ARCHAEOLOGICAL INVESTIGATION

The Class III intensive cultural resource inventory was completed under the supervision of a qualified archaeologist meeting the requirements of the Secretary of the Interior's Guidelines for Professional Qualifications in Archaeology (48 FR 44739; National Park Service 1983). Field methods were designed to identify surface and near-surface archaeological resources and to document environmental and land-use conditions affecting resource visibility and integrity. A sub-meter Global Positioning System (GPS) unit integrated with Geographic Information System data and field maps was used to collect spatial data and ensure accurate survey coverage. All field notes, maps, and photos will be maintained at the In Situ office. Survey methods varied across the Survey Area based on slope, ground surface visibility, vegetation, disturbance, and geomorphic setting. To provide a consistent methodological framework, In Situ applied the following internal thresholds during the field investigation. These thresholds were used to guide method selection and do not represent regulatory requirements of the North Dakota SHPO.

Visual Inspection

Visual inspection was conducted in areas where cultural resources were not expected or where systematic survey methods were not practicable due to environmental constraints or prior disturbance. These areas included locations with slopes greater than approximately 20 degrees, low-lying or wet areas, heavily disturbed areas (e.g., roads, drainage ditches, utility corridors), and

areas assessed as having low archaeological potential by the Principal Investigator. Visual inspection consisted of a walkover survey using transects spaced at approximately 15-m intervals to document ground conditions and verify the absence or low likelihood of cultural resources. Visual inspection was also used in areas with poor ground surface visibility (generally less than approximately 25 percent) where shovel test probes could not be effectively conducted. Visual inspection is not considered a systematic sampling strategy but was used where acceptable survey methods could not be implemented due to project-specific constraints.

Pedestrian Survey

Systematic pedestrian survey was conducted in areas with slopes generally less than approximately 20 degrees and where ground surface visibility was sufficient to allow reliable identification of archaeological materials. For the purposes of this investigation, In Situ generally defined sufficient ground surface visibility as approximately 25 percent or greater, such as in plowed agricultural fields or areas with sparse vegetation. Pedestrian transects were spaced no greater than 15 meters apart and were walked in a serpentine pattern. Identified cultural materials were documented with a sub-meter GPS unit, all or a sample of artifacts were collected, cultural resources were documented with a sub-meter GPS unit and photographed and were described in field notes. Pedestrian survey was used as a systematic identification method in areas where surface conditions supported a reasonable and good faith effort to identify archaeological resources.

Shovel Test Probes

Shovel test probes were conducted to sample subsurface contexts in areas where ground surface visibility was limited (generally less than approximately 25 percent) and in areas assessed as having moderate to high archaeological potential by the Principal Investigator and/or used to further investigate areas where cultural materials were identified on the surface and to assess the vertical extent of potential deposits. Shovel test probes measured approximately 30–40 centimeters (cm) in diameter and were excavated on a grid at approximately 15-m intervals. When cultural materials were encountered, additional radial shovel test probes were excavated at approximately 5-m intervals to delineate the extent of deposits. Shovel test probes were excavated to at least 20 cm into the subsoil, where possible (unless impassable soil conditions or a water table is encountered). Excavated sediments were screened through 0.25-inch mesh. Soil stratigraphy, texture, and Munsell color were recorded for each shovel test probe, along with the presence or absence of cultural materials. All shovel test probe locations were documented using a sub-meter GPS unit, and excavated soils were immediately backfilled upon completion. Shovel test probe results were classified as negative, positive, sloped, wet, or disturbed, based on soil conditions, environmental setting, and the presence or absence of cultural materials.

RESOURCE IDENTIFICATION AND DOCUMENTATION

Archaeological resources identified during the Class III inventory were documented in accordance with North Dakota SHPO definitions and standards for sites, site leads, and isolated finds. Resources meeting North Dakota SHPO criteria for sites were recorded on current North Dakota Cultural Resource Survey forms. Identified resources were evaluated preliminarily against the NRHP criteria (36 CFR 60). Final determinations of eligibility are made through consultation between the lead agency and the North Dakota SHPO.

SITE EVALUATION CRITERIA

The purpose of the archaeological investigation was to identify and record previously undocumented cultural resources located within the Survey Area. Sites were evaluated for their significance as defined by criteria established in Title 36 Code of Federal Regulations 60.4 (National Park Service 1997 [1990]), which states:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That has yielded, or may be likely to yield, information important in prehistory or history.

A site may meet one or more of the eligibility criteria listed above, but if the site is considered to not retain sufficient integrity, then it may be recommended not eligible for inclusion in the NRHP. In addition, In Situ followed the U.S. National Park Service's National Register Bulletin on Guidelines for Evaluating and Registering Archaeological Properties for the eligibility assessment of archaeological sites (National Park Service 2000).

ARTIFACT ANALYSIS AND CURATION

If any artifacts 50 years or older were recovered, they were processed in accordance with the North Dakota SHPO Guidelines Manual for Cultural Resource Inventory Projects (State Historical Society of North Dakota 2020). If artifacts were collected, they are to be returned to the landowner. Should the landowner decline the possession of the artifacts, they will be stored at a repository that meets the Secretary of the Interior's Standards for Curation (55 FR 37630; National Park Service 1990).

RESULTS

CLASS I LITERATURE REVIEW

A Class I literature review was conducted using a 1-mile radius surrounding the Project Area and Survey Area (Study Area) on October 14, 2025 (Figures 3-5F). In conducting the literature review, the following resources detailed in Table 2 were consulted. These are resources that may provide information on the locations of potential cultural resources and other contextual information regarding the proposed Project Area.

Table 2: Resources Consulted During the Literature and Records Review.

Resource	Notable Observations within the Study Area	Within Project Area	Table/ Figure	Date Reviewed
SHPO Files	Seventeen previous cultural resource inventories/surveys; five previously recorded archaeological sites; three previously recorded architectural resources	002863, 008028, and 019842	Tables 3, 4 and 5; Figures 3 and 4	October 14, 2025
NRHP Files	None	None	N/A	October 14, 2025
1871 Bureau of Land Management General Land Office Historic Plat Map (BLM 1871)	Early parcel boundaries	None	Figure 5A	October 14, 2025
1893 Plat Book of Cass County, ND (D.W. Ensign & Co. 1893)	Assigned parcel boundaries with buildings and structures; schoolhouse; Great Northern Railroad	Plats belonging to Frank Carnine, J.M. Bender, B.F. Spalding and C.E.W. Webster, Sections 4 and 9, T140N, R49W; RR ROW	Figure 5B	October 14, 2025
1906 Atlas of Cass County, ND (R.L. Polk & Co. 1906)	Assigned parcel boundaries with buildings and structures; schoolhouse; Great Northern Railroad; wetlands	Plats belonging to J.M. Bender, B.F. Spalding, and A.C. Rohn, Sections 4 and 9, T140N, R49W; RR ROW	Figure 5C	October 14, 2025
1959 Fargo North, ND 24,000 USGS Topographic Map (USGS 1959)	Heavy-duty, light-duty, and unimproved dirt roads; railroad; unnamed perennial and intermittent streams	ROW along heavy-duty and unimproved dirt roads	Figure 5D	October 14, 2025

Table 2: Resources Consulted During the Literature and Records Review.

Resource	Notable Observations within the Study Area	Within Project Area	Table/ Figure	Date Reviewed
1959 West Fargo, ND 24,000 USGS Topographic Map (USGS 1959)	Great Northern Railroad; Harwood School; buildings in Harwood; Sheyenne River; perennial and intermittent streams; heavy-duty, light-duty, and unimproved dirt roads	ROW along unimproved dirt roads	Figure 5D	October 14, 2025
1941 Aerial Imagery (North Dakota Department of Water Resources 2025)	Rural development; agricultural fields; an unnamed perennial stream; highways and rural roads	Rural development; road ROW; and agricultural fields	Figure 5E	October 14, 2025
1962 Aerial Imagery (North Dakota Department of Water Resources 2025)	Rural development; agricultural fields; irrigation ditches; an unnamed perennial stream, highways and rural roads	Rural development; road ROW; and agricultural fields	Figure 5F	October 14, 2025
1976 West Fargo North, ND 24,000 USGS Topographic Map (USGS 1976)	City of Harwood; Harwood School; Interstate 29; railroad; unnamed perennial streams	Road and railroad ROW; existing utilities	Figures 1 and 3	October 14, 2025
1993 Fargo North, ND 24,000 USGS Topographic Map (USGS 1993)	Water retention ponds/levees; Interstate 29; railroad; buildings; drainage ditches	Road and railroad ROW; existing utilities	Figures 1 and 3	October 14, 2025
Current (2025) Aerial Imagery (Esri 2025)	Rural and suburban development; agricultural fields; Interstate 29; railroad; highways and rural roads; streams; drainage ditches; softball complex; water retention ponds/levees	Rural development; road and railroad ROW; agricultural fields	Figures 2, 4, and 7	October 14, 2025

The literature/records search results from SHPO revealed 17 previous cultural resource inventories/surveys, [redacted]

Previous Inventories/Surveys

The records search revealed 17 previous cultural resource inventories/surveys completed within the Study Area between 1981 and 2023 (Table 3). The previous inventories/surveys were completed in support of transportation, telecommunication, utilities, and research projects. No bibliographic information could be found for one previous inventory/survey (017353). Four of the previous inventories/surveys overlap with portions of the Survey Area (002863, 008028, 009854, and 019842). All four of the previous inventories/surveys that overlap with portions of the Survey Area yielded negative results. Of the previous inventories/surveys within the Survey Area, three (008028, 009854, and 019842) are located within the Project Area.

Table 3: Previous Cultural Resource Inventories/Surveys within the Study Area.

Manuscript Number	Title	Authors	Year
002537	[redacted]	[redacted]	1981
002863	[redacted]	[redacted]	1982
005323	[redacted]	[redacted]	1990
006565	[redacted]	[redacted]	1996
008028	[redacted]	[redacted]	2001
009854	[redacted]	[redacted]	2006
010185	[redacted]	[redacted]	2007
010482	[redacted]	[redacted]	2008
012984	[redacted]	[redacted]	2012
014341	[redacted]	[redacted]	2013
015220	[redacted]	[redacted]	2014
016184	[redacted]	[redacted]	2015
017353	[redacted]	[redacted]	N/A
019007	[redacted]	[redacted]	2020
019626	[redacted]	[redacted]	2021

Table 3: Previous Cultural Resource Inventories/Surveys within the Study Area.

Manuscript Number	Title	Authors	Year
019842	[redacted]	[redacted]	2022
020385			2023

Previously Recorded Archaeological Sites

[redacted]

Table 4: Previously Recorded Archaeological Sites within the Study Area.

[redacted]

Previously Recorded Architectural Resources

[redacted]

Table 5: Previously Recorded Architectural Resources within the Study Area.

[redacted]

Additional Records Review

After reviewing all referenced sources and records, it was found that the majority of land within the Study Area has been historically subject to agricultural development, with portions of the landscape changing over time to suburban development as the city of Harwood expanded. The privately owned parcels on which the Survey Area lies have exhibited evidence of rural and agricultural development since at least 1893. Additionally, the railway that runs adjacent between the two primary portions of the Survey Area has been a notable feature in the area since at least 1893, when it was built originally as the Great Northern Railway. The Great Northern Railway was established in 1889 and ultimately stretched from Duluth, Minnesota and the Twin Cities westward to Seattle, Washington, crossing through North Dakota on its journey. Later, in 1970 four railroads were merged (the Great Northern Railway, the Northern Pacific Railway, the Chicago, Burlington & Quincy Railroad, and the Spokane, Portland & Seattle Railway) to form the Burlington Northern Railroad on March 2, 1970. After 25 years of operation, in September 1995, the Burlington Northern Railroad merged again with the Santa Fe to form what is now the Burlington Northern Santa Fe (BNSF) Railway (Great Northern Railway Historical Society 2025). However, the railroad resource is not located within the Survey Area.

ARCHAEOLOGICAL POTENTIAL

For the assessment of archaeological resource potential within the proposed Project Area, factors including general terrain, water resources, geomorphological setting, and topographic characteristics were evaluated as part of the Class I literature review. This predictive assessment was developed based on review of regional settlement models, previously recorded archaeological site distributions, environmental conditions, and In Situ's professional experience conducting cultural resource investigations in North Dakota and the region. The purpose of this predictive model is to identify areas where archaeological resources are more or less likely to occur and to inform the scope and design of the Class III intensive cultural resource inventory.

Archaeological site location in the northern Great Plains is strongly influenced by landform stability, drainage, access to reliable water sources, and the degree of post-depositional disturbance. Review of recorded site data and regional research indicates that areas subject to frequent inundation, poor drainage, steep slopes, or extensive ground disturbance typically exhibit lower site densities and reduced archaeological integrity. Based on these considerations, areas exhibiting apparent or significant disturbance, areas with excessive slope, areas characterized by poorly drained soils, and low-lying or wet areas are predicted to have a low potential for containing intact archaeological resources. While short-term or ephemeral use of such settings may have occurred, archaeological materials in these areas are typically sparse, disturbed, or lack integrity.

Conversely, areas considered to have potential for archaeological resources are those that exhibit environmental and cultural characteristics commonly associated with site presence in the region. These characteristics include:

- Location within undisturbed landforms, excluding actively plowed agricultural fields;
- Position on topographically significant landscape features with well-drained soils;
- Proximity to a suitable former or existing water source, including named waterbodies and perennial streams (within approximately 150 m for areas of high potential and within approximately 200 m for areas of moderate potential);
- Proximity to previously recorded archaeological sites (within approximately 100 m).

To refine the predictive model and provide a consistent and transparent framework for evaluating archaeological potential, In Situ applies internally developed distance-based parameters informed by analysis of recorded archaeological site distributions, regional settlement patterns, published research, and professional experience conducting cultural resource inventories across the region. These parameters reflect the observed relationship between archaeological site location and proximity to reliable water sources, as well as the documented tendency for sites to occur in spatial clusters rather than as isolated occurrences. The thresholds applied in this assessment are not regulatory requirements but professional guidelines that provide a defensible and repeatable approach to assessing archaeological potential while allowing for project-specific refinement based on field conditions and professional judgment.

Using this predictive model, In Situ evaluated the Project Area and identified areas of low, moderate, and high archaeological resource potential. The majority of the Project Area is predicted to have a low potential for archaeological resources due to environmental constraints and disturbance. However, select portions of the Project Area exhibit environmental characteristics associated with moderate to high archaeological potential. Areas identified as having moderate or high archaeological potential are depicted on Figure 5G and were considered in the design and implementation of the Class III intensive cultural resource inventory.

ENVIRONMENTAL CONTEXT

The Project Area is located within the Lake Agassiz Plain (48) Level III ecoregion, and more specifically, the Glacial Lake Agassiz Basin (48a) Level IV ecoregion. The Glacial Lake Agassiz Basin is defined as "an extremely flat patchwork of cultivated farmland. Because the Red River of the North has a poorly defined floodplain and very low gradient, flooding can be a problem" (Bryce et al. 1996).

The physiography of the Project Area is described as an "extremely flat glacial lake plain [with] streams and rivers sluggish, meandering, and highly turbid with large sediment loads; ditching and channelization [is] common" (Bryce et al. 1996). The elevation within the Project Area ranges between approximately 880-890 ft above mean sea level. This area is located within the Fargo-Hegne soil association which is described as "deep, level and nearly level, poorly drained, fine textured soils (U.S. Department of Agriculture 1985). All of the soil series within the Project Area are classified as poorly drained or very poorly drained soils (Natural Resources Conservation Service 2025).

ARCHAEOLOGICAL POTENTIAL ASSESSMENT

The Project Area is located within an intensively modified agricultural landscape consisting of cultivated fields, mixed grasses, and rural development, including roads, utilities, drainage ditches, and associated infrastructure. Terrain across the Project Area is generally flat and lacks topographically significant landscape features that are typically associated with repeated or long-term human occupation. The Project Area is situated within the former Lake Agassiz Plain, a low-relief geomorphic setting characterized by fine-grained sediments, poor drainage, and limited microtopographic variation, which archaeological predictive models indicate generally has low site densities relative to adjacent uplands and river terraces.

The Project Area is located approximately 1.9 miles west of the Red River of the North and approximately 1 mile east of the Sheyenne River; however, it is not situated on or adjacent to primary river terraces or floodplain margins associated with either river. Archaeological research in the region demonstrates that sustained prehistoric occupation most frequently occurred along well-drained terrace edges, natural levees, and elevated landforms near permanent water sources (Hobbs 2019; Hudak et al. 2002; Picha et al. 2021), none of which are present across the majority of the Project Area. Instead, the Project Area occupies an interfluvial setting between major river systems, which is generally considered less favorable for repeated habitation.

One unnamed perennial stream is adjacent to the northwest portion of the Project Area. While the channel currently appears relatively straight, historic topographic maps indicate that it has long been part of the landscape and previously included small meandering segments. The presence of this stream on historic maps suggests a reliable water source that may have supported past human use. Former meanders may also represent areas of sediment accumulation where buried archaeological deposits could be preserved, although more recent channel modifications and drainage improvements may have disturbed or removed older cultural materials. Archaeological sites associated with intermittent or minor stream systems in the region are typically short-term occupation sites with low artifact densities (Anderson and Smith 2003; Hobbs 2019; Hudak et al. 2002; Picha et al. 2021).

Historic maps did not indicate any previously recorded cultural resources within the Project Area, nor are any recorded cultural resources located within 100 m of the Project Area. Although, historic maps and aerials indicate the presence of a historic railroad running west-parallel to County Road 81. The railroad is still present as the BNSF Railway. Long-term agricultural use, including plowing, grading, and artificial drainage, has likely resulted in extensive disturbance of near-surface deposits throughout much of the Project Area, further reducing the integrity of any previously existing cultural materials.

Soils within the Project Area are predominantly poorly drained or very poorly drained and are subject to periodic flooding, conditions that are generally unfavorable for long-term occupation. Naturally occurring soils typically exhibit a moderately thin A horizon, generally up to approximately 33 cm thick (Natural Resources Conservation Service 2025; UC Davis 2025). In upland areas with minimal sediment deposition, archaeological materials from the Paleoindian Period through the historic period are typically located at or near the ground surface and are unlikely to be deeply buried (Hudak et al. 2002; Johnson 1993; Michlovic 2025; Running 1995). As a result, the potential for intact, deeply buried archaeological deposits across most of the Project Area is low.

Previous archaeological investigations overlapping and adjacent to the Project Area, including surveys conducted in 2006, 2020, and 2022, yielded negative results. These findings are consistent with expectations for the environmental and geomorphic setting and support the conclusion that archaeological site potential is low across the majority of the Project Area.

Based on the environmental conditions, geomorphic setting, historic and modern land disturbance, and prior negative survey results, the majority of the Project Area has a low potential for the undertaking to impact cultural resources. However, due to the presence of the unnamed perennial stream in the northwest portion of the Project Area, an archaeological resource potential assessment conducted by In Situ identified approximately 4.5 acres as having a high potential for cultural resources and approximately 3.9 acres as having a moderate potential for cultural resources, with the remaining areas exhibiting low potential for cultural resources.

CULTURAL RESOURCE INVESTIGATION RESULTS

In Situ received the proposed Project plans showing the Project Area on November 5, 2025. The Class III cultural resource investigation of the Survey Area was conducted on November 11-12, 2025, for the proposed Project (Figures 6-7). For the approximate 136-acre Project Area, a larger Survey Area of 176.2 acres was subject to survey during the archaeological field assessments for the Project. This includes an approximately 440 ft (134.1 m) wide Survey Area along the route of the proposed transmission line, for a total area of 45.5 acres, and an approximately 130.7-acre area surrounding the proposed substation location. A larger Survey Area was used to account for potential Project layout changes. The Survey Area is located within an area consisting of agricultural fields, mixed grasses, and rural development (Figures 8-30). Ground surface visibility (GSV) within the Survey Area was poor to good (0-80%) throughout the Survey Area, with areas of higher GSV (greater than 25%) within agricultural fields and areas of lower GSV (0%) within grassy road ROW with significant previous disturbance. Pedestrian survey methodologies were used within areas of higher GSV (greater than 25%). Shovel test probes were conducted at the location of surface finds for site delineation. Visual inspection was conducted within areas of previous disturbance. Existing disturbance within the Survey Area includes agricultural practices, rural development (road/utility ROW), and active construction activities that are not related to the Project undertaking.

Portions of the Survey Area were under active construction/ground moving activities that are not related to the Project undertaking, and In Situ field staff were not allowed to complete the survey within portions of these active areas due to safety concerns (Figure 31A). However, current conditions of these portions of the Survey Area from current ground moving activities have considerably impacted the potential of intact cultural deposits. Due to the fact that these Survey Areas have been subject to significant ground disturbances, it is likely that these Survey Areas have been heavily impacted, as these ground moving activities appeared to reach around 4 ft in depth. This indicates that the area, based on the surrounding landform and testing depth, has been excavated well into the subsoil/substratum. It is probable that these activities would have significantly, if not totally, impacted any archaeological resources that may or may not have been present in relation to these portions of the Survey Area, leaving a nominal potential for the intact presence of archaeological remains within these portions of the Survey Area.

For the approximate 136-acre Project Area, a larger Survey Area of 176.2 acres was subject to survey during the archaeological field assessments for the Project. Of the 176.2 acres that were surveyed:

- 84 acres were within a disturbed context (75.5 acres within active construction with bulldozing that is not related to the Project undertaking and 8.5 acres within road/utility ROW) and were visually inspected where safely possible (Figure 31A);
- 92.2 acres were within agricultural fields with adequate to good (25-80%) GSV and were subject to pedestrian survey (Figure 31B);

One cultural resource 50 years or older was newly observed and recorded during the archaeological survey of the Survey Area. This resource is discussed in the *Cultural Resources* section later in this report.

Shovel Test Probes

For this Project, a total of ten shovel test probes were conducted during this survey (Table 6). These shovel test probes were completed for the delineation of [redacted] site. [redacted]

Soil profiles observed during shovel testing within the Survey Area revealed a topsoil depth that ranged between 38 to 55 cm below ground surface, with each shovel test probe terminating at least 20 cm into the subsoil, where possible. Reasons for terminating a shovel test probe less than 20 cm in the subsoil include impassable conditions, such as rocks or disturbance, and high-water tables. A typical shovel test probe soil profile within the Fargo-Ryan, thick solum silty clays (I241A) soil series consisted of a black (10YR2/1) sub-angular blocky silty clay loam soil over a dark gray (10YR4/1) sub-angular blocky silty clay soil over a dark grayish brown (10YR4/2) sub-angular blocky silty clay, as shown in Figure 32. Existing disturbance conditions that prohibit pedestrian survey within the Survey Area are shown in Figure 31A. Further depths for testing were deemed unnecessary due to the low potential for deep archaeological deposits, as the Survey Area is located in an upland setting with no potential soil depositional processes present and the soil profiles for the soil series within the Survey Area revealed that there are no buried soils (UC Davis 2025).

Table 6: Shovel Test Probe Results within the Survey Area.

ST#	Location	Width (cm)	Depth (cm)	Description	Artifacts	Northing (UTM) Latitude	Easting (UTM) Longitude
1	[redacted]	40	0-27	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam	[redacted]	[redacted]	[redacted]
			27-49	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			49-70	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
2		40	0-25	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			

Table 6: Shovel Test Probe Results within the Survey Area.

ST#	Location	Width (cm)	Depth (cm)	Description	Artifacts	Northing (UTM) Latitude	Easting (UTM) Longitude
			25-52	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			52-75	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
3		40	0-20	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			20-47	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			47-68	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
4		40	0-26	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			26-47	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			47-70	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
5		50	0-41	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			41-55	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			55-77	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
6		40	0-31	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			31-55	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			55-75	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
7		40	0-22	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			22-45	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			

Table 6: Shovel Test Probe Results within the Survey Area.

ST#	Location	Width (cm)	Depth (cm)	Description	Artifacts	Northing (UTM) Latitude	Easting (UTM) Longitude
	[redacted]		45-65	B2: 10YR4/2 Sub-Angular Blocky Silty Clay	[redacted]	[redacted]	[redacted]
8		40	0-23	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			23-38	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			38-60	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
9		40	0-22	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			22-47	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			47-69	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			
10		40	0-24	Ap: 10YR2/1 Sub-Angular Blocky Silty Clay Loam			
			24-55	B1: 10YR4/1 Sub-Angular Blocky Silty Clay			
			55-75	B2: 10YR4/2 Sub-Angular Blocky Silty Clay			

*UTM Coordinates in NAD 1983 Zone 14N

CULTURAL RESOURCES

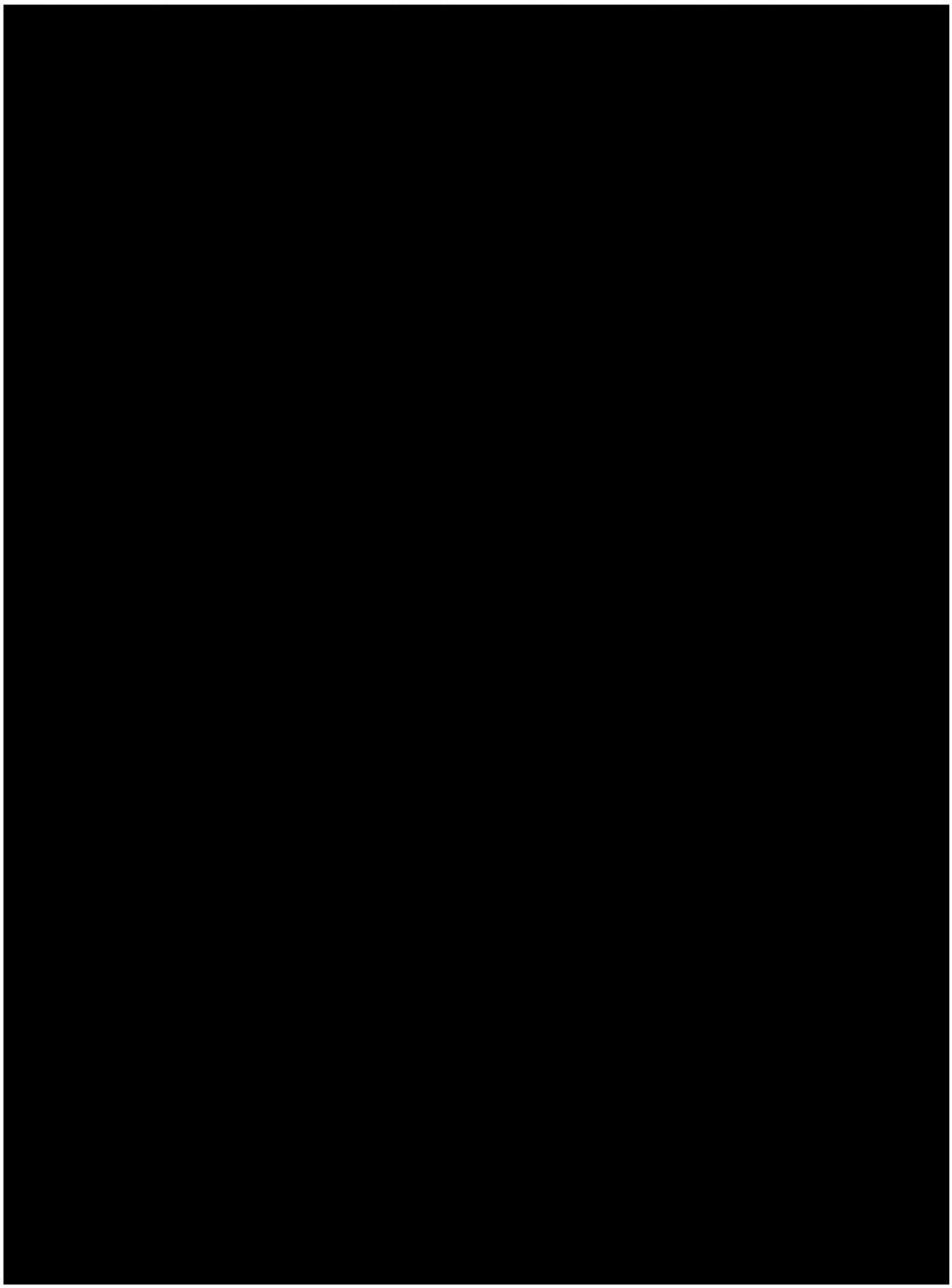
One newly recorded cultural resource was observed and recorded during the Class III cultural resource survey. The resource is discussed in detail below.

Newly Recorded Archaeological Resource

32CS5414

Site Type: [redacted]
Association:
Site NRHP Recommendation: Not Eligible
Management Recommendation: No Further Work

[redacted]



[redacted]

Summary of Cultural Resources

For the approximate 136-acre Project Area, a larger Survey Area of 176.2 acres was inventoried. One new cultural resource (32CS5414) was recorded during the archaeological survey of the proposed Project. Site 32CS5414 is recommended *not eligible* for the NRHP and therefore no further archaeological work is recommended for this resource for this Project. Additionally, no previously identified resources were visited during the survey, as no previously identified resources are within or adjacent to the Survey Area. Therefore, In Situ recommends a finding of *No Significant Sites Affected* within the Class III Survey Area.

ADDITIONAL CLASS I LITERATURE REVIEW

After fieldwork was completed, the proposed Project Area was altered. The northwestern most portions of the Project Area were removed and small areas to the south and southwest were added. The Revised Project Area now consists of 71.8 acres. In Situ received updated Project plans showing the Revised Project Area on December 19, 2025. With these changes, the transmission line ROW and several construction areas were extended beyond the original boundaries of the Survey Area. These changes cover areas that are approximately of a total of 15 acres in the Revised Project Area that were not within the Survey Area. Due to winter conditions, additional survey is not possible at this time, therefore, In Situ completed an additional Class I literature review to assess the Revised Project Areas not within the Survey Area.

An additional Class I literature review was conducted using a 1-mile radius surrounding the Revised Project Area and Survey Area (Revised Study Area). The review of the previously gathered literature review data showed that the results of the Class I literature review within the Revised Study Area remain unchanged as compared to the results from the Study Area described in the *Class I Literature Review* section above (Figures 39-43). There are still 17 previous inventories/surveys within the Revised Study Area, but with three of the previous inventories/surveys overlapping with portions of the Revised Project Area (008028, 009854, and 019842). [redacted] None of the previously recorded archaeological sites or architectural resources are located within or adjacent to the Revised Project Area.

After reviewing additional maps and other sources detailed in the *Class I Literature Review* section above, it was also found that the majority of the Revised Project Area that were not within the

Survey Area has been historically subject to agricultural development, road and utility construction, and railroad construction. There are no previously recorded cultural resources located within 100 m of the Revised Project Area and historic maps did not indicate any potential cultural resources within the Revised Project Area, with the exception of a railroad that intersects a proposed transmission corridor within the Revised Project Area. This railroad runs west-parallel to County Road 81 and has been a notable feature in the area since at least 1893, when it was built originally as the Great Northern Railway. The Great Northern Railway was established in 1889 and ultimately stretched from Duluth, Minnesota and the Twin Cities westward to Seattle, Washington, crossing through North Dakota on its journey. Later, in 1970 four railroads were merged (the Great Northern Railway, the Northern Pacific Railway, the Chicago, Burlington & Quincy Railroad, and the Spokane, Portland & Seattle Railway) to form the Burlington Northern Railroad on March 2, 1970. After 25 years of operation, in September 1995, the Burlington Northern Railroad merged again with the Santa Fe to form what is now the BNSF Railway (Great Northern Railway Historical Society 2025). For this Project, a segment of the current BSNF Railway will be crossed by aerial transmission lines. Due to the above-ground nature of the proposed utility lines as well as existing above-ground utilities in the area, the Railway will not be affected by the Project.

In addition, with this change, newly recorded site 32CS5414 [redacted] while recommended as *not eligible* for the NRHP, will not be affected by the Project.

Lastly, the archaeological resource potential modeling conducted by In Situ, using the parameters defined earlier in this report, identified no areas of moderate or high archaeological resource potential within the Revised Project Area. Based on the results of the Class I literature review, the modeled archaeological potential, and the findings of the completed Class III survey, the portions of the Revised Project Area that were not subject to field survey are considered to have a low potential for cultural resources, and the Project is unlikely to impact any undocumented archaeological resources within these areas. Therefore, In Situ recommends a finding of *No Significant Sites Affected* within the Revised Project Area. If the agencies are in agreement with these findings, *No Further Cultural Resource Work* is recommended for the Project.

MANAGEMENT RECOMMENDATIONS

A Class I and Class III cultural resource investigation was conducted for the proposed Project. The Class I literature review was conducted on October 14, 2025, the Class III cultural resource investigation was conducted on November 11-12, 2025, and an additional Class I literature review was conducted on December 12, 2025, to account for changes to the Project. The Class I and Class III cultural resource investigation included a background literature review within and surrounding the proposed Project Area along with an intensive survey of the proposed Survey Area.

For the original approximate 136-acre Project Area, a larger Survey Area of 176.2 acres was inventoried for the Project. One new cultural resource (32CS5414) was recorded during the archaeological survey of the proposed Project. Site 32CS5414 is recommended *not eligible* for the NRHP and therefore no further archaeological work is recommended for this resource for this Project. Additionally, no previously identified resources were visited during the survey, as no previously identified resources are within or adjacent to the Survey Area. Therefore, In Situ recommends a finding of *No Significant Sites Affected* within the Class III Survey Area.

After fieldwork was completed, the proposed Project Area was altered. The northwestern most portions of the Project Area were removed and small areas to the south and southwest were added. The Revised Project Area now consists of 71.8 acres. With these changes, the transmission line ROW and several construction areas were extended beyond the original boundaries of the Survey Area. These changes cover areas that are approximately of a total of 15 acres in the Revised Project Area that were not within the Survey Area. Due to winter conditions, additional survey is not possible at this time. With this change, site 32CS5414 is now located outside of the proposed Revised Project Area, and, while recommended as *not eligible* for the NRHP, will not be affected by the Project. In addition, based on the initial Class I literature review conducted for this Project and the results of the Class III survey, these Revised Project Areas that were not subject to survey have a low potential for cultural resources and the Project is unlikely to impact any undocumented cultural resources within these areas. Therefore, In Situ recommends a finding of *No Significant Sites Affected* within the Revised Project Area. If the agencies are in agreement with these findings, *No Further Cultural Resource Work* is recommended for the Project.

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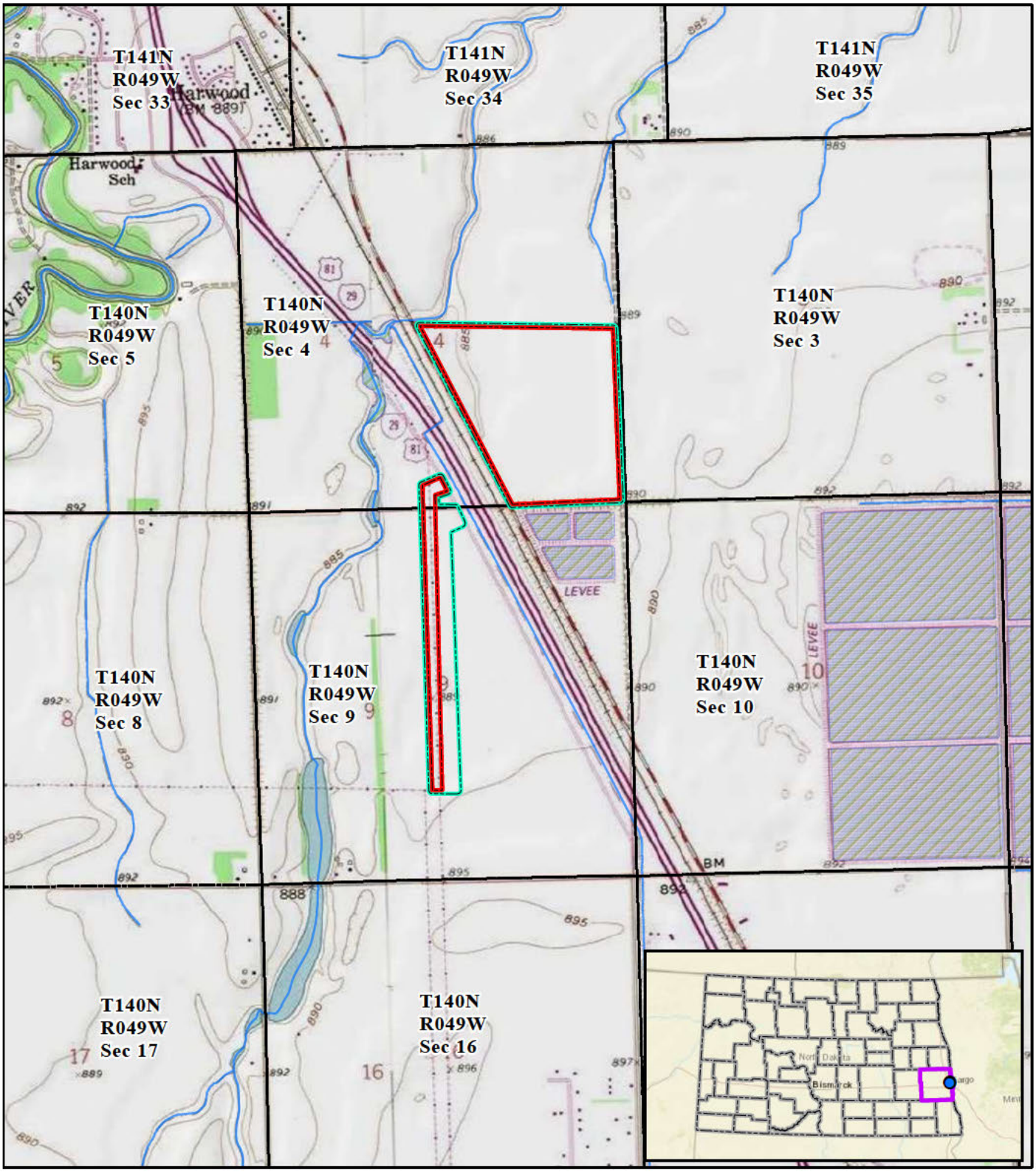
FIGURES



Legend

- Project Area
- Survey Area
- Township/Range/Section
- Stream/River
- Water Body
- Project Location
- Cass County
- County Boundary

N W E S

1:24,000 Approximate Scale in Feet 1 inch equals 2,000 feet

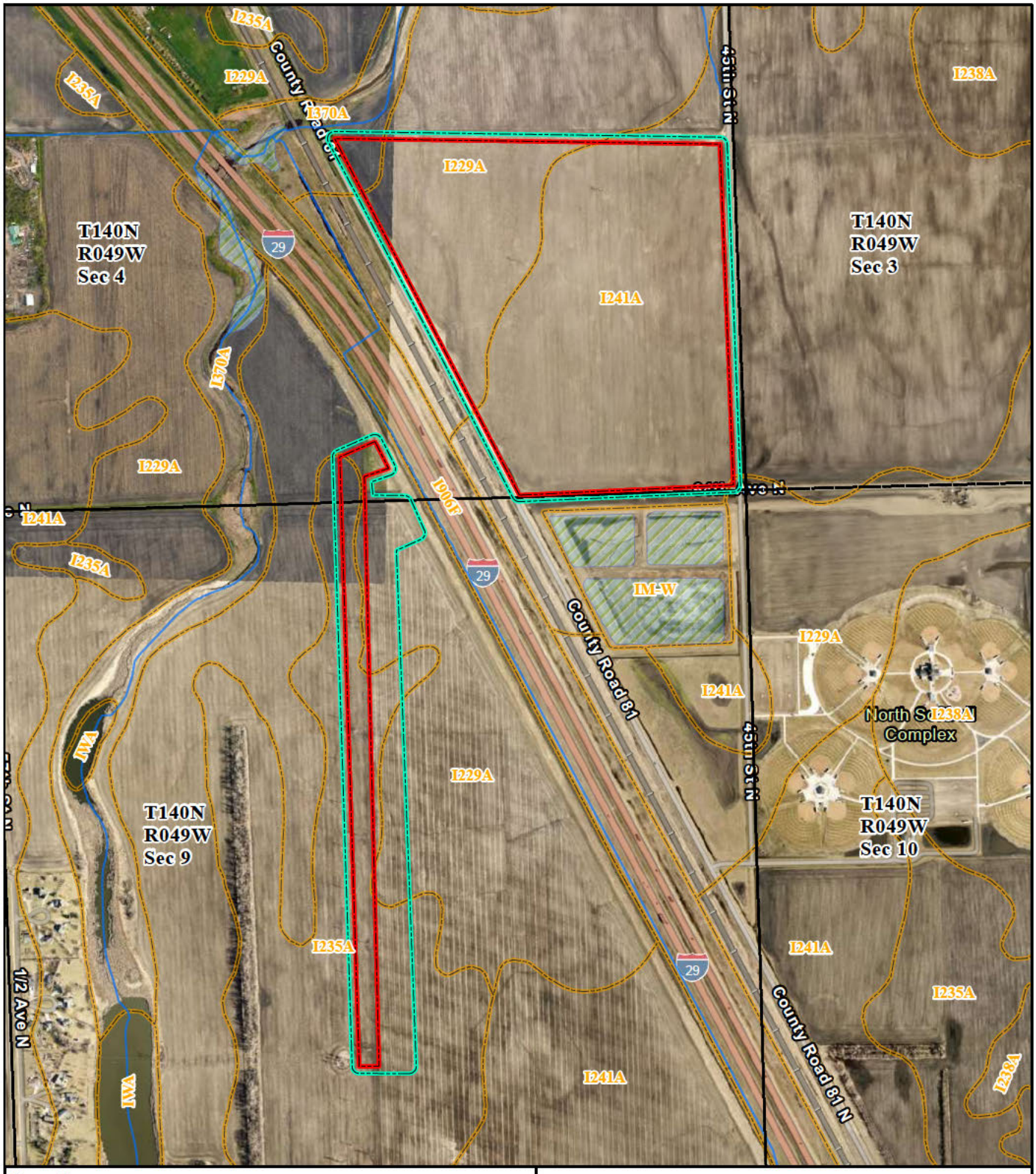
2,000 0 2,000 4,000

TOPOGRAPHIC MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI

Figure 1. Project location on the USGS *1976-93 West Fargo North/Fargo North, ND* 7.5 minute series topographic map.



Legend

- Soils
- Project Area
- Survey Area
- Township/Range/Section
- Stream/River
- Water Body

N
W E
S

1:12,000 Approximate Scale in Feet 1 inch equals 1,000 feet

1,000 0 1,000 2,000

AERIAL MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI

Figure 2. Project location on an aerial map.

N

[redacted]

LITERATURE REVIEW
TOPOGRAPHIC MAP
Applied Digital Fargo Communications Project
Cass County, North Dakota
DO NOT RELEASE
Archaeological Site Location Not for Public Disclosure

N
W E
S

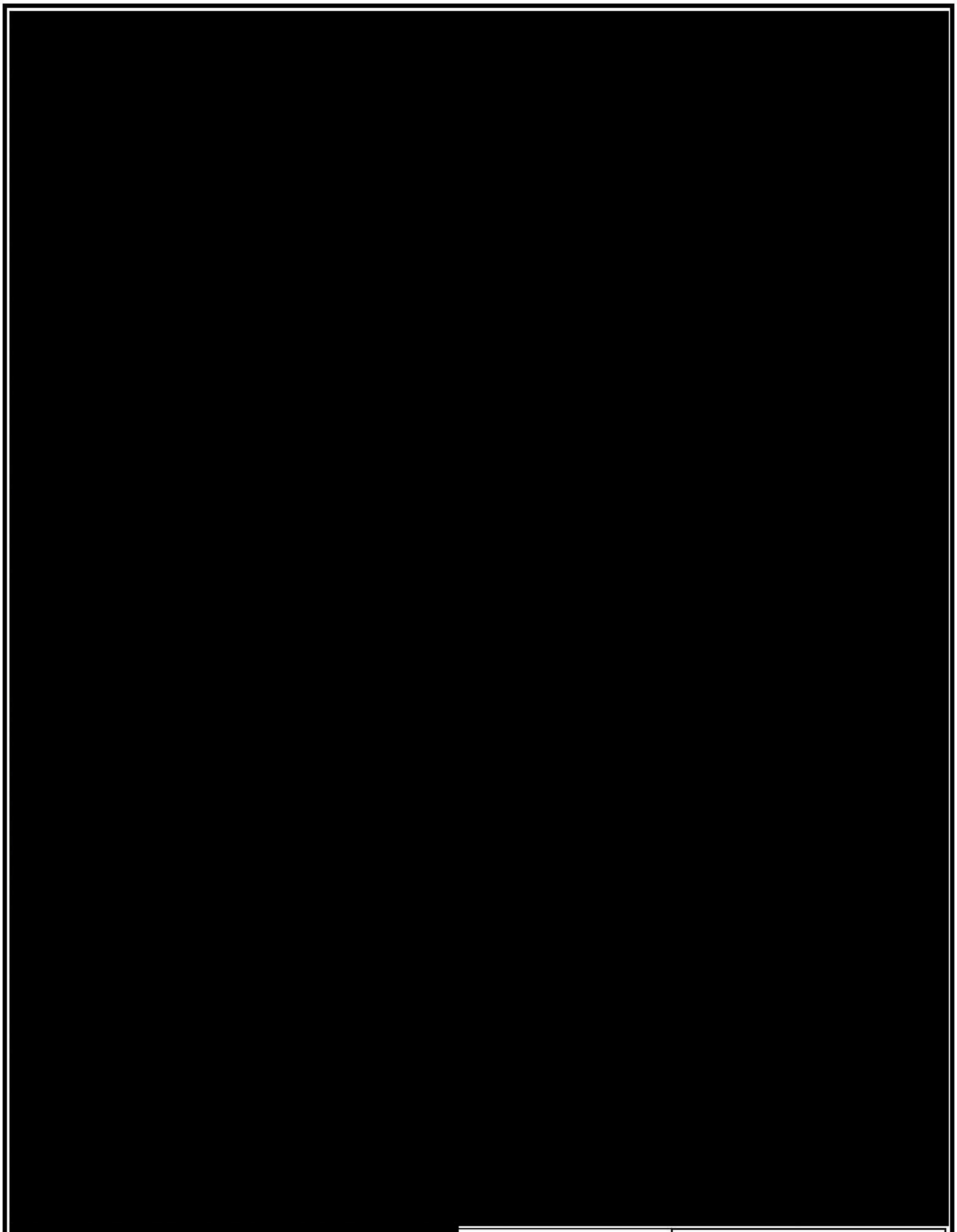
2,000 0 2,000
Feet

1:24,000 1 inch equals 2,000 feet

Note: Aerial Imagery courtesy of ESRI

Figure 3. Topographic map with previous cultural resources surveys and previously recorded sites.

N



LITERATURE REVIEW
AERIAL MAP
Applied Digital Fargo Communications Project
Cass County, North Dakota
DO NOT RELEASE
Archaeological Site Location
Not for Public Disclosure

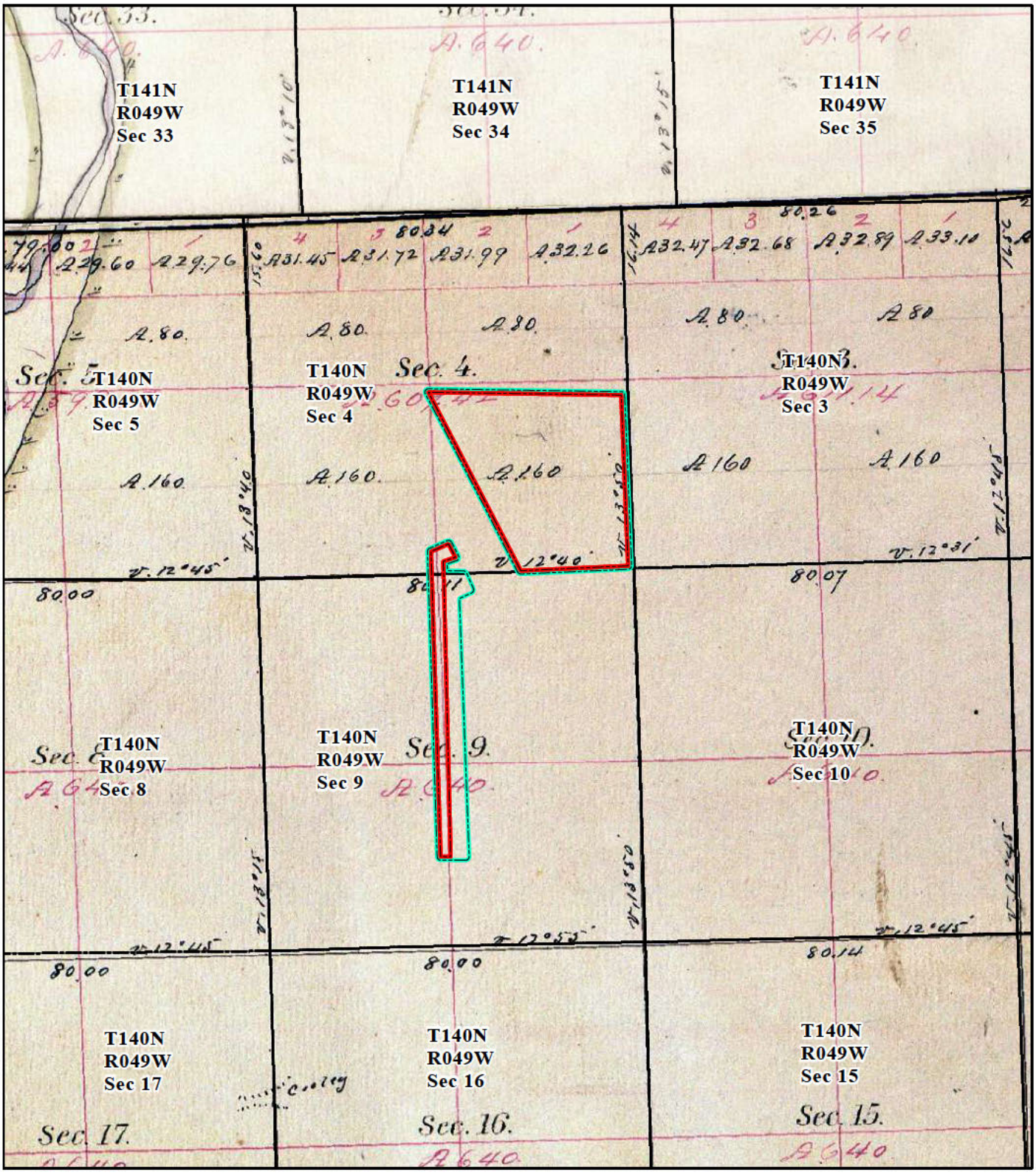
N
W E
S

1,250 0 1,250
Feet
1:15,000 1 inch equals 1,250 feet

Note: Aerial Imagery courtesy of ESRI

Figure 4. Aerial map with previous cultural resources surveys and previously recorded sites.

N



Legend

- Project Area
- Survey Area
- Township/Range/Section

1:24,000 — Approximate Scale in Feet — 1 inch equals 2,000 feet

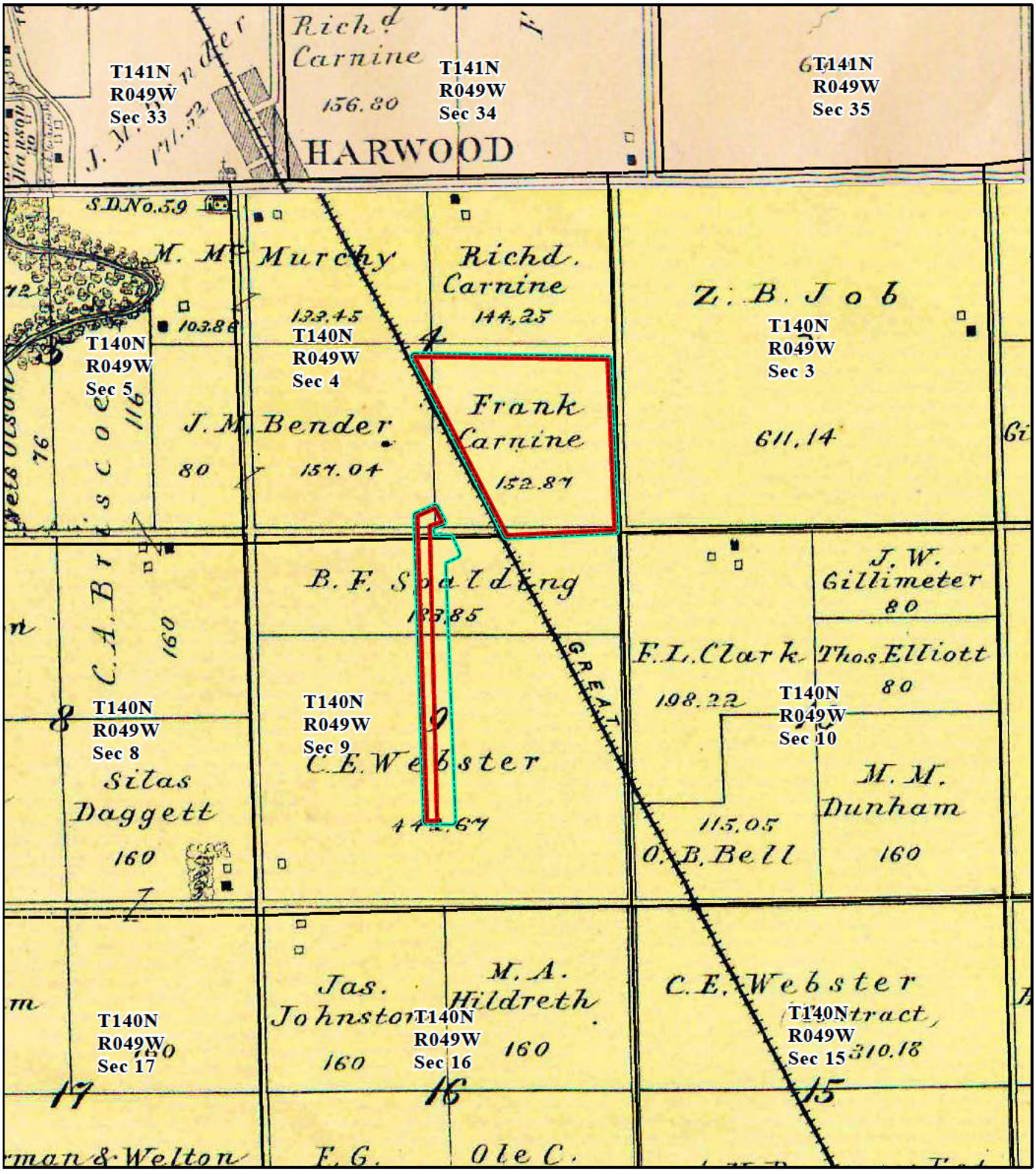
2,000 0 2,000 4,000

HISTORICAL BLM GLO PLAT MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of the U.S. Department of the Interior Bureau of Land Management.

Figure 5A. Project location on the 1871-72 BLM GLO Plat map.



Legend

- Project Area
- Survey Area
- Township/Range/Section

N W E S

1:24,000 Approximate Scale in Feet 1 inch equals 2,000 feet

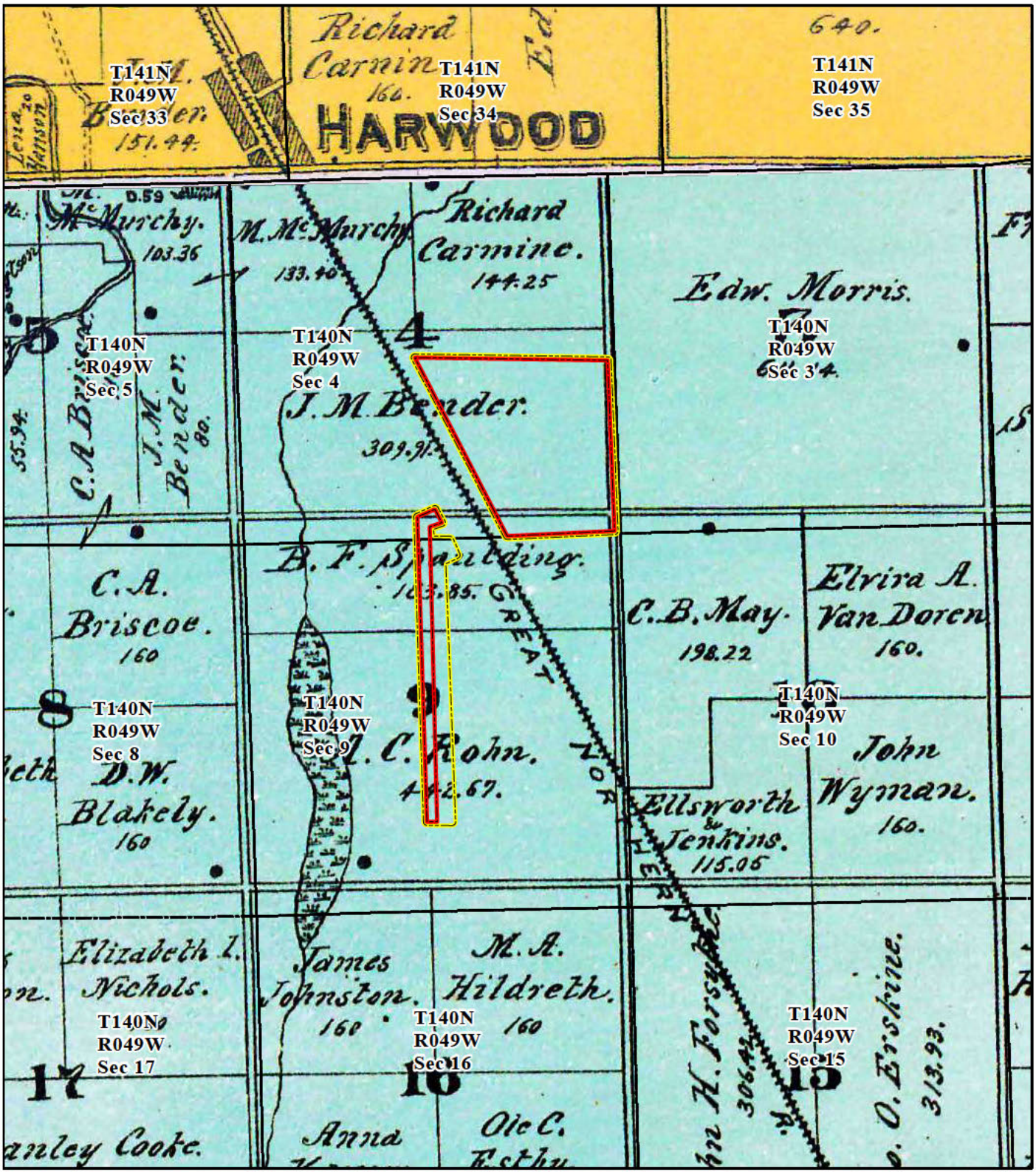
2,000 0 2,000 4,000

HISTORICAL PLAT MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of D.W. Ensign & Co. Chicago, Illinois

Figure 5B. Project location on an 1893 plat map.



Legend

- Project Area
- Survey Area
- Township/Range/Section

N
W E
S

1:24,000 Approximate Scale in Feet 1 inch equals 2,000 feet

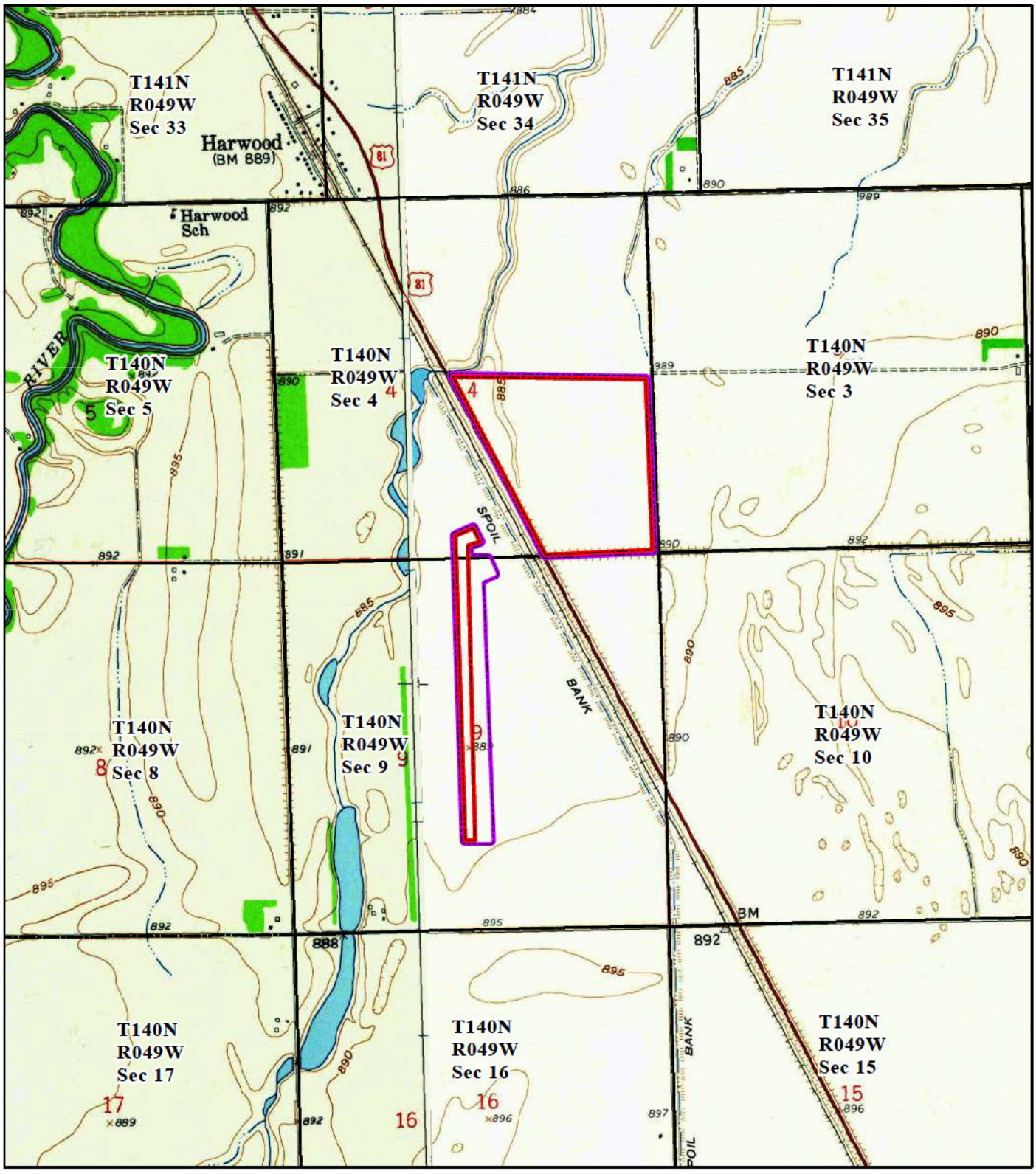
2,000 0 2,000 4,000

HISTORICAL PLAT MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of R. L. Polk & Co. St. Paul, Minnesota

Figure 5C. Project location on a 1906 plat map.



Legend

- Project Area
- Survey Area
- Township/Range/Section

N
W E
S

1:24,000 Approximate Scale in Feet 1 inch equals 2,000 feet

2,000 0 2,000 4,000

HISTORICAL TOPOGRAPHIC MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of the USGS.

Figure 5D. Project location on the *1959 West Fargo North/Fargo North, ND* 24,000 series topographic map.

N

Legend

- Project Area
- Survey Area
- Township/Range/Section

N
W E
S

1:15,000 Approximate Scale in Feet 1 inch equals 1,250 feet

1,250 0 1,250 2,500

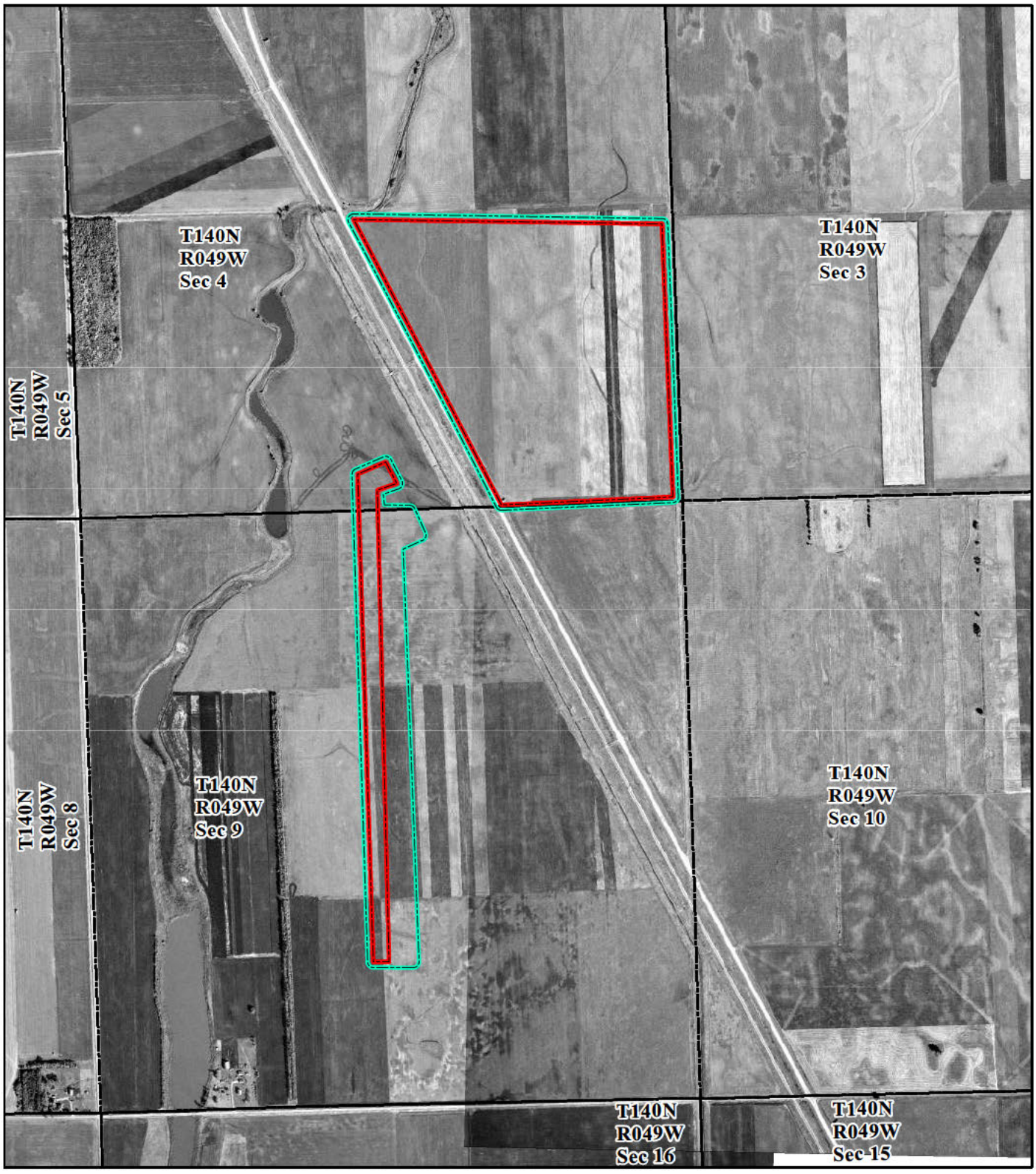
HISTORIC AERIAL MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ND Historical Map and Aerial Photography Dissemination Service.

Figure 5E. Project location on 1941 aerial imagery.

N



Legend

- Project Area
- Survey Area
- Township/Range/Section

N
W E
S

1:15,000 Approximate Scale in Feet 1 inch equals 1,250 feet

1,250 0 1,250 2,500

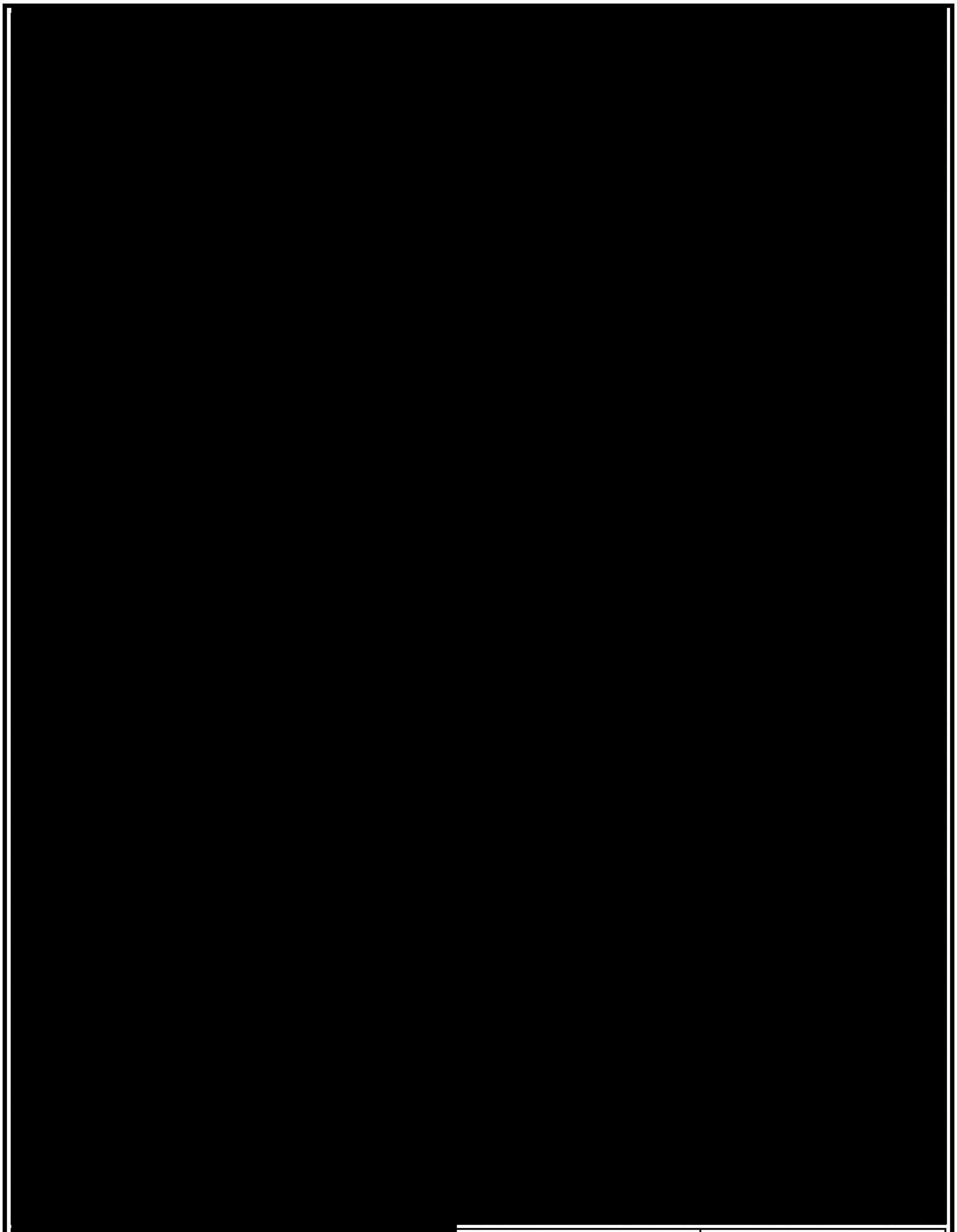
HISTORICAL AERIAL MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ND Historical Map and Aerial Photography Dissemination Service.

Figure 5F. Project location on 1962 aerial imagery.

N



N

W E

S

800 0 800

Feet

1:9,600 1 inch equals 800 feet

RESOURCE POTENTIAL

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Aerial Imagery courtesy of ESRI

Figure 5G. Project location on an aerial map showing areas of resource potential.

N

7-1
7-2
7-3
7-4
7-5
7-6
7-7
7-8
29
County Road 81
57th St N
45th St N
64th Ave N
52nd Ave N
North Softball Complex

Legend

- Mapbook Page
- Survey Area
- Project Area

N
W E
S

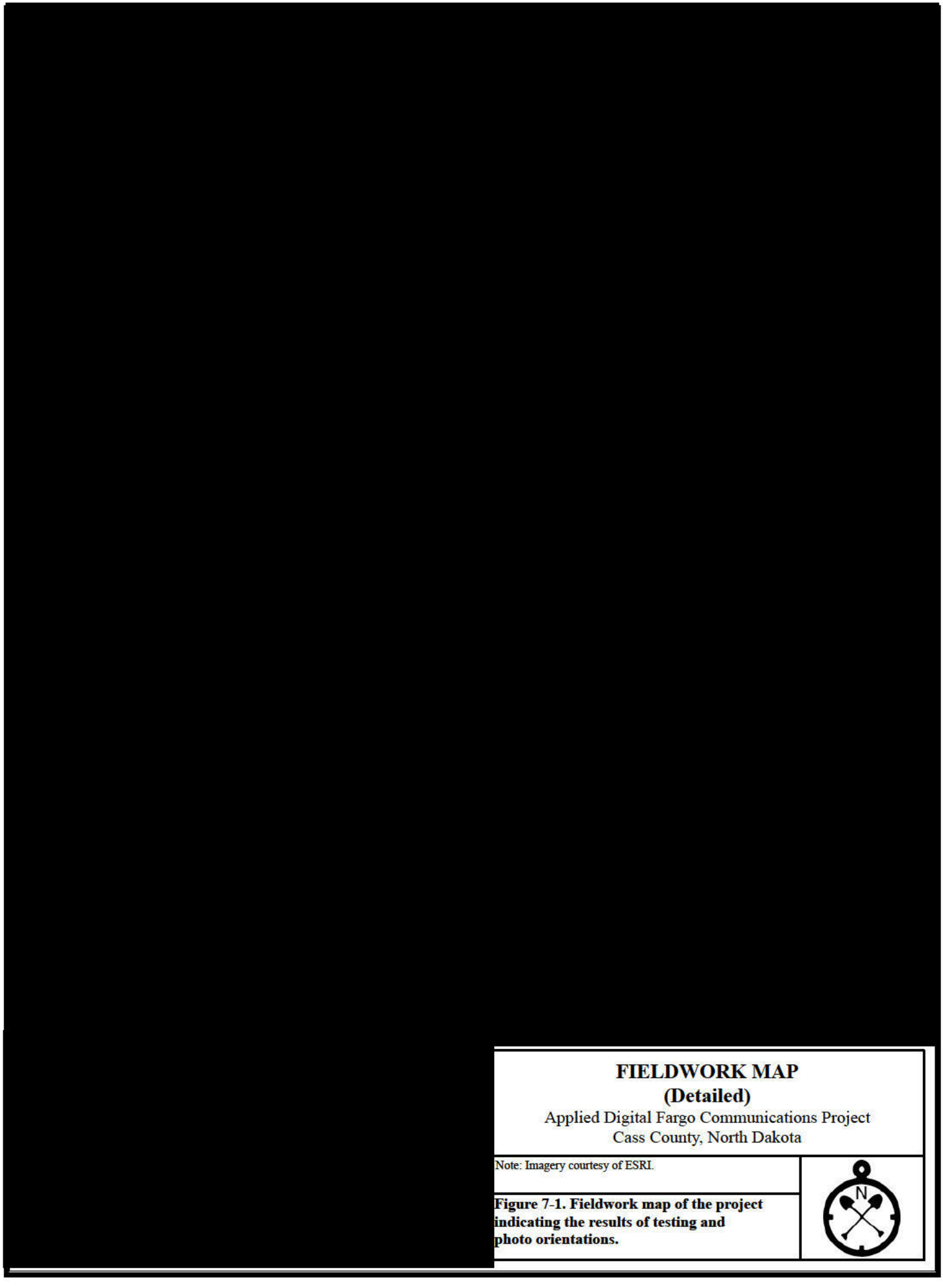
667 0 667
Feet

1:8,000 1 inch equals 667 feet

POLITICAL MAP
(Overview)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI

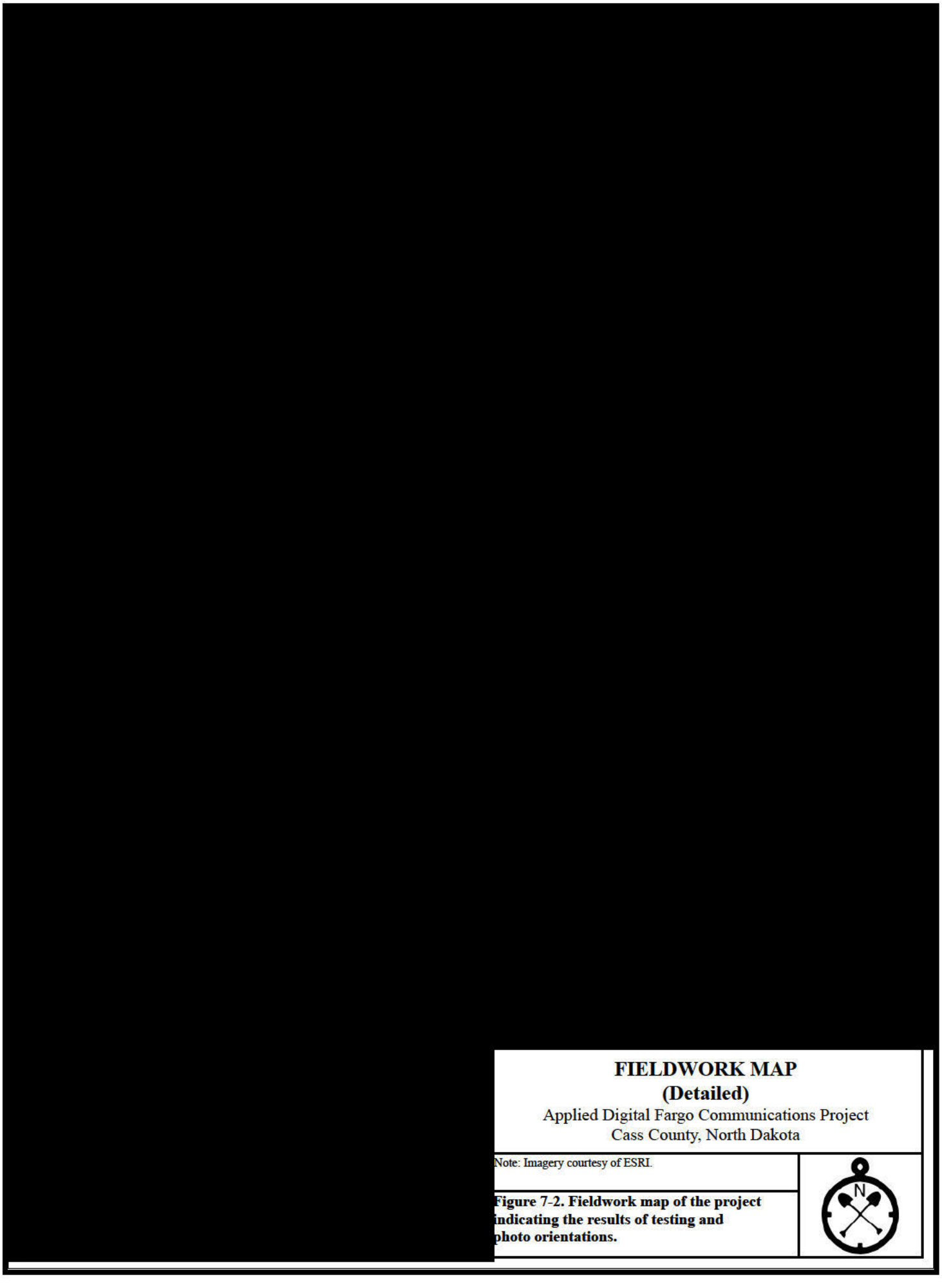
Figure 6. Political map showing mapbook layout of fieldwork results and photographic orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

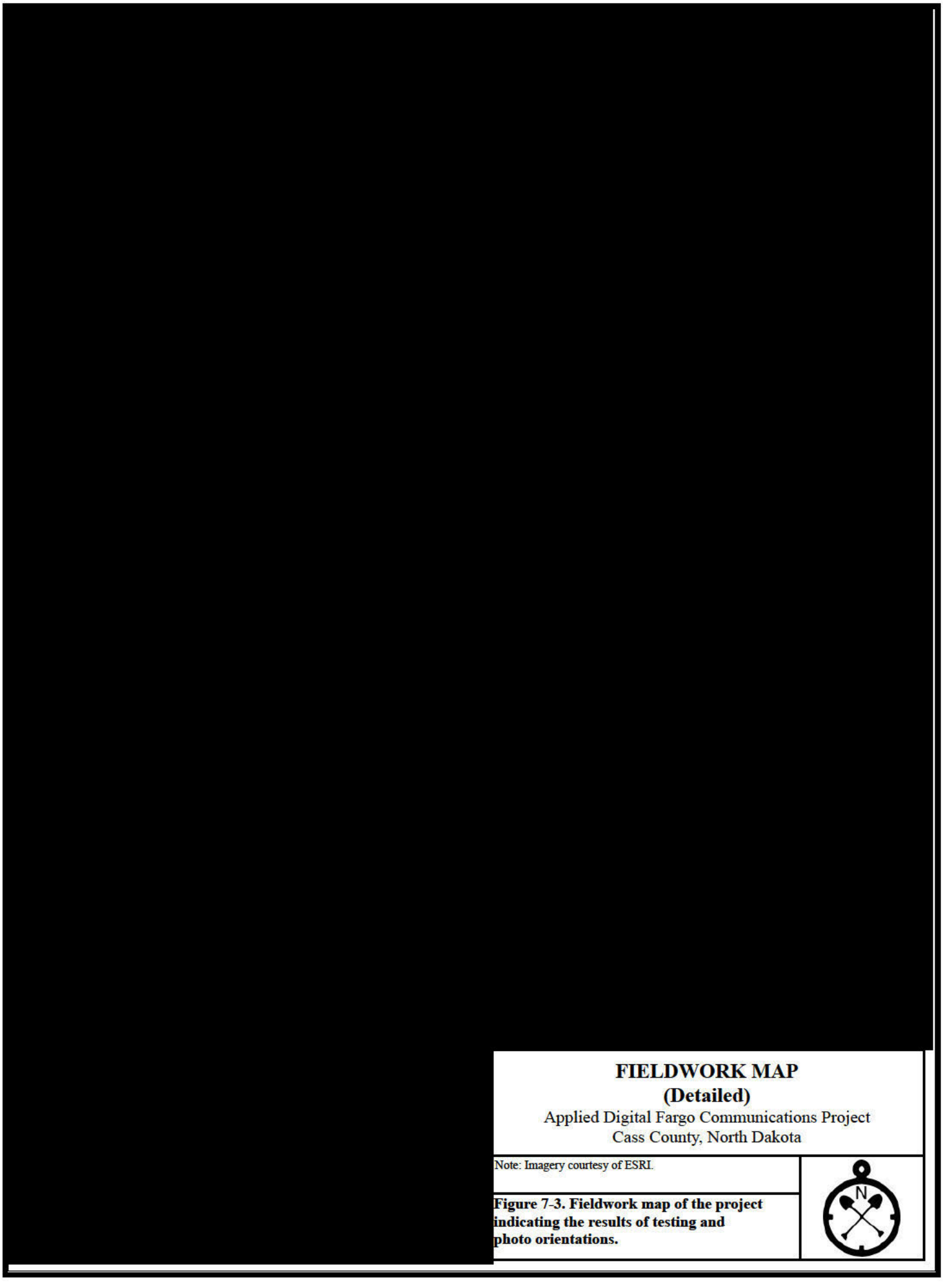
Figure 7-1. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

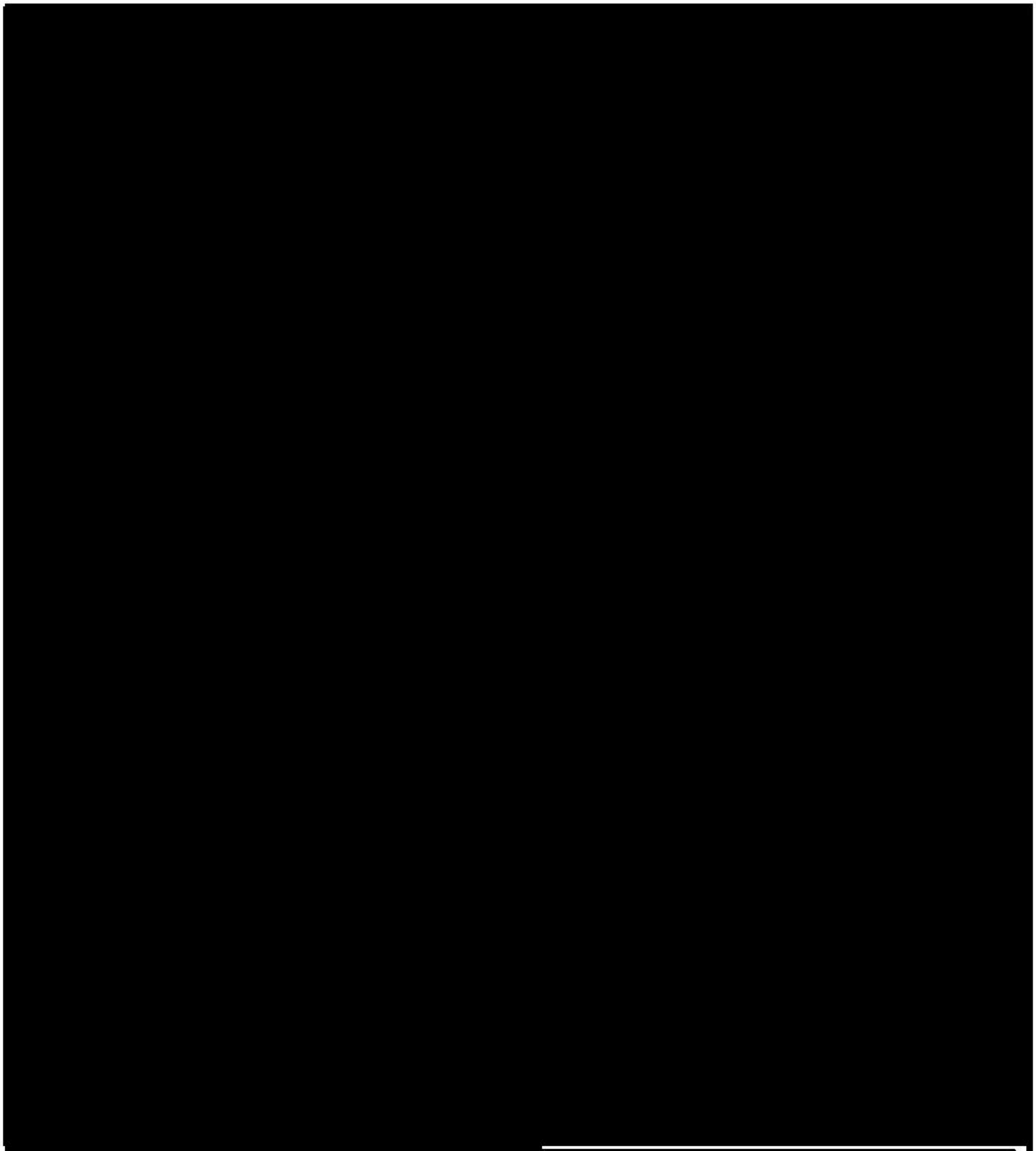
Figure 7-2. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

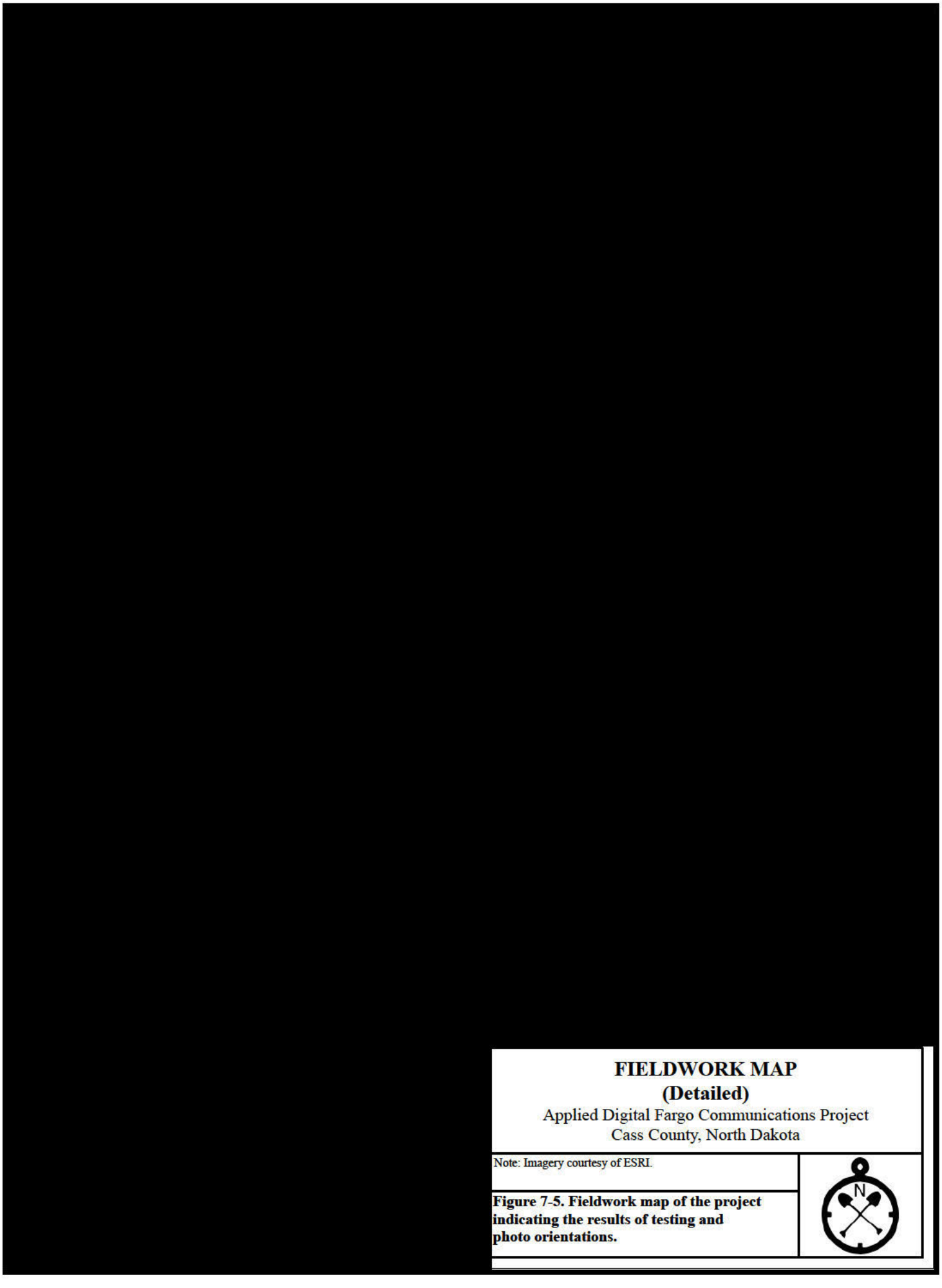
Figure 7-3. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

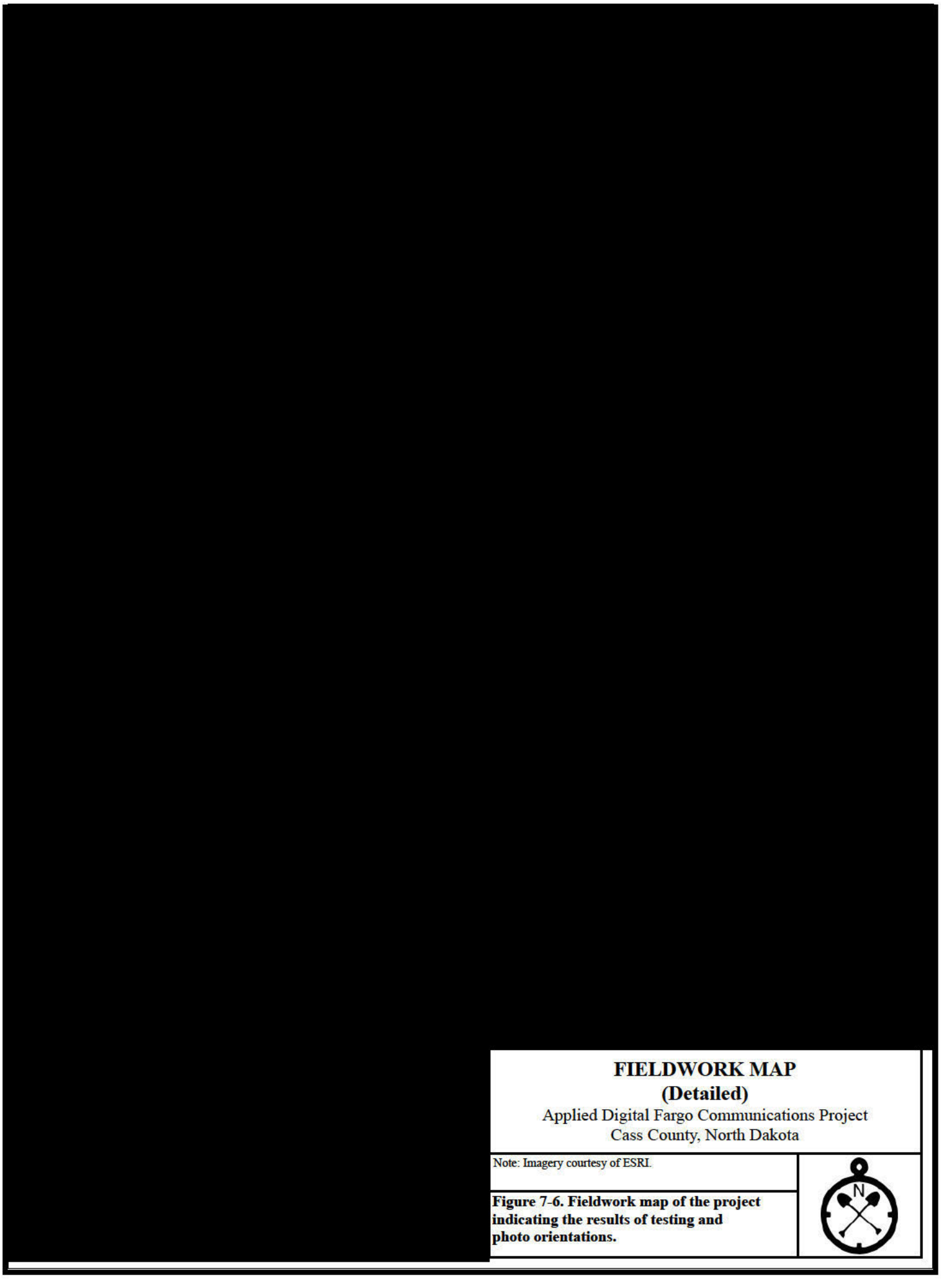
Figure 7-4. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

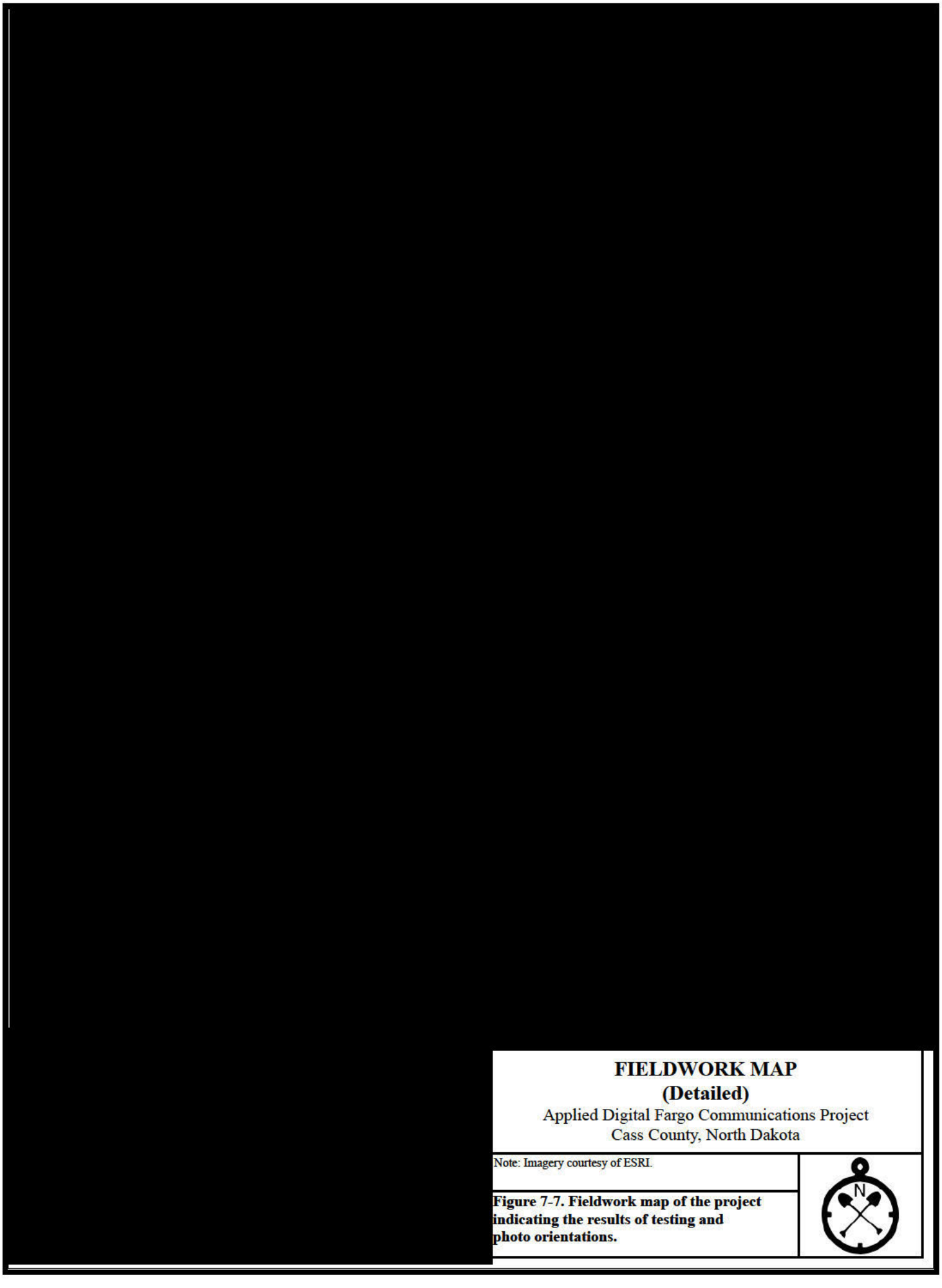
Figure 7-5. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

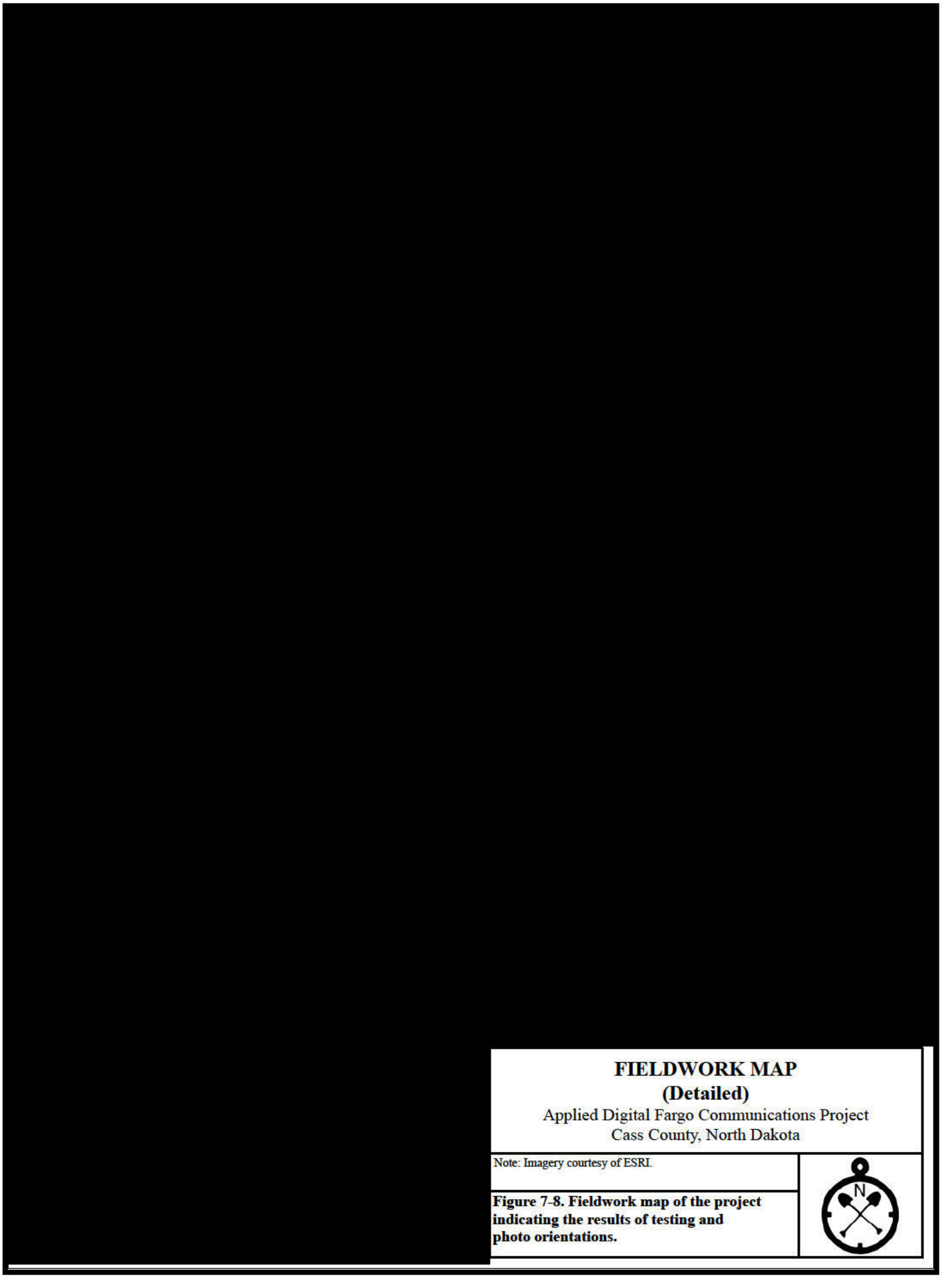
Figure 7-6. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

Figure 7-7. Fieldwork map of the project indicating the results of testing and photo orientations.



FIELDWORK MAP
(Detailed)
Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI.

Figure 7-8. Fieldwork map of the project indicating the results of testing and photo orientations.

Figure 8: Overview facing southeast within the Survey Area (R0025261).

Figure 9: Overview facing southwest within the Survey Area (IMG_0607).

Figure 10: Overview facing southeast within the Survey Area (IMG_0605).

Figure 11: Overview facing northwest within the Survey Area (R0025271).

Figure 12: Overview facing southeast within the Survey Area (R0025267).

Figure 13: Overview facing northeast within the Survey Area (R00273).

Figure 14: Overview facing southeast within the Survey Area (R0025276).

Figure 15: Overview facing southwest within the Survey Area (R0025236).

Figure 16: Overview facing northwest within the Survey Area (R0025251).

Figure 17: Overview facing southwest within the Survey Area (R0025239).

Figure 18: Overview facing northeast within the Survey Area (R0025245).

Figure 19: Overview facing southeast within the Survey Area (R0025247).

Figure 20: Overview facing north within the Survey Area (R0025282).

Figure 21: Overview facing east within the Survey Area (R0025284).

Figure 22: Overview facing south within the Survey Area (R0025286).

Figure 23: Overview facing west within the Survey Area (R0025288).

Figure 24: Overview facing northwest within the Survey Area (R0025279).

Figure 25: Overview facing northeast within the Survey Area (R0025293).

Figure 26: Overview facing southeast within the Survey Area (R0025202).

Figure 27: Overview facing south within the Survey Area (R0025224).

Figure 28: Overview facing west within the Survey Area (R0025220).

Figure 29: Overview facing northwest within the Survey Area (R0025229).

Figure 30: Overview facing northeast within the Survey Area (R0025197).

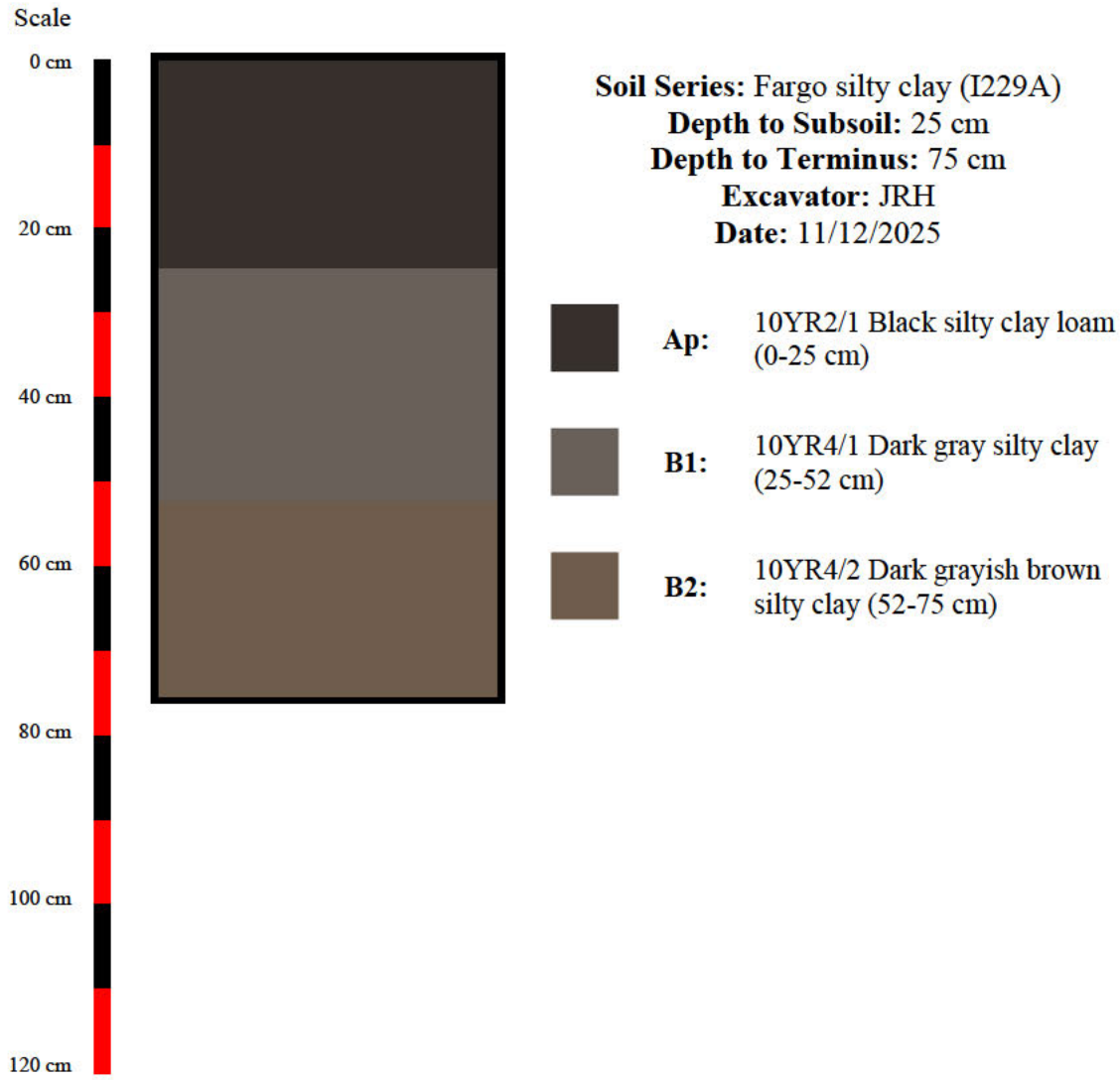
Figure 31A: View of typical disturbed conditions (active construction site) within the Survey Area (R0025235/R0025251).

Figure 31B. View of typical ground surface visibility (30-80% untilled and tilled harvested soybean field) within the Survey Area (R0025263/R002500).

Representative shovel test photo.

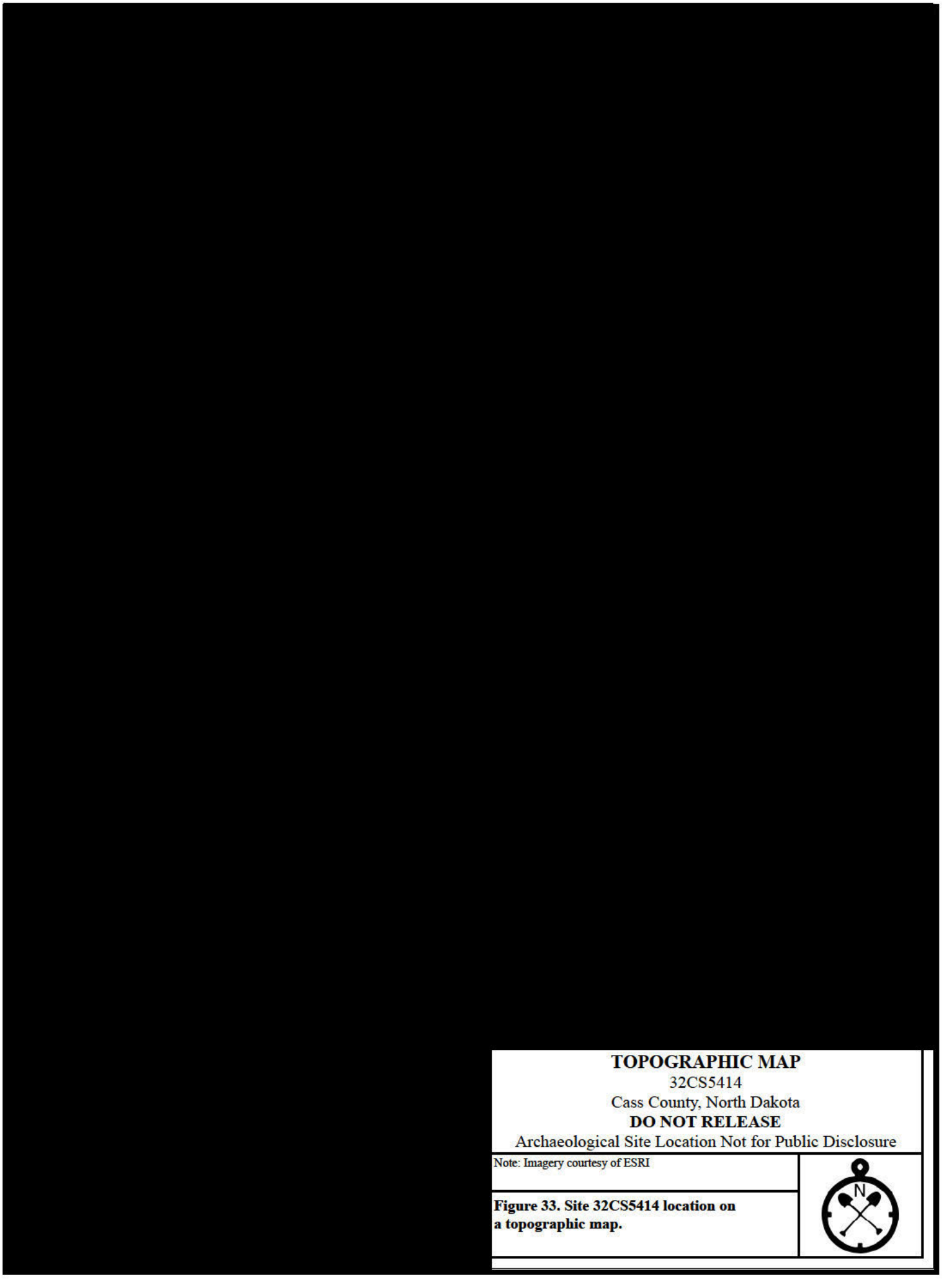
Representative soil profile photo.

Representative Shovel Test Probe Soil Profile



IN SITU Archaeological Consulting

Figure 32. A typical shovel test probe excavated within the Survey Area.



TOPOGRAPHIC MAP
32CS5414
Cass County, North Dakota
DO NOT RELEASE
Archaeological Site Location Not for Public Disclosure

Note: Imagery courtesy of ESRI

Figure 33. Site 32CS5414 location on a topographic map.

[redacted]

AERIAL MAP

32CS5414

Cass County, North Dakota

DO NOT RELEASE

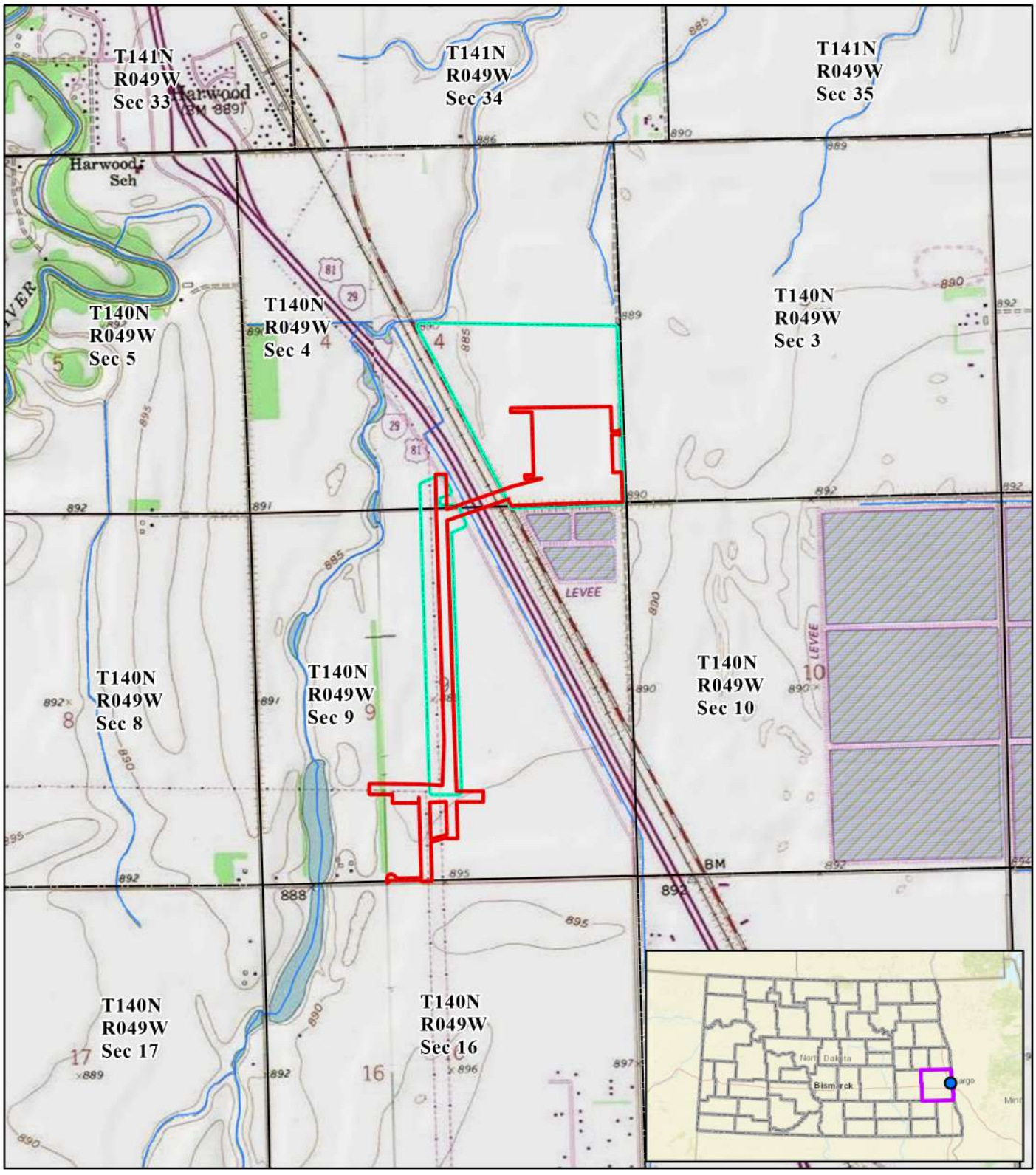
Archaeological Site Location Not for Public Disclosure

Note: Imagery courtesy of ESRI

Figure 34. Site 32CS5414 location and numbered shovel tests on aerial imagery.

[redacted]

[redacted]



Legend

- Revised Project Area
- Survey Area
- Township/Range/Section
- Stream/River
- Water Body
- Project Location
- Cass County
- County Boundary

N W E S

1:24,000 Approximate Scale in Feet 1 inch equals 2,000 feet

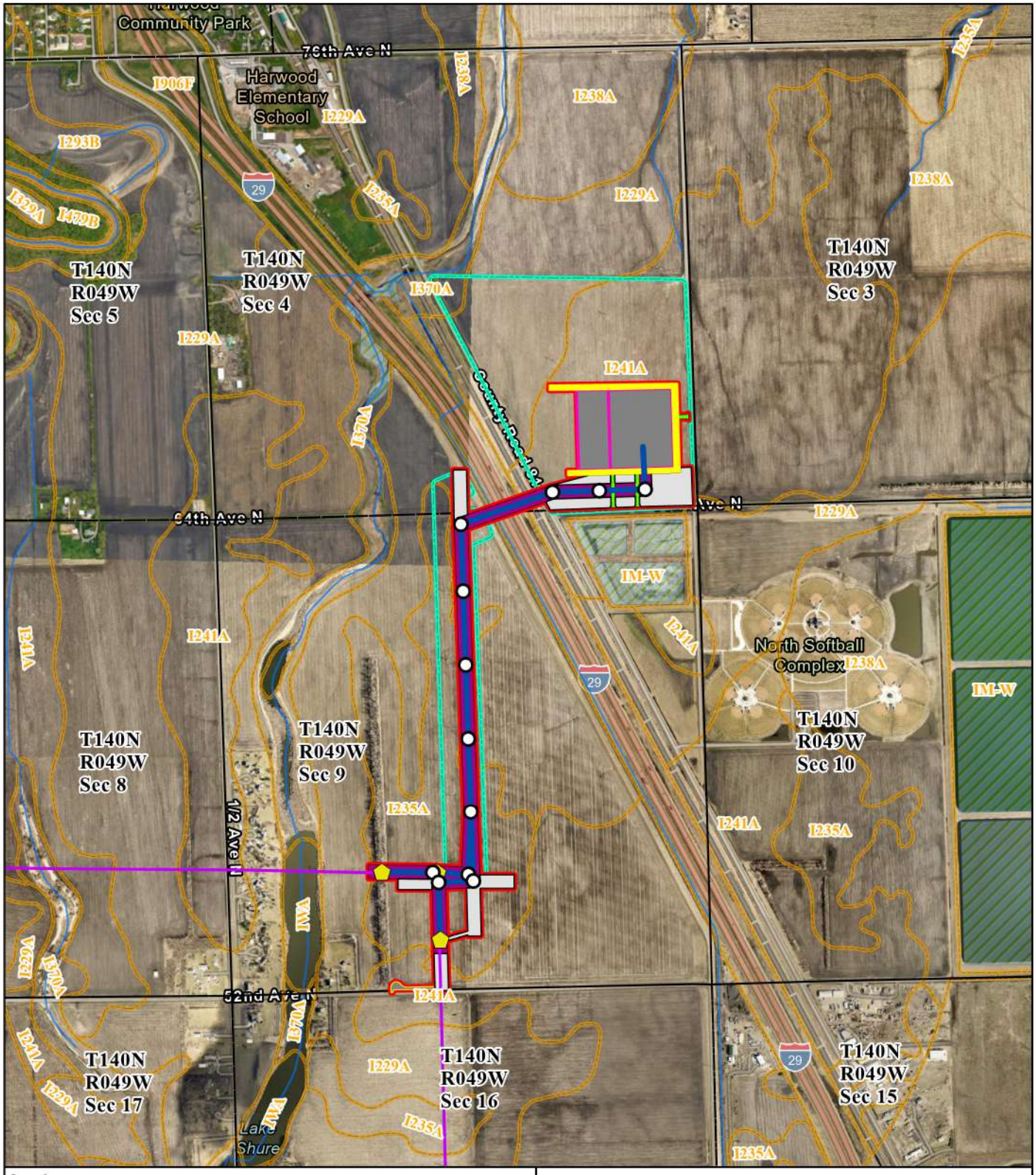
2,000 0 2,000 4,000

TOPOGRAPHIC MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI

Figure 39. Revised project location on the USGS *1976-93 West Fargo North/Fargo North, ND* 7.5 minute series topographic map.



Legend

- Proposed Structure
- Proposed Structure
- Existing Transmission Line
- Proposed Route
- Proposed Agassiz Substation
- Temporary Workspace
- Temporary Access Road
- Proposed Access Road
- Proposed Substation Corridor
- Proposed Corridor
- Soils
- Revised Project Area
- Survey Area
- Township/Range/Section
- Stream/River
- Water Body

N W E S

1:18,750 — Approximate Scale in Feet — 1 inch equals 1,562 feet

1,562 0 1,562 3,124

AERIAL MAP

Applied Digital Fargo Communications Project
Cass County, North Dakota

Note: Imagery courtesy of ESRI

Figure 40. Revised project location on an aerial map.

[redacted]

LITERATURE REVIEW
TOPOGRAPHIC MAP
Applied Digital Fargo Communications Project
Cass County, North Dakota
DO NOT RELEASE
Archaeological Site Location Not for Public Disclosure

N
W E
S

2,000 0 2,000
Feet

1:24,000 1 inch equals 2,000 feet

Note: Imagery courtesy of ESRI

Figure 41. Revised topographic map with previous cultural resources surveys and previously recorded sites.

LITERATURE REVIEW
AERIAL MAP
Applied Digital Fargo Communications Project
Cass County, North Dakota
DO NOT RELEASE
Archaeological Site Location
Not for Public Disclosure

N
W E
S

1,250 0 1,250
Feet

1:15,000 1 inch equals 1,250 feet

Note: Aerial Imagery courtesy of ESRI

Figure 42. Revised aerial map with previous cultural resources surveys and previously recorded sites.

[redacted]

N
W E
S

RESOURCE POTENTIAL
Applied Digital Fargo Communications Project
Cass County, North Dakota

800 0 800
Feet
1:9,600 1 inch equals 800 feet

Note: Aerial Imagery courtesy of ESRI

Figure 5G. Revised project location on an aerial map showing areas of resource potential.