Phase I Archaeological Resources Survey for the Value Engineering Roadway Alternative 2

Willmar Wye Project

Kandiyohi County, Minnesota
Township 119 North, Range 35 West, Sections 7, 16, 17, 18, 19 and 20

State Project Number (SP): 3403-74
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AUTHORIZED AND SPONSORED BY:

Minnesota Department of Transportation
and the Federal Highway Administration

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Management Summary

A public-private partnership including the city of Willmar, Kandiyohi County, the Kandiyohi County and City of Willmar Development Commission, the Minnesota Department of Transportation (MnDOT), and the BNSF Railway Company is proposing a new rail connection between two existing railroad main lines in Willmar, Kandiyohi County, Minnesota, which will require the construction of new crossings at County Road 55, Trunk Highway 12, and Trunk Highway 40. The crossings at the trunk highways will involve vertical and/or horizontal road realignment. This project, the Willmar Connection and Industrial Access Project (Willmar Wye Project), is receiving Federal Railroad Administration (FRA) funds and is therefore subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended. After discussions between the FRA and the Federal Highway Administration (FHWA), with consideration given to project delivery schedule and staffing availability, the decision was made that the FRA would be the lead federal agency for delivery of physical construction, while the FHWA would be the lead federal agency for completing the project environmental document, including Section 106 review. The FHWA delegates authority for compliance with Section 106 to the MnDOT Cultural Resources Unit (CRU). To assist with their review, the MnDOT CRU contracted with HDR Engineering, Inc. (HDR) to conduct Phase I and II archaeological investigations of the project area of potential effects (APE).

The roadway modifications are part of the Value Engineering Roadway Alternative (Alternative 2) of the Willmar Wye railway project (Project) near the city of Willmar in Kandiyohi County, Minnesota in sections 7, 16, 17, 18, 19 and 20 of Township 119N, Range 35W. Alternative 2 is needed to address roadway impacts associated with the Project's proposed new railroad connection to the south and west of the city of Willmar. Alternative 2 includes a proposed Trunk Highway (TH) 12 realignment consisting of an approximately 2.5-mile long, 200-foot-wide corridor located south of the current TH 12 route, as well as proposed modifications to several roadway components along TH 12, County State Aid Highway (CSAH) 55, TH 40, 1st Avenue West and 45th Street Northwest.

In April 2016, HDR Engineering, Inc. (HDR) conducted an archaeological resources survey for Alternative 2 and to document previous archaeological work completed for the Project's Original Roadway Alternative (Alternative 1) by AECOM in December 2015. The Willmar Wye project is located in the Prairie Lakes North (2n) Archaeological Sub-Region of Minnesota. The Alternative 2 Area of Potential Effects (APE) includes a 200-foot-wide corridor along the proposed 2.5-mile TH 12 realignment where grading or other surface disturbances will occur, as well as proposed modifications to several roadway components along TH 12, CSAH 55, TH 40, 1st Avenue West and 45th Street Northwest. The Alternative 2 APE encompasses approximately 130 acres. The Alternative 1 project area surveyed by AECOM encompassed approximately 374 acres in sections 7, 8, 17, 18, 19, 20, 29 and 30 of Township 119N, Range 35W.

Phase I investigations were carried out in May 2016 under the direction of Michael Justin, Principal Investigator for the Project, under an Annual Archaeological Reconnaissance Survey License (No. 16-032) issued by the Office of the State Archaeologist (OSA). The Phase I investigations conducted by HDR included an assessment of the previous archaeological investigations conducted by AECOM in the portions of the Alternative 2 APE that overlap with the Alternative 1 project area, background research for the Alternative 2 APE, and archaeological field survey of the TH 12 realignment segment of the Alternative 2 APE. At the request of MnDOT, HDR also documented all previous archaeological work completed in the Alternative 1 project area by AECOM.

The Phase I survey identified one new Post-Contact Period archaeological site. Site 21KH0157 is an abandoned and razed farmstead traversed by the APE. HDR recommends this site as not eligible for listing on the National Register of Historic Places (NRHP). HDR reviewed field maps and survey forms produced for the AECOM investigations of the Alternative 1 project area and recommend that the survey methodology employed by AECOM is adequate and complete. As such, HDR recommends no further work for the Alternative 1 project area.

HDR recommends that a no historic properties finding be made for the purposes of Section 106 compliance for Alternatives 1 and 2 of the Willmar Wye Project.

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1 Introduction

A public-private partnership including the city of Willmar, Kandiyohi County, the Kandiyohi County and City of Willmar Development Commission, MnDOT, and the BNSF Railway Company is proposing a new rail connection between two existing railroad main lines in Willmar, Kandiyohi County, Minnesota, which will require the construction of new crossings at County Road 55, Trunk Highway 12, and Trunk Highway 40. The crossings at the trunk highways will involve vertical and/or horizontal road realignment. This project, the Willmar Connection and Industrial Access Project (Willmar Wye Project), is receiving Department of Transportation funds through the Transportation Investment Generating Economic Recovery (TIGER) competitive grant program, and is therefore subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended. FRA is the lead federal agency for delivery of physical construction, and FHWA is the lead federal agency for completing the project environmental document, including Section 106 review. FHWA delegates authority for compliance with Section 106 to the MnDOT CRU. To assist with their review, the MnDOT CRU contracted with HDR to conduct a Phase I and II archaeological investigations of the project APE. The Project will grade and/or construct a new mainline railway connection, siding, spur line, access roads and mainline extension between the Morris and Marshall subdivisions within Kandiyohi County in the western limits of the city of Willmar. The connection on the southern end (Marshall subdivision) would be in a "wye" configuration with western and eastern tie-in to the mainline. MnDOT proposes roadway modifications as part of the Value Engineering Roadway Alternative (Alternative 2) of the Willmar Wye railway project (Project) near the city of Willmar in Kandiyohi County, Minnesota in sections 7, 16, 17, 18, 19 and 20 of Township 119N, Range 35W. Alternative 2 is needed to address roadway impacts associated with the Project's proposed new railroad connection to the south and west of the city of Willmar. Alternative 2 includes a proposed Trunk Highway (TH) 12 realignment as well as proposed modifications to related roadway components. The Area of Potential Effects (APE) for Alternative 2 has been identified by the MnDOT Cultural Resources Unit (CRU) as encompassing a 200-foot-wide corridor along the proposed 2.5-mile TH 12 realignment where grading or other surface disturbances will occur, as well as proposed modifications to several roadway components along TH 12, County State Aid Highway (CSAH) 55, TH 40, 1st Avenue West and 45th Street Northwest (Figure 1-1). The Alternative 2 APE encompasses approximately 130 acres based on review of shapefiles provided by WSB & Associates, Inc.

In order to comply with applicable regulations pertaining to cultural resources, MnDOT contracted HDR to complete a Phase I archaeological resources survey of the proposed Alternative 2 APE and to document previous archaeological work completed for the Project's Original Roadway Alternative (Alternative 1) by AECOM in December 2015 as AECOM did not produce a report of their investigations. The Alternative 1 project area surveyed by AECOM encompassed approximately 374 acres in sections 7, 8, 17, 18, 19, 20, 29 and 30 of Township 119N, Range 35W, and overlaps with much of the Alternative 2 APE, with the exception of the majority of the TH 12 realignment (Figure 1-2). HDR reviewed the results of the previous archaeological investigations completed within the components of the Alternative 2 APE that overlap with the Alternative 1 project area and found them to be adequate and complete. As such, HDR focused the Phase I survey on the TH 12 realignment segment of Alternative 2. After obtaining background information on previously surveyed areas and previously recorded archaeological sites within a one-mile radius of the TH 12 realignment, HDR

conducted Phase I archaeological field work May 24-25, 2016, using a combination of pedestrian reconnaissance and subsurface shovel testing. Michael Justin acted as Principal Investigator for the project under Office of the State Archaeologist (OSA) License 16-032 (Appendix B).The UTM coordinates for the Alternative 2 APE are not given due to the irregular size and discontinuous nature of the APE. .

In addition to the Phase I survey of the Alternative 2 APE, HDR reviewed field maps and survey forms produced for the AECOM investigations of the Alternative 1 project area to determine if the survey methodology employed by AECOM was adequate. A summary of the results of the AECOM investigations is provided in this report.

The environmental and historic contexts, background research, objectives, methods, fieldwork results, and management recommendations for the Phase I archaeological resources survey completed for this Project are presented in the following sections.

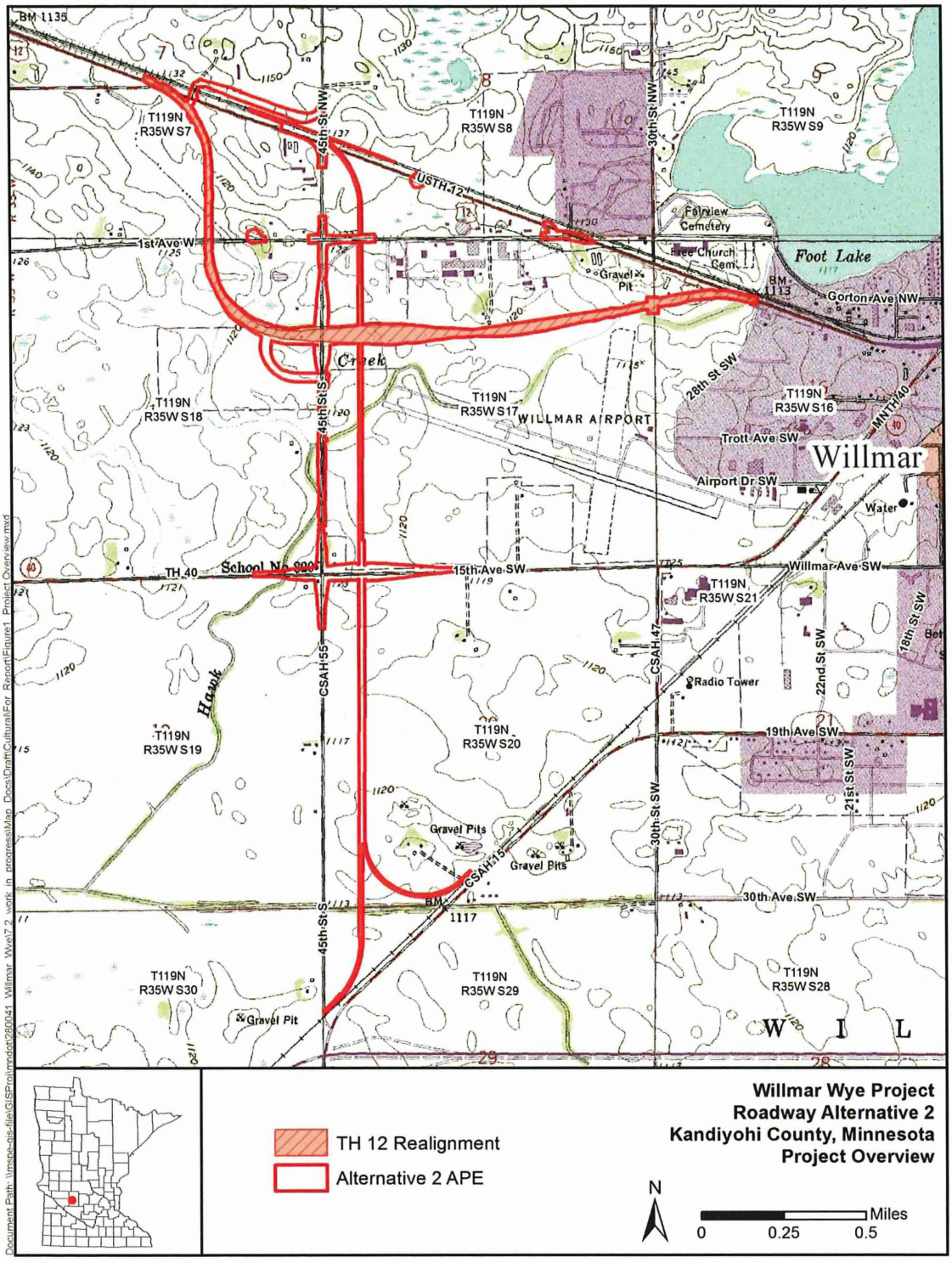

Figure 1-1: Project Location

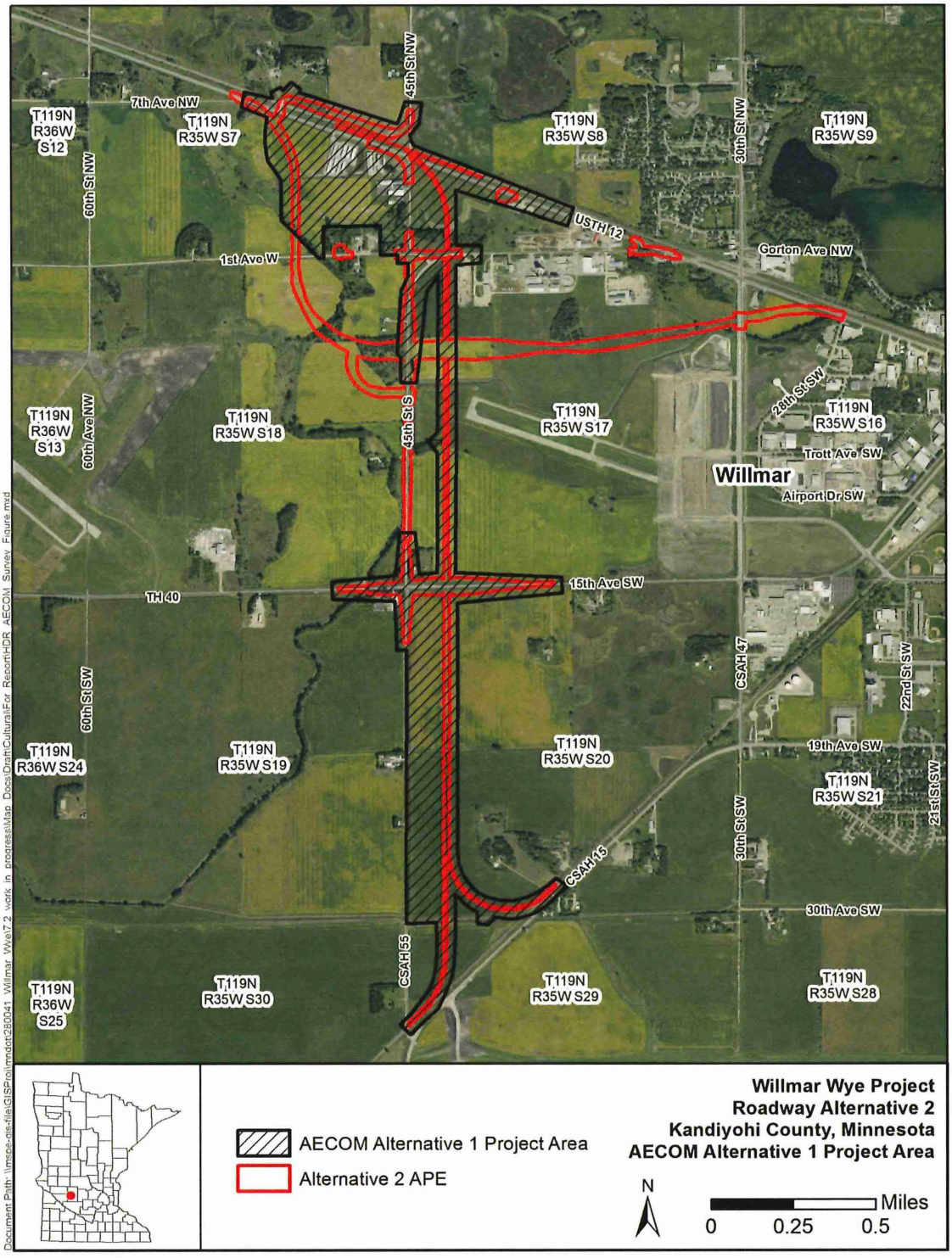

Figure 1-2. AECOM Alternative 1 Project Area in Relation to Alternative 2 APE

2 Methods and Research Design

2.1 Objectives

The Phase I archaeological survey was performed to identify any new or previously recorded archaeological resources that may be present within the APE. HDR's work complies with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Federal Register [FR] 44716 44740) (National Park Service 1983) and the Minnesota's State Historic Preservation Office (SHPO) *Manual for Archaeological Projects in Minnesota* (Anfinson 2005).

2.2 Methods

The Phase I archaeological resources survey began with a cultural resources file review of the APE. Fieldwork conducted for the Project concentrated on the proposed TH 12 realignment of the APE, an approximately 2.5-mile-long, 200-foot-wide corridor where grading or other subsurface disturbances will occur. The following sections provide a detailed overview of the methods used for the Phase I cultural resources investigation for the Project.

2.2.1 File Review

Background research was conducted for the Project prior to field survey to understand the types of historic properties that may be present in the APE. HDR sent a request to SHPO in April 2016 for information on identified archaeological sites and previously conducted archaeological surveys within one mile of the TH 12 realignment portion of the APE. In April 2016, HDR archaeologist Andrew Kurth conducted background research at SHPO and the OSA. HDR also reviewed Official General Land Office (GLO) records, historic aerial photographs, and historic plat maps relevant to the APE to identify areas with potential for containing historic era cultural resources. The results of the background research for the Project are presented in Section 3.3 of this report. HDR also reviewed the field maps and field survey forms provided by AECOM to assess the adequacy of the previous archaeological investigations conducted in the Alternative 1 project area. The results of the AECOM investigations are presented in Section 3.4 of this report.

2.2.2 Field Review

The fieldwork conducted for this project concentrated on the TH 12 realignment portion of the APE. The archaeological survey began with a visual inspection of the TH 12 realignment portion of the APE via a walkover survey. Areas of the TH 12 realignment that exhibited obvious disturbance by earth-moving or development (for example, road/highway rights-of-way (ROWs), landscaped residential yards, modern residential or industrial developments) were documented with photographs. Previous investigations completed in components of the Alternative 2 APE that overlap with the Alternative 1 project area were found to be adequate and complete so no survey was conducted in those areas.

Systematic pedestrian survey was conducted within the TH 12 realignment portion of the APE along transects spaced at 15-meter intervals in areas that exhibited a minimum of 25 percent ground surface visibility (GSV) and did not exhibit obvious disturbance. Shovel tests were excavated in areas where disturbance was not immediately obvious and that exhibited less than 25 percent GSV.

Shovel tests were spaced at 15-meter intervals or judgmentally based on the Principal Investigator's assessment of the area's archaeological potential. Shovel tests were 30 to 40 centimeters (cm) in diameter and excavated to a depth of 1 meter (m) or until cultural sterile or disturbed soils were sufficiently documented. All excavated soils were screened through a 0.25-inch hardware cloth mesh. Shovel test data was recorded on standard forms and in the field notebook, which included the survey area locations, shovel test locations, shovel test depth, soil profile, soil texture and inclusions, and Munsell color. A Trimble® Global Positioning System (GPS) unit was used to record each shovel test location. A digital camera was used to photo-document each survey area. Aboveground historic resources at site 21KH0157 were documented with photographs, their dimensions noted, and their locations recorded with a Trimble® GPS unit with sub-meter accuracy.

2.2.3 Artifact Processing

Laboratory analysis and artifact curation were not required as no cultural materials were recovered during the Phase I survey.

3 Literature Search

This section presents a discussion of the regional physiography along with the current conditions of the area. A brief overview of past cultural patterns in the region is also presented.

3.1 Environmental Context

The Willmar Wye project is located in the Prairie Lakes Archaeological Region of Minnesota. The following environmental history of this region is summarized from information contained in *Minnesota's Environment and Native American Culture History* by Gibbon, Johnson, and Hobbs (2002).

The topography of the Prairie Lakes archaeological region consists mainly of undulating ground moraines. Lake basins are numerous in the region and vary greatly in size. The major topographic feature of the area is the Minnesota River trench. Soil types in this region consist of medium- to fine-textured prairie soils. Average annual precipitation ranges from 22 to 28 inches. The average January high temperature is 24 degrees Fahrenheit and the average July high temperature is 85 degrees Fahrenheit. The frost-free season lasts from 140 to 160 days. Lakes freeze over by early December, and the ice is off the lakes by early April. At the time of Euro-American settlement, the vegetation in the region consisted of tall grass prairie, with narrow forests located along river bottoms and small wooded groves located in fire-protected areas at major lakes. A principal source of wood in the eastern part of the region that developed around the time of Euro-American contact was the Big Woods vegetation zone, represented by oak, elm, maple and basswood trees. Subsistence resources at the time of Euro-American contact would have included bison, white-tailed deer, and elk, with plentiful aquatic mammals, waterfowl, and fish in the many shallow lakes. The lakes also provided an assemblage of edible plants, including cattails and water lilies. The uplands provided edible plants, including acorns in the oak woods, the ground plum, and the prairie turnip.

3.2 Cultural Context

The following summaries of cultural contexts relevant to the Willmar Wye project are based partially on information contained in a series of statewide historic contexts developed by the Minnesota SHPO (Dobbs 1990a; Dobbs 1990b; SHPO 1993), and an overview entitled *Minnesota's Environment and Native American Culture History* by Gibbon, Johnson, and Hobbs (2002).

3.2.1 Paleoindian Tradition (9500–6000 BC)

The earliest human inhabitants of Minnesota entered the area about 11,000 years ago as the glacial front receded from northern Minnesota. These peoples, comprising the Paleoindian Tradition, were migratory groups of mobile hunter-gatherers who followed herds of large game animals such as bison, woodland caribou, and mastodon into the tundra and open pine and oak forests that characterized Minnesota as the glaciers retreated. There is little archaeological evidence of Paleoindian inhabitants in Minnesota because they did not generate large artifact deposits. Cultural materials left by these people are often deeply buried underneath more recent sediment. Archaeological finds from this period consist mainly of isolated discoveries of large and distinct projectile points that are characteristic of this tradition. These points are divided into the Fluted Point Pattern (Clovis and Folsom points) and the non-fluted Lanceolate Point Pattern (Plano points). Other

tool types associated with the Paleoindian Tradition include bifacially flaked knives, simple choppers, and large scrapers for processing kills.

3.2.2 Archaic Tradition (6000–500 BC)

As Minnesota became warmer and drier, expanses of prairie began to displace the previously forested land. The melting ice exposed new land surfaces with extensive lakes and large, swift rivers quite unlike any in present-day Minnesota. The landscape was interspersed with large lakes and swiftly flowing rivers fed by the glacial runoff.

The Pleistocene megafauna died out, and the human inhabitants had to adapt to the altered landscape. As a result, new tool types and means of subsistence associated with the Archaic Tradition were developed. The Archaic Tradition is distinguished from the Paleoindian Tradition by an increased diversity in tool types, a broader range of raw materials from which they were made, and increased exploitation of a larger variety of animal and plant communities. This diversity has been attributed to the adaptation of Archaic Tradition peoples to local resources and a relative abundance of animal and plant resources. The archaeological record of the Archaic Tradition displays evidence of the beginnings of cultural variation. Notched and stemmed projectile points, along with groundstone tools and chipped-stone scrapers, knives, punches, and drills, are found in the Archaic Tradition toolkit. Copper implements appear in archaeological assemblages from about 7,000 years ago and continued until about 3,500 years ago.

Four distinct Archaic Tradition contexts have been identified in Minnesota: the Shield Archaic, Lake-Forest Archaic, Prairie Archaic, and Eastern Archaic. Site locations during this period are generally tied to locations near water. These sites appear to have been occupied for longer periods and produce larger amounts of artifacts than small encampments, which can be found scattered throughout the environment. Small encampments often represent specific resource extraction or use of a location that takes advantage of a seasonal event, such as a bison kill site, a floral resource gathering site, or a waterfowl breeding site. Artifact deposition at these locations is generally very minimal.

3.2.3 Woodland Tradition (500 BC–AD 1650)

Beginning about 3,000 years ago, Minnesota's climate began to stabilize and resembled the climate that exists today. Expanses of prairie were found in the western portion of the state. A swath of oak savanna, stretching from the northwest to the southeast, separated the prairie from the pine forests of the arrowhead region.

Woodland Tradition cultures exhibit evidence of an increasingly more sedentary lifestyle. Domestication of plants, ceramic technology, long-term recurring occupation of seasonal village sites, and mound construction emerged in the Woodland Tradition. These innovations were not adopted in all areas of the state at the same time or necessarily together. Because they are not as deeply buried, Woodland Tradition sites are encountered more often than Paleoindian Tradition or Archaic Tradition sites. Woodland Tradition sites can also be more definitively attributed to a tradition based on ceramics and distinct tool types. Known ceramic traditions resulted in division of the Woodland Tradition into an Early, Middle, and Late chronological framework. In Minnesota, the Woodland Tradition is also divided into an earlier Initial Woodland period (including the Early and Middle periods, ca. 500 BC–AD 500) and a later Terminal Woodland period (including the Late period, ca. AD 500–1650).

Regional differences in the Woodland Tradition resulted in the identification of distinct regional complexes, including the Fox Lake phase and Lake Benton phase. The Prairie Lakes region is associated with pottery types such as Havanoid, St. Croix, Onamia, Kathio, and Sandy Lake. In southern Minnesota, contact with Europeans centered on the Minnesota River because this represented the major transportation corridor of the area during contact.

3.2.4 Mississippian/Plains Village Tradition (AD 1000–1500)

About 1,000 years ago, a new tradition developed in southern Minnesota. In the western part of the state, this tradition is known as the Plains Village Tradition. In the eastern part of the state, it is known as the Mississippian Tradition. These traditions are distinguished from Woodland traditions by an intensification of agriculture, including cultivation of corn, and larger, more complex societies. These influences spread into southwestern Minnesota from the Missouri River and into southeastern Minnesota from the Mississippi River and have possible ties to cultures of the southern U.S. and possibly Mexico. Mississippian/Plains Village Tradition sites are distinguished by distinct ceramic styles, large village complexes, a greater density of artifacts, and community vegetable storage pits. Effigy mounds in the shape of animals such as birds and snakes, as well as flat-topped mounds and villages encircled by protective palisades, were constructed during this period.

3.2.5 Fur Trade/Contact (1630s–1858)

By the 1620s, the first European goods may have reached the Upper Midwest through trade with the Ottawa and Huron. The first fur trade contact in this area occurred between 1659 and 1660, when two French explorers named Sieur des Groseilliers and Sieur de Radisson entered present-day Minnesota in search of natural resources, including furs. Increasing numbers of explorers and fur tradesmen would reach the area in the years following first contact. This time period is recognized by the establishment, operation, and adaptation of gathering fur-bearing mammal hides in exchange for other goods and materials. This exchange linked the Northern Plains to a worldwide economic and political system. By the late 1670s, a trade agreement had been established between the Dakota and merchants in Quebec and Montreal. This relationship initiated the French period of exploration and occupation in Minnesota, which lasted into the early 1760s. During this period of French influence, much of the state and the surrounding region were occupied with an extensive network of forts and fur trading posts.

The 1760s (after the Treaty of Paris) brought a half-century of British activity in Minnesota. This time period brought further development of the fur trade industry, with more trading posts and consequently major changes in the distribution of Native American people in the region. By 1800, the Ojibwa took control of the lakes and forests of northern Minnesota, and the Dakota moved south along the Minnesota River Valley.

After a peace treaty with the British in 1763, the U.S. gained legal possession of the state. The U.S. exerted control of Minnesota after Zebulon Pike's 1805 to 1807 expedition as well as later with the establishment of Fort Snelling at the junction of the Minnesota and Mississippi rivers in 1819. The changes in Native American life brought about by the French and British presence in Minnesota included migrations of Native American populations from the east, depopulation of native peoples in certain areas because of introduced diseases and warfare, and gradual movement of the Ojibwa into northern Minnesota and of the Dakota into southern Minnesota. The Native American populations in Minnesota also began to switch from hunting for subsistence to hunting for trade, and Native American manufacturing materials began to be replaced by European materials.

Travel and settlement of the state were mostly restricted to corridors along larger bodies of water. In 1837, the Dakota, Winnebago, and Ojibwa signed treaties that opened up east-central Minnesota to logging and settlement, and by 1849 Minnesota had become organized as a Territory. When Minnesota gained statehood in 1858, Euro-American settlement increased, bringing a wave of new towns, cities, and non-fur trade-related enterprises.

3.2.6 Early Minnesota Military Activity (1800–1890)

Beginning in the mid-nineteenth century, Minnesota Territory representatives appealed to the U.S. Congress to appropriate funds to build and maintain a series of five military roads in the state. The territorial representatives of the state argued that these roads were justified on the grounds of frontier defense and would also aid in territorial settlement and commercial development. In July 1850, the territorial representatives secured funding for the development of these roads. Over the next decade, territorial representatives and the War Department's United States Army Corps of Topographical Engineers would oversee the creation of the five original roads and two additional roads. Not all of the roads were completed, but the segments that were completed were used heavily by the local population.

Around 1862, growing tension between the Dakota and the U.S. government escalated into violence. The U.S. government's failure to keep its promise of annuities, along with poor dealings with fur traders and crop failure, led the Dakota to violence in southern Minnesota. Over a 6-week period, many lives were lost on both sides, and the violent action prompted a large-scale evacuation of settlement areas in southern Minnesota. Eventually, hostilities ceased, but on December 26, 1862, the government rescinded all treaties signed with the Dakota of Minnesota and forcibly removed them from the state.

The eruption of violence in Minnesota in 1862 led to major military expeditions by the U.S. government in 1863, 1864, and 1865 within the region. Battles within the state of Minnesota and in nearby North Dakota and South Dakota diminished Dakota resistance in the region. While hostilities between the U.S. government and the Dakota trailed off over the next decade, a strained relationship between the two existed well into the 1890s and, to some extent, still exists today.

3.2.7 Early Agriculture and River Settlement (1840–1870)

Some of the earliest agricultural farming practices in the state occurred in southern Minnesota. Treaties with the Ojibwa and Dakota in the early and mid-nineteenth century allowed for European settlement in certain areas west of the Mississippi River. Acts passed in the state in the mid-nineteenth century fostered an influx of settlers from the eastern states and Europe. These initial settlers came by steamboat and followed the major rivers and tributaries into the interior of the state. Town sites focused on rivers as a source of transportation and power. Town sites often developed according to resource need, company/industry need, or via social/ethnic boundaries. Many towns developed into agricultural processing and distribution centers. Industries such as milling and brewing became widespread throughout southern Minnesota. The initial farming practice of the time was subsistence, but farmers in the state were at the cusp of large-scale farming, and began to grow wheat as a cash crop.

3.2.8 Railroads and Agricultural Development (1870–1940)

After 1870, railroads were the single most important factor in the rapid growth of agriculture in southern Minnesota because their expansion onto the Great Plains expanded the market for cash

crops. New railroads in Minnesota opened tillable land to farmers, reduced dependence on risky water transportation, and allowed for the transportation of goods and services away from major river transportation corridors. Railroads had become the primary mover of crops by the late nineteenth century. After 1870, an agricultural land boom began as railroads, chambers of commerce, land colonization companies, real estate companies, the State Bureau of Immigration, and other private and public agencies encouraged settlement of the large expanses of land in southern Minnesota. Good soil, a favorable climate, and the low cost of cultivating land made farming profitable. This solidified agriculture as the dominant industry in southern Minnesota. Two of the most important industrial centers for this time became the milling district in St. Anthony Falls and the meat packing operation in South St. Paul. Railroads were paramount in supplying unrefined resources from southern Minnesota to these locations.

3.3 Background Research

In April 2016, HDR staff conducted background research at the SHPO and the OSA. Background research for the Project focused on previously identified archaeological sites and archaeological surveys within the APE and within a one-mile radius of the TH 12 realignment segment of the APE. HDR staff also reviewed historical plat maps and aerial photographs using online sources including the University of Minnesota John R. Borchert Map Library, Historic Map Works, the State of Minnesota GLO Historic Plat Map Retrieval System, and the State of Minnesota Aerial Photography database.

3.3.1 Previous Archaeological Surveys within One Mile of the TH 12 Realignment Segment of the APE

Background research for the Project revealed that no previous archaeological surveys have been recorded and documented at SHPO within the APE; however, one previous archaeological survey has been conducted within a one-mile radius of the APE (Table 3-1; Figure 3-1). This survey was a cultural resources assessment completed for the release of the Willmar Municipal Airport (John Rice Memorial Field) property from airport activities. Information on a survey of Alternative 1, which has overlapping boundaries with the current project, was provided by MnDOT CRU. Details are provided in Section 3.4, below.

Table 3-1. Previous archaeological surveys within one mile of the TH 12 Realignment Segment of the APE

SHPO Number	Title	Author(s)	Year
KH-07-04	Survey of Cultural Resources, Section 106 Review, Land Release Request, Willmar Municipal Airport, Willmar, Minnesota, Kandiyohi County. BMI Project Number T41.22255	Maul, Dale E.	2007
None	Untitled notes and field maps	AECOM	2015

3.3.2 Previously Recorded Archaeological Sites within One Mile of the TH 12 Realignment Segment of the APE

Background research revealed no previously identified archaeological sites within the TH 12 realignment segment of the APE or within a one-mile radius.

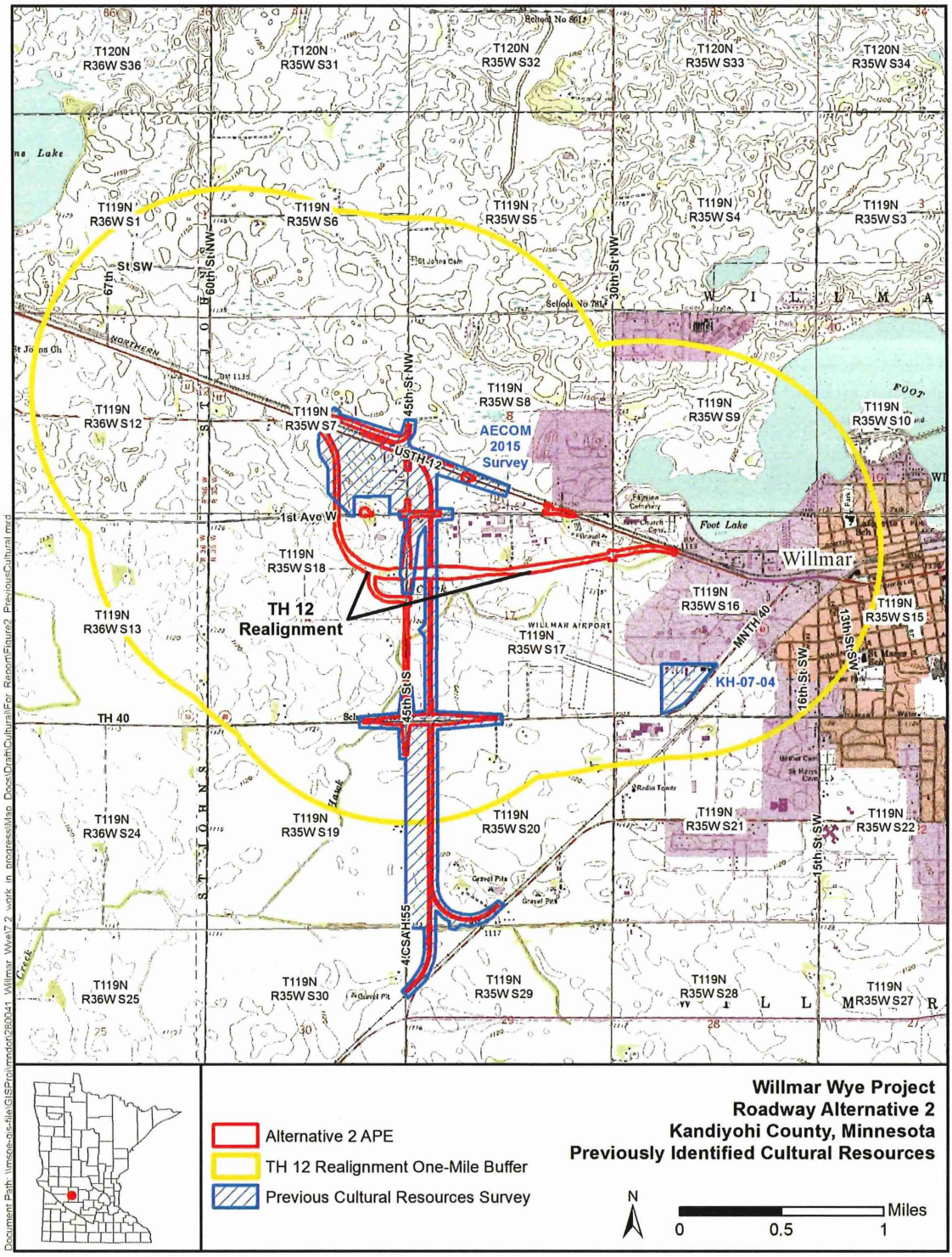

Figure 3-1: Previously Identified Cultural Resources within One Mile of the TH 12 Realignment Segment of the APE

3.3.3 Historic Maps and Aerial Photograph Review

GLO maps, historic plat maps and historic aerial photographs were examined to identify areas with potential for containing historic era cultural resources located within the TH 12 realignment segment of the APE. Archaeological sites may be present in locations where historic resources have been documented on historic maps.

A review of a GLO map dating to 1857 revealed no features related to Euro-American settlement within or near the TH 12 realignment (United States Surveyor General 1857). The 1874 Andreas Atlas shows the village of Willmar approximately 1 mile to the east of the TH 12 realignment in Section 15, Township 119N, Range 35W. The 1874 atlas also shows the St. Paul and Pacific Railroad and a parallel unnamed road just to the north of the TH 12 realignment in Section 7 as they run southeast to northwest from Willmar to St. John. The 1874 atlas also reveals an unnamed road running north to south through the TH 12 realignment along what is now CSAH 55; however, no other features are located within the TH 12 realignment (Andreas 1874).

By 1886 Willmar had expanded to include all of Section 15, Township 119N, Range 35W, as well as portions of neighboring sections. The railroad and roads in the vicinity of the TH 12 realignment as seen on the 1874 plat remain relatively unchanged. Numerous farmstead are present throughout the area; however, none are located within the TH 12 realignment (North West Publishing Co. 1886). A 1905 plat map shows Willmar expanding to the further to the west into Section 16, Township 119N, Range 35W. The railroad and roads in the vicinity of the TH 12 realignment as seen on the 1886 plat remain relatively unchanged. Numerous farmsteads are still present throughout the area, and a structure associated with property owner Ole Rasmussen is present in the TH 12 realignment in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W. No other farmsteads are located within the TH 12 realignment on the 1905 map (Lawson and Nelson 1905) (Figure 3-2). A 1915 plat map shows the vicinity of the TH 12 realignment remaining much the same as it was in 1905, however the structure in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W that was attributed to Ole Rasmussen is now associated with A.C. Skoog. In addition, a stream that runs roughly southwest to northeast through Section 17, Township 119N, Range 35W has been channelized and named County Ditch No. 10. Also, the St. Paul and Pacific Railroad is now referred to as the Great Northern Railway (Webb Publishing Co. 1915) (Figure 3-3). A plat map from 1932 shows the vicinity of the APE remaining much the same as it was in 1905, however the structure in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W that was associated with A.C. Skoog is now associated with Jens Anderson (Webb Publishing Co. 1932) (Figure 3-4).

An aerial photograph from 1938 shows the APE consisting mainly of agricultural fields. The farmstead in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W is present and several buildings are visible. The APE also crosses the southern edge of a farmstead in the SE ¼ of the NE ¼, of the NW ¼ of Section 17, Township 119N, Range 35W (Figure 3-5). A 1958 plat mat shows that the farmstead in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W is still associated with property owner Jens Anderson. This map also reveals a new alignment of TH 12 as it runs just south of and parallels the Great Northern Railway (Farm Plat Book Publishing Co. 1958) (Figure 3-6). A 1963 aerial photograph shows conditions in the APE remaining much the same as they were in the 1938 aerial, with the exception of TH 12 now being present south of and parallel to the Great Northern Railway. Modifications to the number and arrangement of outbuildings can also be seen at the two farmsteads located within or near the APE (Figure 3-7). An aerial photograph from 1991 shows the conditions in the APE similar to what they were in the 1963 aerial, with the main exception being that the structures associated with the

farmstead in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W have all been removed. Section 4.4.1 of this report discusses the changes to the farmstead in more detail.

Current land use in the APE remains agricultural, as it has been throughout the twentieth and early twenty-first centuries. The only major change since the 1991 aerial photograph is the presence of 30th Street SW, and the adjacent bike path, which run north to south along the section line between Sections 16 and 17, Township 119N, Range 35W.

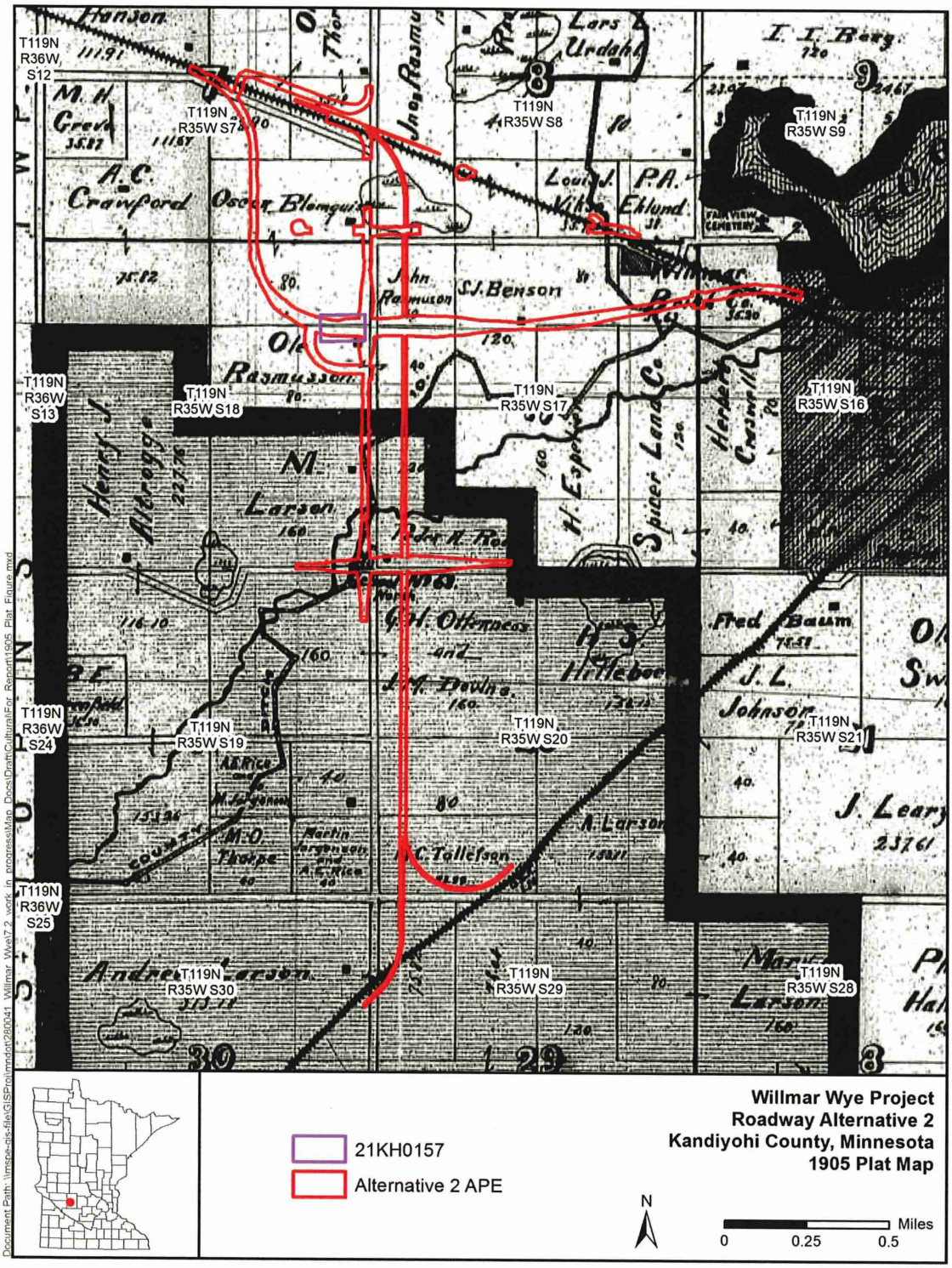

Figure 3-2: 1905 Plat Map of Willmar Township showing APE (Lawson and Nelson 1905)

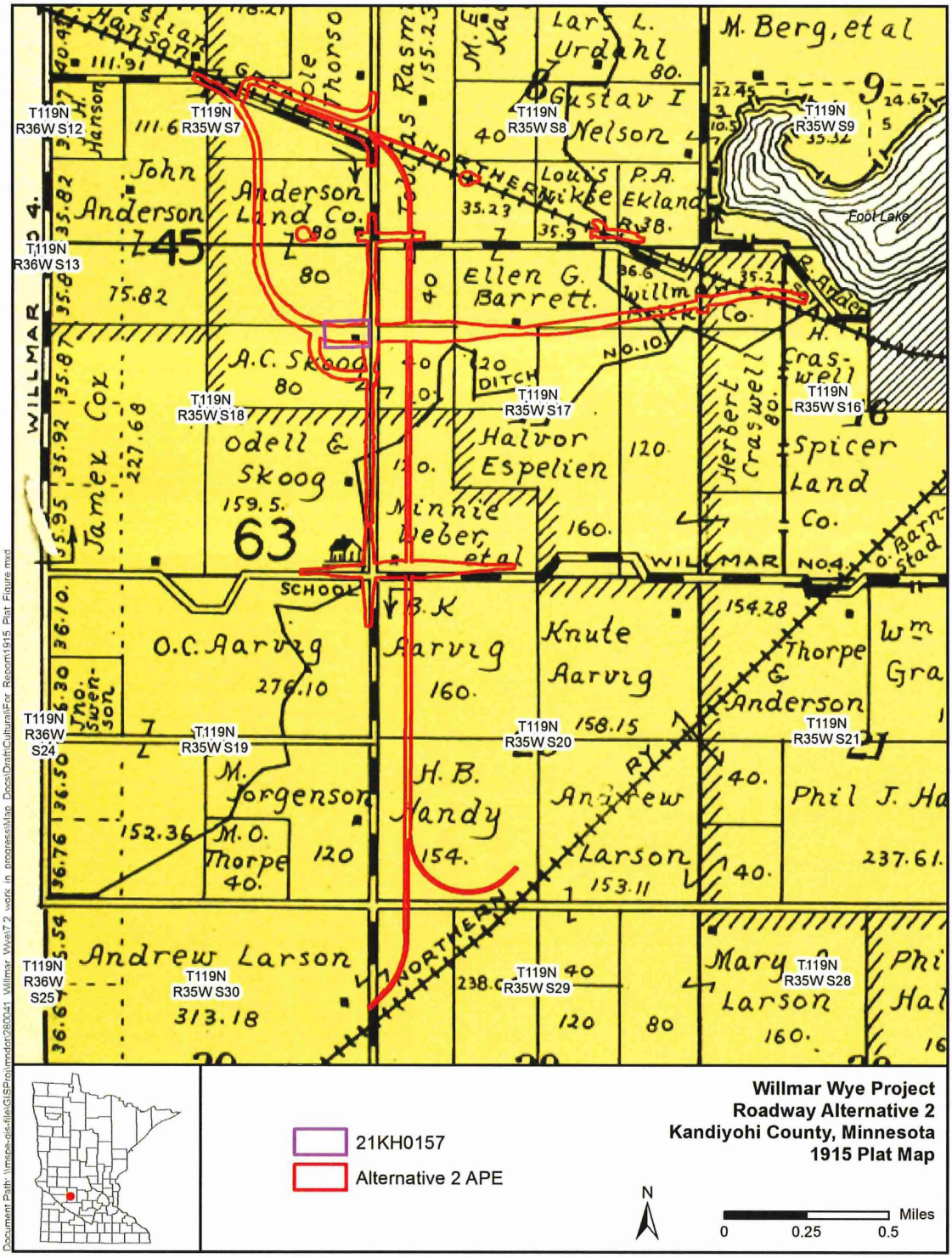

Figure 3-3. 1915 Plat Map of Willmar Township Showing APE (Webb Publishing Co. 1915)

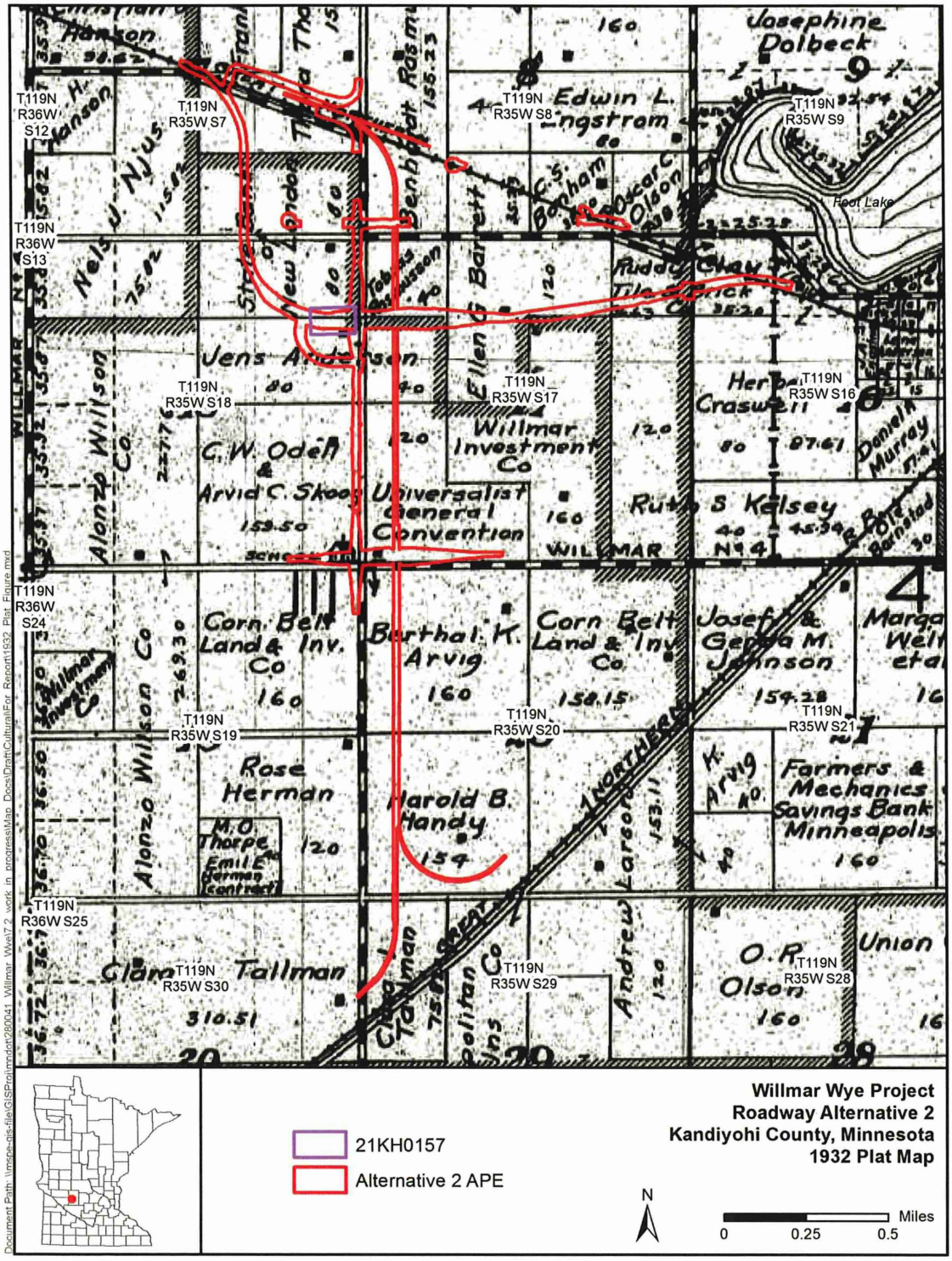

Figure 3-4. 1932 Plat Map of Willmar Township showing APE (Webb Publishing Co. 1932)

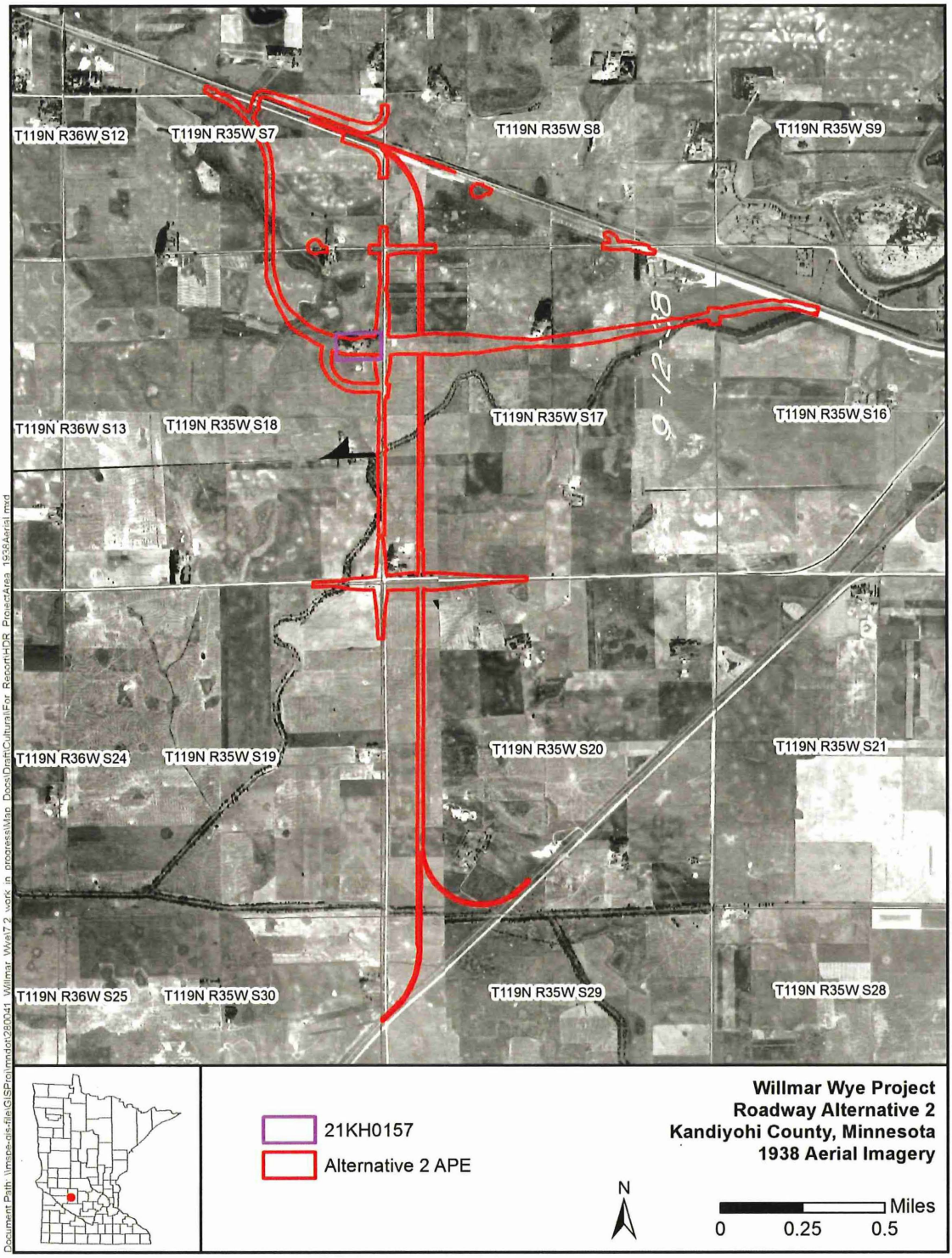

Figure 3-5. 1938 Aerial Photograph showing APE

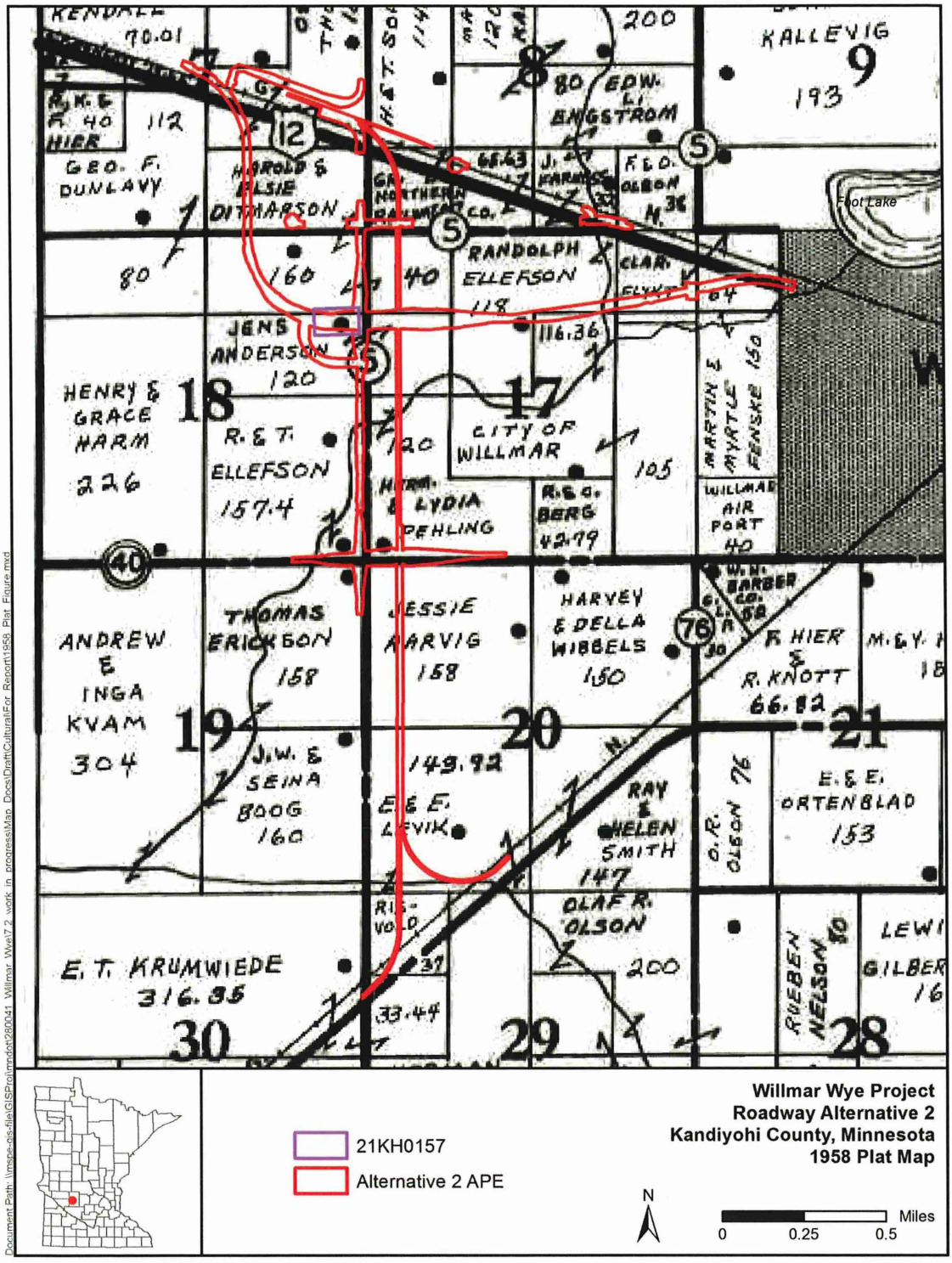

Figure 3-6. 1958 Plat Map of Willmar Township showing APE (Farm Plat Book Publishing Co. 1958)

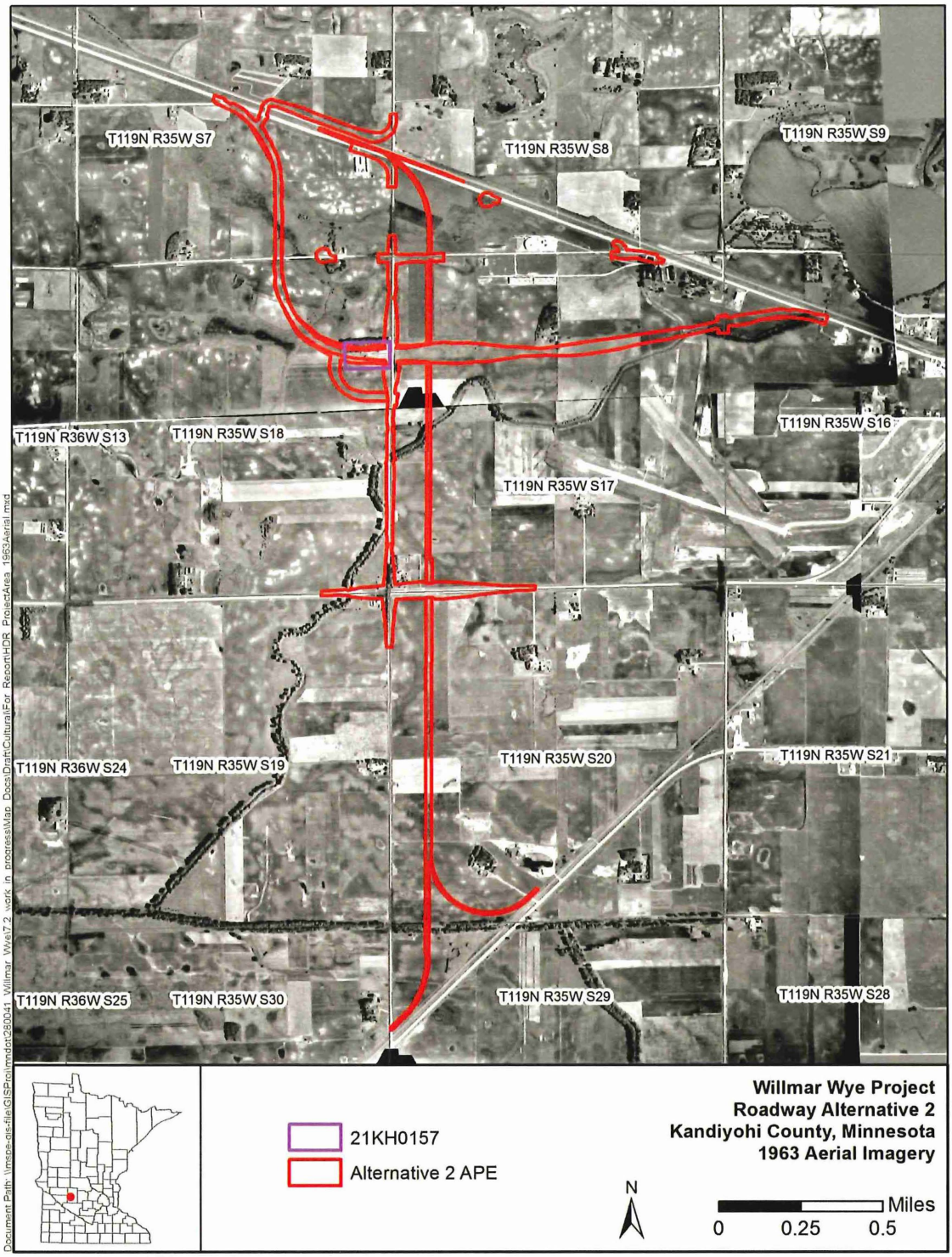

Figure 3-7. 1963 Aerial Photograph showing APE

3.4 2015 AECOM Investigations

AECOM performed an archaeological investigation of the Alternative 1 project area of the Willmar Wye Project from December 9–13 and December 19, 2015. The Alternative 1 project area consists of an approximately 374-acre irregularly-shaped area that extends south from TH 12 near the intersection with 45th Street NW, includes the intersection of CSAH 55 and 15th Avenue SW, and ends near the intersection of CSAH 55 with CSAH 15 (Figure 1-2).

Information from the AECOM investigation was limited to field maps and field survey forms that were provided to HDR by MnDOT CRU. AECOM divided the Alternative 1 project area into 45 individual survey segments labeled numerically and alphabetically. Figures 3-8 and 3-9 present the ground surface conditions and survey methodology employed by AECOM in the Alternative 1 project area at the time of the 2015 survey. Details regarding the survey methodology, which included pedestrian survey and subsurface testing, and results in the 45 survey segments can be found on AECOM's field survey forms, included as Appendix A. There were no archaeological sites recorded in the AECOM forms or notes, although two historic barns were noted. HDR reviewed the AECOM field maps and survey forms and recommends that the survey methodology employed by AECOM is adequate and complete. As such, HDR recommends no further work for the Alternative 1 APE.

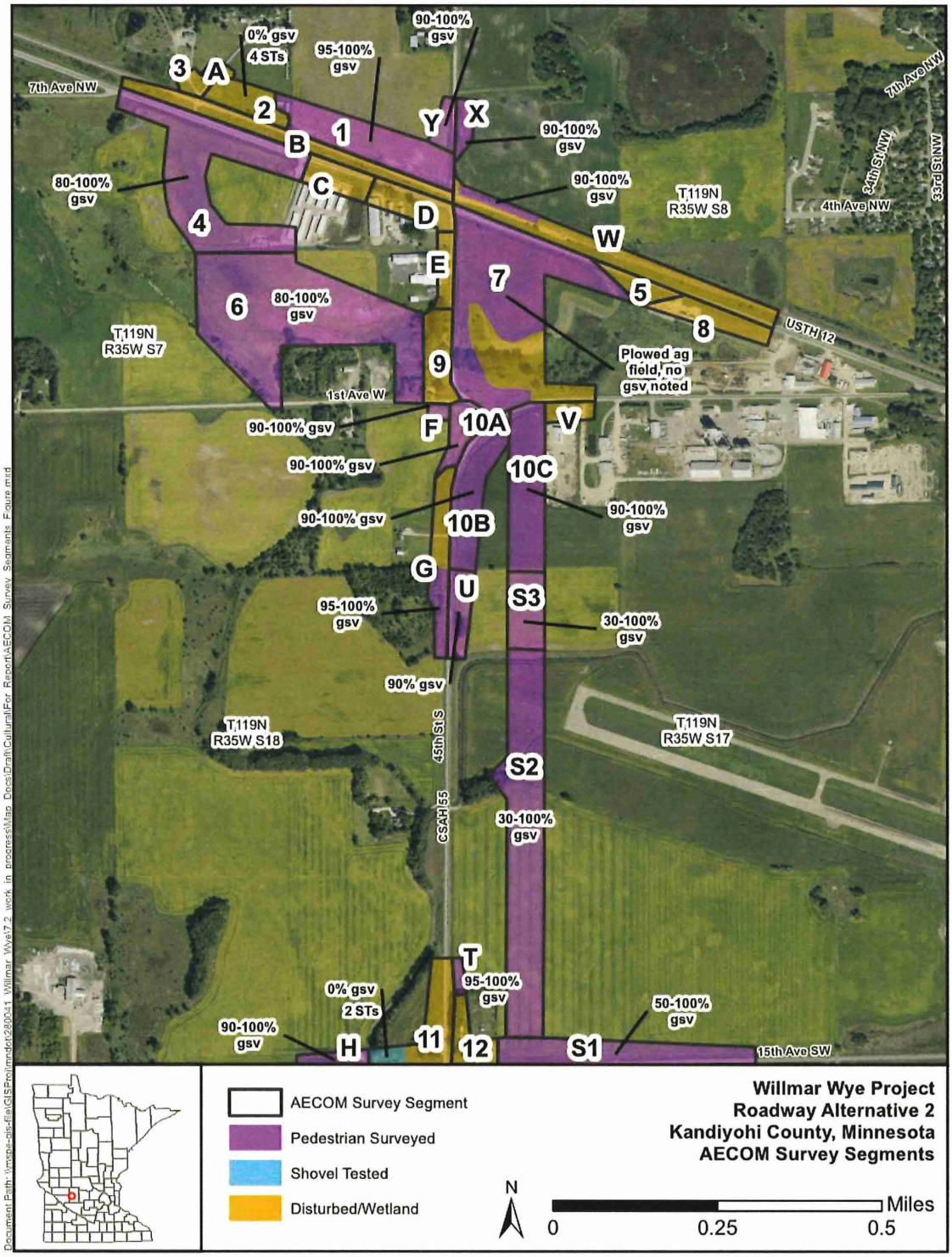

Figure 3-8. AECOM Survey Coverage of Alternative 1 Project Area (North Half)

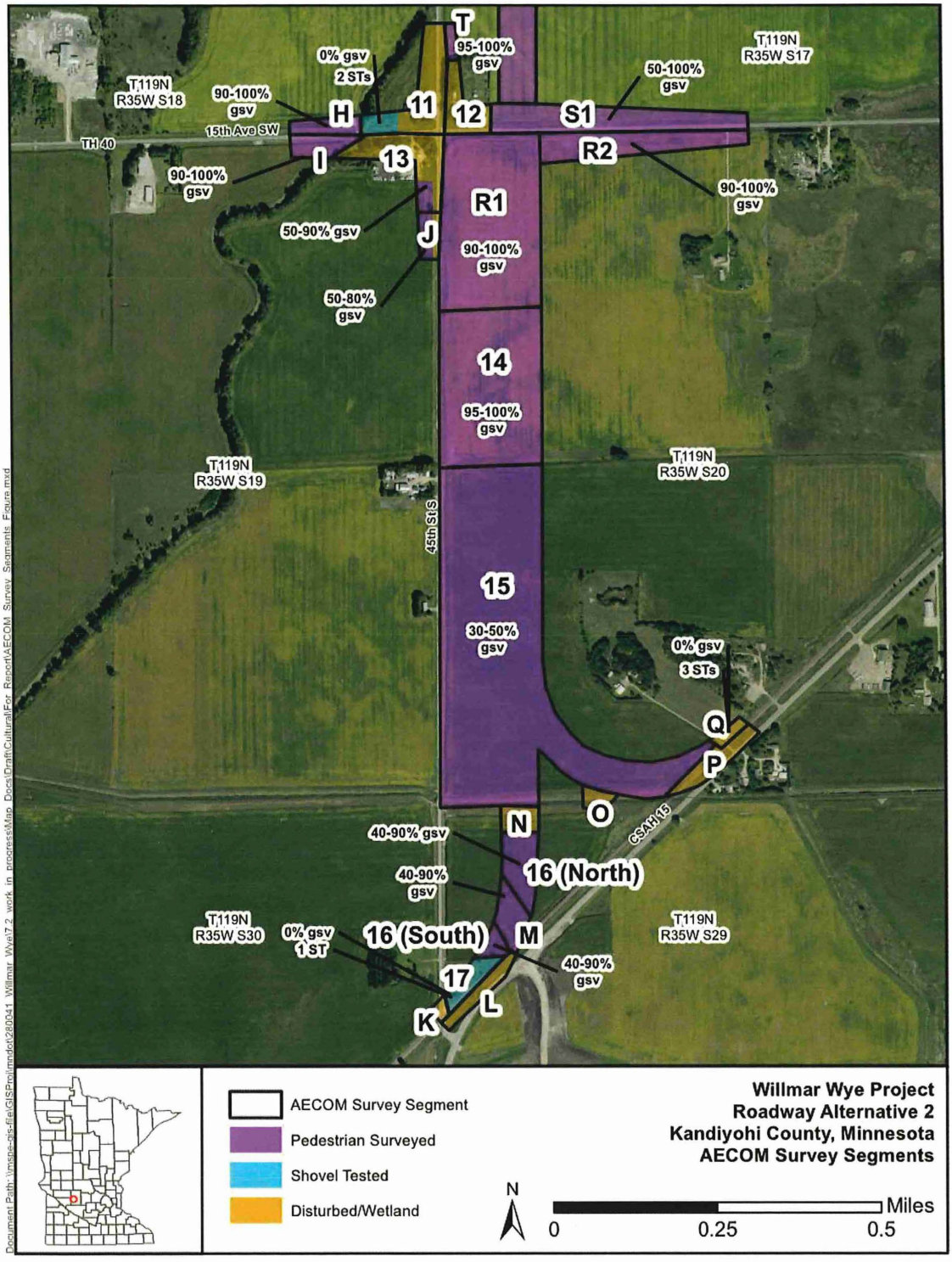

Figure 3-9. AECOM Survey Coverage of Alternative 1 Project Area (South Half)

4 Results

From May 24–25, 2016, HDR performed a Phase I archaeological resources survey for the Project. The archaeological survey focused on the TH 12 realignment segment of the APE (Figure 4-1). HDR archaeologist Michael Justin served as the Principle Investigator and conducted the survey with HDR archaeologist Dylan Eigenberger. Both Justin and Eigenberger meet the Secretary of the Interior's Professional Qualification Standards for Archaeology as published in 36 CFR 61. For documentation purposes the APE where survey was performed (TH 12 realignment) is separated by township, range, and section.

Areas of the APE that overlap with the Alignment 1 project area surveyed by AECOM were not surveyed as part of this effort with the exception of an approximately 0.5-mile stretch of the TH 12 realignment just south of TH 12 in Section 7, Township 119N, Range 35W, and where the TH 12 realignment crosses CSAH 55.

Three components of the APE that were not previously surveyed were located in areas of obvious disturbance and not considered for survey. These areas include a proposed cul-de-sac on 1st Avenue West to the west of CSAH 55 on the grounds of an operating farm complex in the SE ¼ of Section 7, Township 119N, Range 35W, improvements to the intersection of 1st Avenue West/CSAH 55 and TH 12, and shoulder widening along CSAH 55 south of the proposed TH 12 realignment (Figure 1-1 and 1-2).

Subsequent to the field survey, the APE was revised to include a new connecting roadway that branches off from the TH 12 realignment in the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35 and runs north to south then east to west around a former farmstead area until it reaches CSAH 55 (Figure 1-1 and 1-2). The new roadway component traverses an agricultural field, a portion of which was examined during survey of the TH 12 realignment just west of the former farmstead area. At the time of the TH 12 realignment survey, the field where the connecting roadway is located was planted in corn. Based on the negative results of the previous archaeological surveys conducted in adjacent agricultural fields, the new roadway component was considered to have low potential for containing significant archaeological resources and no survey was conducted.

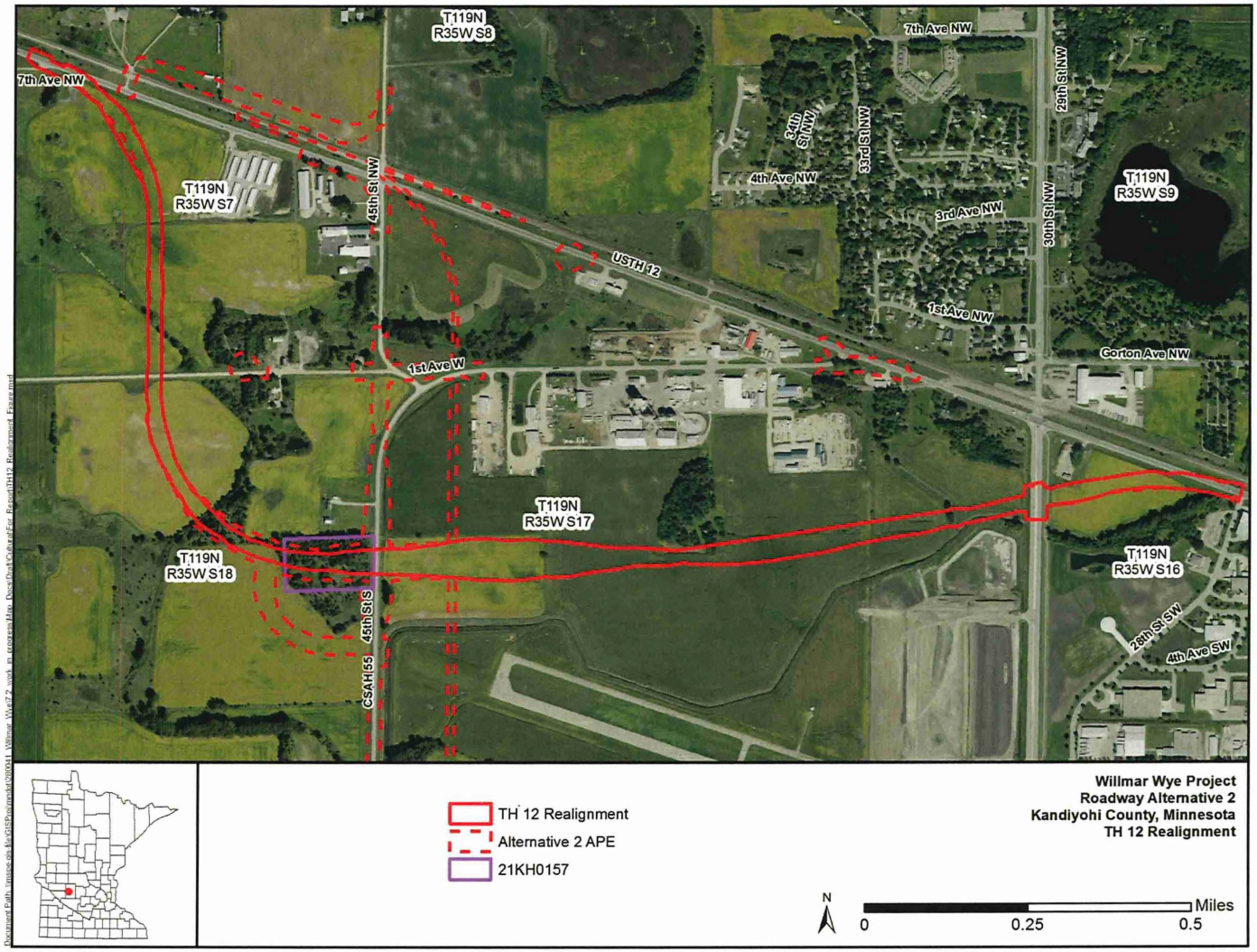

Figure 4-1. TH 12 Realignment Segment of the APE Overview

4.1 Section 7, Township119N, Range 35W

The TH 12 realignment runs roughly north to south through the SE ¼ of the section over generally flat terrain from the intersection of TH 12 and 7th Avenue NW to 1st Avenue W (see Figure 4-1). At the time of survey, from north to south the APE traversed the ditched and disturbed ROW of the intersection of TH 12 and 7th Avenue NW intersection, a planted corn field with 90 percent GSV, a planted soybean field with 90 percent GSV, a ditched stream, and another planted soybean field with 90 percent GSV (see Figures 4-2 and 4-3). Pedestrian survey of the APE in this section revealed no cultural material. No further work is recommended for this portion of the APE.

Figure 4-2. TH 12 Realignment from Intersection of 7th Avenue NW and TH 12. View to Southeast

Figure 4-3. Typical Field Conditions within TH 12 Realignment in Section 7, View to South

4.2 Section 16, Township119N, Range 35W

The TH 12 realignment runs roughly east to west through the NW ¼ of the section over flat to gently rolling terrain from TH 12 to 30th Street SW (see Figure 4-1). At the time of survey, from east to west, the APE traversed the ditched and disturbed ROW of TH 12, a planted corn field with 90 percent GSV, and the ditched and disturbed ROW of 30th Street SW, which includes a paved bike path that runs north to south along the east side of the street (see Figures 4-4, 4-5 and 4-6). Pedestrian survey of the APE in this section revealed no cultural material. No further work is recommended for this portion of the APE.

Figure 4-4. Typical Field Conditions within TH 12 Realignment in Section 16, View to Northeast

Figure 4-5. TH 12 Realignment in Section 16 at Intersection with TH 12, View to Northeast

Figure 4-6. TH 12 Realignment at intersection with 30th Street NW and Bicycle Path, View to West

4.3 Section 17, Township119N, Range 35W

The TH 12 realignment runs roughly east to west through the N ½ of the section over flat to gently rolling terrain from 30th Street SW to CSAH 55 (see Figure 4-1). At the time of survey, from east to west the APE traversed the ditched and disturbed ROW of 30th Street SW, a planted soybean field with 80 percent GSV, a ditched stream, a planted soybean field with 80 percent GSV, a planted corn field with 90 percent GSV, and the ditched and disturbed ROW of CSAH 55 (see Figures 4-7 and 4-8). Pedestrian survey of the APE in this section revealed no cultural material. No further work is recommended for this portion of the APE.

Figure 4-7. TH 12 Realignment in Section 17 from CSAH 55, View to East

Figure 4-8. Typical Field Conditions within TH 12 Realignment in Section 17, View to East

4.4 Section 18, Township119N, Range 35W

The TH 12 realignment runs east to west then curves and runs north to south through the NE ¼ of section over flat to gently rolling terrain from CSAH 55 to 1st Avenue W (see Figure 4-1). At the time of survey, from east to west, the APE traversed a former farmstead area covered with a mix of tall grass and heavily wooded areas. This former farmstead area was recorded as site 21KH0157 and is described in more detail in Section 4.4.1 below. West of the former farmstead area the APE traversed a planted corn field with 90 percent GSV then curved to the northwest and traversed an area covered by tall grass and scattered trees that was bordered to the northwest and east by stands of mature trees (see Figure 4-9). A channelized stream that runs southwest to northeast was located within the northwest stand of trees. A review of historic plat maps and aerial photographs revealed that no buildings or farmsteads had been located in this area, and it had been cultivated as recently as recently as 1963 (see Figures 3-2 through 3-7). The presence of an unnaturally undulating ground surface and an old push-pile further indicate prior disturbance in this area. Pedestrian survey of this area revealed no features or cultural materials. Northwest of this grassy area, the APE traversed another planted corn field with 90 percent GSV (see Figure 4-10). Pedestrian survey of the portion of the APE that contains the two cornfields and grassy area northwest of the former farmstead area revealed no cultural material. No further work is recommended for these portions of the APE.

Figure 4-9. Grass and Tree-Covered Parcel along TH 12 Realignment in Section 18, View to Northwest

Figure 4-10. TH 12 Realignment in Section 18 from 1st Avenue West, View to Southeast

4.4.1 Site 21KH0157

Site 21KH0157 is an abandoned farmstead located in the NE ¼ of the SE ¼ of the NE ¼ of Section 18, Township 119N, Range 35W in Kandiyohi County, Minnesota (see Figure 4-1). The site was defined based on the farmstead area as represented on historical aerial photographs (see Figures 3-5, 3-7, and 4-12). The farmstead area consists of a mix of tall grass and heavily wooded areas. Grassy openings with scattered groves of young trees are located throughout the southern portion of the farmstead area while the northern portion of the farmstead is a heavily wooded overgrown shelterbelt. The north half of the APE traverses the heavily wooded area and the south half of the APE traverses the grassy openings with scattered trees (see Figure 4-14).

Historic Map/Aerial Photograph Review

Historical maps reveal the presence of a structure belonging to Ole Rasmussen at this location as early as 1905 (Lawson and Nelson 1905) (see Figure 3-2). A 1915 plat map shows a structure in the same location with the property now owned by A.C. Skoog (Webb Publishing Co. 1915) (see Figure 3-3). A farmstead is first visible at this location on an aerial photograph from 1938, which shows a residence, a barn, two smaller outbuildings, and an irregular-shaped, indistinguishable feature west of the barn that may be an animal enclosure or pen (see Figure 4-11). Plat maps from 1932 (Webb Publishing Co. 1932) and 1958 (Farm Plat Book Publishing Co. 1958) reveal the property was owned by Jens Anderson (see Figures 3-4 and 3-6). By 1961 the property had changed hands and was now owned by Art Sordahl (Directory Service Co. 1961).

An aerial photograph from 1963 reveals that the farmstead had undergone extensive modifications since 1938 (see Figure 4-12). Based on the 1963 aerial photograph, the barn appears to have been altered as is seems shorter along its north-south axis, and a silo is clearly visible along the east wall that was not present in 1938. The small outbuilding just to the east of the house in the 1938 aerial

has been removed, and the irregular-shaped, indistinguishable feature west of the barn is no longer present. A new outbuilding is present to the southeast of the barn where in the 1938 aerial there appeared to be a patch of removed soil, possibly a borrow area. The driveway has also been modified. The 1938 aerial shows the driveway running southwest from the near northeast corner of the farmstead and curving around south of the residence, whereas the 1963 aerial shows the driveway running almost due west south of the residence. Overall, the farmstead area appears more orderly and better kept than it appeared in 1938. Property ownership was not available from plat maps subsequent to 1961, and by 1982 the entire S ½ of the NE ¼ of Section 18, including the farmstead, was annexed by the city of Willmar. The property is currently owned by the city of Willmar. Aerial photographs reveal that the buildings within the farmstead had been razed by 1991 (see Figure 4-13).

Survey Results

Pedestrian survey of the APE within the former farmstead revealed the presence of two sets of foundations, one along the southern edge of the APE (Feature 1) and one along the northern edge of the APE (Feature 2).

Feature 1 consists of poured concrete foundations measuring approximately 50 feet north to south by 26 feet east to west, as well as a poured concrete silo foundation with an approximately 10-foot diameter along the east foundation wall (see Figure 4-12 and Figures 4-15 through 4-19). Large metal anchor bolts are spaced evenly along the foundation walls. Two interior wall foundations, oriented east to west, created separate bays within the structure. A concrete slab floor was present within the foundations. A poured-concrete ramp measuring approximately 4 feet north to south by 8 feet east to west was found along the west foundation wall. The entire structure was overgrown with trees and scrub brush. A mix of mid-twentieth-century and modern household and architectural debris, including miscellaneous pieces of metal, a variety of glass food and beverage vessels, and a tire, were scattered throughout the foundations.

Feature 2 consists of poured concrete foundation measuring approximately 16.5 feet north to south by 24 feet east to west (see Figures 4-12 and Figures 4-20 through 4-23). Large metal anchor bolts are spaced evenly along the foundation walls. A concrete slab floor was present within the foundations, and a concrete slab measuring approximately 8 feet north to south by 6.5 feet east to west found off of the southeast corner of the foundations. The entire structure was overgrown with trees and scrub brush. A scatter of mostly modern debris was found within and around the foundations. This debris scatter included metal ductwork, metal buckets, metal fuel barrels, wire mesh, asphalt shingles, pieces of Styrofoam, miscellaneous glass food vessels, 1960s to 1970s era pop-top aluminum cans, an enamel wash basin, an upholstered reclining chair, a 1980s era Huffy bicycle, and a metal rabbit hutch. No structures are evident in the vicinity of Feature 2 on the 1938 or 1963 aerial photographs; however, the 1963 aerial shows what appears to be a square patch of cleared earth at that location.

In addition to the debris scattered within and near features 1 and 2, a mix of modern and mid-twentieth-century household and architectural debris was observed scattered throughout the grassy and wooded areas within the site. This debris included multiple metal fuel containers, miscellaneous pieces of sheet metal, metal can fragments, wire, galvanized metal ductwork, a 1970s–1980s era television set, and a box-spring mattress.

Four shovel tests were excavated along the centerline of the APE in the vicinity of the residence, and two outbuildings west of the residence, as portrayed on the 1938 aerial photograph (see Figure 4-24). Shovel tests 1 and 2 were excavated in the vicinity of the residence. This area exhibited an

unnaturally undulating ground surface that appeared to be disturbed. Shovel test 1 was placed in the vicinity of the southeast corner of the former residence just to the east of the disturbed ground surface and exhibited an intact profile consisting of 15 cm of very dark brown (10YR 2/2) silt loam over very dark grayish brown (10YR 3/2) silt loam with some gravel that continued to a depth of 55 centimeters below surface (cmbs) before transitioning to a mottled very dark grayish brown (10YR 3/2) and dark grayish brown (10YR 4/2) silt loam with some gravel. A grayish brown (10YR 5/2) silt loam with some gravel subsoil was reached at 70 cmbs and the shovel test was terminated at 85 cmbs. No artifacts were recovered from this test. Shovel test 2 was placed 15 m north/northwest of shovel test 1 in vicinity of the west elevation of the former residence. Shovel test 2 revealed a disturbed profile consisting of 15 cm of very dark brown (10YR 2/2) silt loam topsoil over brown (10YR 5/3) sand and gravel fill. This fill layer contained numerous pieces of architectural debris of indeterminate age including pieces of miscellaneous metal and metal wire, and fragments of concrete, red brick, ceramic drain pipe, and marble slab. At 40 cmbs the test transitioned to very dark brown (10YR 2/2) silt loam mixed with the sand and gravel fill material. Small fragments of charcoal and slag, and numerous pieces of burned and melted linoleum were found throughout this layer along with charred pieces of concrete, wire nails, and miscellaneous pieces of metal. This stratum was interpreted as a burn layer and continued until an obstruction impeded further excavation of the shovel test at 62 cmbs. The presence of fill mixed with architectural debris overlying a burn layer as seen in shovel test 2, which was placed within an area of disturbed ground surface in the vicinity of the former residence, indicate that the residence was razed, the structural debris burned (at least partially), and the entire area buried over with soil.

Shovel test 3 was placed 15 m west/southwest of shovel test 2 in the vicinity of an outbuilding west of the residence that was portrayed on the 1938 aerial photograph. The 1963 aerial photograph revealed that this outbuilding had been removed in the intervening years and a portion of the driveway now occupying that location. Shovel test 3 revealed 15 cm of very dark grayish brown (10YR 3/2) silt loam topsoil over a pale brown (10YR 6/3) sandy silt fill layer that was present to 25 cmbs. This fill layer contained mostly architectural debris of indeterminate age consisting of less than ten window glass fragments, less than 10 red brick fragments, and less than 5 fragments of colorless container glass. At 25 cmbs a stratum consisting of very dark brown (10YR 2/2) silt loam with some gravel was encountered and continued to a depth of 75 cmbs. No artifacts were recovered from this stratum. At 75 cmbs gray (10YR 5/1) silt loam subsoil was reached and was present until excavation ceased at 100 cmbs.

Shovel test 4 was placed 15 west of shovel test 3 in the vicinity of the small, westernmost outbuilding that was portrayed on the 1938 aerial photograph. The 1963 aerial photograph revealed that this outbuilding had been removed in the intervening years and also shows a larger outbuilding having been constructed to the west of the old outbuilding. Shovel test 4 revealed 65 cm of black (10YR 2/1) silty clay loam over gray silty clay loam subsoil that was present until excavation ceased at 80 cmbs. The upper stratum contained mostly architectural debris of indeterminate age consisting of less than 10 fragments of window glass, a square-cut nail. A terra cotta pot rim sherd, a triangular-shaped metal plate, and a metal window latch. A single wire nail was recovered from the subsoil.

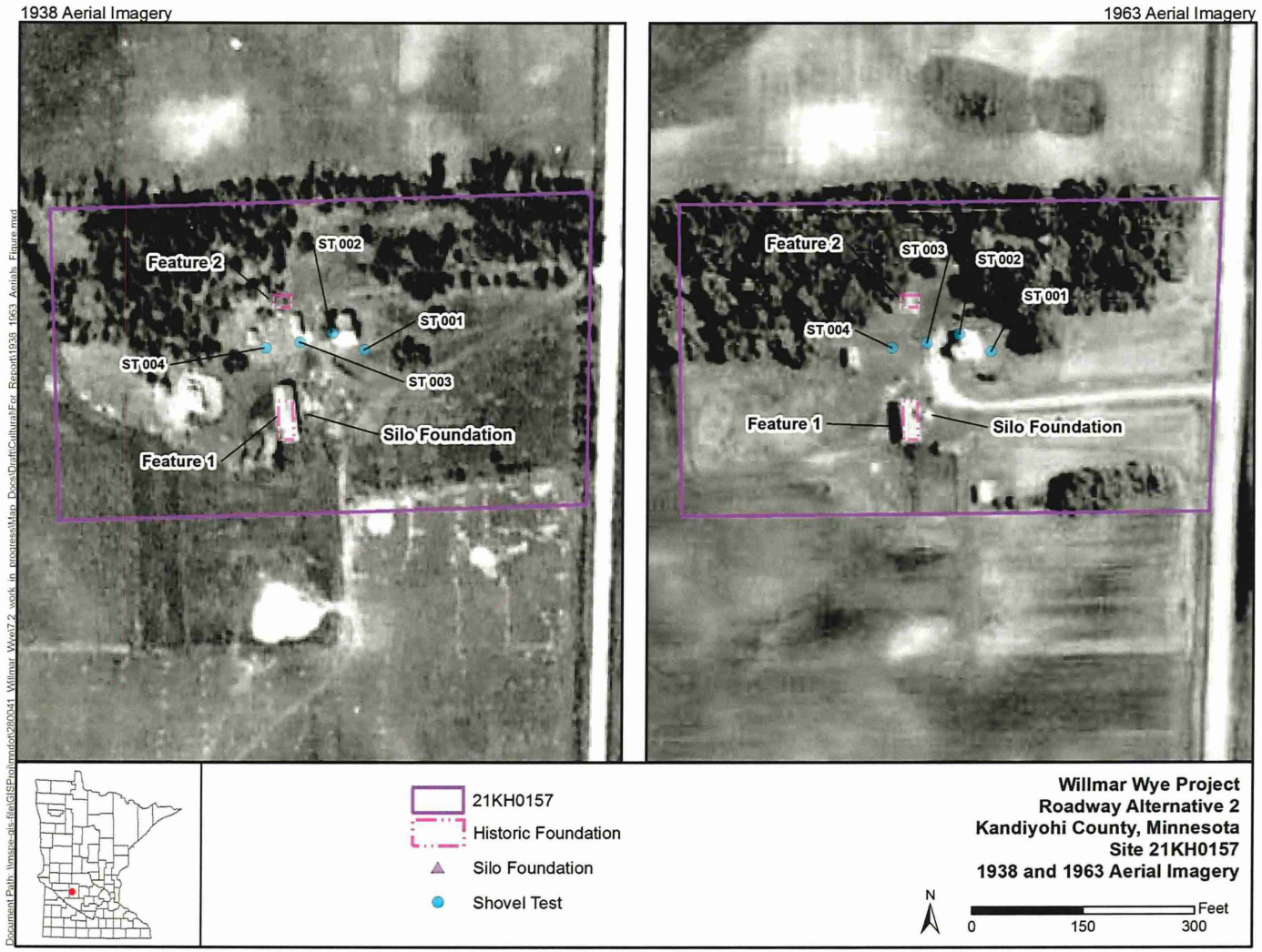

Figure 4-11. 1938 and 1963 Aerial Photographs Showing Farmstead with Results of Current Investigation

Figure 4-12. 1991 and 2015 Aerial Photographs Showing Farmstead with Results of Current Investigation

Figure 4-13. Site 21KH0157 Overview, View to East

Figure 4-14. Site 21KH0157, Feature 1 Overview, View to Southeast

Figure 4-15. Site 21KH0157, Feature 1, North Wall, View to East

Figure 4-16. Site 21KH0157, Feature 1, East Wall, View to South

Figure 4-17. Site 21KH0157, Feature 1 Interior, View to West

Figure 4-18. Site 21KH0157, Feature 1, Silo Foundation, View to Southwest

Figure 4-19. Site 21KH0157, Feature 2 Overview, View to Northwest

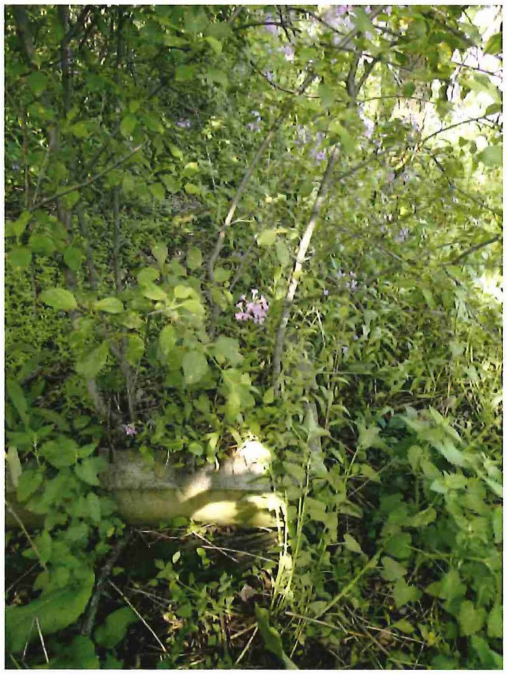

Figure 4-20. Site 21KH0157, Feature 2, South Wall, View to East

Figure 4-21. Site 21KH0157, Debris in Vicinity of Feature 2, View to Southeast

Figure 4-22. Site 21KH0157 Debris in Vicinity of Feature 2, View to Northeast

Figure 4-23. Site 21KH0157, Shovel Test Transect from Shovel Test 3, View to East

Summary

Minnesota historic farmsteads are primarily eligible to the National Register under Criterion D, although on rare occasions they could be considered under Criteria A, B, or C (Terrell 2006). Site 21KH0157 is an historic farmstead dating to at least 1905 and was present until at least 1963. According to the *Historic Context Study of Minnesota Farms, 1820-1960* (Granger and Kelly 2005), site 21KH0157 is located in the West Central Livestock and Cash Grain farming region. Based on the results of the Phase I investigations at this site, and its apparent dates of occupation, this farmstead may be associated with four farming developmental periods as identified in the *Historic Context Study of Minnesota Farms, 1820-1960* (Granger and Kelly 2005) and *Historical Archaeology of Minnesota Farmsteads* (Terrell 2006):

- Period 4: Industrialization and Prosperity, 1900-1920
- Period 6: Development of Livestock Industries, 1900-1940
- Period 7: Depression and Interwar Period, 1920-1940
- Period 8: World War II and the Postwar Period, 1940-1960

However, historic plat maps reveal that the farmstead has been occupied by at least three different family households over the years, making site evaluation under Criterion D problematic. As Terrell (2006) states, farmsteads that were occupied by multiple successive households present particular difficulty in identifying archaeological patterns that could be attributed to a specific household, and therefore are poor candidates for research into behavior of individual households. They could be used to answer questions regarding regional trends, but changes to the composition of farmstead features by successive owners will have a tendency to blur distinctions between contexts. Historic

aerial photographs revealed significant alterations to multiple farmstead buildings between 1938 and 1963, and that all buildings in the farmstead were razed by 1991. Substantial regrading through the center of the farmstead for the repositioned driveway caused significant disturbance through central "courtyard" of the farmstead compromising integrity.

Two sets of poured-concrete foundations, associated with a barn and outbuilding, were the only structural remains present at the site, and these lie mostly outside the APE. Subsurface testing in the vicinity of the former residence indicated that the residence was demolished, burned (at least partially), and buried. Subsurface testing in the vicinity of two former outbuildings west of the residence also revealed disturbed soil profiles. A low quantity of artifacts were recovered from disturbed contexts in the subsurface tests and consisted mainly of undiagnostic architectural debris. A mix of modern with some mid twentieth-century architectural and household debris was found scattered on the surface throughout the farmstead area.

Recommendations

While HDR did not complete a formal NRHP evaluation for site 21KH0157, we found that it is, as indicated above, a poor candidate for additional research and does not retain integrity because of alterations to the farmstead complex by multiple unrelated occupants between 1938 and 1963, the deliberate razing of the buildings by 1991, and the disturbed context of the artifacts recovered from subsurface testing within the APE. HDR also recommends that the low density and lack of diagnostic artifacts recovered from subsurface tests, along with the mostly modern nature of the surficial debris scatter, suggests that the archaeological features in the site are not present in sufficient quantity and quality to answer important research questions related to the farming developmental periods that may be associated with this site, or with the farming region where this site is located. As such, HDR recommends site 21KH0157 as not eligible for listing on the NRHP. No further work is recommended for this location.

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5 Summary and Recommendations

In May 2016, HDR completed a Phase I Archaeological Resources Survey for the Willmar Wye Project's Value Engineering Roadway Alternative 2. Alternative 2 is needed to address roadway impacts associated with the Project's proposed new railroad connection to the south and west of the city of Willmar in Kandiyohi County, Minnesota. Alternative 2 encompasses a proposed TH 12 realignment, as well as proposed modifications to several roadway components along TH 12, CSAH 55, TH 40, 1st Avenue West and 45th Street NW in sections 7, 16, 17, 18, 19 and 20 of Township 119N, Range 35W. The Alternative 2 APE encompasses approximately 130 acres. In addition to the Phase I survey of Alternative 2, HDR documented previous archaeological work completed for the Project's Original Roadway Alternative (Alternative 1) by AECOM in December 2015. The Alternative 1 project area surveyed by AECOM encompasses approximately 374 acres in sections 7, 8, 17, 18, 19, 20, 29, and 30 of Township 119N, Range 35W.

The survey of Alternative 1 conducted by AECOM included pedestrian survey and subsurface testing and resulted in no historic properties recorded. The Phase I archaeological survey conducted by HDR of Alternative 2 consisted of pedestrian reconnaissance and subsurface testing. The survey identified one new Post-Contact Period archaeological site. Site 21KH0157 is an abandoned and razed farmstead traversed by the APE.

Site 21KH0157 lacks research potential and is recommended as not eligible for listing on the NRHP since the farmstead has been occupied by multiple unrelated households over its years of occupation. Changes to the composition of farmstead features, such as the removal and addition of structures and the relocation of the driveway, have substantially compromised the integrity of the farmstead.

HDR reviewed field maps and survey forms produced for the AECOM investigations of the Alternative 1 project area and recommend that the survey methodology employed by AECOM is adequate and complete. As such, HDR recommends no further work for the Alternative 1 project area.

HDR recommends that a no historic properties finding be made for the purposes of Section 106 compliance for Alternatives 1 and 2 of the Willmar Wye Project.

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Appendix A. AECOM Alternative 1 Project Area Survey Forms

AECOM

Survey Segment/Area Record

Segment/Area No. 1
Date 12-11-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Area NW-SE along north side of RR & Hwy 12. and west of 45th St. NW, bordered by Parcel 2 on the west side.

~~Map Name~~: Ped surveyed at 10m transects.

Length: _____ Width: _____ Acreage: _____

Topographic Setting: Gently rolling hills

~~Substrate~~: No shovel testing required.

Vegetation: plowed ag field

Ground Visibility: Good 95-100 % Fair _____ % Poor _____ %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances along South edge from fiber optic & electrical lines & placement of overhead utility line poles.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 2
Date 12-10-15
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
North of RR in northwest area of APE
Entrance/drive across RR to residence
north of A. Two historic barns on east
end.

Map Name: No pert quad - wetlands except eastern
Length: 1/4 of Width: Acreage: reeds shovel testing

Topographic Setting: gently rolling hills

* Substrate: Shovel test holes at eastern end. See Below

Vegetation: 70% wetland; short mowed grass

Ground Visibility: Good ___ % Fair ___ % Poor 0 %

Sites Encountered (list by Number):
0

Isolates Encountered (list by Number):
0

Comments, Problems, Anomalies: 2 Historic Barns on eastern edge.
Disturbances - driveway along western edge,
RR + ditch along southern edge.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
	2 historic barns	Yes			

4 Shovel tests dug on upper ridge in eastern side of segment. All shovel tests were negative, & all showed signs of heavy disturbance.

AECOM
Survey Segment/Area Record

Segment/Area No. 3
Date 12-10-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM & KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
North of Hwy 12 in northwest area of APE. Bordered by RR on south side.

~~Map Name~~: No ped survey - No shovel testing required
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling & man-made hill
~~Substrate~~: No shovel testing required
Vegetation: wetland & mowed grass area
Ground Visibility: Good _____ % Fair _____ % Poor Ø %
Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbed - man-made hill @ southwest end, 2 driveways to repair shop & 1 to residence, planted trees, graded lawn

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

Notes: Spoke w/ landowner 12-13-2015 & he explained all the disturbances

AECOM

Survey Segment/Area Record

Segment/Area No. 4
Date 12-13-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MM & LM
Location (describe in terms of roads, prominent geographic features, and so forth):
Parcel 4 is located in the NW area of APE, south of Hwy. 12 and west of storage unit building.

~~Map Name~~: Ped surveyed @ 10m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate~~:
Vegetation: Plowed ag fields & wetlands
Ground Visibility: Good 80-100% Fair _____% Poor _____%
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbances - Road & ditch along northern border, extensive wetlands, & large pile of dirt in APE (@ 15m x 50m long & tall).
Previously Recorded Sites and Historic Locations: Buried utilities near ditch. storage building disturbances.

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 5
Date 12-10-15
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: mmm & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Small triangular area south of Hwy 12 between Parcels 7 & 8.

~~Map Name~~: No ped survey - all wetland

Length: _____ Width: _____ Acreage: _____

Topographic Setting: Low area surrounded by gently rolling hills.

~~Substrate~~: No shovel testing necessary.

Vegetation: All wetland

Ground Visibility: Good _____ % Fair _____ % Poor Ø %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Wetland

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 6
Date 12-13-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MM + LM

Location (describe in terms of roads, prominent geographic features, and so forth):
Parcel 6 is located towards the NW area of APE, south of Parcel 6 & storage buildings and northwest & west of Parcel 9.

~~Map Name~~: Pedsurveyed @ 10 m. transects.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate~~: No shovel testing necessary.
Vegetation: plowed ag field w/ some wetland areas
Ground Visibility: Good 80-100% Fair _____% Poor _____%
Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances - Road & ditch at southern end of parcel. Pieces of modern building debris dmg into field. Extensive wetlands & Previously Recorded Sites and Historic Locations clucken reek.

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 7
Date 12-11-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye.
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Segment 7 is at southeast corner of Hwy 12 & 45th St. W. Large wetland area in southern half of segment. Creek cuts through segment near middle.

~~Map Name~~: Ped surveyed @ 5-10m transects

Length: _____ Width: _____ Acreage: _____

Topographic Setting: Gently rolling hills

~~Substrate~~: No shovel testing needed.

Vegetation: plowed ag fields & wetlands

Ground Visibility: Good _____% Fair _____% Poor _____%

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances along western & northern edges of gravels/rock from road construction. Buried fiber optic cable along west side.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 8
Date 12-10-15
Recorder K. Jordan

Project: BNSF Willmar Wye
Crew: mmm + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
long narrow area south of Hwy 12 at eastern end of APE. Dooleys gas tanks on property

~~Map Name~~: No ped survey - disturbed

Length: _____ Width: 0 Acreage: _____

Topographic Setting: _____

~~Substrate~~: No shovel testing required.

Vegetation: graveled & mowed grass & wetland areas.

Ground Visibility: Good _____ % Fair _____ % Poor 0 %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbed - Dooley's Tanks, buried pipelines, utilities & wetland areas w/in parcel.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 9
Date 12-10-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
northwest of intersection of Hwy 55 & . Parcel contains house in SE corner & wetlands in northeast.

~~Map Name~~: No ped survey - disturbances & wetlands
Length: _____ Width: _____ Acreage: _____
Topographic Setting: graded land w/ house
~~Substrate~~:
Vegetation: mowed lawn, wetland, harwood trees
Ground Visibility: Good _____ % Fair _____ % Poor 0 %
Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbed - buried gas line, private electrical, house, graded lawn, wetland, driveway. Planted trees

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM
Survey Segment/Area Record

Segment/Area No. 10 A, B, + C completed
Date 12-10-15
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: mmm + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
10A Small section south of 1st Ave W + west of Hwy 55.
10B + C Two lg. narrow sections of Parcel 10 is located south of + west of Hwy 55 (n-s sections). 10C is located adjacent to Quam Construction + partially extends into Quam property on east side.
~~Map Name:~~ Ped Survey 10m intervals.

Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate:~~ No shovel testing needed.
Vegetation: plowed ag field
Ground Visibility: Good 70-100% Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: 10-A disturbances from road construction, ditch, buried utilities. Asphalt chunks in ag field. 10B - road + ditch along west side. 10C -
Previously Recorded Sites and Historic Locations Quam construction property on east side, multiple buried utilities along northern border, + road + ditch on north.

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM
Survey Segment/Area Record

Segment/Area No. 11
Date 12-10 & 12-11-15
Recorder K. Jordan

Project: BNSF Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Parcel on NW corner of Hwy 55 & Hwy 40. House & outlying Buildings. Ag field to the north & west of house / lawn area. Property is bordered by creek on west side.

~~Map Name:~~ Documented structures & disturbances

Length: _____ Width: _____ Acreage: _____

Topographic Setting: Gently rolling ag field & graded residence land

~~Substrate:~~ Shovel testing required in ag field to west of house (see Below)

Vegetation: Harvested corn field & mowed lawn.

Ground Visibility: Good _____ % Fair _____ % Poor 0 %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances - House, out buildings, driveway, buried fiber optic lines. GSV was low due to vegetative debris since field has not been plowed.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments

Shovel Testing Area 3 12-13-2015

Two shovel tests placed 15 m apart in harvested ag field. Both STs were negative.

AECOM
Survey Segment/Area Record

Segment/Area No. 12
Date 12-16-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Historic farmstead @ northwest corner of Hwy 55 & Hwy 40. House & 9 out-buildings.

~~Map Name~~: Documented farmstead w/ photos, etc.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Graded land
~~Substrate~~: N
Vegetation: mowed lawn w/ some hardwood trees
Ground Visibility: Good _____ % Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - driveway from west side of property curving to south side.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Farmstead		Yes			

AECOM
Survey Segment/Area Record

Segment/Area No. 13
Date 12-9 & 10-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: mmm & KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
SW corner of intersection of Hwy. 55 & Hwy. 40

Documented house, barn + outlying buildings
~~Map Name~~: Ped Survey in ag field @ 3-5m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: flat to gently rolling
~~Substrate~~: Documented disturbances - No shovel testing required
Vegetation: partial ag field
Ground Visibility: Good 50-90% in ag field Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbed lawn, road & ditch, Buried private electrical line along southern prop grass & ag field. House & out buildings, driveway
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Farmstead		Yes.			

AECOM

Survey Segment/Area Record

Segment/Area No. 14
Date 12-12-15
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MM, KJ + LM

Location (describe in terms of roads, prominent geographic features, and so forth):
Area east of Hwy 55 & south of Hwy 40. and between Area B.1 and Parcel 15.

~~Map Name:~~ Ped surveyed at 15m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate:~~ No shovel testing needed.
Vegetation: plowed ag field w/minimal vegetative debris
Ground Visibility: Good 95-100% Fair _____ % Poor _____ %
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbances - road & ditch along west side of parcels. Drain pipes throughout field.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 15
Date 12-12-2015
Recorder K. Jordan

Project: BNSF
Crew: MMM, KDJ, + LM
Location (describe in terms of roads, prominent geographic features, and so forth):
Area east of Hwy 55 between Parcels 14 + 16. Southern end of Parcel 15 extends to RR to the east.

~~Map Name~~: Ped surveyed at 15m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate~~: N.D shovel testing needed.
Vegetation: Plowed corn field w/ some vegtative debris
Ground Visibility: Good _____ % Fair 30-50 % Poor _____ %
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - ditch along road on west side of segment. Drainage pipes throughout field.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 16
Date 12-11-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Parcel 16 is located near the southern end of APE & is divided into 2 sections by Area M. Parcel 16 is east of Hwy 55 & north of Parcel 17. & bordered by canal at north end of parcel.

~~Map Name:~~ Ped Surveyed @ 10m transects.

Length: _____ Width: _____ Acreage: _____

Topographic Setting: Gently rolling hills

~~Substrate:~~ No shovel testing necessary.

Vegetation: plowed ag field.

Ground Visibility: Good 40-90% Fair _____ % Poor _____ %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances along western edge include road & ditch & buried utilities.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. 17
Date 12-9-15
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Parcel 17 is located east of Hwy 55 & bordered by RR along SE edge.

~~Map Name~~: Place STs along ridge at north end of parcel

Length: _____ Width: _____ Acreage: _____

Topographic Setting: slightly rolling - flat

~~Substrate~~: documented disturbances & wetlands / Shovel test needed. See Below

Vegetation: med grasses & some wetland vegetation, few scrub trees evergreen

Ground Visibility: Good _____ % Fair _____ % Poor 0 %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: 1/3rd ROW Disturbances - RR & grade along SE; road ditch along west side; Wetland covers portion of APE.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

Shovel Test Area 5

1 ST was placed in the northeast area of parcel on a slight bump. NCM recovered.

AECOM

Survey Segment/Area Record

Segment/Area No. A
Date 12-10-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
North of Parcels 2 + 3. Small area

~~Map Name~~: No ped survey - disturbances

Length: _____ Width: _____ Acreage: _____

Topographic Setting: gently rolling hills

~~Substrate~~: No shovel testing required

Vegetation: Mostly none - driveway & small amount of wetland

Ground Visibility: Good _____ % Fair _____ % Poor Ø %

Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbances - Driveway + ditch alongside drive. and slope.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. B
Date 12-10-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Bordered by RR along NE edge & Hwy 12 on SW edge. South of Parcels 1, 2, & 3.

~~Map Name~~: No ped survey - disturbances & wetland

Length: _____ Width: _____ Acreage: _____

Topographic Setting: Ditch between RR & Hwy. 12.

~~Substrate~~: _____

Vegetation: Wetland

Ground Visibility: Good _____ % Fair _____ % Poor Ø %

Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances - entirely roadside ditch & RR grading.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. C
Date 12-10-15
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ
Location (describe in terms of roads, prominent geographic features, and so forth): Storage Units— Bordered by Hwy 12 along northern edge, drive on western edge, and poultry farm to the east.

~~Map Name~~: No ped survey- disturbances documented
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Graded land
~~Substrate~~: No shovel testing required.
Vegetation: Roadside ditch- has mowed grasses.
Ground Visibility: Good _____ % Fair _____ % Poor Ø %
Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances- storage buildings, ditch & road along northern boundary, buried utilities.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. D
Date 12-10-15
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ
Location (describe in terms of roads, prominent geographic features, and so forth): Poultry Farm. Bordered by Hwy 12 to the north & 45th St NW to the east. Storage buildings are to the west.

~~Map Name:~~ No pedsurvey - disturbances documented
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling hills & graded land.
~~Substrate:~~
Vegetation: mowed lawn on east side
Ground Visibility: Good _____ % Fair _____ % Poor Ø %
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbed - ditch, buried pipeline along northern edge, poultry farm, road construction disturbances. Graded land around chicken coops at western end.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. E
Date 12-10-15
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Area is south of Area D & runs parallel along the west side of 45th St. NW. This area is in the front of businesses.

Map Name: No ped survey- disturbances documented
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Graded land & mowed grass in ditch
Substrate: _____
Vegetation: mowed grass in ditch along road and a few hardwood trees at southern end
Ground Visibility: Good ____ % Fair ____ % Poor Ø %

Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbed- Road & ditch along side, parking lots, buried utilities in ditch (multiple) driveways

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. F
Date 12-10-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Small area south of 1st Ave. W and west of upper portion of Parcel 10. (104)

~~Map Name~~: Ped surveyed @ 10m. transects.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate~~: No shovel testing necessary
Vegetation: _____
Ground Visibility: Good 90-100 % Fair _____ % Poor _____ %
Sites Encountered (list by Number): _____

Ø

Isolates Encountered (list by Number): _____

Ø

Comments, Problems, Anomalies: Disturbances - Ditch along road with buried utilities.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. G
Date 12-11-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
N-S area along west side of Hwy 55, beginning @ curve (south of IDA). Wetland north of residential property (4310?). & wooded lot to ag field south of residential lawn.

~~Map Name~~: Ped surveyed ag field at 5m transects. Disturbances documented in notes & photos, etc.

Length: Width: Acreage:

Topographic Setting: Fairly flat area within gently rolling hills

~~Substrate~~: Shovel Testing needed in grass & wooded area S of residence prop.

Vegetation: Med grasses, Immature - mature trees, wetland area

Ground Visibility: Good 75-100 % Fair 0 % Poor 0 %
mowed grass in residential property. in ag field grass & wooded areas

Sites Encountered (list by Number):
Ø - in ag field

Isolates Encountered (list by Number):
Ø - in ag field

Comments, Problems, Anomalies: Disturbances - buried pipeline & electrical lines, ditch along east side of Area G. Portion of segment is wooded w/ immature & a few mature hardwoods, north end of segment is a wetland. Other disturbances at north end mainly include residential drive & two other approaches. Overhead elec. lines.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

ST - Shovel tests not excavated as this area is no longer part of the APE & will not be impacted outside the road ROW for Hwy 55.

AECOM
Survey Segment/Area Record

Segment/Area No. H
Date 12-10-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: mmm + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
E-W area north of Hwy 40. Bordered by creek on eastern edge.

~~Map Name~~: Ped surveyed @ 10m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate~~: _____
Vegetation: plowed ag field
Ground Visibility: Good 90-10 % Fair _____ % Poor _____ %
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbances along southern edge - road, ditch & buried utilities.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. I
Date 12-10-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM + KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
South + parallel to Highway 40, at western edge Dj APE Dj intersection Dj Hwy 40 + Hwy. 55. Creek is located to the south + eastern edge Dj APE.
~~Map Name:~~ Ped surveyed at 10m intervals.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling hills
~~Substrate:~~ No shovel testing required.
Vegetation: plowed ag field + med grasses along creek
Ground Visibility: Good 90-100 % Fair _____ % Poor _____ %
Sites Encountered (list by Number): ag field.
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - ditch + mds along northern borders Dj Area I, buried

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. J
Date 12-9-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Parallel to west side of Hwy 55 and south of Parcel 13

~~Map Name~~: Ped survey @ 3-5m transects w/ southern portion of Parcel 13
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling
~~Substrate~~: _____
Vegetation: plowed ag field - corn
Ground Visibility: Good 50-80 % Fair _____ % Poor _____ %
Sites Encountered (list by Number): Ø

Isolates Encountered (list by Number): Ø

Comments, Problems, Anomalies: Disturbances - ditch & road along east side
Buried fiber optic in ditch. 10-15m along east edge is disturbed. Buried private electrical line along north edge in NW corner.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. K
Date 12-9-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Southend of project area west of Hwy 55 & north of RR. Small section south of abandoned farmstead.

~~Map Name~~: Ped Survey in ag field @ 5m transects

Length: _____ Width: _____ Acreage: _____

Topographic Setting: gently rolling near abandoned farmstead & RR

~~Substrate~~: No shovel testing required.

Vegetation: plowed ag field & grass along road

Ground Visibility: Good 50 % in ag field Fair _____ % Poor _____ %

Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbed - slope from road construction, buried electrical lines & fiber optic cable, gravels in ag field from disturbances. More disturbances than ag field

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. L
Date 12-9-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Southern end of project area. South of RR, east side of Hwy. 55 to road.
Bordered by Hwy. 55 on west, RR to North & Hwy 23/15/5 to South.

~~Map Name~~: No ped survey; documented disturbances

Length: _____ Width: _____ Acreage: _____

Topographic Setting: RR grade

~~Substrate~~: ND shovel testing required

Vegetation: Med - Tall grasses

Ground Visibility: Good _____ % Fair _____ % Poor 0 %

Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbed from RR grade and, road ditch. Wetland area at northeast end of Area L.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. M
Date 12-11-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM + KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
Area M is between two sections of Parcel 16. East of Highway 55 & north of RR at southern end of APE.

~~Map Name~~: Ped Surveyed 10m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling
~~Subsoils~~: No shovel testing
Vegetation: plowed Ag field
Ground Visibility: Good 40-90 % Fair _____ % Poor _____ %
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbances along SE edge, from RR

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. N + O
Date 12-9-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye.
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
East of Hwy 55; 2 areas along irrigation canal Area N is west + Area O is to the east. Areas are directly north of northern Parcel 16.

~~Map Name~~: Ped survey ag field @ 5m transects / Area along canal - no ped survey & no ST required
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling ag fields (plowed)
~~Substrate~~: Disturbances Documented
Vegetation: Med to tall grasses + area extends into ag field.
Ground Visibility: Good _____ % ag field Fair _____ % Poor 0 % along canal
Sites Encountered (list by Number):

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbed - irrigation canal E-W across northern end of area. Buried sewer line parallel to canal - two older green locate flags observed

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. P
Date 12-9-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Area is bound by RR to the north, Hwy 23 to the south.

~~Map Name~~: No ped survey - Disturbances documented
Length: _____ Width: _____ Acreage: _____
Topographic Setting: road + RR grade
~~Substrate~~: No shovel testing required
Vegetation: Med grasses w/ some cattails in ditch.
Ground Visibility: Good _____ % Fair _____ % Poor Ø %
Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbed from road, RR, ditch, residence drive. Buried electrical line in ditch along road.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. Q
Date 12-9-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Area north of RR, partially extending into residential yard on east side of driveway. Ag field

~~Map Name~~: No ped survey - disturbances documented
Length: _____ Width: _____ Acreage: _____
Topographic Setting: RR grade & graded residential lawn
~~Substrate~~: Shovel testing needed - See below
Vegetation: ag field west of drive; lawn east of drive
Ground Visibility: Good _____ % Fair _____ % Poor Ø %
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbances - RR grade, manicured lawn, driveway & ditch along side. All pics from public ROW.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

12-13-2015 Shovel Test Area 4
Shovel Tests @ 15 m intervals
STs - Three shovel tests excavated west of driveway to residence. All shovel tests were negative & highly disturbed.

AECOM

Survey Segment/Area Record

Segment/Area No. R1
Date 12-12-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MM, KJ, LM
Location (describe in terms of roads, prominent geographic features, and so forth):
Area is east of Hwy 55, south of Hwy 40 and north of Parcel 14.

~~Map Name~~: Ped surveyed at 15m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate~~: No shovel testing necessary.
Vegetation: plowed ag field w/minimal vegtative debris
Ground Visibility: Good 90-100% Fair _____% Poor _____%
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances- Road & ditch along western & northern edges. Buried pipelines & fiber optic cables
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. R2
Date 12-10-2015
Recorder K Jordan

Project: BNSF Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Narrow E-W area south of Hwy 40 and east of Hwy 55.

~~Map Name:~~ Ped Surveyed @ 10-15 m transects.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills.
~~Substrate~~: No shovel testing necessary.
Vegetation: plowed ag field & wetland areas.
Ground Visibility: Good 90-100% Fair _____% Poor _____%
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - ditch along north boundary by road. Buried utilities.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. S1
Date 12-19-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM & KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
narrow area north & parallel to Hwy 40

~~Map Name~~: Ped Survey @ 5-15 m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling, slight rise near middle of area.
~~Substrate~~: _____
Vegetation: plowed ag field
Ground Visibility: Good 50-100 % Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbances - 2 buried petroleum pipelines (perpendicular to area); buried fiber optic line directly at edge of ag field; Gravels & light brown sticky clay in area of pipeline corridor.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. S2
Date 12-10-2015 & 12-12-15
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: mmm & KDJ / mm, KJ, & LM
Location (describe in terms of roads, prominent geographic features, and so forth):
Narrow N-S corridor north of Hwy 40. and east of Hwy 55 and runs along east side of Parcel 12. Bordered by irrigation canal on north end of segment. Airport runway is east of segment at northern end.
~~Map Name:~~ Ped surveyed @ 10-15m intervals.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling hills
~~Substrate:~~ No shovel testing necessary.
Vegetation: plowed ag field
Ground Visibility: Good 90-100% Fair 30-50% Poor Ø %
Sites Encountered (list by Number): in middle & southern fields in northern ag field
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Portion of a large natural dry creek bed separates a part of the northern & middle ag field. Large cobbles & boulders along creek edges from field clearing.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. S3
Date 12-12-2012
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MM, KJ + LM

Location (describe in terms of roads, prominent geographic features, and so forth):
Area is located south of Hwy 55 and travels N-S with irrigation canal at southern end. Two separate ag fields.

~~Map Name:~~ Ped surveyed 10-15m transects - No shovel tests needed.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate:~~ S - field plowed ag field w/ minimal vegetative debris
Vegetation: N - field plowed corn w/ some vegetative debris
Ground Visibility: Good 90-100% Fair 30-50% Poor _____ %
Sites Encountered (list by Number): ag field directly north of canal / northern ag fields

Ø

Isolates Encountered (list by Number):

Ø

Comments, Problems, Anomalies: Disturbances - eastern edge - Duan business. Irrigation canal at southern end & med grasses along canal.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. T
Date 12-11-2015
Recorder K. Jordan

Project: BNSF-Willmar Wye
Crew: MMM + KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
Small narrow N-S section on east side of Hwy. 55 and north of Parcel 12

Map Name: Ped surveyed @ 10m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling hills
~~Substrate~~: No shovel tests needed.
Vegetation: plowed ag field
Ground Visibility: Good 95-100% Fair _____% Poor _____%
Sites Encountered (list by Number): Ø
Isolates Encountered (list by Number): Ø
Comments, Problems, Anomalies: Disturbances buried Magellan pipeline across northern end of area. Road & ditch along western side of area. Signs of disturbances at southern end of field w/ gravels & mixed clays (light brown).
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. U
Date 12-11-2015
Recorder K. Jordan

Project: BNSF-Willmar, Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Located east of hwy. 55 & south of parcel 10, adjacent to row

Map Name: Ped surveyed at 10m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
Substrate: No shovel testing needed
Vegetation: plowed ag field
Ground Visibility: Good 90 % Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - ditch along road on west side. Raised field burn across northern end of segment.
Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. V
Date 12-9-2015
Recorder K Jordan

Project: BNSF - Willmar Wye
Crew: MMM + KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
South & east of curve for Highway 40.
Front lawn of Quam Construction.

~~Map Name~~: Documented disturbances w/photos, gps, etc.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: graded lawn.
~~Substrate~~: No shovel testing required
Vegetation: mowed grass, western end of ditch has some wetland planted trees vegetation
Ground Visibility: Good _____ % Fair _____ % Poor 0 %

Sites Encountered (list by Number):
Ø

Isolates Encountered (list by Number):
Ø

Comments, Problems, Anomalies: Disturbances – buried gas line along road & perpendicular towards Bldg., buried electrical Driveway, gravel parking areas, ditch parallel to road.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. W
Date 12-10-15
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: Mmm & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Area is bordered by Hwy 12 on southern side. RR divides area lengthwise.

~~Map Name~~: Ped surveyed ag field @ 15m intervals.
Length: _____ Width: _____ Acreage: _____
Topographic Setting: gently rolling hills
~~Substrate~~: No shovel testing required.
Vegetation: Mostly wetland. Western 1/4 north of RR plowed ag field
Ground Visibility: Good 90-100% in ag field Fair _____ % Poor _____ %
Sites Encountered (list by Number): Ø

Isolates Encountered (list by Number): Ø

Comments, Problems, Anomalies: Disturbances - Construction of overhead lines buried cable, RR utilities, buried fiber optic cable south of RR + buried electrical line. RR + grade.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. X
Date 12-10-2015
Recorder K. Jordan

Project: BNSF - Willmar Wye
Crew: MMM & KDJ

Location (describe in terms of roads, prominent geographic features, and so forth):
Small area located at northern end of APE west of Hwy 55 & north of RR.

~~Map Name:~~ Ped survey @ 10-15m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling hills
~~Substrate:~~ No shovel testing necessary.
Vegetation: plowed ag field
Ground Visibility: Good 90-100 % Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - road & ditch along

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

AECOM

Survey Segment/Area Record

Segment/Area No. Y
Date 12-11-2015
Recorder K. Jordan

Project: BNSF- Willmar Wye
Crew: MMM & KDJ
Location (describe in terms of roads, prominent geographic features, and so forth):
Small area north of Parcel 1, west of 45th St. NW north of RR tracks

~~Map Name~~: Ped surveyed at 5m transects
Length: _____ Width: _____ Acreage: _____
Topographic Setting: Gently rolling
~~Substrate~~: ND should testing necessary.
Vegetation: Plowed ag field.
Ground Visibility: Good 90-100 % Fair _____ % Poor _____ %
Sites Encountered (list by Number):
Ø
Isolates Encountered (list by Number):
Ø
Comments, Problems, Anomalies: Disturbances - ditch along road on east side of area.

Previously Recorded Sites and Historic Locations

Site Number	Found	In area of potential effect	Location	Time	Comments
Ø					

Appendix B. 2016 OSA Annual Archaeological Reconnaissance Survey License

APPLICATION FOR MINNESOTA
ANNUAL ARCHAEOLOGICAL RECONNAISSANCE SURVEY LICENSE

This license only applies to reconnaissance (Phase I) surveys conducted under Minnesota Statutes 138.31-.42 during calendar year 2015. Separate licenses must be obtained for site evaluation (Phase II) surveys, for major site investigations (Phase III), for burial site authentications under Minnesota statutes 307.08, and for survey work that will continue into another calendar year. Only the below listed individual is licensed as a Principal Investigator, not the institution/agency/company or others who work for that entity. The licensed individual is required to comply with all the conditions attached to this license form. Permission to enter land for the purposes of archaeological investigation must be obtained from the landowner or land manager.

Name: MICHAEL JUSTIN

Institution/Agency/Company Affiliation: HDR EDC, INC

Title/Position: ARCHAEOLOGY PROJECT MANAGER

Address: 701 XENIA AVE SOUTH, SUITE 600, MINNEAPOLIS, MN 55416-3636

Work Phone: 763 · 591. 5423 E-Mail: MICHAEL.JUSTIN@HDRINC.COM

Name of Advanced Degree Institution: UNIVERSITY OF WISCONSIN-MILWAUKEE Year: 1983

Name of Department: ANTHROPOLOGY Degree: __MA X MS __PhD

Purpose: (check all that may apply)
CRM X Academic Research ___ Institutional Field School ___

Type of Land: (check all that may apply)
State Owned X County Owned X Township/City Owned X
Other non-federal public ___ List: _____

MHS Repository Agreement # 664 Other Approved Curation Facility: _____

Previous License: Year 2014 Type PHASE I Number 14-006

Signed (applicant): [signature] Date: Jan 05, 2015

Required Attachments: *Curriculum Vita* ___ and Documentation of Appropriate Experience ___ for previously unlicensed individuals.

Submit one copy of this form and attachments to:
Office of the State Archaeologist, Ft. Snelling History Center, St. Paul, MN 55111
612-725-2411 612-725-2729 FAX 612-725-2427 email: mn.osa@state.mn.us

Minnesota Historical Society Approval: [signature] Date: 1-6-15
State Archaeologist Approval: [signature] Date: 1/5/15

License Number: 15-006 Form Date: 11/6/12