A Class III Cultural Resources Survey of the Upper Maple River Watershed Alternative 2A

T142N; R56W, Portions of Section 8, 9, 15, 16, 17, 20, 21 and 22

Barnes County, North Dakota

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June 8, 2020

And

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North Dakota State Office

US Department of Agriculture
Natural Resources Conservation Service
North Dakota State Office

Abstract:

The Upper Maple River Watershed Project Preferred Alternative 2A, as proposed, has benefited from two Class I literature reviews; one conducted by SWCA Environmental Consultants in March 2016 and the second by Janelle Harrison, NRCS- State Cultural Resources Specialist in March 2023. A Class III survey encompassing portions of the Upper Maple River (UMR) Watershed Project APE was completed in June of 2020, except for the existing wetland areas or other areas inundated with water that could not be surveyed.

Due to the passage of time between the first Class I literature review and slight changes to the design and area of direct impact, a second Class I was competed in March 2023 (Appendix A). Additional Class III survey of the major ground disturbing areas was conducted on May 25, 2023 by Janelle Harrison. One shovel test probe was also completed. The total APE included in the Class III Surveys is 468.5 acres (see Figure 1).

North Dakota State Historic Preservation Office and Natural Resources Conservation Service Archive searches at the State Historical Society were coupled with interviews with the landowner, USDA Soil data, and other State and Federal information sources. These efforts have resulted in the discovery of no culturally sensitive material nor properties eligible for the National Register of Historic Places within the area of potential effect (APE). During survey in 2020, a destroyed pumphouse was documented and a SHSND site form submitted to their office. The pumphouse is the only visible, above ground remnant of a farmstead which is visible only on 1959 photography.

The areas of excavation and earthen dam construction have been impacted by decades of agricultural use and flooding. The proposed undertaking rests within the ancient glacial lake Agassiz plain formed by glaciation and does not exhibit signs of glacial beach lines which could have the potential for cultural deposits. Based on the soil profile, land use, and the nature of the undertaking, which is primarily building up or rehabilitation of extant water control features and excavation/levee construction in previously disturbed areas, makes the inadvertent discovery of cultural resources unlikely.

The purpose of this investigation was to assess what, if any, cultural resources are located within the area of direct impact (ADI) and the APE from ground disturbance and within 2-mile of the proposed APE (Appendix B). No known cultural resources nor historic properties eligible for listing on the National Register are located within the APE. The undertaking, as designed, encompasses ground that is highly disturbed by agricultural practices, flooding events and water management systems to reclaim farmland.

Therefore, NRCS recommends that the project proceed under a *No Adverse Effect to Historic Properties* as surveyed, mapped, and described herein. This finding is predicated on the presence of Cultural Resource Monitors during borrow excavation.

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1.0 PROJECT TITLE: UPPER MAPLE RIVER WATERSHED ALTERNATIVE 2A

Legal Location: T142N; R56W, Portions of Section 8, 9, 15, 16, 17, 20, 21 & 22
County: Barnes County
USGS 7.5' Quadrangle: Pillsbury and Pillsbury SE (2018)
Personnel: Christopher A. Plount (Principal Investigator-NRCS State Office [2020]) Rita Harmsen Sveen (Watershed Planner NRCS State Office), several additional field office staff and Janelle Harrison (Principal Investigator- North Dakota NRCS State Office [2022- current]).
Total Acres Surveyed in 2020: Approx. 392 acres +/-.
Total Acres Surveyed in 2023: Approx. 52 acres +/-.

Description of Proposed Project: The watershed plan is prepared under the authority of the Watershed Protection and Flood Prevention Act of 1954 (Public Law 83-566) and the Regional Conservation Partnership Program (RCPP; 16 U.S.C Chapter 58, Subchapter VIII). The Preferred Alternative entails construction of an earthen dam with an embankment length of 2.3 miles, average height of 11.2 feet, maximum height of 31 feet, 3H:1V side slopes, a 48-inch concrete principal spillway conduit, and a structural concrete secondary spillway with a 9,363-foot earthen channel outlet to create 2,863 acre-feet of flood storage to the secondary spillway crest. The alternative also includes construction of one farm levee of 535 feet with an average height of 1.4 feet and maximum height of 4 feet and a farm ring levee of 2,578 feet with an average height of 2.7 feet and maximum height of 8 feet, both with 3H:1V side slopes. The alternative also includes construction of three biomass harvest areas (278 acres) to be constructed behind the dam via 3.5- to 4-foot-high berms with 3H:1V side slopes; the bottoms of which will be graded to ensure surface drainage to water control structures, have drain tile installed in them to provide subsurface drainage, and have water control structures installed. A pump within the principal spillway structure will route water to the biomass harvest areas via 5,800 feet of 24-inch diameter buried pipeline to be installed with the project. Eleven ditch plugs, with a height of 1-3 feet and side slopes of 8H:1V, will be installed to restore wetlands. One 5.7 ac wetland creation will also serve as borrow source. The secondary spillway outlet channel is the primary source of borrow for the dam; additional fill material will come from grading of the biomass harvest cells and construction of the one wetland creation area. All disturbed areas and all existing cropland within the dry dam interior will be seeded to wildlife suitable herbaceous species. See Figure 1.

Site Evaluation Criteria:
To be eligible for inclusion on the NRHP, a site must usually be more than 50 years old and retain sufficient historic integrity to communicate significance based on one or more of the following seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Furthermore, the site must meet at least one of the following criteria:
(a) Associated with events that have made a significant contribution to the broad patterns of our history; or (b) Associated with the lives of persons significant in our past; or
© Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or
(d) Have yielded, or may be likely to yield, information important in prehistory or history.

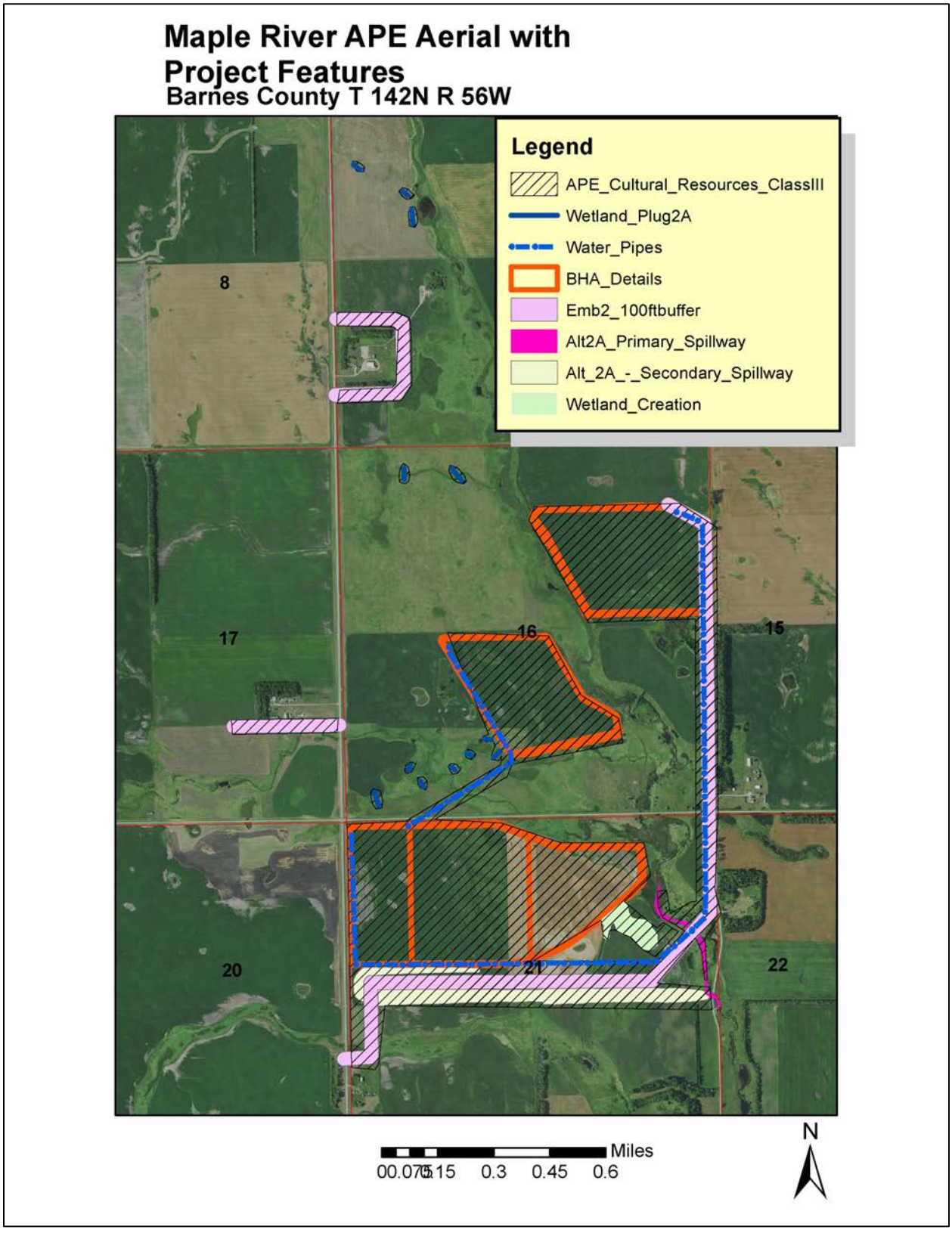

Figure 1 Aerial Map of APE with Ground Disturbing Activities

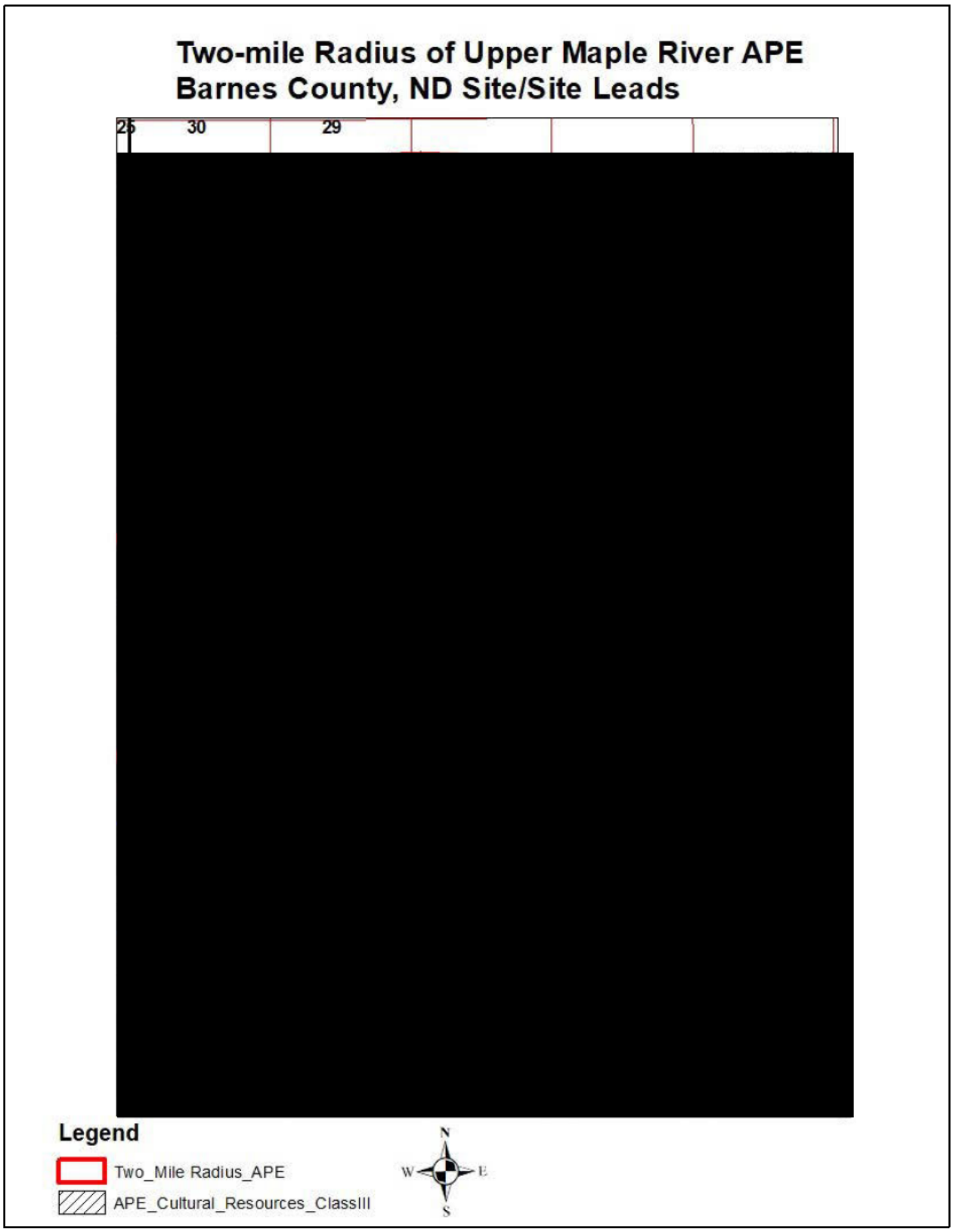

Figure 2 Topographic Map of APE

2.0 INTRODUCTION:

The USDA Natural Resources Conservation Service North Dakota (NRCS) is providing financial and technical assistance to the Cass County Joint Water Resource District for construction of a dry dam with interior features for the purpose of nutrient reduction and wildlife habitat (Upper Maple River Watershed Alternative 2A) in Minnie Lake Township, Barnes County, North Dakota. The proposed undertaking entails construction of an earthen dam with an embankment length of 2.3 miles, average height of 11.2 feet, maximum height of 31 feet, 3H:1V side slopes, a 48-inch concrete principal spillway conduit with reinforced concrete riser tower, and a structural concrete secondary spillway with a 9,363-foot earthen channel outlet to create 2,863 acre-feet of flood storage to the secondary spillway crest. The alternative also includes construction of one farm levee of 535 feet with an average height of 1.4 feet and maximum height of 4 feet and a farm ring levee of 2,578 feet with an average height of 2.7 feet and maximum height of 8 feet, both with 3H:1V side slopes. The alternative also includes construction of three biomass harvest areas (278 acres) to be constructed behind the dam via 3.5- to 4-foot-high berms with 3H:1V side slopes; the bottoms of which will be graded to ensure surface drainage to water control structures, have drain tile installed in them to provide subsurface drainage, and have water control structures installed. A pump within the principal spillway structure will route water to the biomass harvest areas via 5,800 feet of 24-inch diameter buried pipeline to be installed with the project. Eleven ditch plugs, with a height of 1-3 feet, individual lengths less than 50 feet, and side slopes of 8H:1V, will be installed to restore wetlands. One 5.7-acre wetland creation will be created via excavation. The secondary spillway is the primary source of borrow for the dam; additional fill material will come from grading of the biomass harvest cells and construction of the 5.7-acre wetland creation. All disturbed areas will be seeded to wildlife suitable herbaceous species.

The undertaking incorporates NRCS Practices 342 (Critical Area Planting), 362 (Diversion), 356 (Dike or Levee), 402 (Dam), 533 (Pumping Plant), 512 (Pasture and Hayland Planting), 582 (Open Channel), 587 (Structure for Water Control), 606 (Subsurface Drain), 657 (Wetland Restoration), and 658 (Wetland Creation). All practices are listed within the Programmatic Agreement and categorized as Undertakings.

The Class I literature review was conducted in 2016 by SWCA Environmental consultants. SWCA's information was reconfirmed through a secondary literature review on 4 April 2020 by the Natural Resources Conservation Service (NRCS) and again on March 2023 by NRCS Cultural Resources Specialist, Janelle Harrison (Appendix A). A Class III survey was performed 28 May 2020 by the NRCS State Cultural Resource Specialist Christopher Plount-East Zone Cultural Resources Specialist, accompanied by members of NRCS Valley City Field Office and a representative from Moore Engineering. Additional survey/resurvey was deemed necessary and was completed in 2023 by Janelle Harrison.

The dam construction site can be accessed by driving North from of I-94 and State Highway 32 for 12.55 miles (20.20 km). The Southern border of the undertaking then proceeds overland to 129th Avenue SE. The eastern border of the undertaking then proceeds North on the western side of 129th Avenue for 1.29 miles (2.37 km). The farm levee construction site is located 1637.20 feet (499.02 m) North of the intersection of State Highway 32 and 21st Street SE. The farm ring levee construction site is located 1001.54 feet (305.27 m) North of the intersection of State Highway 32 and 20th Street SE.

For clarity, the area of potential effect (APE) will be divided into eight subsections (subsections 3.2 –3.9) within this document; the Farm Levee, Farm Ring Levee, Dam and Principal Spillway, Secondary Spillway, Wetland Creation, Pipeline, Secondary Spillway, Biomass Harvest Areas, and Wetland Restoration Ditch Plugs. All coordinates are presented WGS 84 and UTM NAD83 Zone 14.

2.1 Sheyenne River Study Unit

The SRSU is in eastern North Dakota with the Red River SU to the south/southeast and the Northern Red River SU just to the east and north of the SRSU (Swenson and Bleier 2020: 12.1). The study unit covers more than 10,000 mi² and covers all parts of McHenry, Ransom, Richland, Cass, Barnes, Stutsman, Benson, Pierce, Sheridan, and Wells counties.

According to Swenson and Bleier, the physiography of the SU is primarily in the "Drift Prairies zone of the Central Lowlands physiographic province". As a glaciated plain with features resulting from Late Wisconsinan glacial action, the SRSU landscape is characterized by rolling hills, low ridges, swales, and prairie pothole lakes and wetlands (Swenson and Bleier 2020: 12.1).

The southeastern part of the SU is in the Red River valley physiographic zone (Bluemle 1979:4). The Red River valley is a relatively featureless plain resulting from the sedimentation of glacial Lake Agassiz. Terrain is essentially flat with elevation varying only a few meters over the expansive lakebed except where Holocene drainages have down cut (Bluemle 2016).
The headwater of the Sheyenne River is in Sheridan County. The river drains into the Red River. The Sheyenne River is set in a deep and wide entrenched valley. The valley was formed by water flowing along the front of the ice sheets during the Late Wisconsinan period. Many of the morphological features of the modern channel were created by the large volumes of water and sediment which was dumped into the river from Lakes Souris and Minnewaukan or by changes in gradient as its course was extended (Haury and Schneider 1986:17). The width varies from 0.8 kilometers to 2.5 kilometers with an average of 1.2 kilometers (Swenson and Bleier 2020: 12.44).

The Paleo cultural chronology and settlement pattern is currently unknown (Swenson and Bleier 2020: 12.44) but archaeological evidence has confirmed the presents of Folsom, Hell Gap, Agate Basin, and Browns Valley spearpoints. This indicates the Folsom complex (9000-8000 BC), Hell Gap-Agate Basin complex (8500-7500 BC), and Parallel-Oblique Flaked complex (7000-5500 BC) are represented in this SU (Swenson and Bleier 2020: 12.44).

For more detailed information about the SRSU and the other study units visit the State Historical Society of North Dakota (SHSND) website for the full North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component.

2.2 Research Goals and Methods:

Historic maps, topographic maps, literature review, and in person interviews were combined with LiDAR, satellite imagery and engineering plans to pinpoint areas of interest.

The field reconnaissance was designed to achieve four goals:

- Positive location and identification of known cultural resources within the APE.
- Discovery and recordation of unknown cultural resources within the APE.
- Field assessment of NRHP eligibility of any cultural resources.
- Determine effects of the undertaking on any NRHP eligible properties.

Two pedestrian surveys were conducted between years 2020 and 2023. The initial pedestrian survey was conducted by NRCS Cultural Resource Specialist Christopher Plount, 3 additional NRCS staff, and an engineer from Moore Engineering on May 28, 2020. The survey covered the 400-acres of proposed disturbance, except for lands underwater within the river channel or within fields. The weather was clear and windy with low humidity; temperature mid-70's. Ground visibility ranged from 0-85%.

A follow up pedestrian survey and shovel probe was conducted by NRCS Cultural Resource Specialist Janelle Harrison, accompanied by NRCS Watershed Planner Rita Sveen, on May 25, 2023. Ground visibility ranged from 0-75% and the weather was sunny with a slight breeze and high humidity. The survey covered an additional 69-acres except for lands underwater or within fields.

2.3 Research Limitations:

In 2020 there were no research limitations noted to the survey, other than standing water within the river channel and existing wetlands.

In 2023, field reconnaissance was limited by landowners due to spring planting. Much of the APE was recently seeded, therefore no shovel testing or ground disturbance by tracked or pneumatic tire vehicles was permitted. In small portions of the APE, prior year crops remained in the field and, when coupled with flooding events from the spring, ground visibility was zero.

3.0 ENVIRONMENT:

The APE rests within Barnes County upon the Coleharbor Group of material. The APE is at the nexus of both well sorted gravel and sand sediments and unsorted mixtures of clay, silt, sand cobbles and boulders (Bluemle 1977). West of the Pembina escarpment, the APE contains a wide variety of soil types, therefore specifics will be enumerated within the appropriate APE subsection. The subsurface humic material is derived from decades of agricultural production that included corn, alfalfa, wheat varietals and soy.

Native flora and fauna are sparse due to the heavy agricultural use but as of 28 May 2020, no known Native American traditional medicine or culturally significant plants needing protection are known to be in the area (NRCS-Plants 2020). Faunal resources include White-tailed Deer (Odocoileus virginanus), rabbit (Leporidae), racoon (Procyon lotor), pheasant (Phasianidae) turkey (Meleagridinae) domesticated cow (Bovidae), goat (Capra aegagrus hircus), and chicken (Gallus gallus).

3.1 Soil Description and Profile of APE depicted in Figure 3:

18.6% Renshaw-Sioux complex, 2 to 6 percent slopes.
16.2% Renshaw loam, 0 to 2 percent slopes.
14.3% Divide loam, 0 to 2 percent slopes.
13.8% Barnes-Svea loams, 3 to 6 percent slopes.
12.5% Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded.
As low as 0.2% up to 4.9% for each soil type = 24.6% total for all listed below:
vallers loam, saline, 0 to 1 percent slopes; Hamerly-Wyard loams, 0 to 3 percent slopes; Marysland loam, 0 to 1 percent slopes; Barnes-Buse loams, 3 to 6 percent slopes; Balaton-Wyard loams, 0 to 6 percent slopes; Lowe loam, 0 to 1 percent slopes, occasionally flooded; Udarents loamy, abandoned gravel pits, 0 to 25 percent slopes; Barnes-Svea loams, 0 to 3 percent slopes.

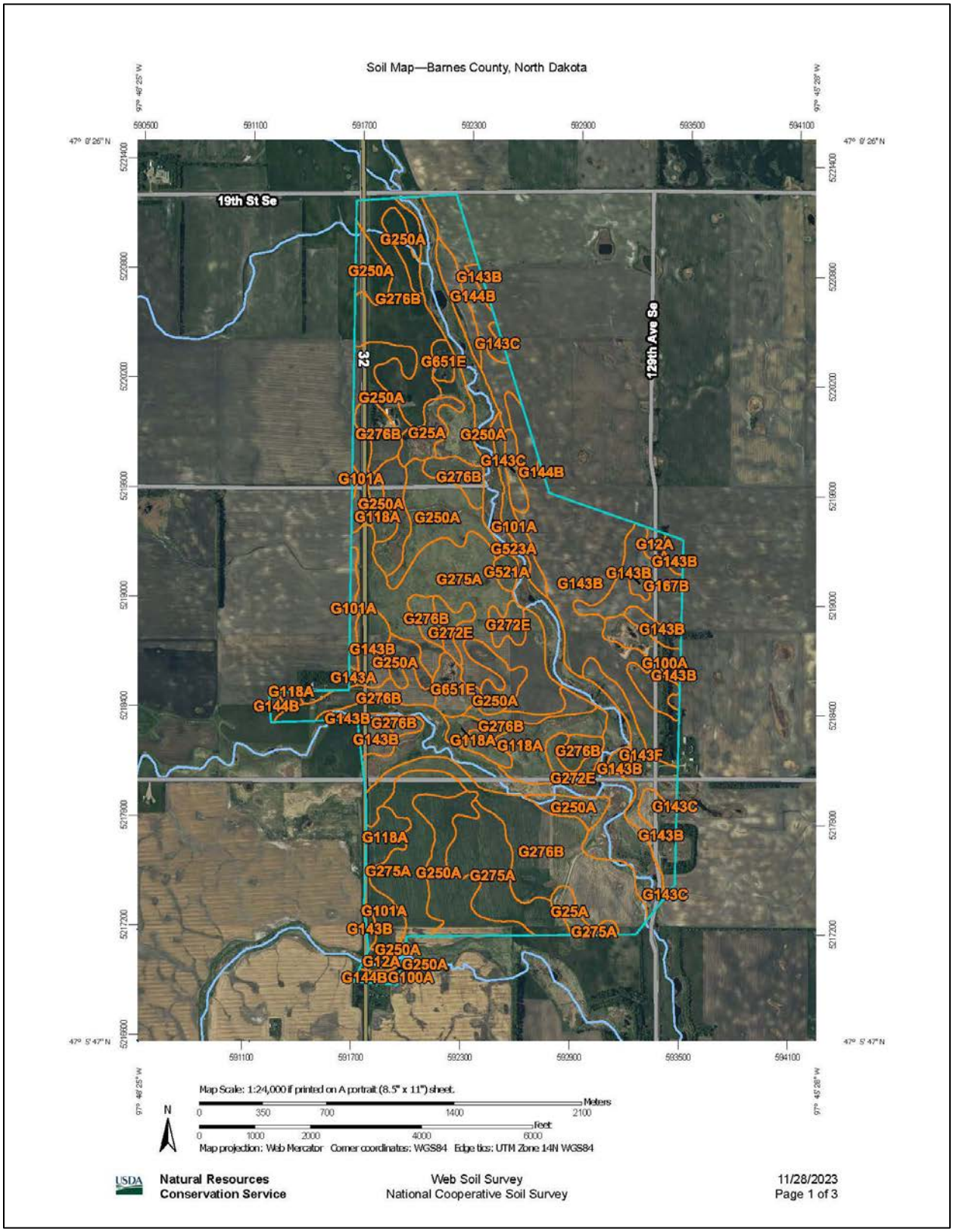

Figure 3. Soils map around the outside perimeter of the APE. Image Sources: websoilsurvey.sc.egov.usda.gov.

3.2 Farm Levee Soils

The farm levee in SE Section 17 (Figure 4, Table 1) will consist of an earthen embankment 535 feet long, with an average height of 1.4 feet and maximum height of 4 feet, 3H:1V side slopes, to be seeded to grass. The levee runs west of State Highway 32 through Renshaw-Sioux Complex (G276B) and Lowe-Fluvaquents channeled complex (G532A).

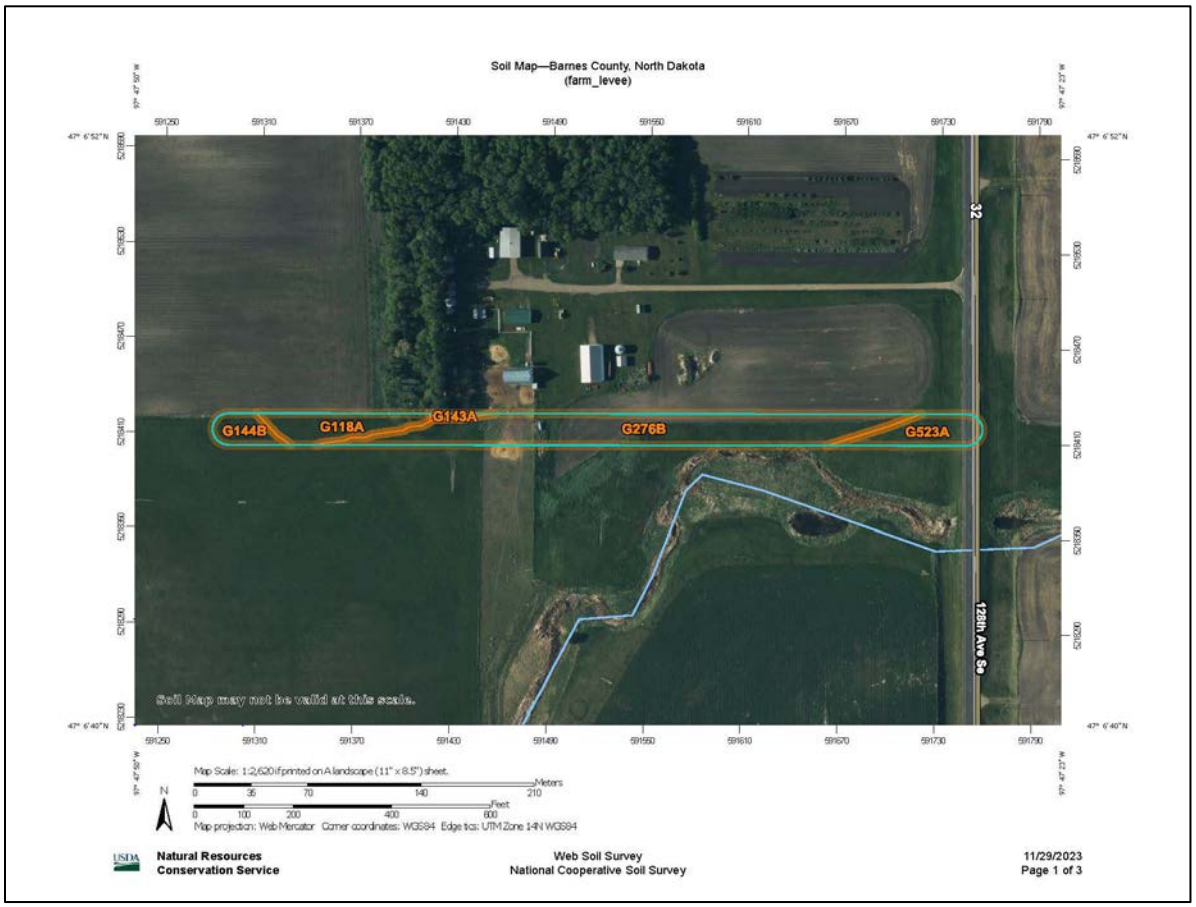

Figure 4 Soils Map of Farm Levee

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G118A	Vallers loam, saline, 0 to 1 percent slopes	0.4	15.9%
G143A	Barnes-Svea loams, 0 to 3 percent slopes	0.0	1.0%
G144B	Barnes-Buse loams, 3 to 6 percent slopes	0.2	7.3%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	1.5	62.3%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	0.3	13.5%
Totals for Area of Interest		**2.3**	**100.0%**

Table 1 Farm Levee Soil Legend

3.3 Farm Ring Levee Soils

The undertaking SW Section 9 (Figure 5, Table 2) will create a three-sided flood barrier for an active homestead and industrial operation, a satellite distribution point for Peterson Seed Company. It is surrounded on the north, east and south by reclaimed wetlands. The western boundary abuts the heavily disturbed drainage ditch constructed during the State Highway 32 rebuild. The farm ring levee in will consist of an earthen embankment 2,578 feet long, with an average height of 2.7 feet and maximum height of 8 feet and 3H:1V side slopes to be seeded to grass. The Farm Ring Levee intersects four soil types: Marysland Loam (G25A), Divide Loam (G250A) and Renshaw-Sioux Complex (G276B). The embankment will surround a single-family home and the industrial infrastructure for the Peterson Seed Company (Figure 5).

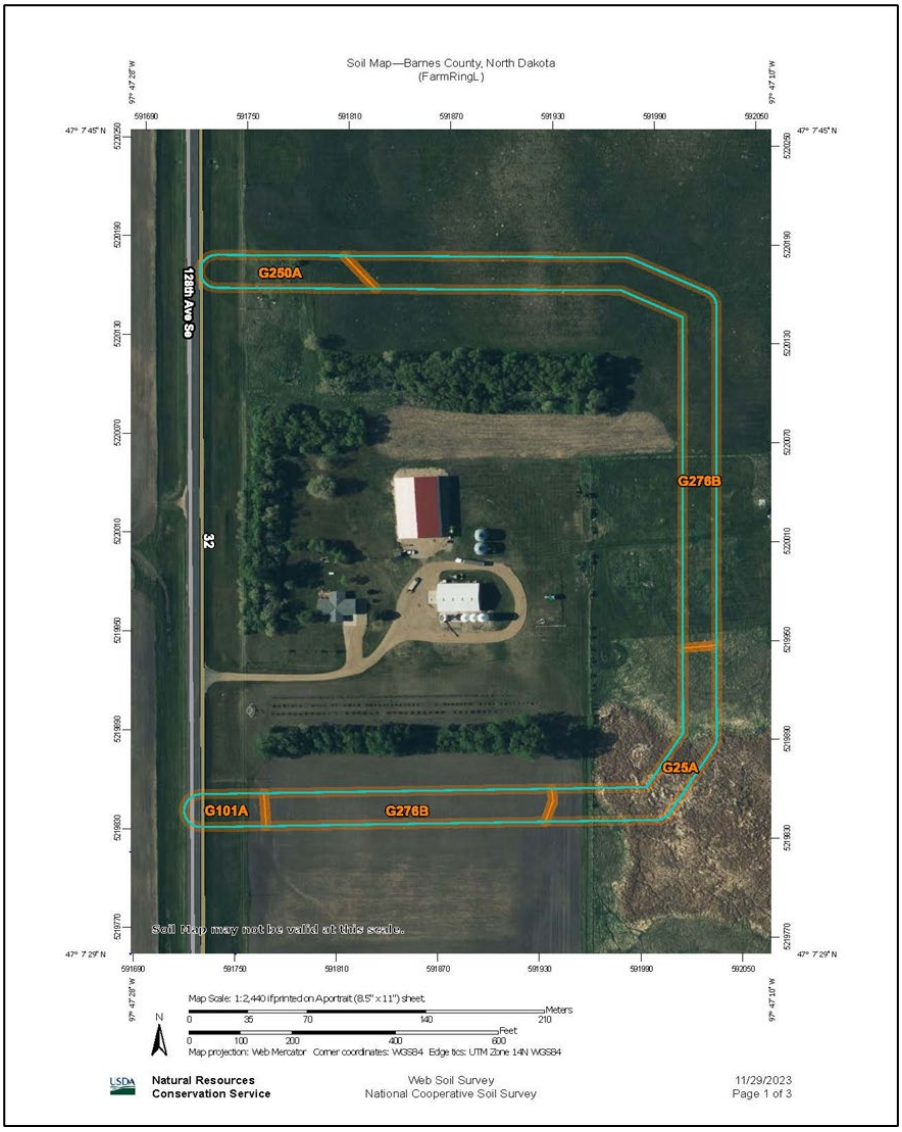

Figure 5 Soil Map of Farm Ring Levee

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G25A	Marysland loam, 0 to 1 percent slopes	0.8	18.7%
G101A	Hamerly-Wyard loams, 0 to 3 percent slopes	0.2	5.2%
G250A	Divide loam, 0 to 2 percent slopes	0.5	10.5%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	2.9	65.7%
Totals for Area of Interest		**4.4**	**100.0%**

Table 2. Farm Ring Levee Soil Legend

3.4 Earthen Embankment (Dam) Soils

The dam in Sections 16 and 21 (Figure 6, Table 3) will consist of an earthen embankment with a length of 2.3 miles, average height of 11.2 feet, maximum height of 31 feet, and 3H:1V side slopes to be seeded to grass. The principle (primary) spillway, located where the dam crosses the river channel, will consist of a 48-inch concrete principal spillway conduit with reinforced concrete riser tower. The principal spillway conduit is within the footprint of the dam; therefore both share the same soil profile. The soil profile of the feature is complex with multiple types overlapping within the APE.

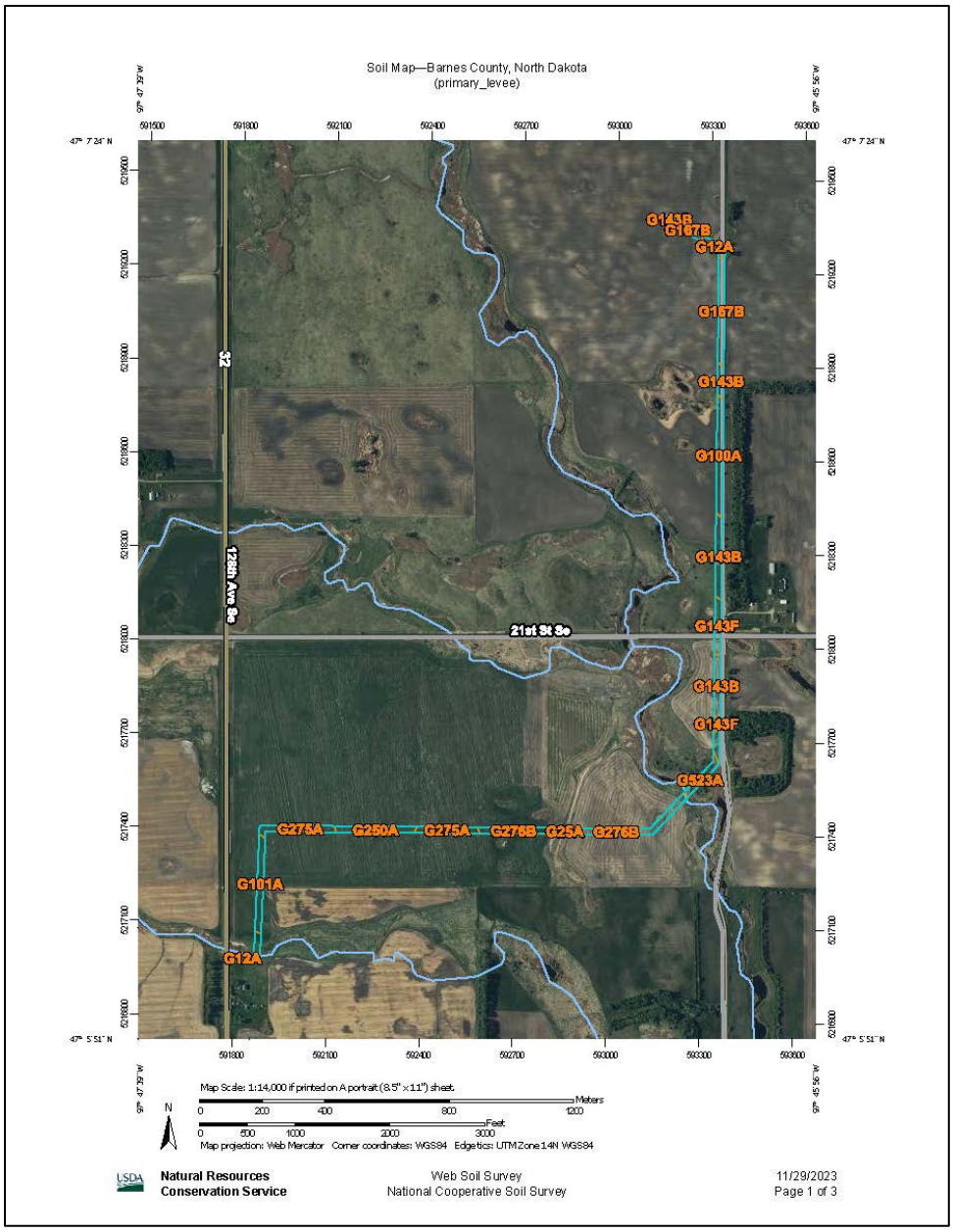

Figure 6 Soil Map of the Earthen Embankment (Dam)

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G12A	Vallers, saline-Parnell complex, 0 to 1 percent slopes	1.3	6.8%
G25A	Marysland loam, 0 to 1 percent slopes	0.5	2.8%
G100A	Hamerly-Tonka complex, 0 to 3 percent slopes	1.9	9.7%
G101A	Hamerly-Wyard loams, 0 to 3 percent slopes	1.5	7.9%
G143B	Barnes-Svea loams, 3 to 6 percent slopes	3.4	17.8%
G143F	Buse-Barnes loams, 15 to 35 percent slopes	1.0	5.4%
G167B	Balaton-Wyard loams, 0 to 6 percent slopes	2.2	11.6%
G250A	Divide loam, 0 to 2 percent slopes	1.3	6.6%
G275A	Renshaw loam, 0 to 2 percent slopes	2.3	11.8%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	3.0	15.6%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	0.8	4.0%
Totals for Area of Interest		**19.3**	**100.0%**

Table 3. Earthen Embankment Soil Legend

3.5 Wetland Creation (borrow area) Soils

The wetland creation in Section 21 (Figure 7, Table 4) will involve 1-3 feet of excavation to form a depressional area, which will be seeded to grass. Soils excavated from this area will be utilized as fill for the dam. The glacial outwash soil (G276B) Renshaw-Sioux Complex dominates the excavation area.

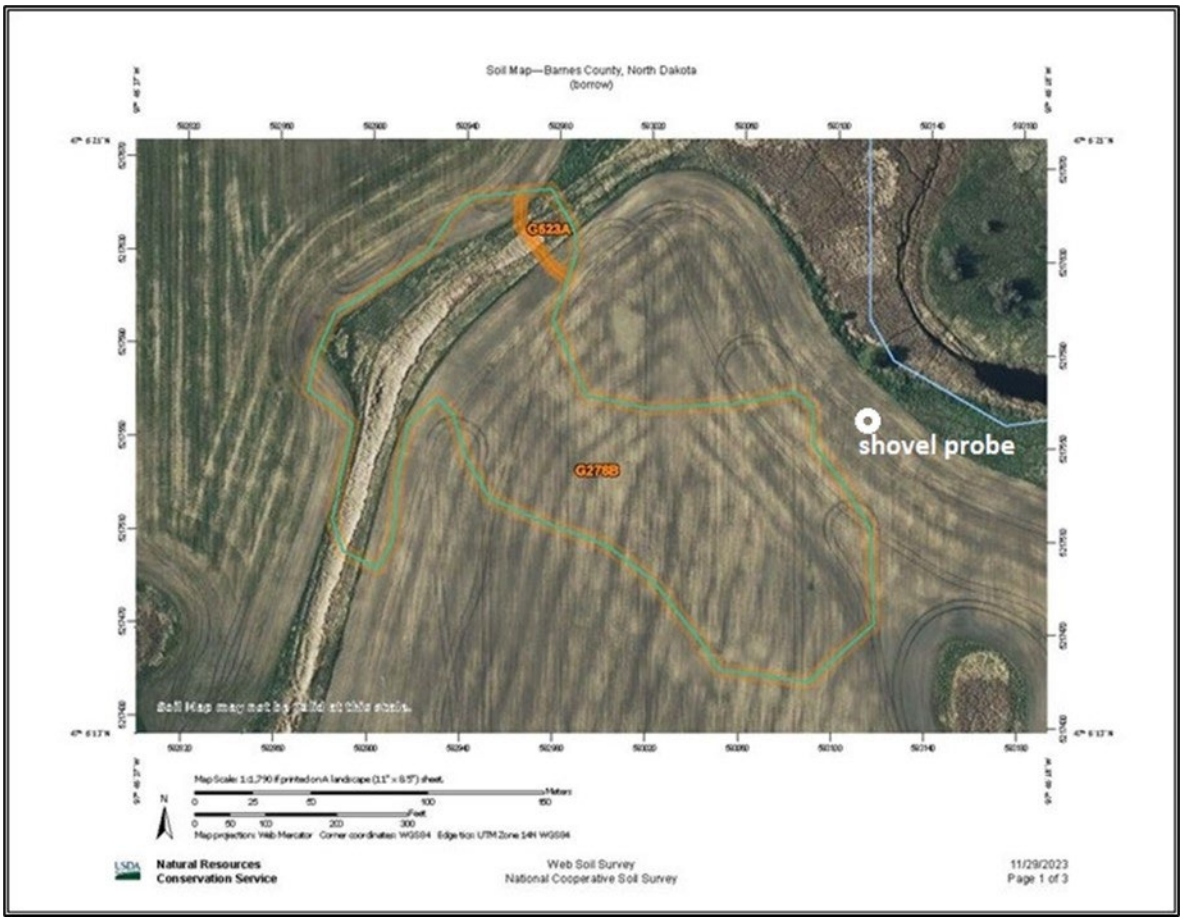

Figure 7 Soils Map for Wetland Creation (Borrow)

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	5.5	97.5%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	0.1	2.5%
Totals for Area of Interest		**5.7**	**100.0%**

Table 4 Wetland Creation Soil Legend

3.6 Water Pipeline Soils

Buried pipeline will consist of 1,730-feet of 24-inch PVC pipeline installed at a maximum depth of 5-feet. The pipe trench will be seeded to grass. The soil profile of the APE is complex with multiple types overlapping within the APE (Figure 8, Table 5). Glacial outwash soils - Renshaw Loam and Renshaw-Sioux Complex are the most common soil types found in the pipeline construction area.

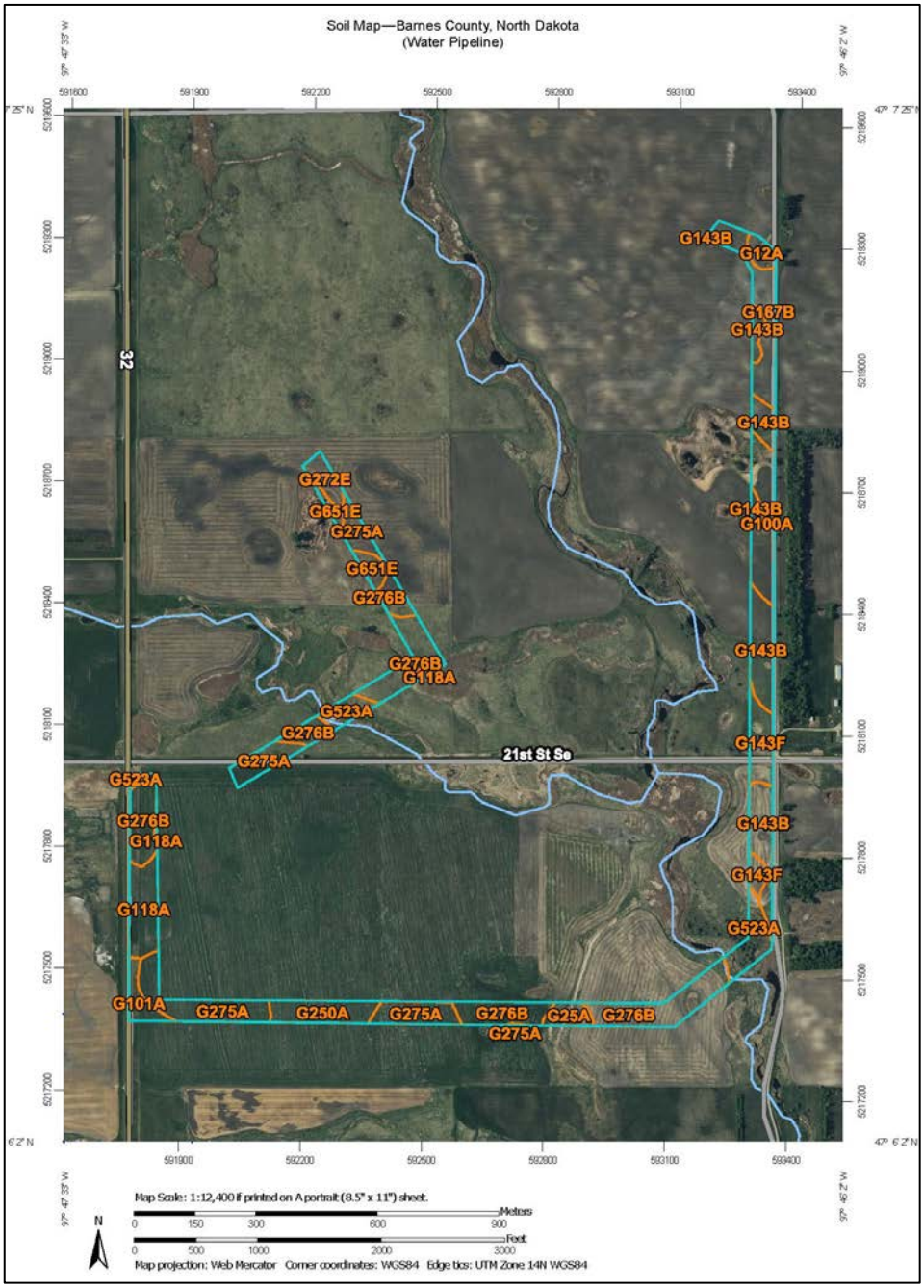

Figure 8 Soil Map of the Water Pipelines

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G12A	Vallers, saline-Parnell complex, 0 to 1 percent slopes	1.1	1.5%
G25A	Marysland loam, 0 to 1 percent slopes	1.5	2.0%
G100A	Hamerly-Tonka complex, 0 to 3 percent slopes	5.1	6.8%
G101A	Hamerly-Wyard loams, 0 to 3 percent slopes	1.6	2.2%
G118A	Vallers loam, saline, 0 to 1 percent slopes	4.5	6.1%
G143B	Barnes-Svea loams, 3 to 6 percent slopes	10.0	13.4%
G143F	Buse-Barnes loams, 15 to 35 percent slopes	3.8	5.1%
G167B	Balaton-Wyard loams, 0 to 6 percent slopes	5.4	7.2%
G250A	Divide loam, 0 to 2 percent slopes	5.0	6.7%
G272E	Sioux-Arvilla-Renshaw complex, 9 to 25 percent slopes	1.5	2.1%
G275A	Renshaw loam, 0 to 2 percent slopes	11.7	15.7%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	17.1	23.0%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	4.5	6.1%
G651E	Udarents loamy, abandoned gravel pits, 0 to 25 percent slopes	1.6	2.2%
Totals for Area of Interest		**74.4**	**100.0%**

Table 5 Water Pipeline Soil Legend

3.7 Secondary and Principal Spillway Soils

The secondary (auxiliary) spillway consists of an excavated inlet channel, a concrete drop structure, and excavated outlet channel. Excavated soils will be utilized to construct to construct the dam, levees, biomass harvest area berms, and ditch plugs. All disturbed areas not in concrete will be seeded to grass. Soils are dominated by Renshaw and Divide loams (G275A & G250A). The principal spillway will be constructed primarily in the existing channel and is dominated by Hamerly-Wyard and Lowe fluvaquents (G523A) (Figure 9, Table 6).

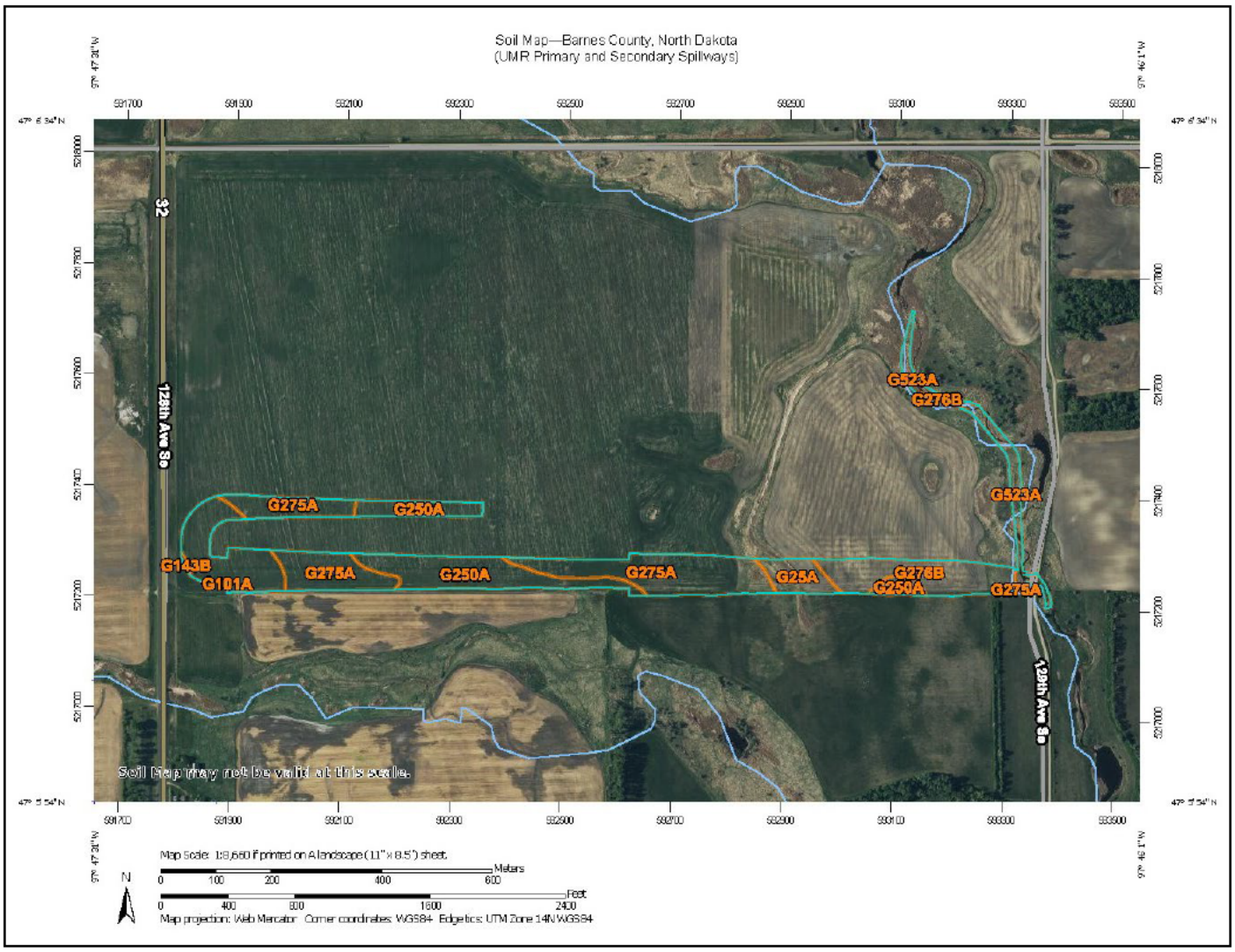

Figure 9 Soil Map of the Principal and Secondary Spillways

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G25A	Marysland loam, 0 to 1 percent slopes	1.7	5.4%
G101A	Hamerly-Wyard loams, 0 to 3 percent slopes	4.2	13.8%
G143B	Barnes-Svea loams, 3 to 6 percent slopes	0.1	0.2%
G250A	Divide loam, 0 to 2 percent slopes	7.1	22.9%
G275A	Renshaw loam, 0 to 2 percent slopes	10.8	35.1%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	4.6	15.0%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	2.4	7.7%
Totals for Area of Interest		30.8	100.0%

Table 6 Principal and Secondary Spillway Legend

3.8 Biomass Harvest Areas

The three biomass harvest areas (Figure 10, Table 7) will require construction of a 3.5- to 4-foot-high berm with 3H:1V side slopes around their perimeters, excavation and fill to ensure a constant grade toward their outlets, installation of water control structures at each outlet, and installation of buried drain tile over their bottom areas. Soils are dominated by glacial till and glacial outwash soils (G276B, G143B, G275A, and G50A).

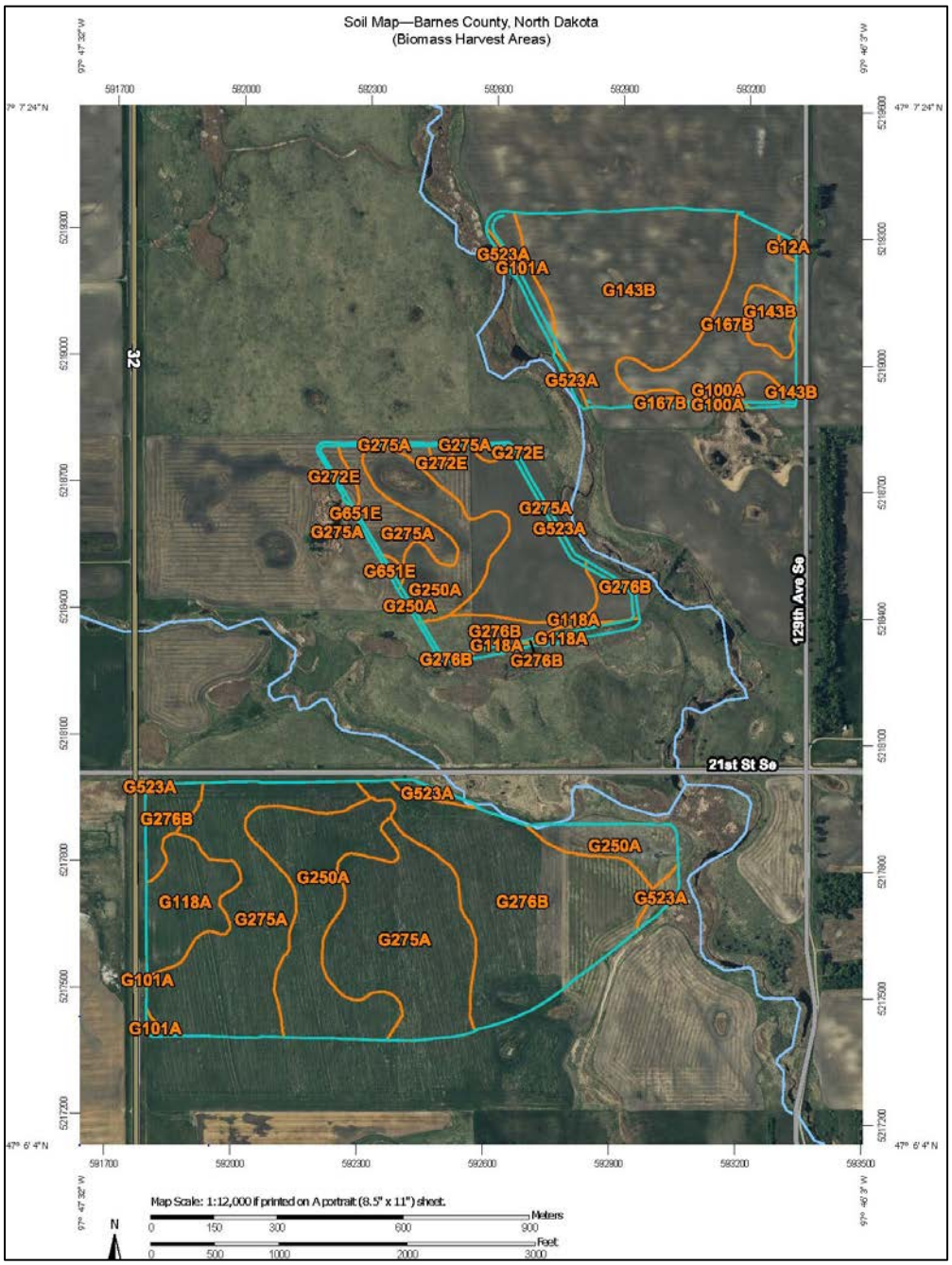

Figure 10 Soil Map of the Biomass Harvest Areas

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G12A	Vallers, saline-Parnell complex, 0 to 1 percent slopes	0.4	0.2%
G100A	Hamerly-Tonka complex, 0 to 3 percent slopes	0.9	0.3%
G101A	Hamerly-Wyard loams, 0 to 3 percent slopes	3.9	1.4%
G118A	Vallers loam, saline, 0 to 1 percent slopes	13.9	4.8%
G143B	Barnes-Svea loams, 3 to 6 percent slopes	48.4	16.7%
G167B	Balaton-Wyard loams, 0 to 6 percent slopes	17.1	5.9%
G250A	Divide loam, 0 to 2 percent slopes	48.2	16.6%
G272E	Sioux-Arvilla-Renshaw complex, 9 to 25 percent slopes	3.0	1.0%
G275A	Renshaw loam, 0 to 2 percent slopes	94.4	32.5%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	55.5	19.1%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	3.7	1.3%
G651E	Udarents loamy, abandoned gravel pits, 0 to 25 percent slopes	0.6	0.2%
Totals for Area of Interest		290.1	100.0%

Table 7 Biomass Harvest Area Soil Legend

3.9 Wetland Restoration Ditch Plugs

The eleven wetland restoration ditch plugs (Figure 11) will involve construction of embankments with a height of 1-4 feet, individual lengths less than 50 feet, and side slopes of 8H:1V. Embankments will be grass seeded. Soils are predominantly loams (G276B, G250A), but also include the hydric Lowe-Fluvaquent soil - G523A.

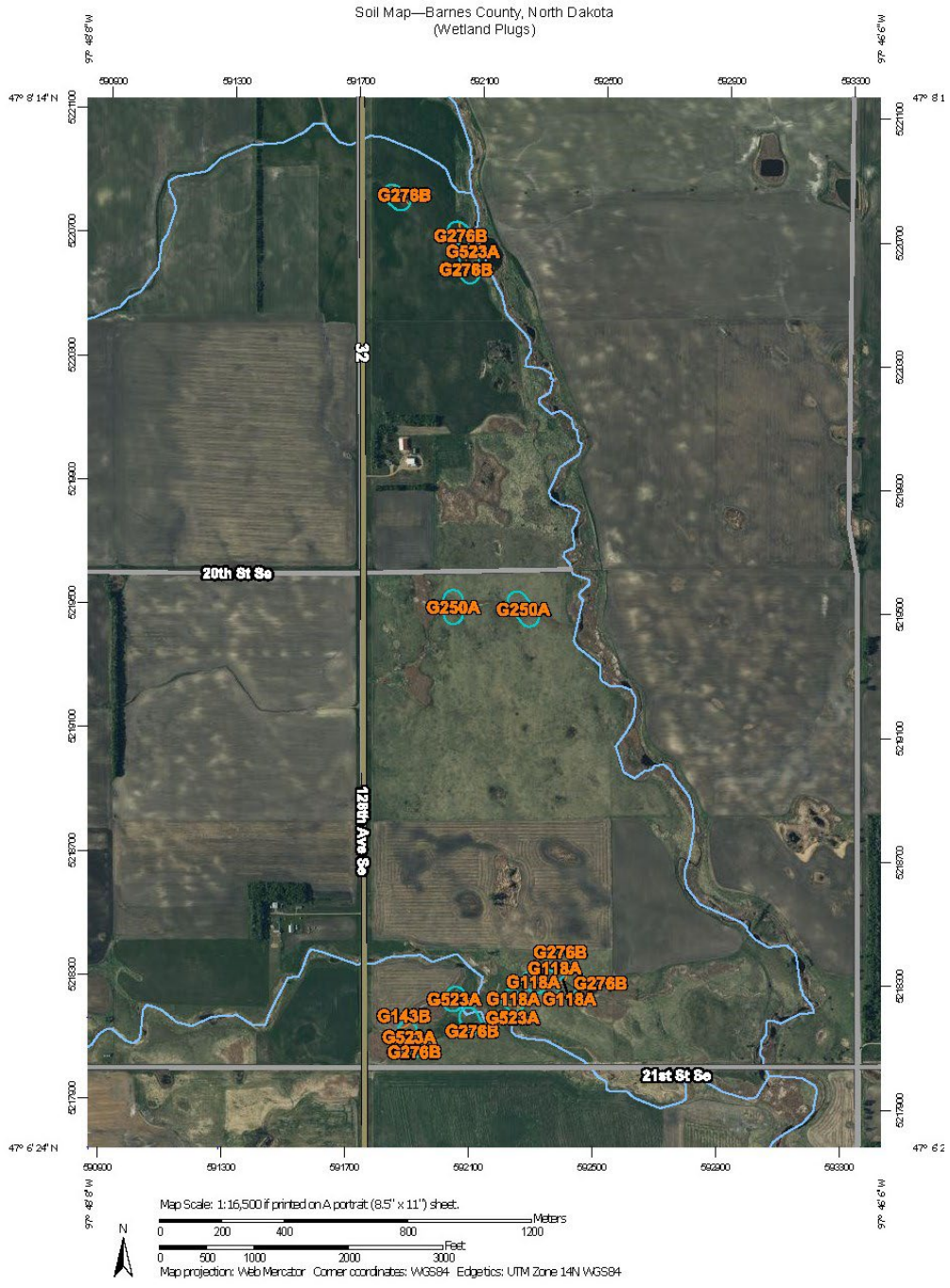

Figure 11 Soil Map of the Wetland Restoration Ditch Plugs

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
G118A	Vallers loam, saline, 0 to 1 percent slopes	2.1	13.8%
G143B	Barnes-Svea loams, 3 to 6 percent slopes	0.1	0.7%
G250A	Divide loam, 0 to 2 percent slopes	4.8	31.0%
G276B	Renshaw-Sioux complex, 2 to 6 percent slopes	3.7	24.2%
G523A	Lowe-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded	4.7	30.3%
Totals for Area of Interest		**15.4**	**100.0%**

Table 8 Wetland Restoration Ditch Plug Soil Legend

4.0 LITERATURE REVIEW

4.1 *Overview*

Historic maps, both topographic and General Land Office survey, were combined with LiDAR imagery and engineering plans to pinpoint areas of interest. North Dakota State Historic Preservation Office (SHPO) records were searched for site leads, sites, and manuscripts. NRCS archives were accessed for information about agricultural practices that involved ground disturbance and prior CRM reports.

General Land Office survey map dated December 1876 show no farms, structures, or permanent/semi-permanent Native American villages (Figure 12). The land was described as "…rolling prairie; soil 2nd rate" by surveyor John P Knight. No mention of homesteading nor encounters with Native American Tribes are detailed within his report (Knight, 1872).

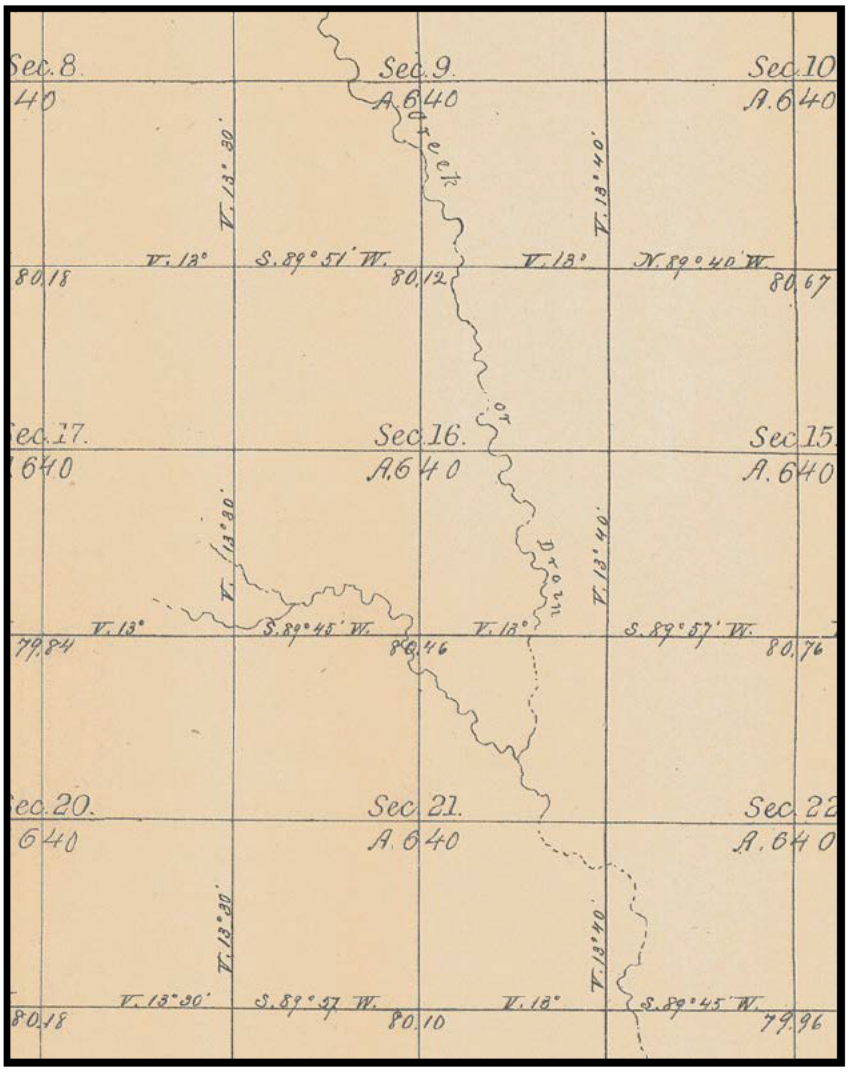

Figure 12. GLO Map 1876. Image Source: ND State Water Commission

SWCA Environmental Consultants conducted a Class I literature review of the entire watershed in 2016. Due to the passage of time since SWCA conducted the Literature Review, Ms. Harrison conducted a supplemental class I review, the results of which are described in Appendix A.

SHPO archives, accessed 29 April 2020 and March 2023 does not contain any records for NRHP eligible properties within the proposed APE. [redacted] None of the sites have been formally listed on the NRHP.

County	Site Name	Number	Location	Quad
[redacted]				

Table 9 Literature Review Sites within 2 miles of APE

Five existing farmstead adjacent to the APE may by visually impacted by the project. Viewsheds were assessed with ArcPro viewshed software which illustrates the viewshed at a height of 1.75 meters (5.74 ft). Their locations, proximity and summarized impacts are noted in Table 10 and Figures 13-18.

Table 10 Farmstead Viewshed Impacts

Farmstead	Location	Relationship to Project	Visual Impacts
1	W2 SW4 6-142-56	Surrounded by Ring Levee	Top of levee (1251') is below viewshed elevation (1255.7'). Afarmstead windbreak obstructs views to the south. Very minor project impacts on views to north, and east.
2	NE4 SE4 17-142-56	Farm levee borders the south boundary of the farmstead	Top of farm levee (1246') is 18.7' below the viewshed point (1264.7') Levee only needed in one low spot. Very minor impacts to viewshed. Other project features in Sec 16 sit below the viewshed point; the view will change from cropland to grassland.
3	SW4 SW4 15-142-56	Embankment runs N-S approximately 60 feet west of farmstead property boundary.	Existing view is currently very limited to the west due to trees and hills. Viewpoint is 1249.7' embankment is 1251'. Views to the north, south and east are not impacted by the project.
4	W2 NW4 22-142-56	Embankment runs N-S approximately 60 feet west of farmstead property boundary, then turns to the SW.	Uninhabited farmstead recently converted to cropland. Viewpoint is 1247.7, embankment height is 1251'. The existing farmstead shelterbelts obstruct views from most angles.
5	NW4 SW4 21-142-56	Embankment to the north and east impacts long distance views to the Northeast. NDSHPO recommended submitting this as a site lead - assigned # 32BAX353	Farmstead uninhabited in recent years. Embankment slightly impacts view to the Northeast where grassed levee will be visible at .5- .75 miles. Viewshed point is 1263.7' embankment 1251'.

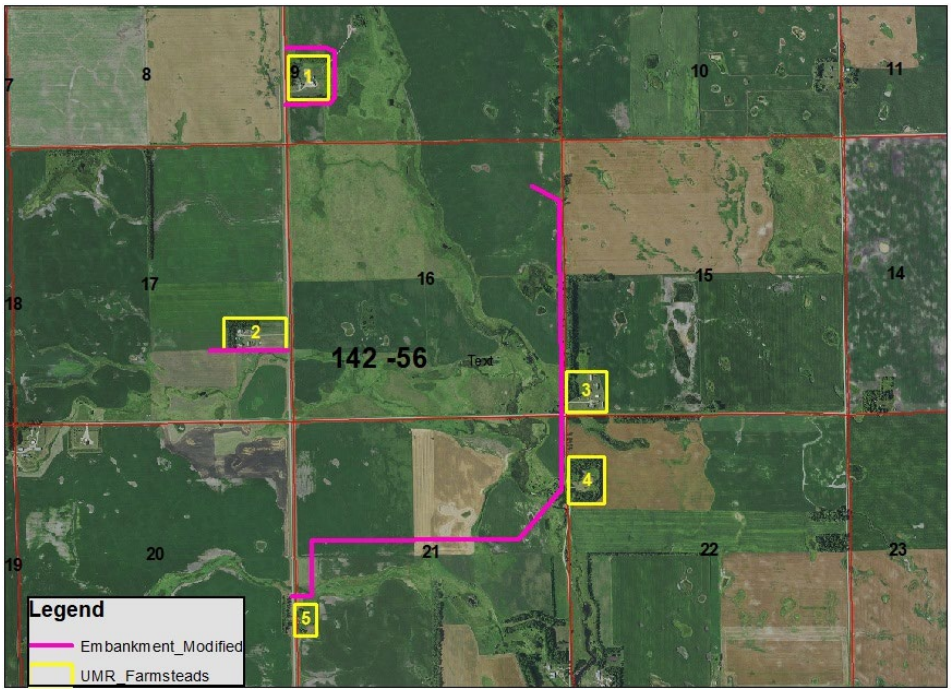

Figure 13 Farmsteads with Potential Impacts to Viewsheds

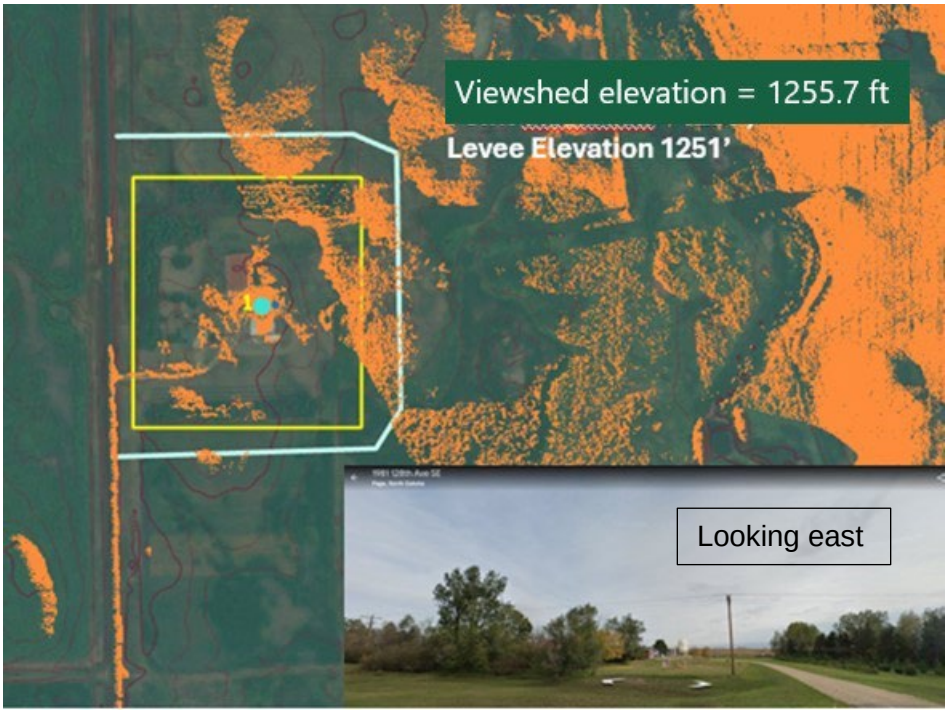

Figure 14 Viewshed Farmstead #1

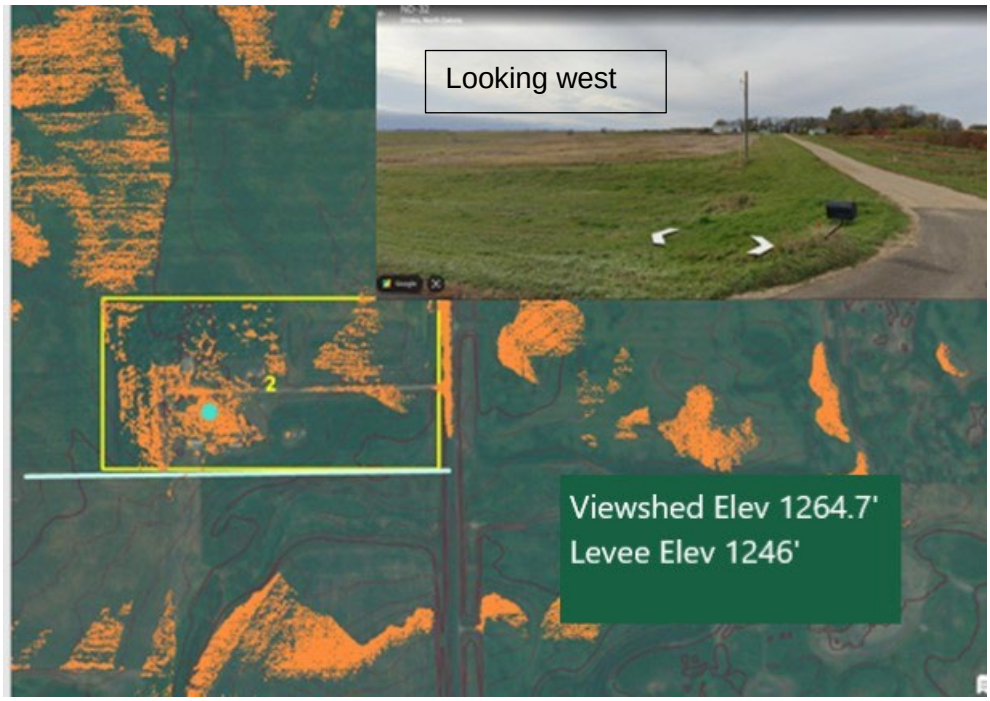

Figure 15 Viewshed Farmstead #2
(Orange zone is current viewshed from point)

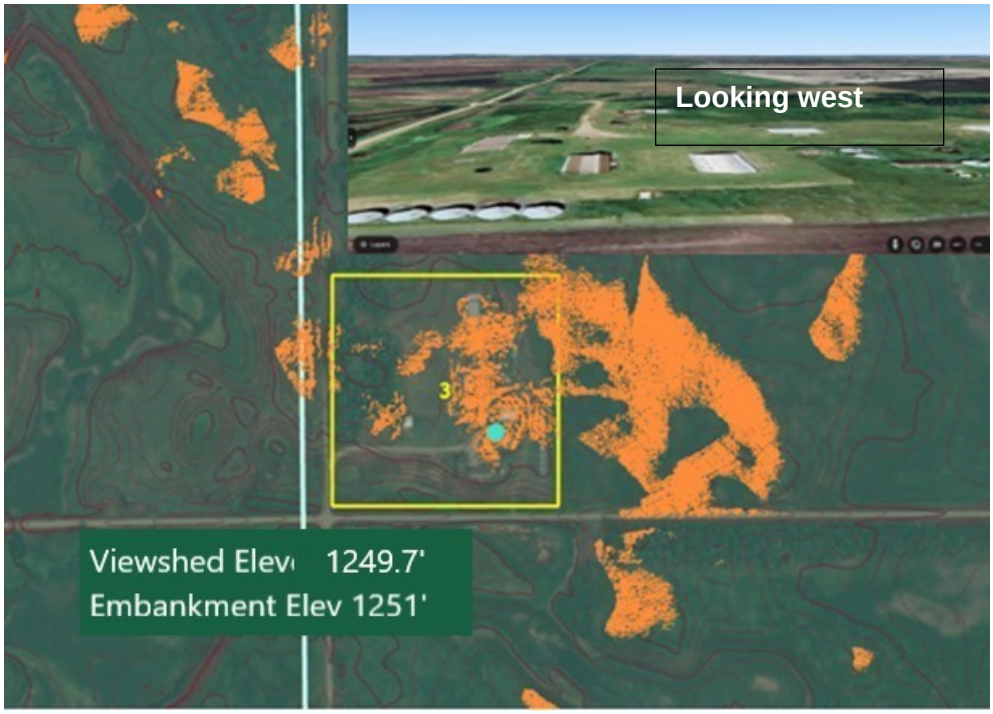

Figure 16 Viewshed Farmstead #3
(Orange zone is current viewshed from point)

(Orange zone is current viewshed from point)

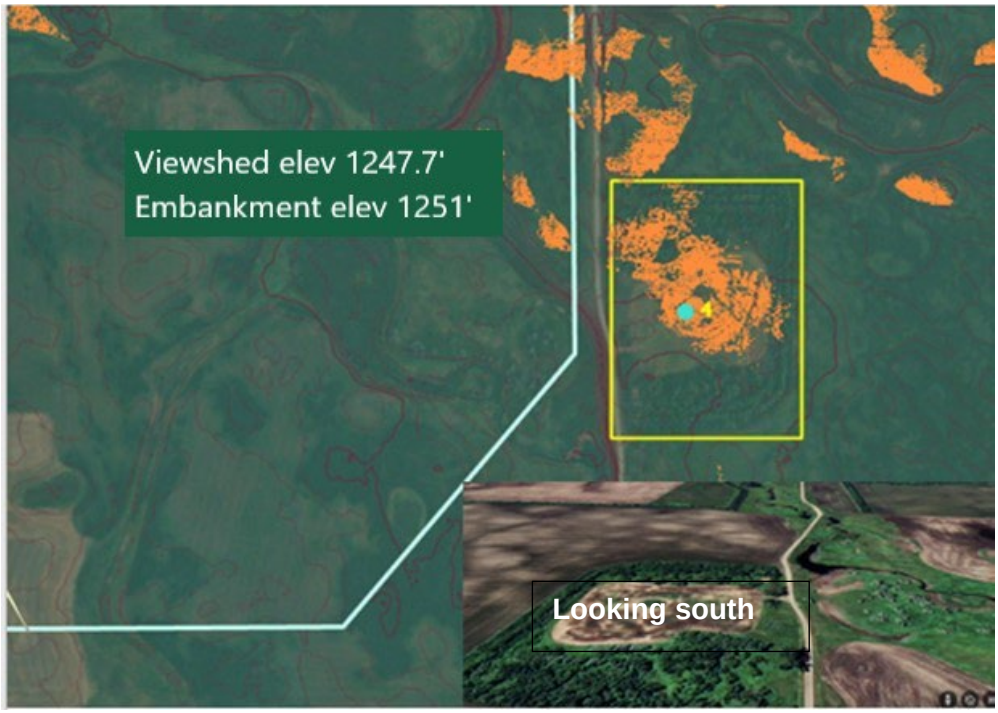

Figure 17 Viewshed Farmstead #4
- note all buildings have been removed and current landuse is cropland

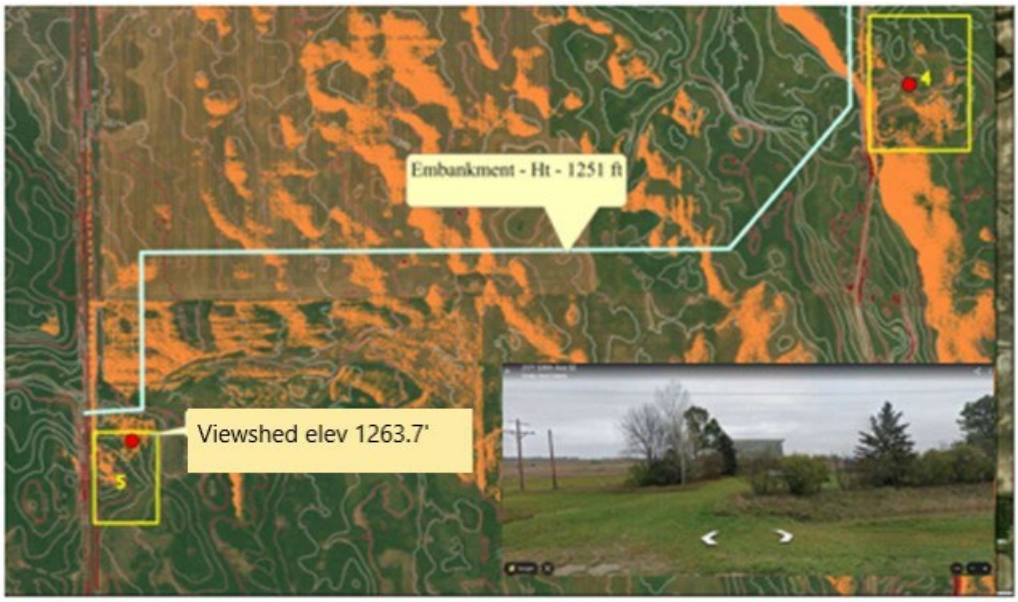

Figure 18 Viewshed Farmstead #5 (Orange zone is current viewshed from point)

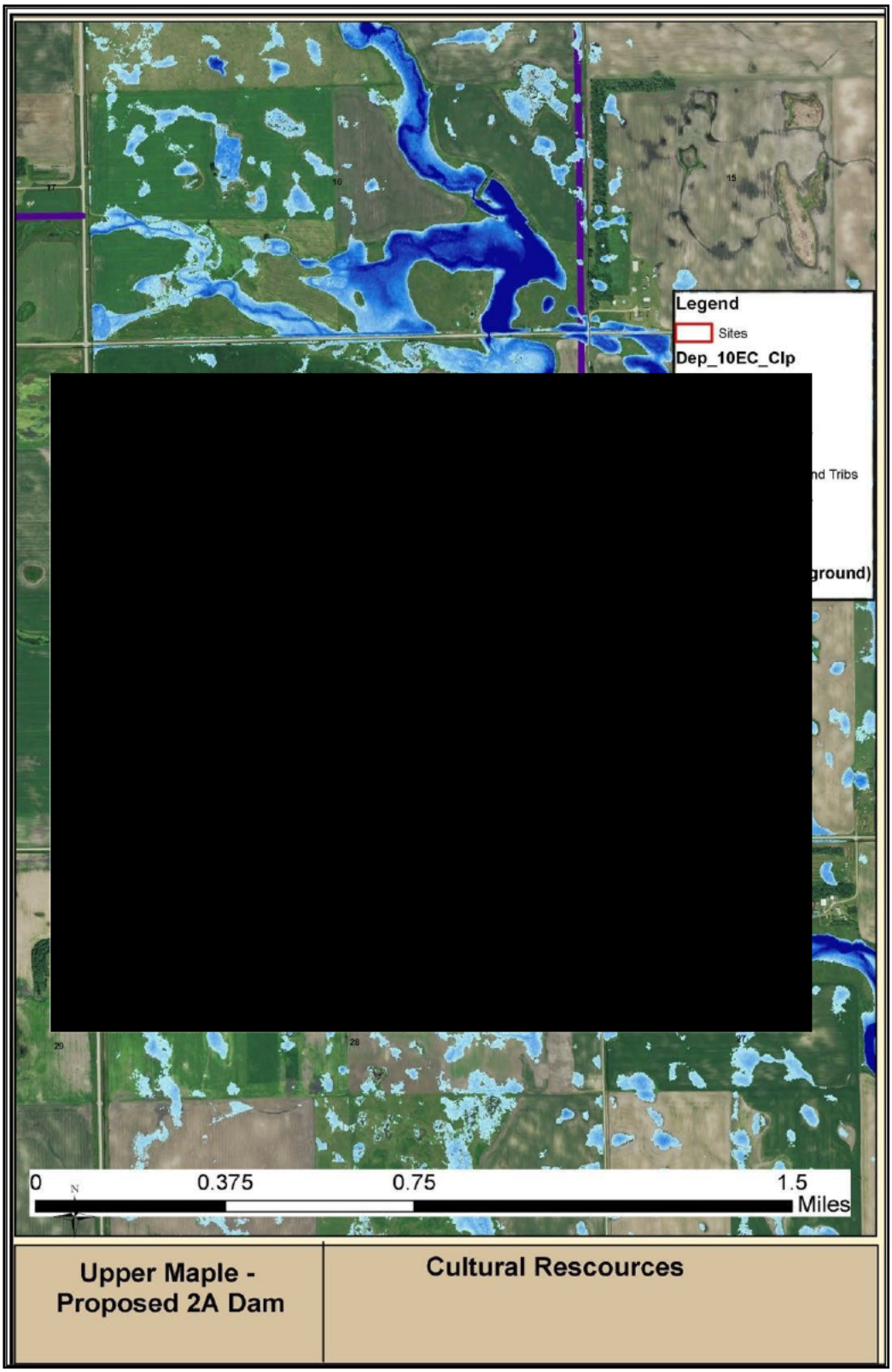

Figure 19. Sites in Relation to a 10-Year Unmitigated Flood Event with Existing Conditions

4.2 Farm Levee

The APE is located on the west side of State Highway 32 north of 21st Street SE. The southern boundary is a seasonal stream bed that is subject to flooding events (Figure 19). It is an active agricultural operation with both cash crop and livestock. Satellite imagery shows that the land has been in production prior to 1997 and that the cultivation zones have intersected the APE throughout the decades. The nearly 30 years of proven agricultural use make the likelihood of discovering pre-contact or historic artifacts with intact provenience within the 100-foot wide APE unlikely.

4.3 Farm Ring Levee

The APE is located on the east side of State Highway 32, north of 20th Street SE. The land is subject to intermittent flooding events from the seasonal stream to the east (Figure 19). It is surrounded on the north, east and south by reclaimed wetlands.

Satellite imagery shows that the land has been in production prior to 1997. The cultivation zones have intersected the APE for the decades. Years of ground disturbance due to agricultural practices, proximity to wetlands, and construction of industrial facilities make the likelihood of discovering pre-contact or historic artifacts within the 100-foot wide APE unlikely.

4.4 Earthen Embankment (Dam)

The proposed APE encompasses the E ½ of Section 16 and the N ½ of Section 21. The APE in Section 16 has been in agricultural production for decades. The APE at the north/south division and southern most portion abutting Section 21 is prone to seasonal flooding. Satellite imagery shows that the land has been in production prior to 1997 and that the cultivation zones have intersected the APE throughout the decades. Aerial photography from 1959 shows a farmstead located in the SE1/4, NE1/4 of Section 21. The farmstead is no longer visible on 1985 photography. The embankment would intersect the former farm access route and some areas of former farmstead tree plantings (shelterbelts). Two features remained visible on photography for several years including the pumphouse which is outside of direct impacts from the project and another building that abuts the Wetland Creation Area (Figure 20). The farmstead site required field investigation. The majority of embankment has been in agricultural use for nearly 30 years, making the likelihood of discovering pre-contact or historic artifacts with intact provenience unlikely.

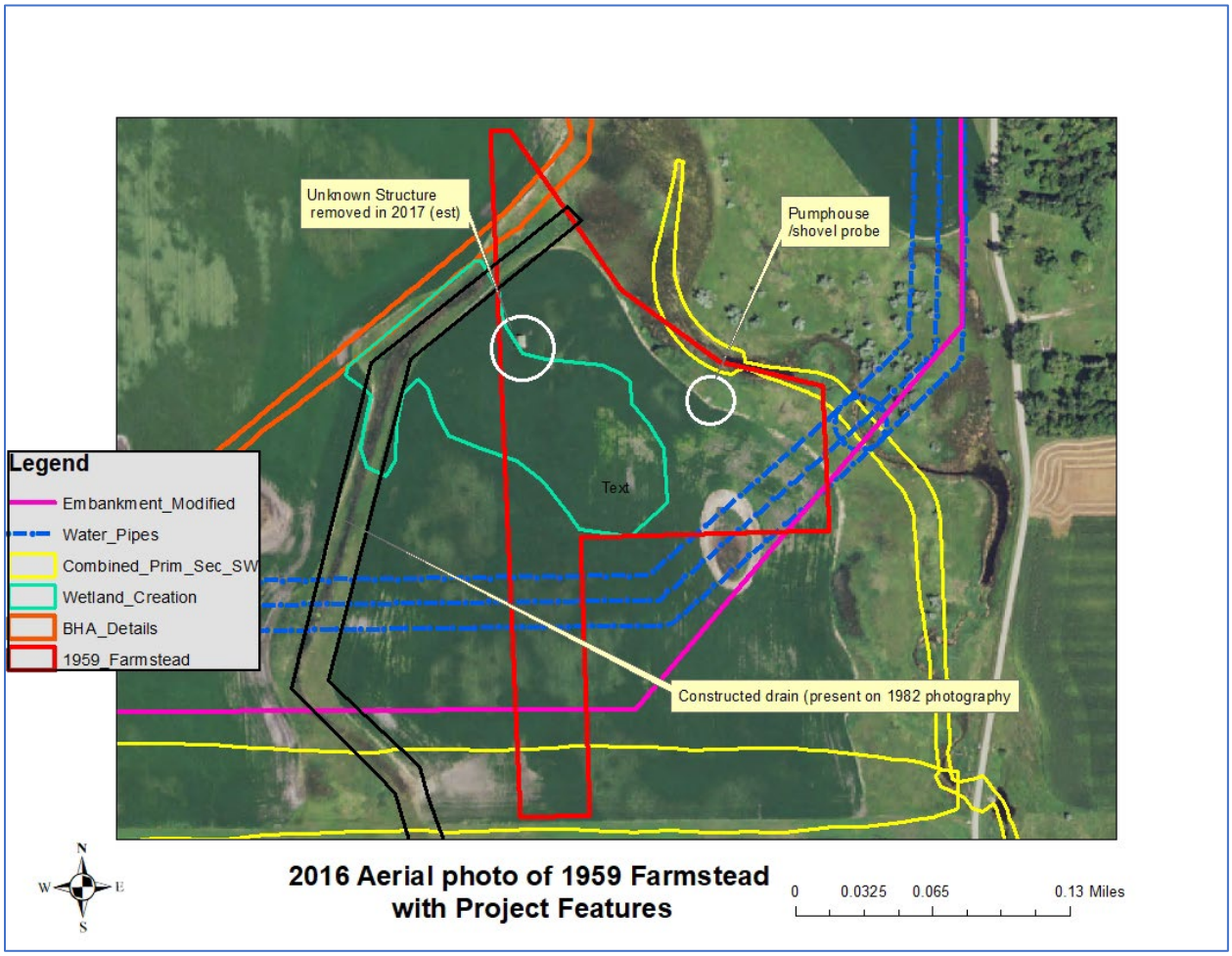

Figure 20 Aerial Photo (2016) with Outline of 1959 Farmstead

4.5 Wetland Creation (borrow) Area

The Pillsbury SE (1967) topographic map shows structures in the SE ¼ of the NE ¼ of Section 21, Also aerial photography from 1959 shows a farmstead located in this location. The farmstead is no longer visible on 1985 photography. The wetland creation intersects some of the farmstead with structures. Two features remained visible on photography for several years including the pumphouse which is outside of direct impacts from the project and another building that abuts the Wetland Creation Area (Figure 20). The western-most structure was no longer visible on 2017 photography. Remnants of the pumphouse remain visible on the 2023 photography. The farmstead site required field investigation.

4.6 Water Pipeline

The majority of the pipeline follows the route of the embankment, or the BHA's, see sections 4.4 and 4.8 for review details. The embankment would intersect the former farm access route and some areas of former 1959 farmstead tree plantings (shelterbelts).

4.7 Secondary and Principal Spillways

Satellite imagery shows that the secondary spillway location has been in production prior to 1997 and that the cultivation zones have intersected the APE throughout the decades. The secondary spillway would intersect the former farm access route and some areas of former 1959 farmstead tree plantings (shelterbelts). The nearly 30 years of proven agricultural use make the likelihood of discovering pre-contact or historic artifacts with intact provenience unlikely.

This Principal spillway is located largely within the footprint of the existing Maple River.

4.8 Biomass Harvest Areas

Two of the three BHA's will be located in Section 16 (beginning in the north at UTM 14T 593315, 5219291) and the 3rd is planned for the north half of section 21 (ending in the south 591809, 5217392). The very eastern extent of the southern-most BHA slightly intersects a small area of the former 1959 farmstead tree plantings (shelterbelts). Satellite imagery shows that the land has been in production prior to 1997 and that the cultivation zones have intersected the APE throughout the decades. The nearly 30 years of proven agricultural use make the likelihood of discovering pre-contact or historic artifacts with intact provenience unlikely.

An existing tile drainage system is present in the NW ¼ of section 21, a portion of which would be disabled with the project. This system underlays several of the project features including the BHA's, pipeline, primary levee, and the secondary spillway (Figure 21). Tiling is an undertaking likely to cause damage to any subsurface cultural resources or historic properties if present. The subsurface drainage system involves heavy ground disturbance due to the burying of drainage infrastructure below the plow zone of agricultural fields. It allows water to be drained away from a specific area via either electric motor or gravity feed thus increasing available acreage for production.

4.9 Wetland Restoration Ditch Plugs

Satellite imagery shows that the land where three northern ditch plugs are planned has been in production prior to 1997 and that the cultivation zones have intersected the APE throughout the decades. The nearly 30 years of proven agricultural use make the likelihood of discovering pre-contact or historic artifacts with intact provenience unlikely. The remaining nine are planned for section 16 beginning in the north at UTM 14T 592382, 5218363. These are located in high water table areas making the likelihood of discovering pre-contact or historic artifacts unlikely.

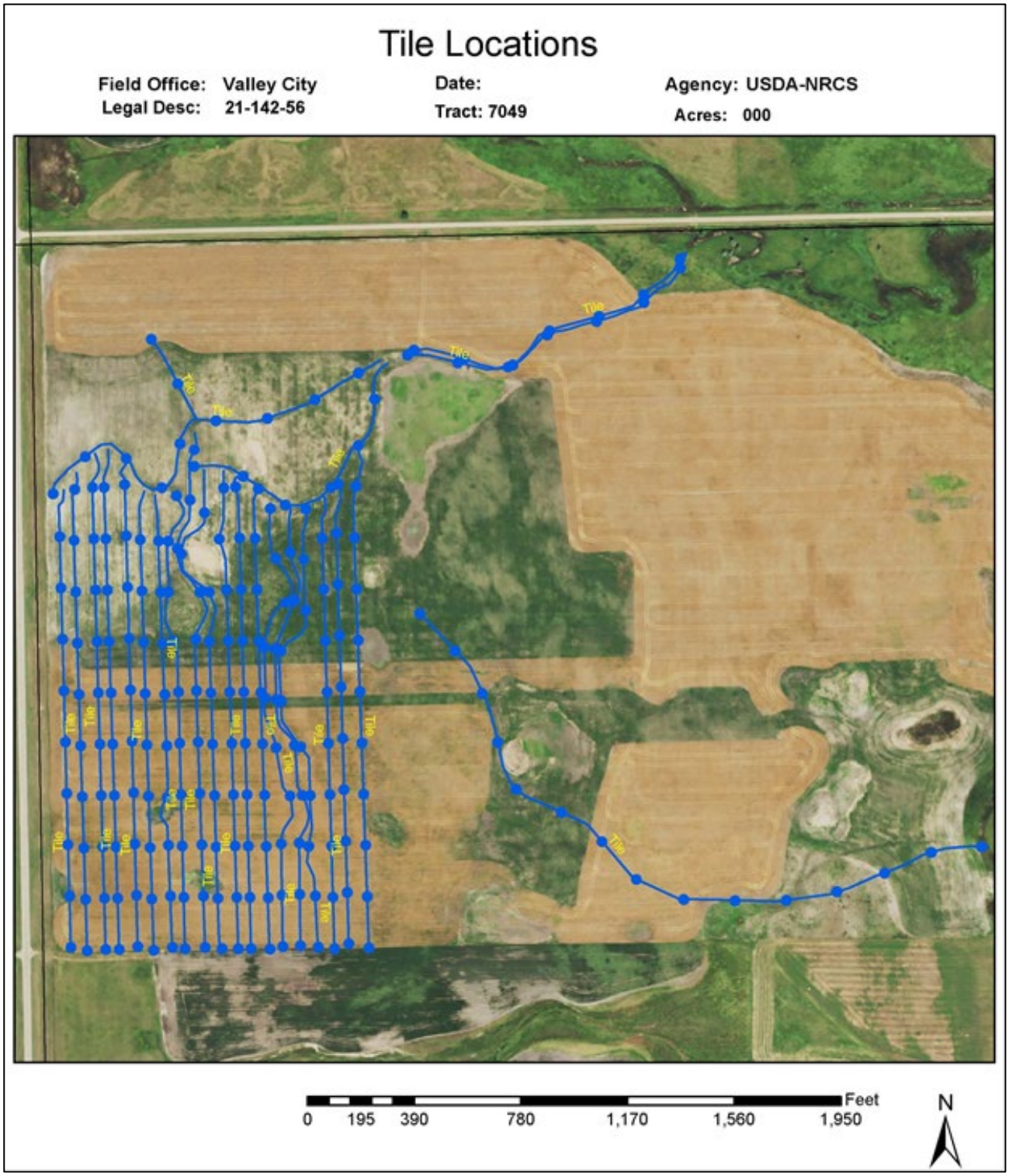

Figure 21 Existing Drain Tile Installation in Section 21. Image Source: NRCS archives

5.0 RESULTS OF FIELD INVESTIGATION:

5.1 Overview

Physical surveys were conducted in 2020 and 2023 (Figure 22). Pedestrian survey was conducted 28 May 2020. The weather was clear and windy with low humidity; temperature mid-70's. Linear portions of the APE were marked by Moore Engineering surveyors the day of, but prior to, commencement of pedestrian survey. Approximately 392 acres were surveyed by a team of three with one supernumerary present for field experience. The principal investigator (PI) Chris Plount was stationed on the centerline with Valley City field office staff and a representative from Moore Engineering positioned 15 meters to the right and left of the PI. Transects were 100 feet (30M) in width.

On 25 May 2023 a supplemental Class III was conducted by Janelle Harrison, Principal investigator (PI) for this undertaking as of 2022. Approximately 52 acres were surveyed or resurveyed, the majority of which was infeasible to walk due to wetness or cropping. One shovel test probe was conducted near the recorded destroyed pump house structure.

Cultural Resource Physical Survey Extents

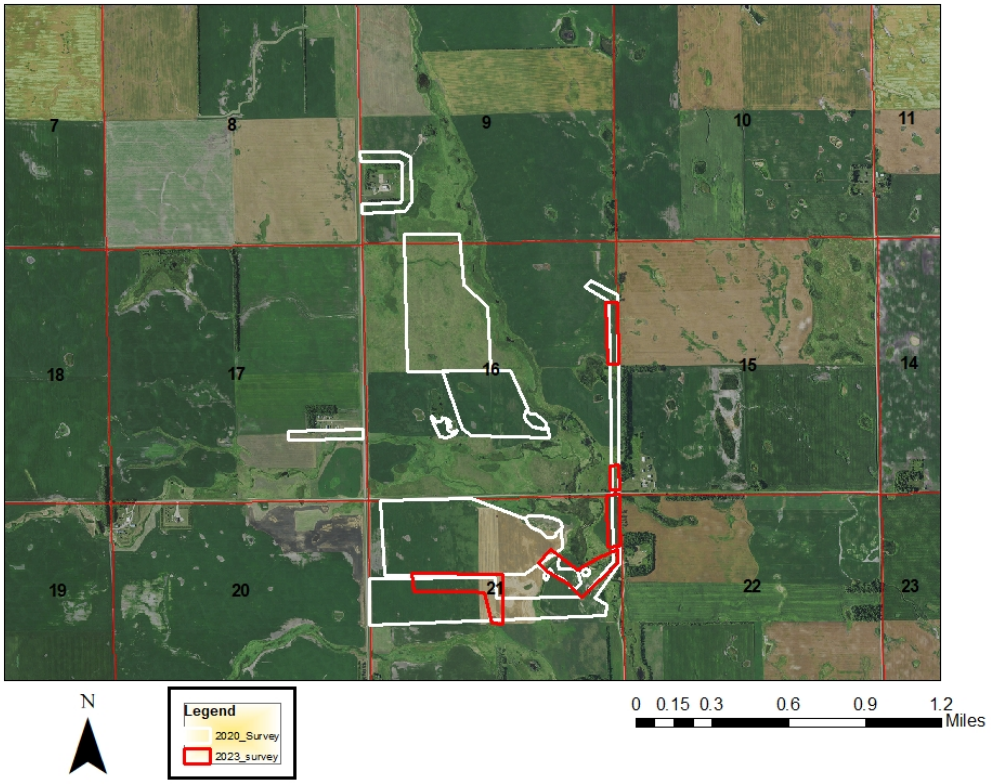

Figure 22 Physical Survey Extents

5.2 Farm Levee:

Each of the levee areas and the excavation area was walked, in a zip-zag pattern covering approx. 10-meters on each transect pass, totally two transects in each area of direct impact (ADI) in the APE. Pedestrian survey was begun at (UTM 14T 591293, 5218413) proceeding east.

Ground visibility was zero due to unmaintained grass but the farm field directly adjacent (3-5 feet north) to the intended transect was recently "turned" for planting. The surface visibility was 80-90% and this was deemed adequate for survey. Three fragments of mass-produced glass, likely from a mason jar, were located at random points along the transect. They were considered common farm detritus, and no other cultural material was found.

Adjacent to the APE is a home and farm outbuildings including a corral, grain bins and equipment in various conditions of serviceability. It is uninhabited (personal communication, Pat Downs) but still used to produce crops and care for small livestock. It has not been inventoried as a site nor evaluated for NRHP eligibility as no construction activities will impact any existing structures or existing foundations during this undertaking.

The farm levee, as designed, will be 2-4 feet in height and approximately 150 feet south of the farm at its closest point. The levee will be seeded with native varietals for both aesthetic and anti-erosion purposes. Therefore, the farm will suffer no direct, indirect nor visual effects from the undertaking and will be protected from flood events allowing for future investigation.

5.3 Farm Ring Levee

Pedestrian survey was begun at (UTM 14T 591754, 5220167) proceeding east, then south and west. Ground visibility on the south and eastern portions of the APE was excellent. Visibility in the northern boundary was zero due to unharvested grass varietals except for small spots created by underground rodent activity. The possibility that an inadvertent discovery of cultural resources will occur is unlikely.

5.4 Earthen Embankment (Dam)

The APE for the dam extends for approximately 2.3 miles (3.7 km) through the eastern ½ of Section 16 and the northern ½ of Section 21. Pedestrian survey was begun at (UTM 591855, 5217249) proceeding east.

Section 16: The APE travels through the East ½ of section 16, just west of ditching that provides drainage for 129th Avenue SE. From the Section 16/21 line, (UTM 593343, 5218043), proceeding North for approximately 650 feet, ground visibility was limited and never exceeded 20%. Trees felled by high winds coupled with ground disturbed by rodent activity allowed for ersatz ground survey.

Beginning at UTM 14T 593331, 5218311 and proceeding north for 2376 feet (724m) ground visibility was excellent. The producer had burned off the previous year's corn stalks and water had drained to the north and west, away from the survey transect. No cultural resources were observed.

The remainder of the section 16 APE, starting at (UTM 14T 593304, 5219044) and ending at (UTM 14T 593322, 5219367) was not surveyed. Approximately 6-8 inches of standing water coupled with unharvested corn and crop residue from the previous year completely obscured the ground. An additional survey of the embankment was conducted by a new PI, Janelle Harrison, on May 25, 2023; no cultural resources were observed in the embankment zone.

Section 21: Pedestrian survey was begun At (UTM 591855, 5217249) proceeding east, At (UTM 615891, 5213093) the survey turned to the northeast then at (UTM 593324, 5217583) turned north to the Section 16/20 line. Visibility throughout the North ½ of Section 21 was excellent (Figure 23). No cultural material was observed except for the pumphouse described in section 5.7.1.

Figure 23 Ground Visibility (facing east, survey stake at middle distance). Photo coordinates - UTM14T 591855.33, 5217249.23)

5.5 Wetland Creation (borrow area)

The wetland creation area (5.7 acres) is in the E ½ SW ¼ of section 16 was surveyed in 2020. The centroid location for the borrow is UTM 14T 593036, 52175567. Ground visibility was limited and never exceeded 20% and no cultural material was observed, although this area is intersecting the 1959 farmstead site and is adjacent to the old pumphouse (Site 32BA01212 discussed in section 5.7.1).

5.6 Water Pipeline

The majority of the water pipeline was included in the pedestrian survey described for the embankment in Section 5.5. The northern end of the levee and the water pipeline begins at approx. UTM 14T 593377, 5217194 and continues south to approx. 1.2-miles where both the level embankment and the water pipeline turn west and through the APE east to west. A small section of pipeline is located in the SW ¼ of section 16 was not feasible for ground survey due to vegetation, saturated ground and standing water.

5.7 Secondary and Principal Spillways

The top and bottom portion of the U-shaped secondary spillway begins at approx. UTM 14T 592347, 521735803 in the west and continues east 0.91-miles to UTM 14T 593281, 5217316

bottom termination end). The top portion of the U-shaped secondary spillway ends in the east at approx. 14T 593325, 5217246. The secondary spillway was surveyed in 2020. The survey area is the same as what's described for the Embankment in Section 21. Visibility throughout the North ½ of Section 21 was excellent (Figure 23). No cultural material was observed.

The smaller principal spillway is a natural creek and a conduit below the embankment and begins in the north at UTM 14T 593132, 5217736 and terminating approx. 0.4-miles south at UTM 14T 593377, 5217194. The principal spillway is located largely within the footprint of the existing Maple River. and was not feasible to survey due to approximately 6-8 inches of standing water in the feature.

During the survey of these areas a destroyed pumphouse (site 32BA1212) was discovered and documented between the Wetland Creation and Spillway features. The pumphouse is the last feature visible of a farmstead visible only on 1959 photography. A NDCRS site form for the undocumented site was completed in 2023 and the above trinomial was assigned to the site by the State Historic Preservation Officer (SHPO), survey conditions are discussed in section 5.7 .1.

GLO records show a land patent to the Northern Pacific Railroad company for Section 21 in 1894 (accession Number: NDMTAA 104561). In 1910, the Standard Atlas of Barnes County lists the property owner as Andrew Skude and the atlas notes a structure on the map in the approximate area of the farmstead in T145N R56W Section 21. A newspaper search finds Andrew Skude and wife are referenced as "pioneer residents of Barnes County" in the Weekly Times-Record (Valley City, North Dakota), August 26, 1920, page 8. Additional research is needed to determine if the Skude Family purchased the land from the railroad directly or are later property owners and/or the occupants of the farmstead in 1959. Further work is necessary to [redacted] eligible for the National Register of Historic Places. Additional research is needed such as information about subsurface conditions, presence of buried cultural material and features, deed search, and historic records search. The site is recommended unevaluated until site significance and integrity can be fully assessed.

The destroyed pumphouse (Figure 25) is approximately 50 feet southwest of a stream that crosses the NE corner of Section 21. The asphalt shingling, visible wiring and incongruous support material imply that the structure had been repurposed multiple times and now has little historic value. No other structures or foundations were found. Upon recommendation from NDSHPO, the site was revisited in 2023 by Janelle Harrison and a shovel probe was completed, no additional data was gathered by the probe. No artifacts were found with the shovel probe (Table 11). 100% grass cover obscured visibility in the groundcover surrounding the pumphouse.

Site	Latitude	Longitude	Soil Horizon	Depth to Base of Stratum (cm)	Soil Texture	Artifacts
[redacted]	593153	5217551	A	15	sandy loam	None
			B	48	gravelly sandy loam	

Table 11 Soil Probe Results

The pumphouse is assumed to be part of a farmstead visible on 1959 photography and from which buildings are indicated in 1967 topographic maps. Only two structures remained visible on 1985 photography – the pumphouse and another structure which abuts the wetland creation area. The second structure is no longer visible on 2017 photography and no remnants were found either in the 2020 survey or when Harrison re-surveyed this area in 2023. A site monitor is recommended for all disturbances within and immediately adjacent to the 1959 Farmstead polygon including portions of the wetland creation, embankment, pipeline, primary and secondary spillways and biomass harvest area.

Figure 25. Destroyed Pumphouse

Figure 26. Destroyed Pumphouse Electrical Installation

5.8 Biomass Harvest Areas

The two biomass areas in section 16 were not surveyed in their entirety due the wet field conditions. The visibility throughout the BHA in the North ½ of Section 21 was excellent (Figure 23). No cultural material was observed. The three biomass harvest areas begin in the north at approx. UTM 14T 592181, 5217577 and terminate in the south at UTM 14T 592424, 5217495.

5.9 Wetland Restoration Ditch Plugs

The twelve wetland restoration ditch plugs are planned in Sections 9 and 16 beginning in the north at UTM 14T 591795, 5220835 and ending at 591920, 5218064. Field survey was only practical for two of the plug sites located in the north ½ of section 16 where the ground visibility was limited and never exceeded 20%, no cultural resources were observed. The remaining 10 plugs were not feasible due to saturated ground and standing water.

6.0 CONCLUSIONS:

The Upper Maple River Watershed Alternative 2A was scrutinized through a Class I and Class III Archaeological investigative process. A collapsed pumphouse structure, shown on the 1967 Pillsbury SE 7.5-minute topographic map, was documented on a North Dakota State Historical Society archaeological site form and assigned the trinomial [redacted] A site monitor is recommended for all disturbances within and immediately adjacent to the 1959 Farmstead [redacted] including portions of the wetland creation, embankment, pipeline, primary and secondary spillways and biomass harvest area.

No properties eligible for the NRHP were located. Due to the magnitude of the undertaking and in the interest of clarity, specific findings need discussion.

[redacted] no effect is anticipated. When the nature of the undertaking, the topography of the land, established tree shelterbelts and buildings between the undertaking and [redacted]) are considered in total, no direct, indirect, or visual effect is anticipated.

The Farm Levee and Farm Ring Levee installation is on land that has been in agricultural use for decades. Both areas are subject to occasional flooding and in the case of the ring levee, the surrounding land is reclaimed wetland. Neither structure will have a direct, indirect, or visual effect on any known sites or existing structures.

NRCS archives revealed that a portion of the Primary Levee located in the N ½ of Section 21 has been heavily disturbed. The area possesses a subsurface drain system far below the conventional plow zone. The infrastructure installation extends, tendril like, across the APE. Any potential subsurface cultural resources have likely been removed or disturbed to a point that context and provenience would be meaningless.

[redacted], it is NRCS' determination that the cultural material would not change the NRHP **"not eligible"** determination.

Flooding obscured the ground and impeded pedestrian survey in some areas. In a small portion of the APE, prior year crops remained in the field obscuring the ground. Due to seasonal planting, soil disturbance by the survey team was not allowed therefore shovel testing was not

conducted, with the exception of the pumphouse area where a shovel test was completed in 2023. These restrictions will necessitate Cultural Resource Monitor during the excavation of the wetland creation area due to the former presence of a farmstead in some of this feature.

7.0 RECOMMENDATIONS:

The Upper Maple River Watershed Alternative 2A is recommended to proceed. Due to possible discoveries in the area of an historic farmstead, the recommendation is predicated on the following stipulation:

1. A [redacted] The project is recommended a determination of **"No Adverse Effect"** to historic properties.

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APPENDIX A

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CLASS I LITERATURE SEARCH UPDATE

March 21,2023 Amended

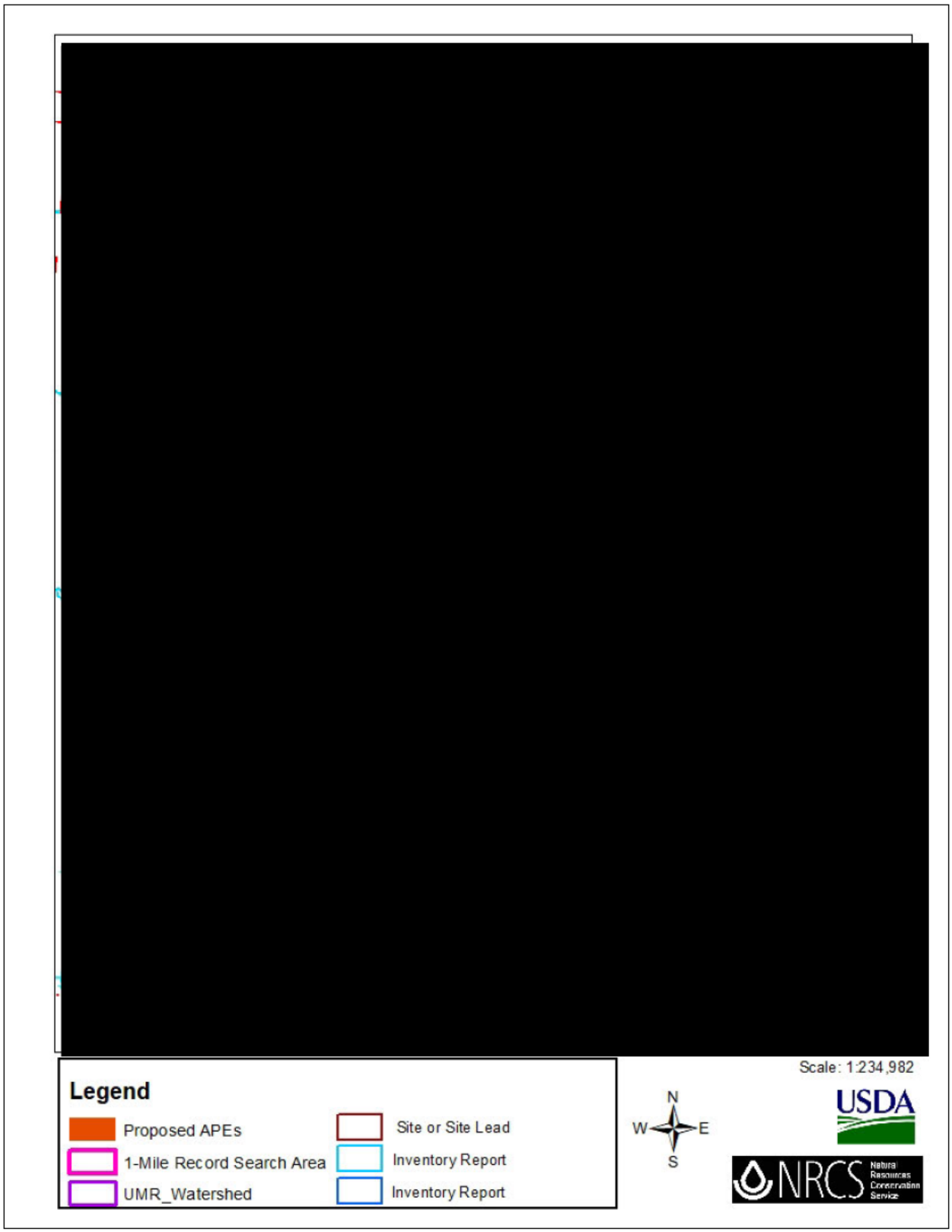
August 19, 2024

Class I Inventory Results for the Upper Maple River Watershed in Barnes, Cass, and Steele Counties, North Dakota

Report Author:

Janelle Harrison, MA, RPA
ND State Archaeologist
USDA-NRCS

Figure 1. Upper Maple River Watershed



Helping People Help the Land

Figure 2. Upper Maple River Watershed: Alternative 5 Potential APE

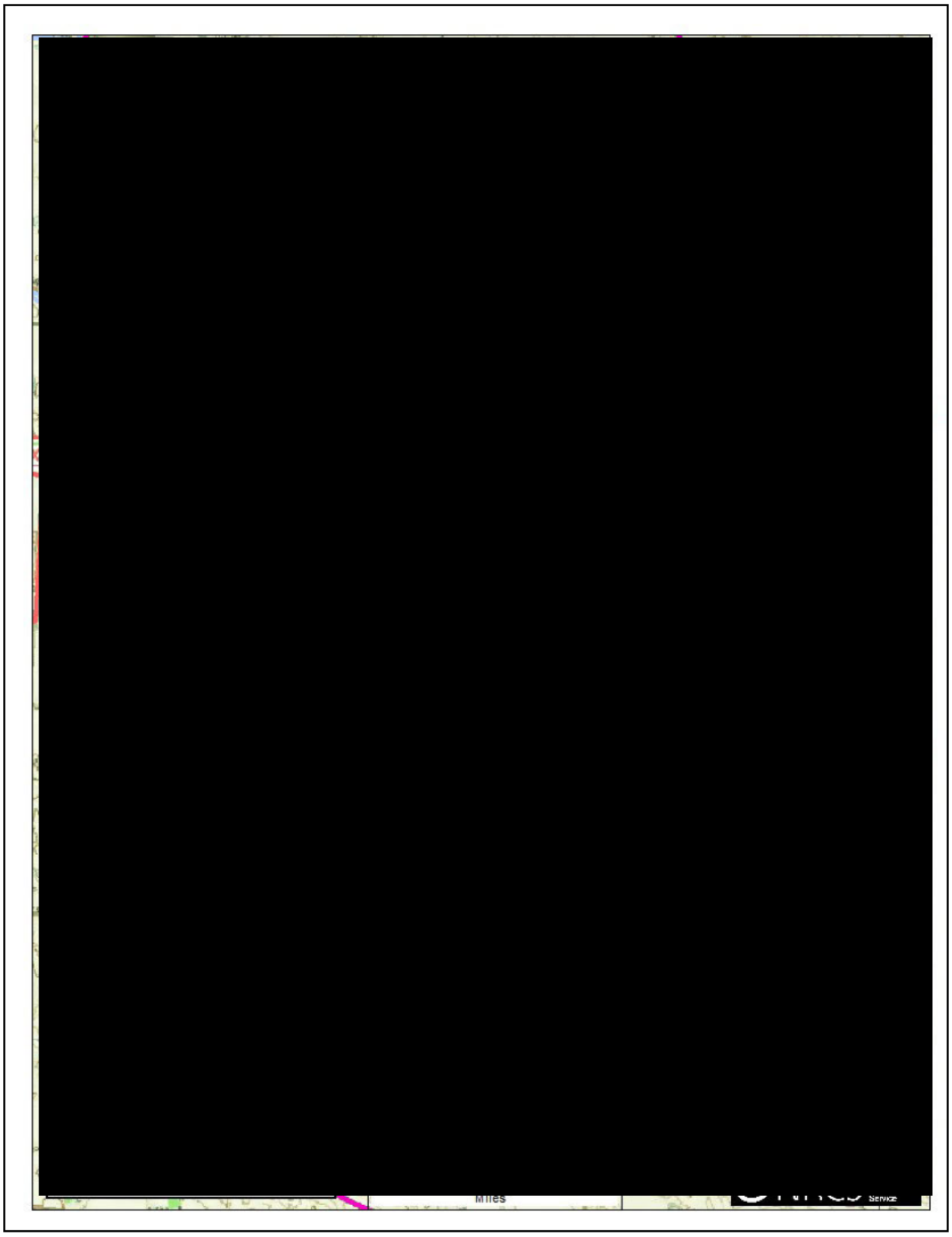
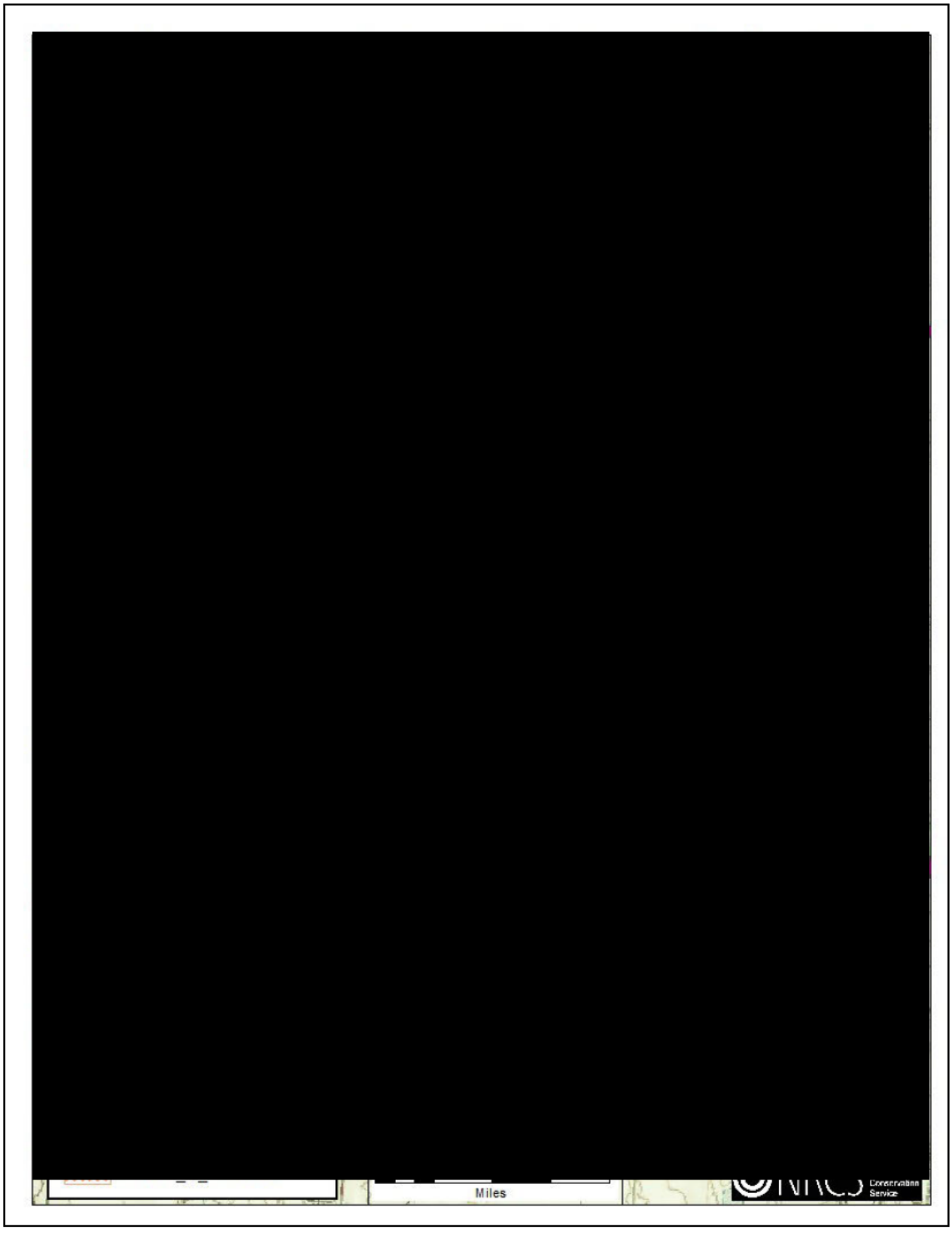


Figure 3. Upper Maple River Watershed: Preferred Alternative 2A



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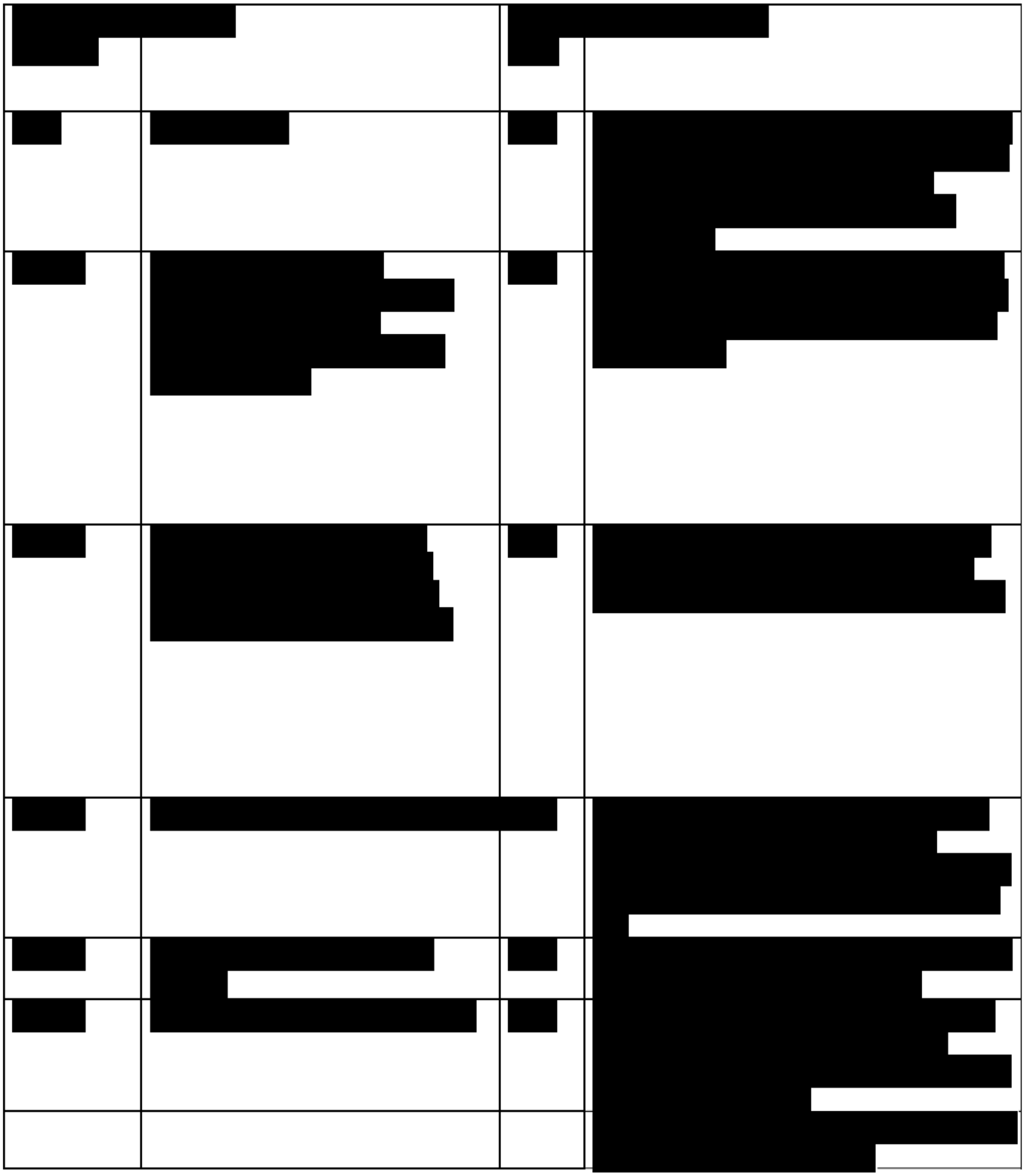

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Site	Site Name	Archeology	Architect	Historical
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[redacted]				

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Site	Site Name	Archeology	Architect	Historical
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United States Department of Agriculture

Natural Resources
Conservation Service

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Bismarck, ND
58502-1458

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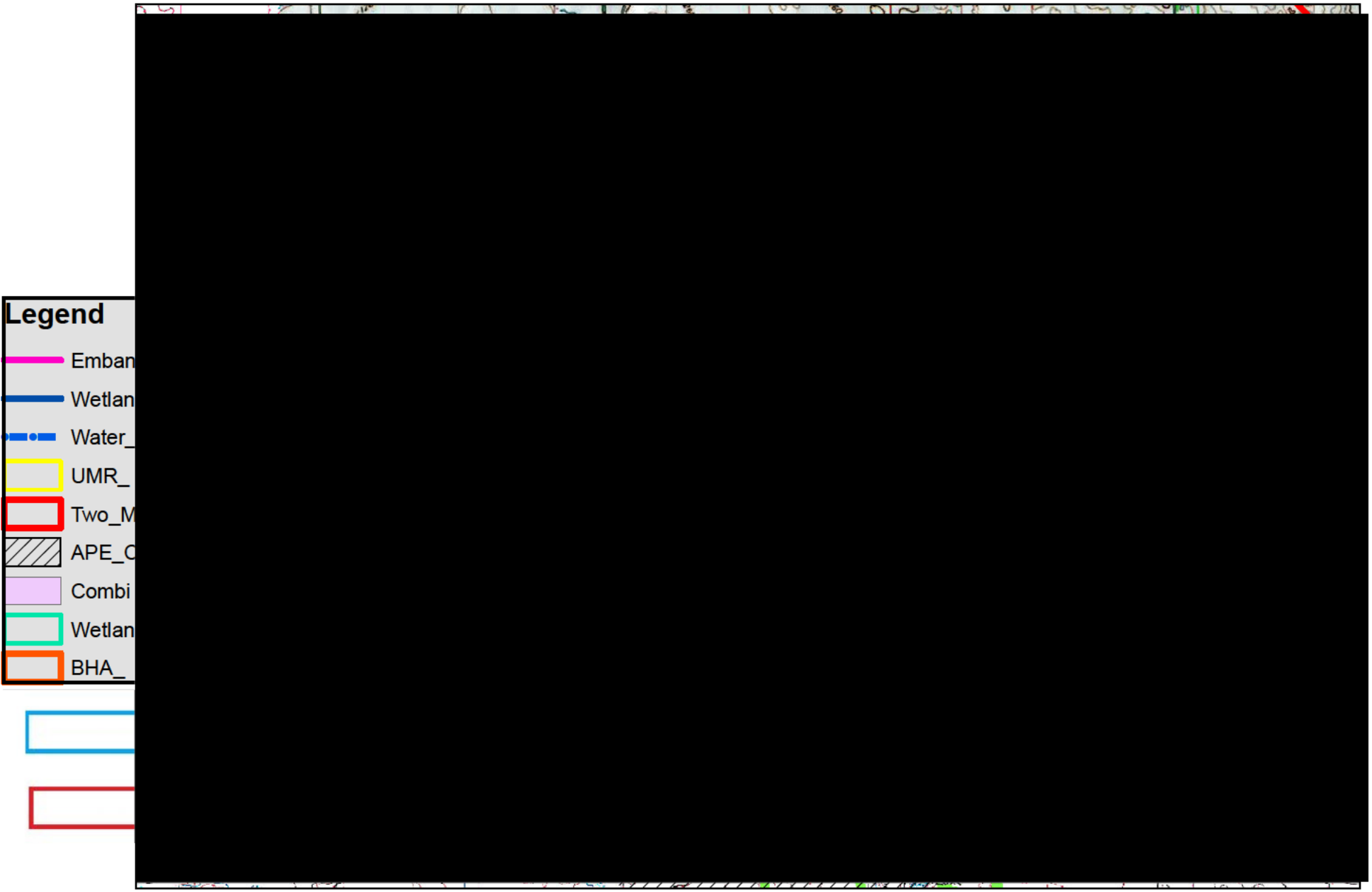
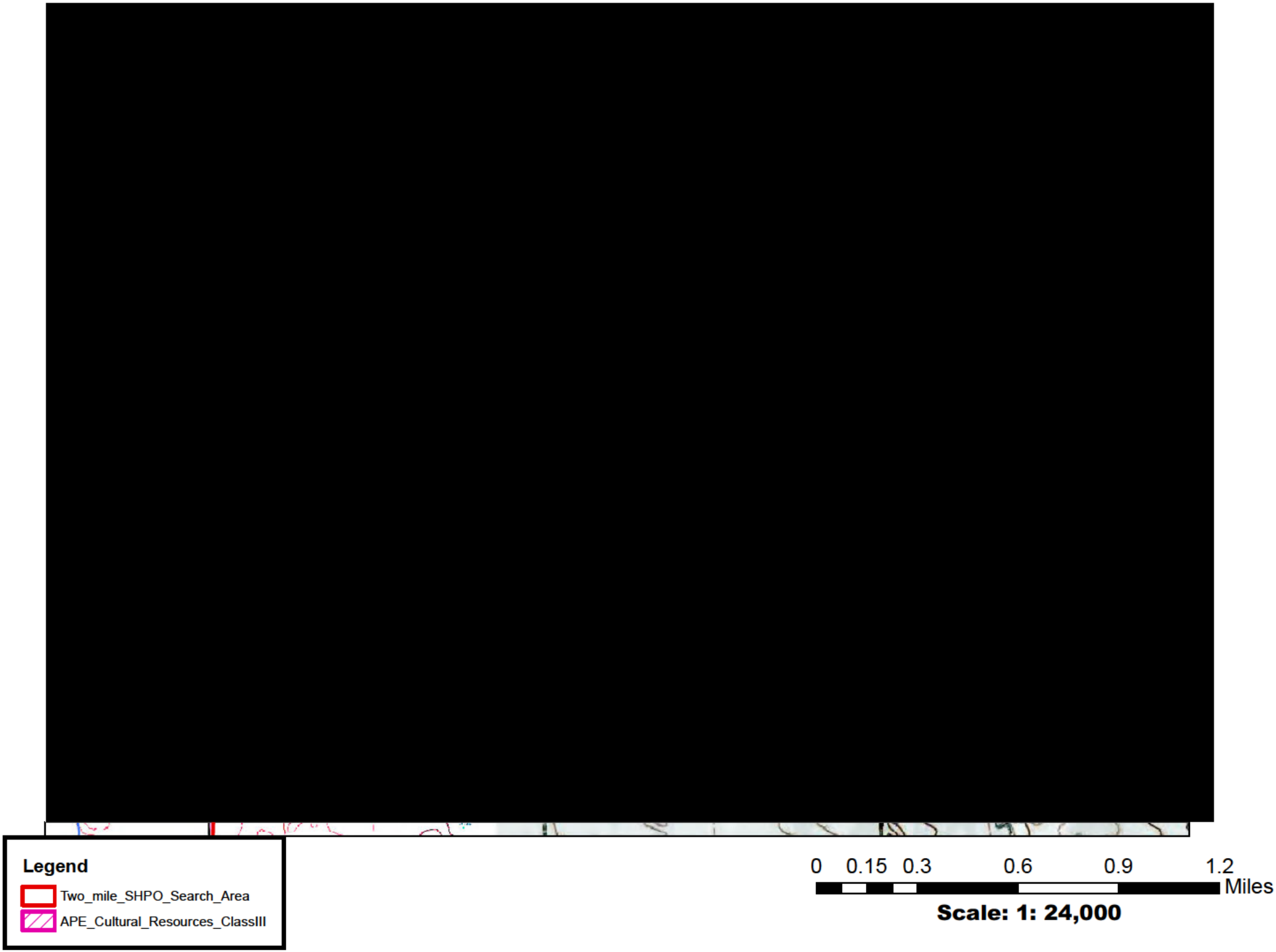


Upper Maple River Project Location
APE with Features

APPENDIX B

Sections 31-33 143-56
Sections 4-9 142-56
Barnes County, ND



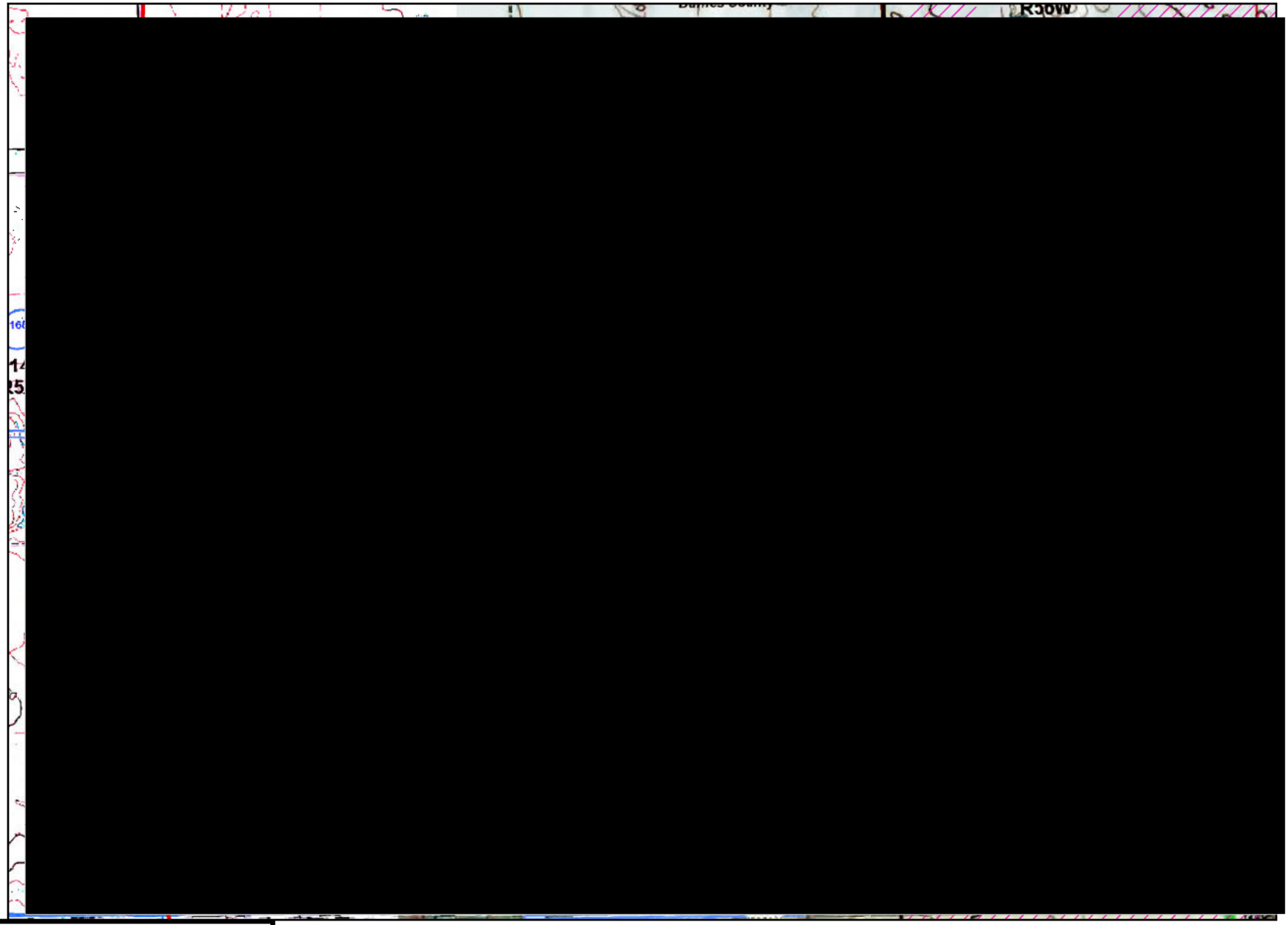
Sections 33&34 143-56
Sections 2- 4, 9-11 142-56
Barnes County, ND

Legend
Two_mile_SHPO_Search_Area
APE_Cultural_Resources_ClassIII

0 0.15 0.3 0.6 0.9 1.2
Miles

Scale: 1: 24,000

Sections 7-9, 16-21 T142-R56
Barnes County, ND



Legend

- Two_mile_SHPO_Search_Area
- APE_Cultural_Resources_ClassIII

0 0.15 0.3 0.6 0.9 1.2 Miles

Scale: 1: 24,000

Sections 9-11, 14-16, 21-23 T142-R56
Barnes County, ND

Legend
Two_mile_SHPO_Search_Area
APE_Cultural_Resources_ClassIII

0 0.15 0.3 0.6 0.9 1.2
Miles

Scale: 1: 24,000

Sections 19-21, 28-33 T142-R56
Barnes County, ND

Legend
- Two_mile_SHPO_Search_Area
- APE_Cultural_Resources_ClassIII

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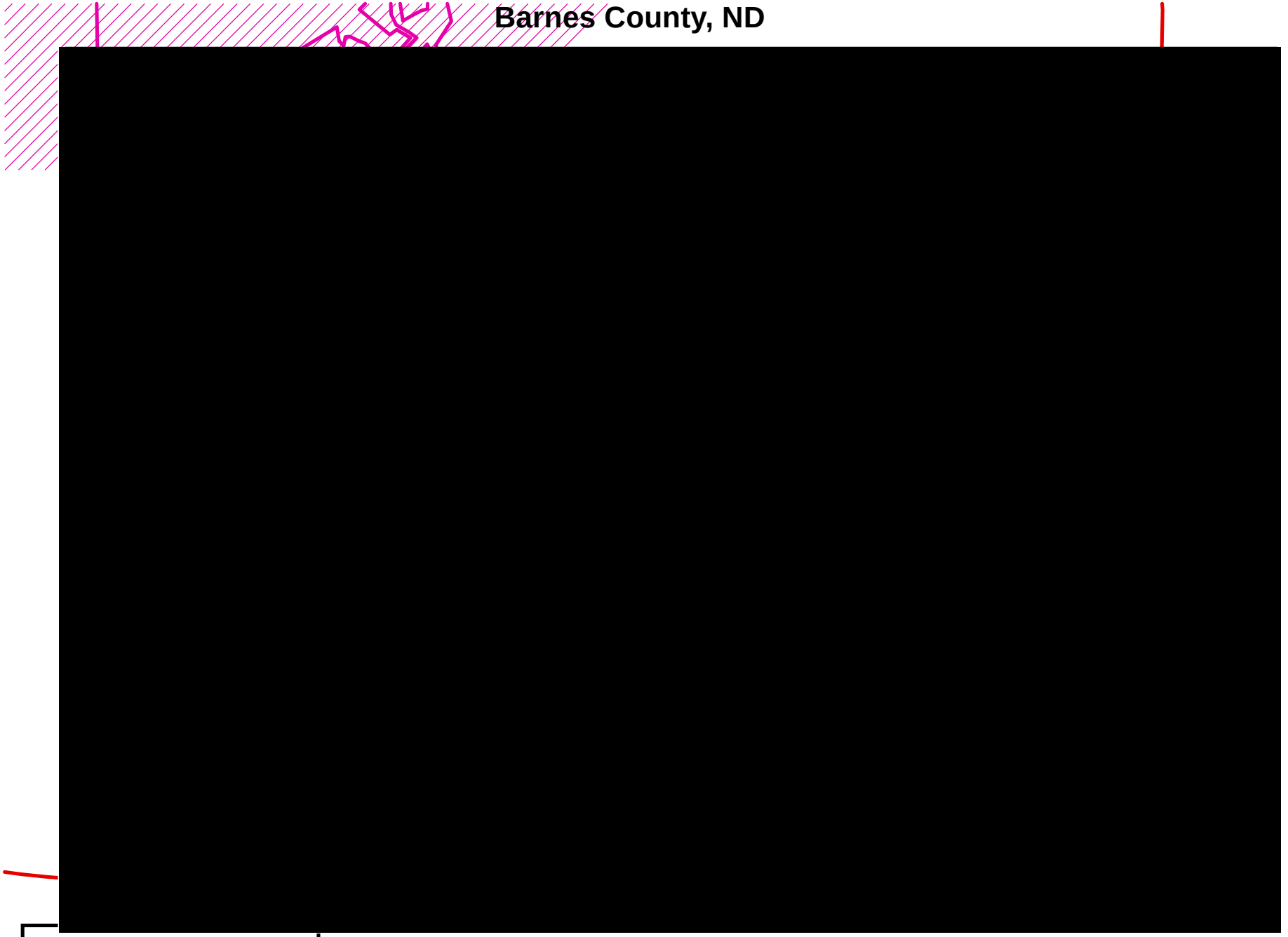
Scale: 1: 24,000

Sections 21-23, 26-28, 33-35 T142-R56
Barnes County, ND



Legend

- Two_mile_SHPO_Search_Area
- APE_Cultural_Resources_ClassIII

0 0.15 0.3 0.6 0.9 1.2 Miles

Scale: 1: 24,000

APPENDIX C

Section 9 T142-R56
Barnes County, ND
2018 USDA FSA Ortho

S2 Sec16 & SE4 Sec 17 T142-R56
Barnes County, ND
2018 USDA FSA Ortho

Legend

APE_Cultural_Resources_ClassIII

0 0.05 0.1 0.2 0.3 0.4
Miles

Section 21 T142-R56
Barnes County, ND
2018 USDA FSA Ortho

Legend

APE_Cultural_Resources_ClassIII

0 0.05 0.1 0.2 0.3 0.4
Miles