A Class I and Class III Cultural Resource Inventory of the Bakken North Pipeline, Williams County, North Dakota

Prepared for

Plains All American Pipeline, L.P.

Prepared by

SWCA Environmental Consultants

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COUNTY	TWP	RNG	SEC	SU
Williams	154	102	3, 10, 15, 22, 26, 27, 34, 35	GA
	155	102	3, 4, 10, 15, 22, 27, 34	GA
	156	102	4, 5, 6, 8, 9, 10, 15, 16, 21, 22, 27, 28, 33, 34	GA
	157	102	19, 28, 29, 30, 33, 34	GA
	157	103	4, 5, 9, 10, 11, 13, 14, 24	GA
	158	103	29, 30, 31, 32	GA

A Class I and Class III Cultural Resource Inventory of the Bakken North Pipeline, Williams County, North Dakota

Submitted to:

State Historical Society of North Dakota

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July 22, 2011

ABSTRACT

This report outlines the results of a Class I and Class III cultural resource inventory conducted by SWCA Environmental Consultants (SWCA) between April 18 and June 16, 2011, on behalf of Plains All American Pipeline, L.P. (PAA), for the proposed Bakken North Pipeline project. PAA proposes to construct a 78.47-mile-long, 12- to 16-inch-diameter crude oil pipeline through portions of North Dakota and Montana. In total, 30.70 miles of pipe would cross private lands in Williams County, North Dakota; 1.01 miles of pipe would cross state lands in Williams County, North Dakota; and 46.76 miles would cross private lands in Sheridan County, Montana. The proposed pipeline would terminate at the Raymond Station near Raymond, Montana. The proposed construction right-of-way (ROW) width is approximately 70 feet with a 50-foot-wide ROW and 20 feet of temporary work space. SWCA also inventoried two areas for the development of additional facilities for the Trenton Station, adjacent to North Dakota Highway 1804, and an area for an origination station.

Although a cultural resources inventory was performed for the entire pipeline corridor, this report focuses on the 31.71-mile-long proposed pipeline alignment in Williams County, North Dakota. The North Dakota Public Service Commission is the lead agency for the project.

The Class III inventory includes a 140-foot-wide survey corridor centered on the 31.71-mile-long proposed pipeline centerline in North Dakota. A total of 537.78 acres was surveyed for the pipeline centerline, with an additional 177.32 acres surveyed for reroutes. A total of 65.29 acres were surveyed for the extra work space areas: 20.54 acres for the Trenton Station expansion, 19.67 acres for the origination facility, and 25.08 acres (18.00 non-overlapping acres) for the extra workspace area near the Trenton Station expansion (a 4,000 foot-long area located to the east of the pipeline corridor). In total, 773.31 non-overlapping acres were inventoried on private and state lands in North Dakota. As proposed, the pipeline construction ROW, access roads, and workspace would remain within the inventoried area.

During the inventory, two previously recorded sites (32WI175 and 32WI176) were revisited and 19 cultural resources were newly recorded including 13 sites and 6 isolated finds. Both of the previously recorded resources (32WI175 and 32WI176) and seven of the newly recorded resources (32WI1146, 32WI1148, 32WI1150, 32WI1152, 32WI1153, 32WI1154, and 32WI1155) are recommended not eligible for the National Register of Historic Places (NRHP) and no further work is recommended. The six isolated finds (32WIX561, 32WIX562, 32WIX563, 32WIX564, 32WIX565, and 32WIX566) are recommended not eligible for the NRHP. The five prehistoric stone circle sites (32WI1147, 32WI1149, 32WI1151, 32WI1156, and 32WI1157) and one stone cairn site of unknown age or cultural affiliation (32WI1158) have been left unevaluated regarding their NRHP eligibility and avoidance is recommended. Reroutes have already been established to avoid the sites recommended eligible and those sites left unevaluated. 32WI1147 and 32WI1149 have been adequately avoided by the reroutes and will not be impacted, therefore, no further work is required. However, SWCA recommends a 50-foot-wide avoidance buffer be placed around 32WI1151, 32WI1156, 32WI1157, and 32WI1158, and that the pipeline construction corridor be rerouted within the surveyed area and necked-down, as needed, so that all construction activities and vehicle traffic remain outside of this buffer zone. SWCA further recommends fencing of the edge of the temporary construction corridor near the avoidance buffers to ensure that all construction

activities remain within the corridor. With the above stipulations, it is recommended that a determination of *No Historic Properties Affected* and *No Significant Sites Affected* be granted for the project to proceed as planned.

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INTRODUCTION

This report outlines the results of a Class I and Class III cultural resource inventory conducted by SWCA Environmental Consultants (SWCA) on behalf of Plains All American Pipeline, L.P. (PAA) between April 18 and June 16, 2011, for the Bakken North Pipeline project. PAA proposes to construct a 78.47-mile-long 12- to 16-inch-diameter crude oil pipeline from the Trenton Station, approximately 4.00 miles northeast of Trenton, North Dakota, to the Raymond Station, near Raymond, Montana. The entire 31.71-mile-long North Dakota portion of the proposed Bakken North Pipeline is within Williams County and crosses 30.70 miles of private land and 1.01 miles of state land (Figure 1 and Figures 2a–2p). The Montana portion is entirely on private land within Sheridan County, Montana. The proposed construction right-of-way (ROW) width is approximately 70 feet with a 50-foot-wide permanent ROW and 20 feet of temporary work space. SWCA also inventoried two areas for the development of additional facilities for the Trenton Station; one area would expand the Trenton Station adjacent to North Dakota Highway 1804 and a second area for an origination station. The proposed pipeline would terminate at the Raymond Station near Raymond, Montana.

Cultural resources inventory was performed for the entire pipeline corridor; however, this report addresses the work performed on the proposed 31.71 miles of pipeline that cross private and state lands, as well as the additional facilities areas in Williams County, North Dakota, and falls under the jurisdiction of the North Dakota Public Service Commission (NDPSC).

The Class III inventory includes a 140-foot-wide survey corridor centered on the 31.71-mile-long proposed pipeline centerline (537.78 acres) and the additional areas for reroutes and alignment changes totaling 177.32 acres. A total of 65.29 acres were surveyed for the extra work space areas: 20.54 acres for the Trenton Station expansion, 19.67 acres for the origination facility, and 25.08 acres (18.00 non-overlapping acres) for the extra workspace area near the Trenton Station expansion (a 4,000 foot-long area located to the east of the pipeline corridor). The inventoried area is situated on the following U.S. Geological Survey (USGS) topographic quadrangles: Brush Mountain, MT-ND (1988); Brush Lake, MT-ND (1988); Trenton, ND (1976); West Bonetrail, ND (1974); Bonetrail, ND (1974); Bonetrail SE, ND (1974); and Trenton NE, ND (1974). The project area includes parcels in Sections 3, 10, 15, 22, 26, 27, 34, and 35 of Township (T) 154 North (N), Range (R) 102 West (W); Sections 3, 4, 10, 15, 22, 27, and 34 of T155N, R102W; Sections 4, 5, 6, 8, 9, 10, 15, 16, 21, 22, 27, 28, 33, and 34 of T156N, R102W; Sections 19, 28, 29, 30, 33, and 34 of T157N, R102W; Sections 4, 5, 9, 10, 11, 13, 14, and 24 of T157N, R103W; and Sections 29, 30, 31, and 32 of T158N, R103W.

For the cultural resource investigation, Judith Cooper and Michael Retter served as Principal Investigators. Adam Leroy (qualified in Archaeology and History on SWCA's North Dakota Archaeological Permit), Jolene Schleicher, Mindy Burkitt, Drew Owens, Nicholas Smith, and Whit Schroeder (all of SWCA) completed the fieldwork. All field notes and photographs are on file at SWCA's Bismarck, North Dakota, office under project number 17283.

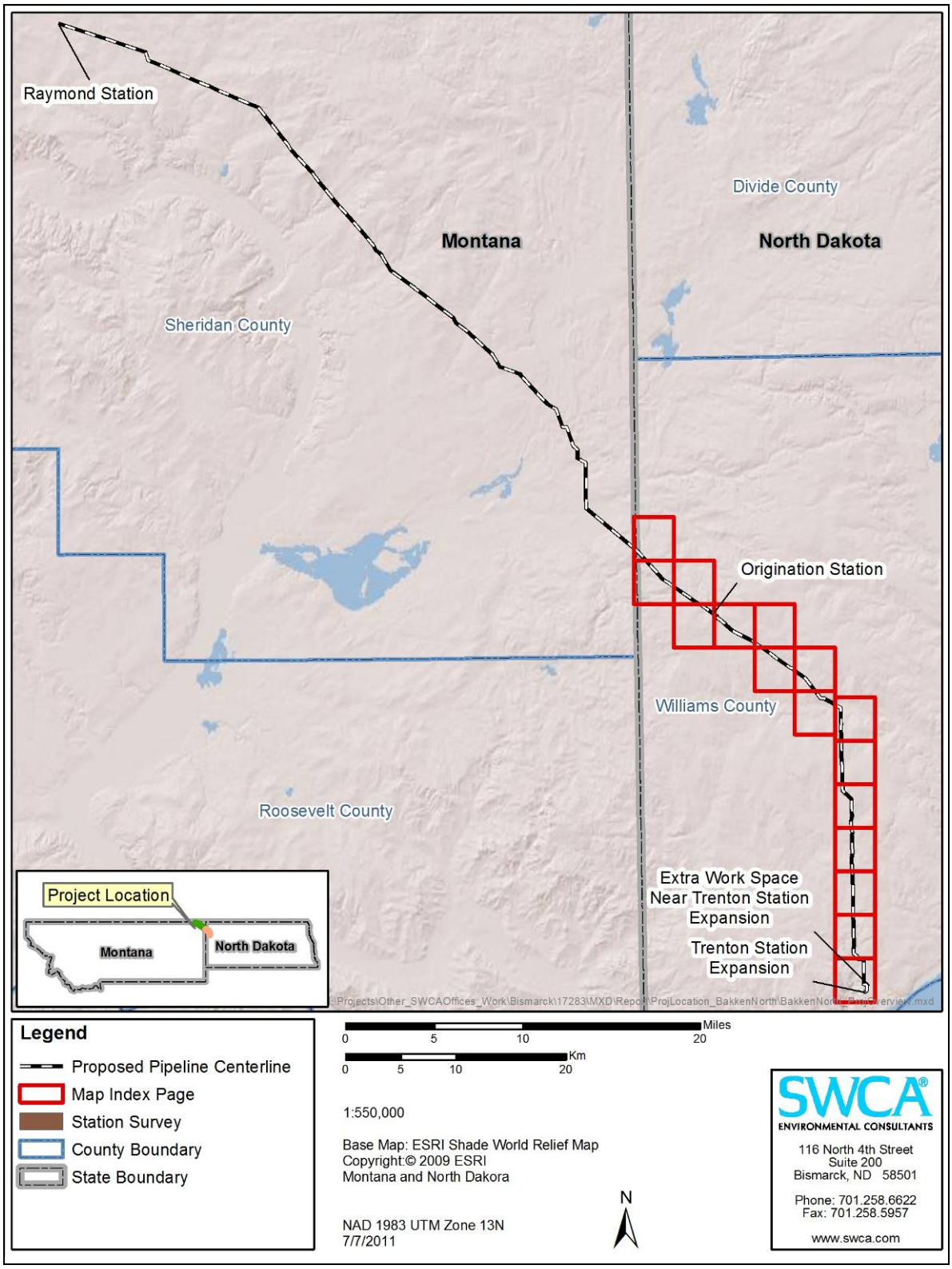


Figure 1. Project overview.

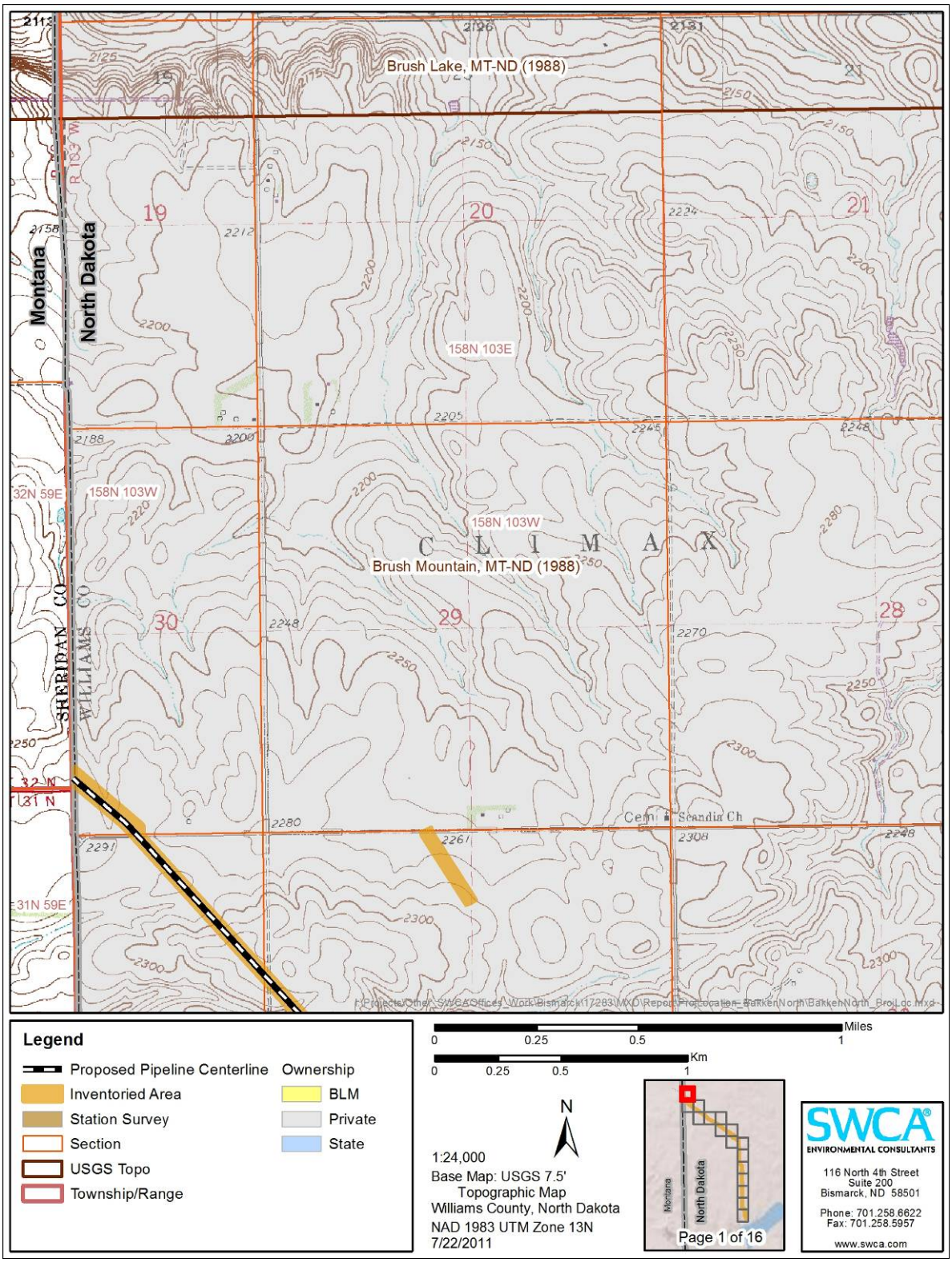
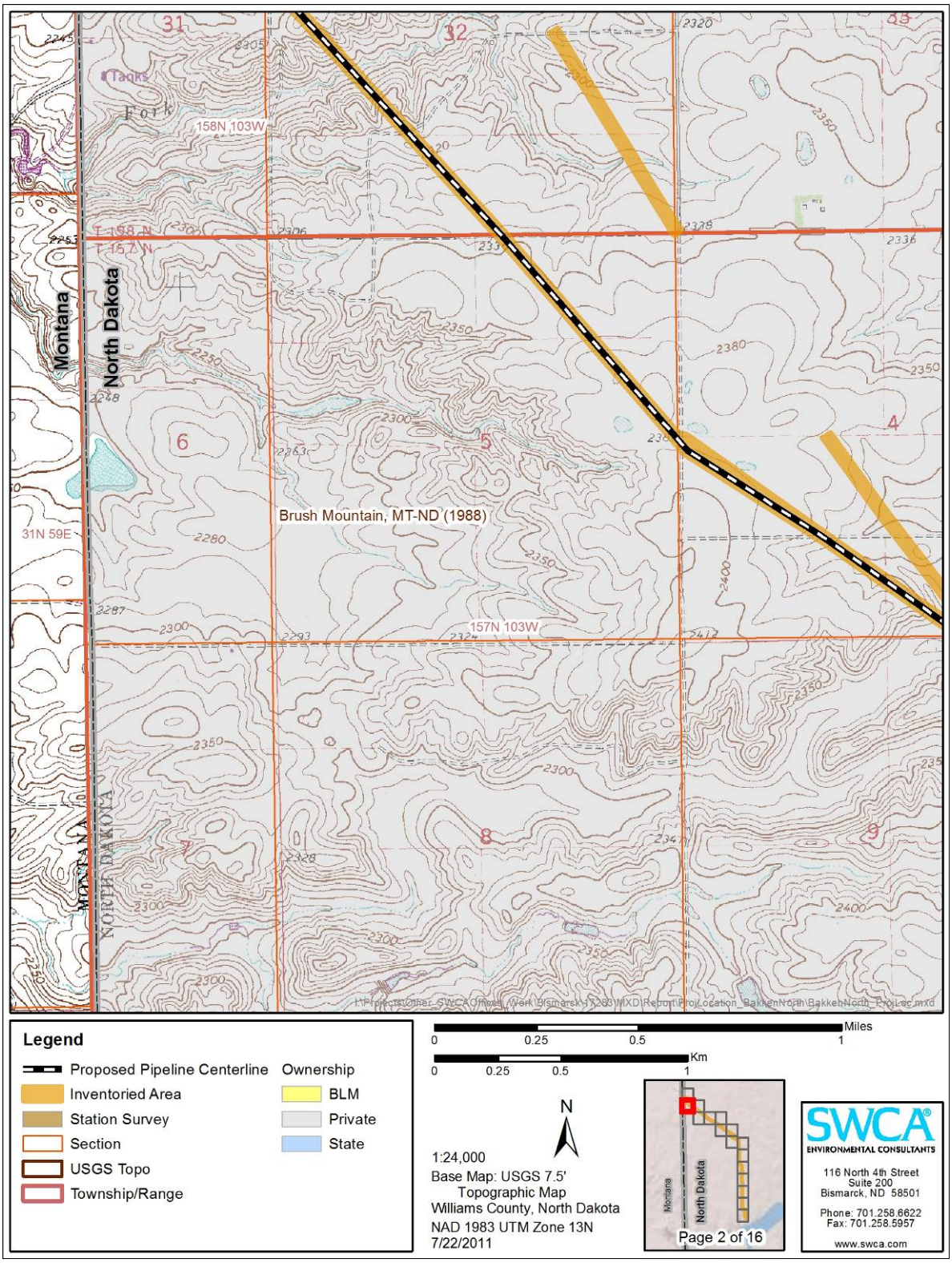


Figure 2a. Project area map 1 of 16.



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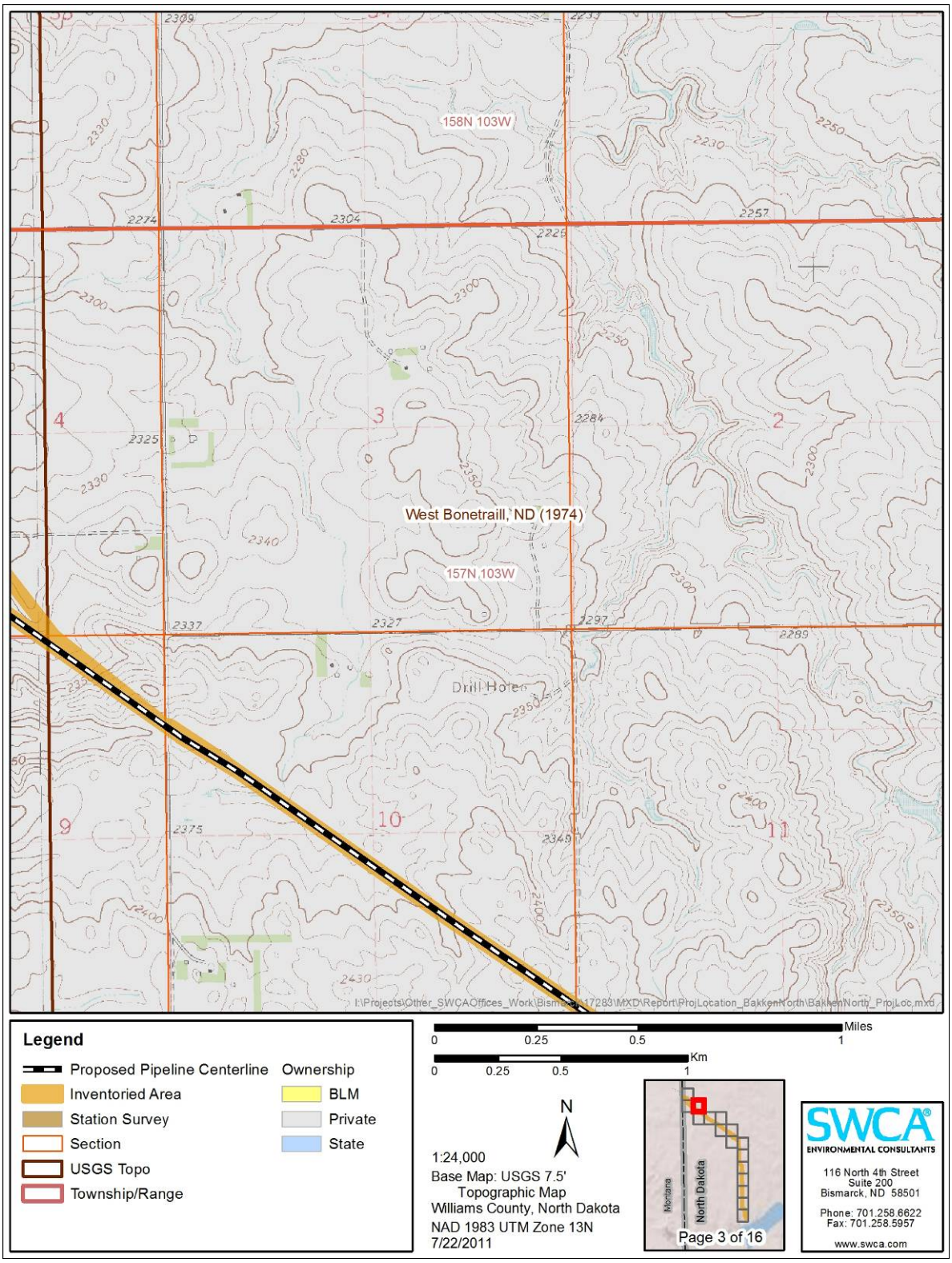

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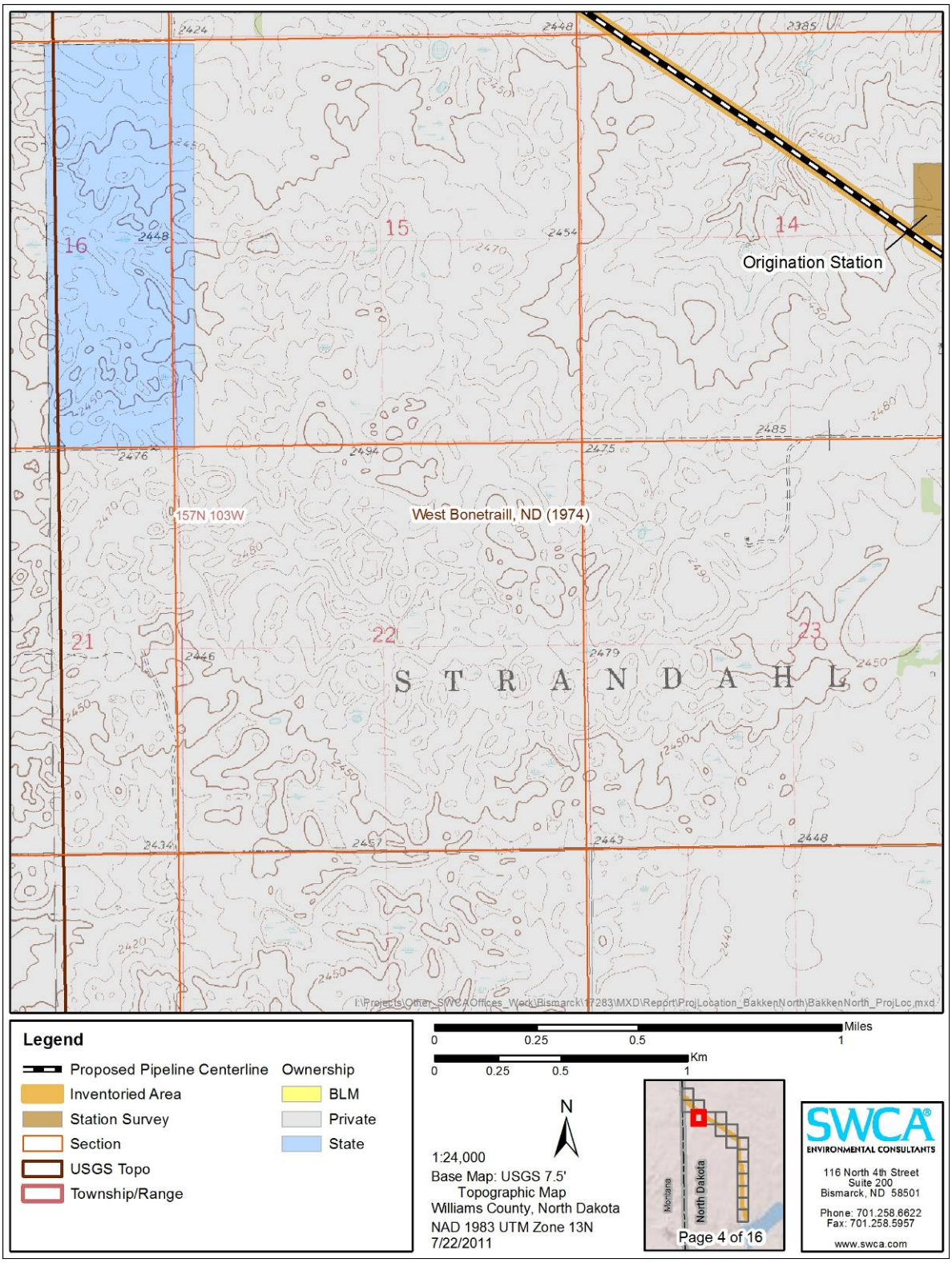

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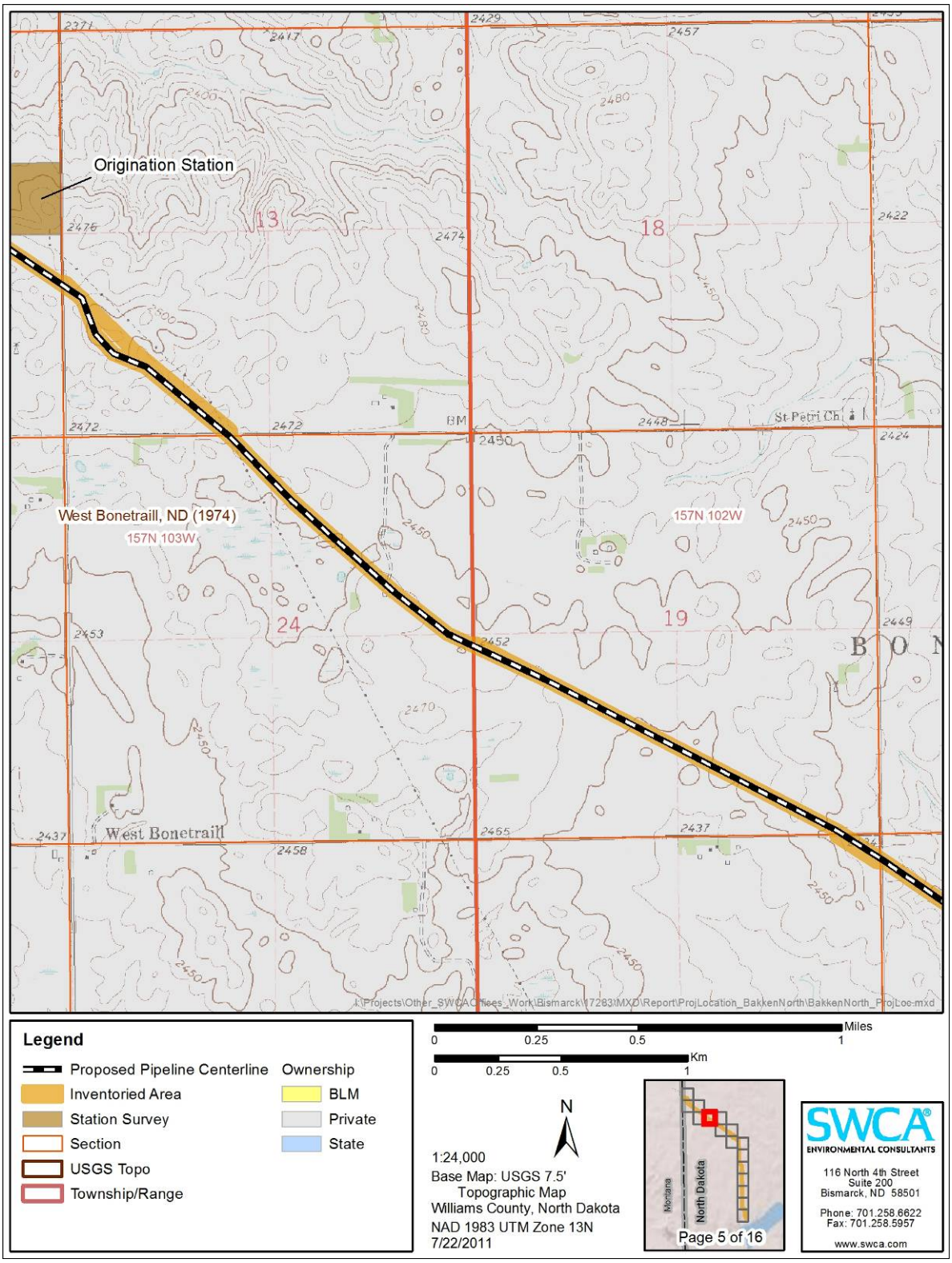


Figure 2e. Project area map 5 of 16.

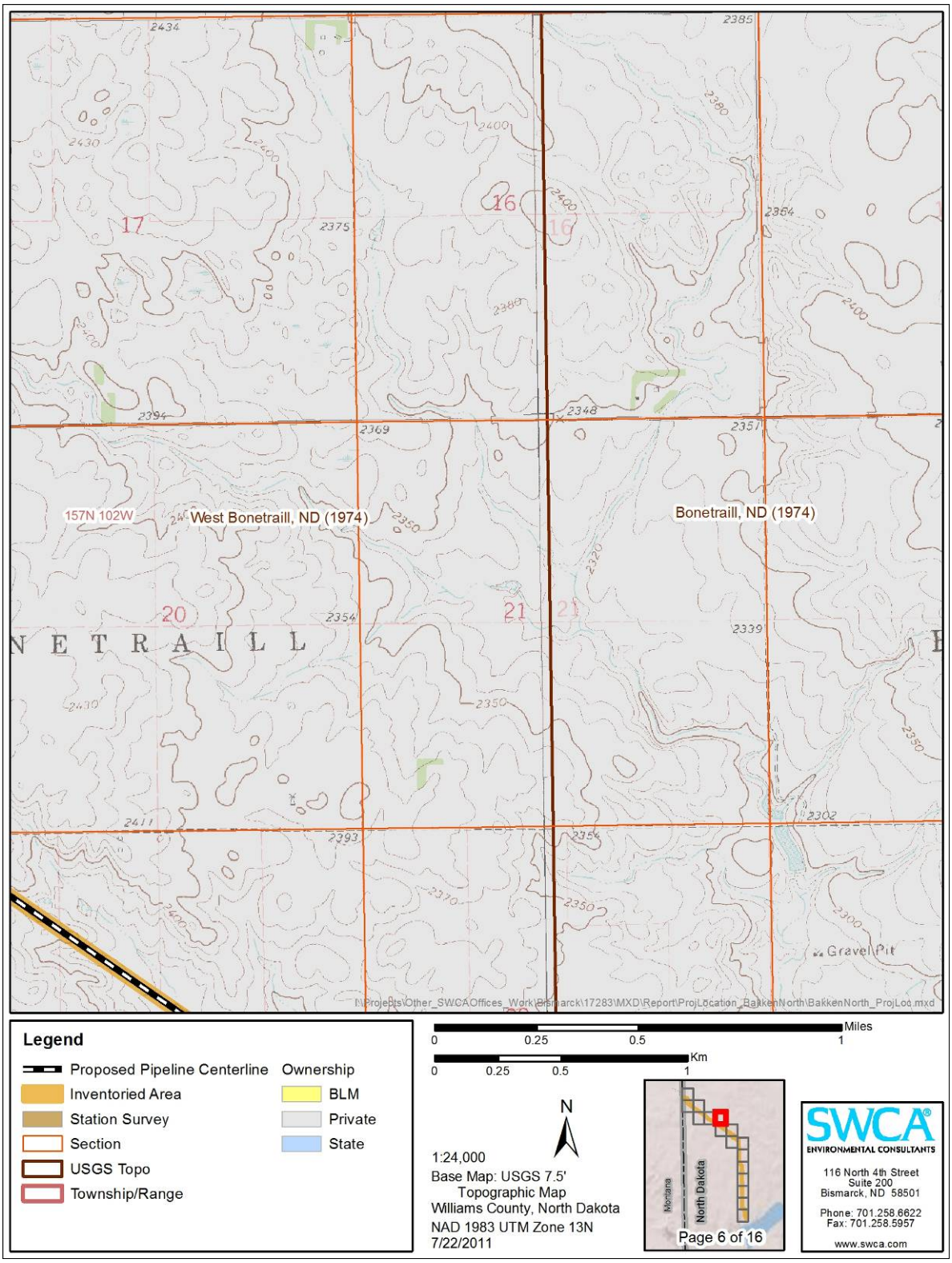


Figure 2f. Project area map 6 of 16.

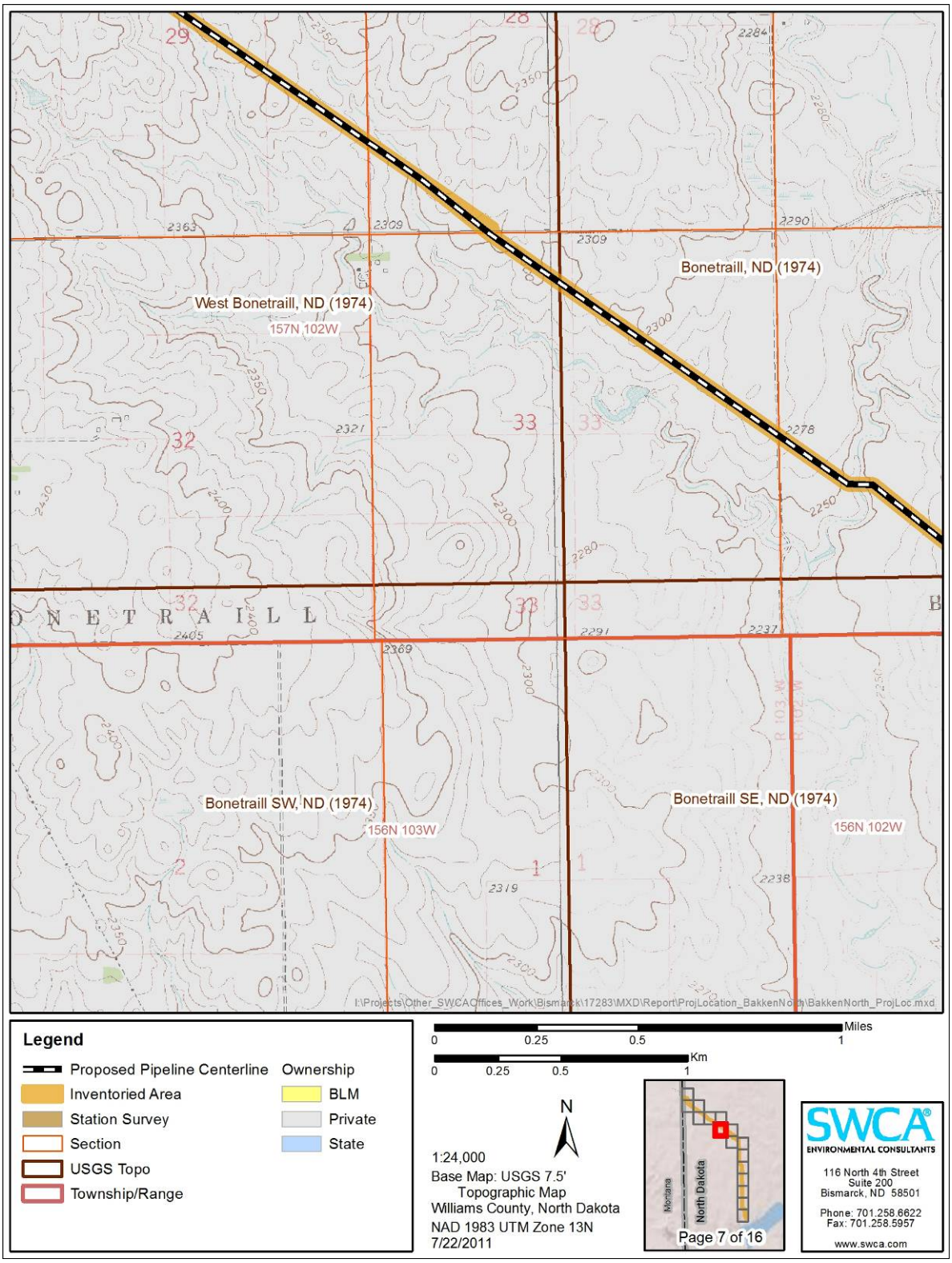


Figure 2g. Project area map 7 of 16.

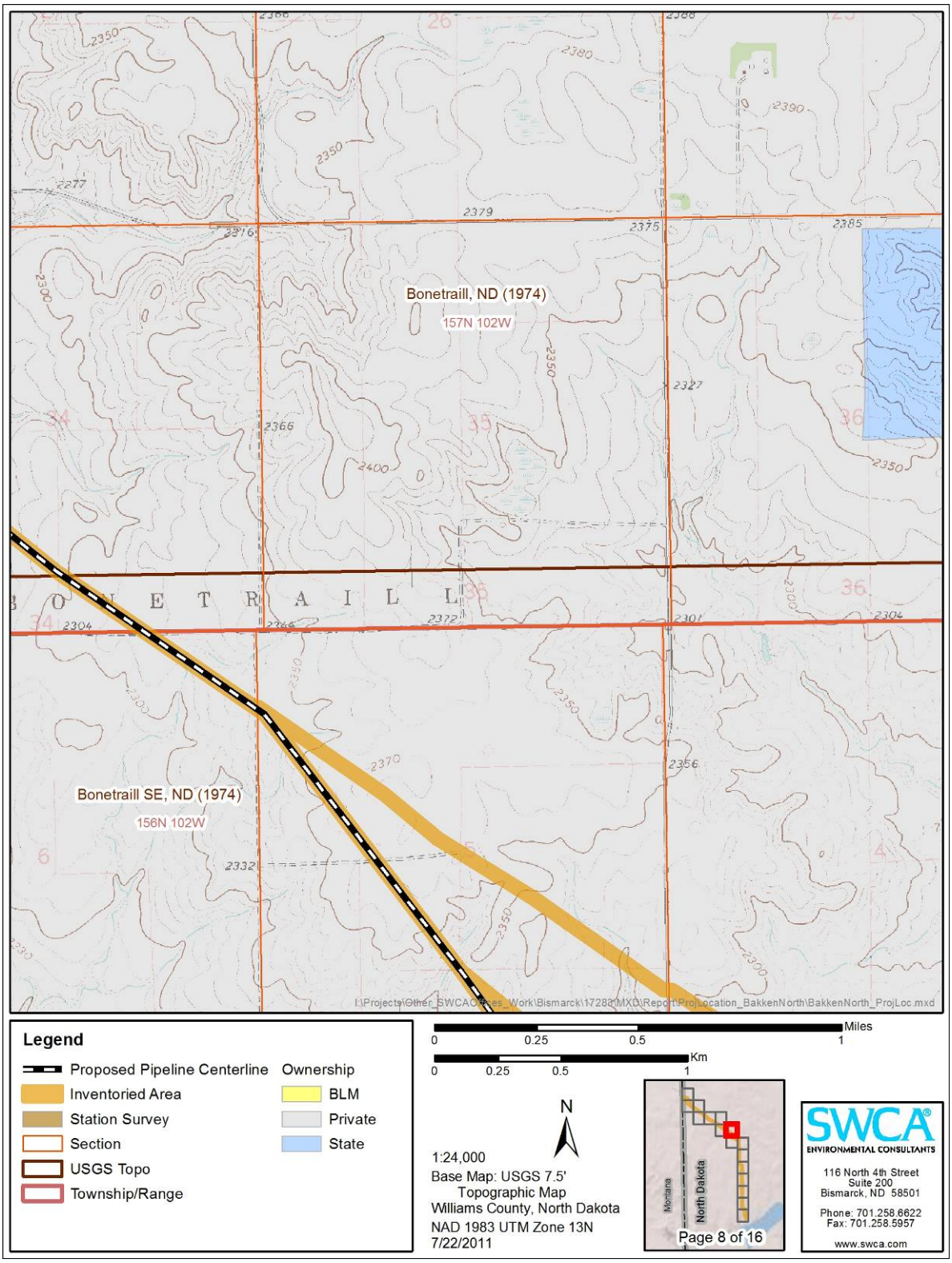
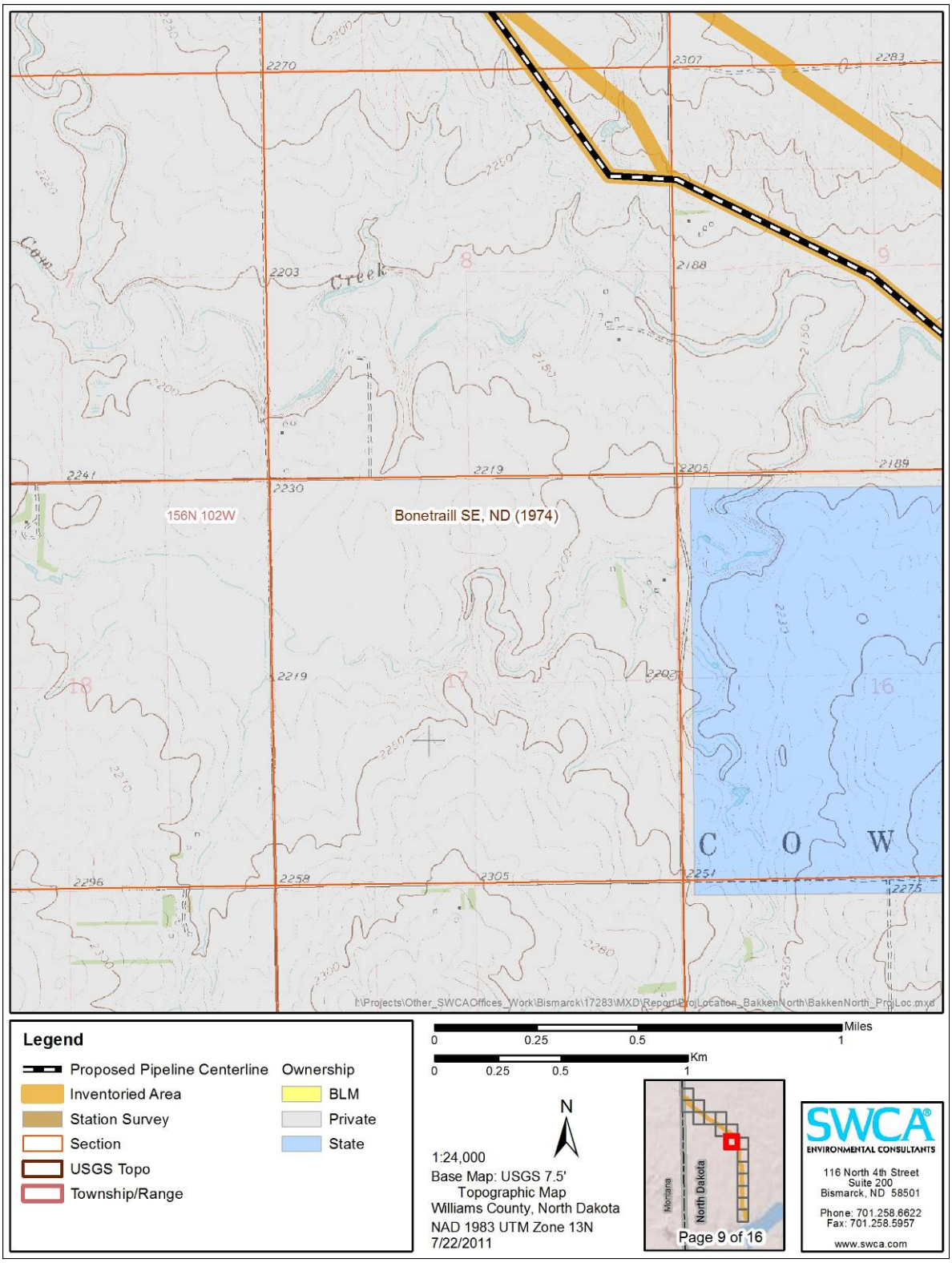


Figure 2h. Project area map 8 of 16.



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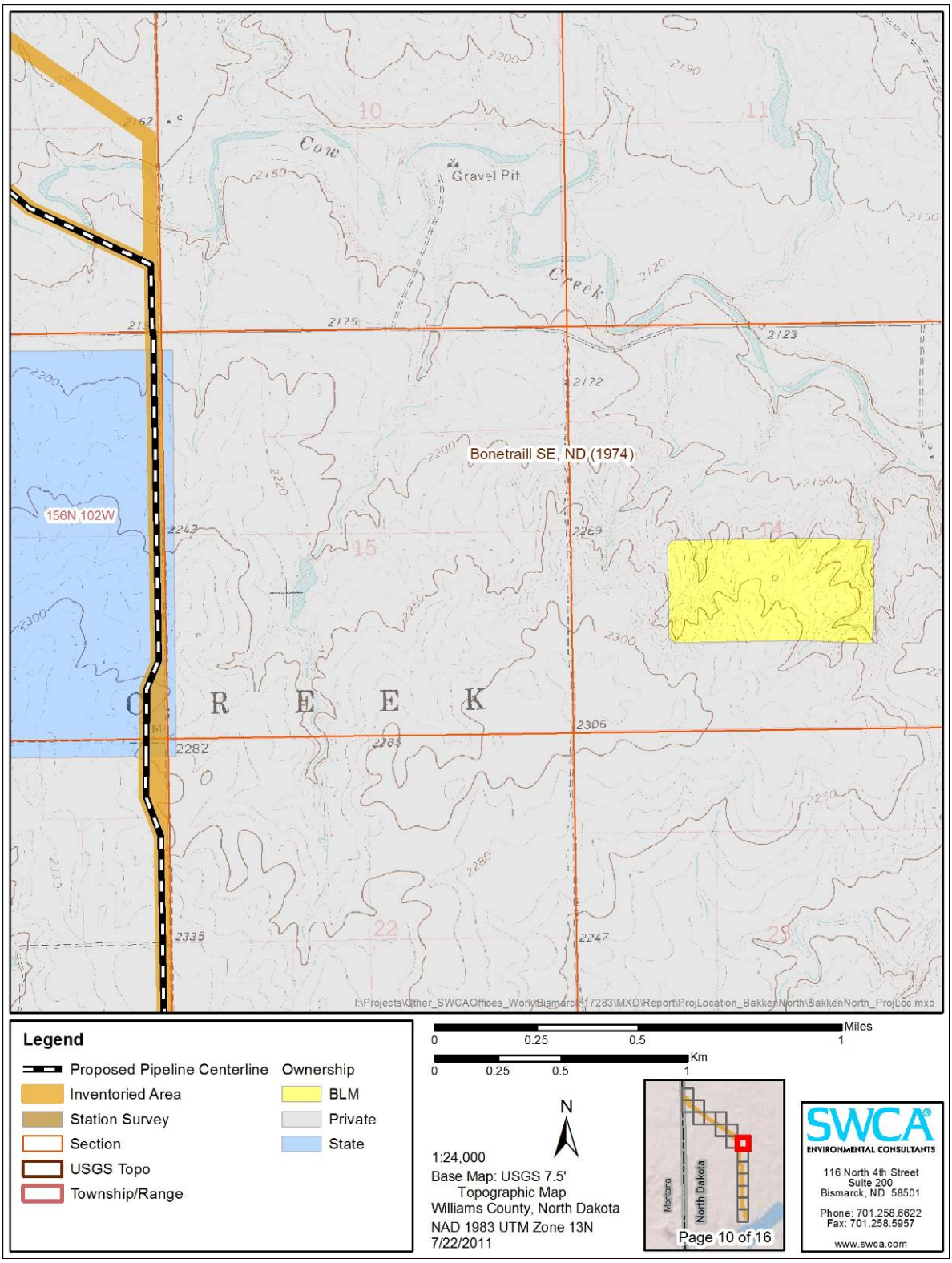

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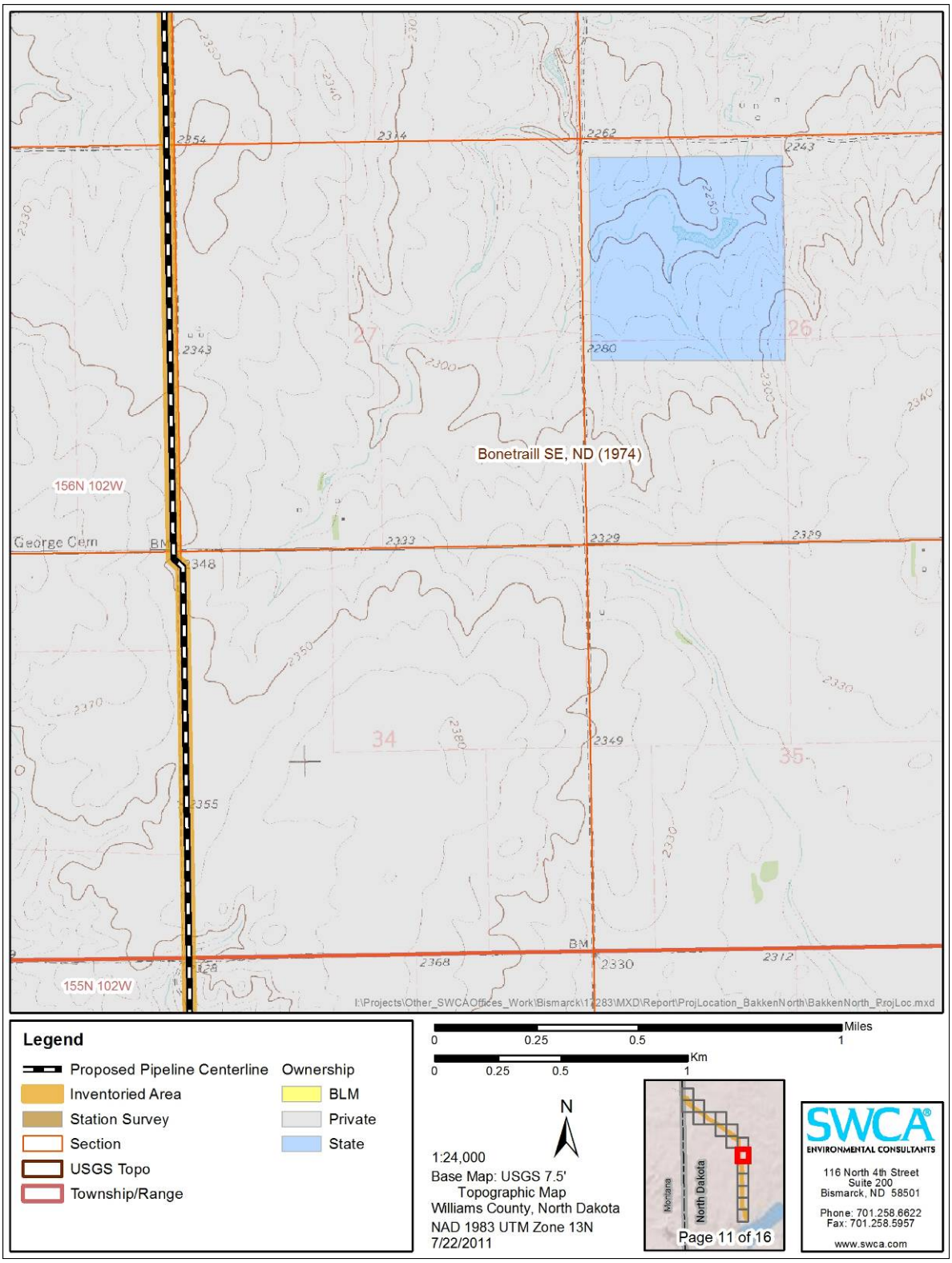

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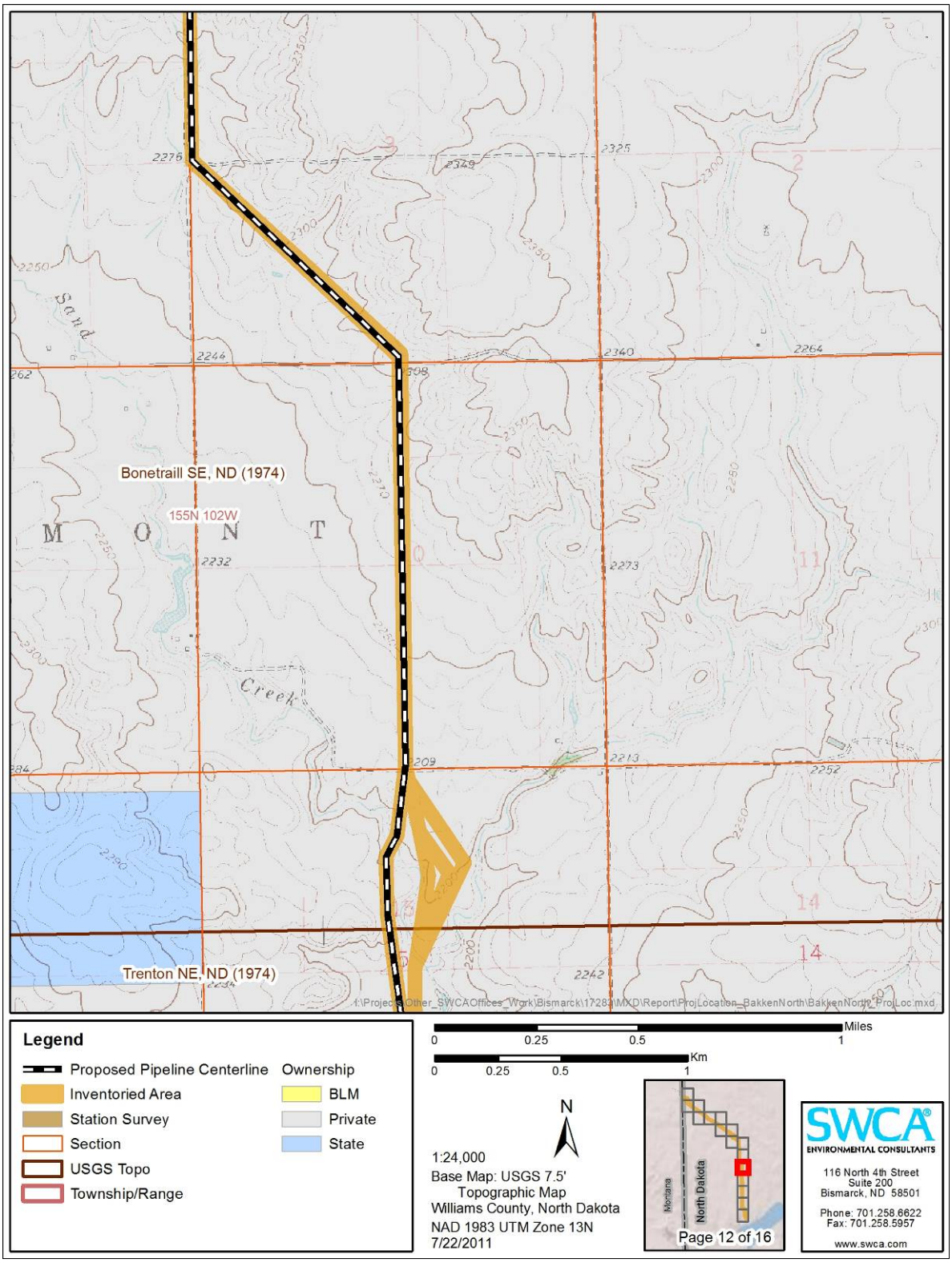

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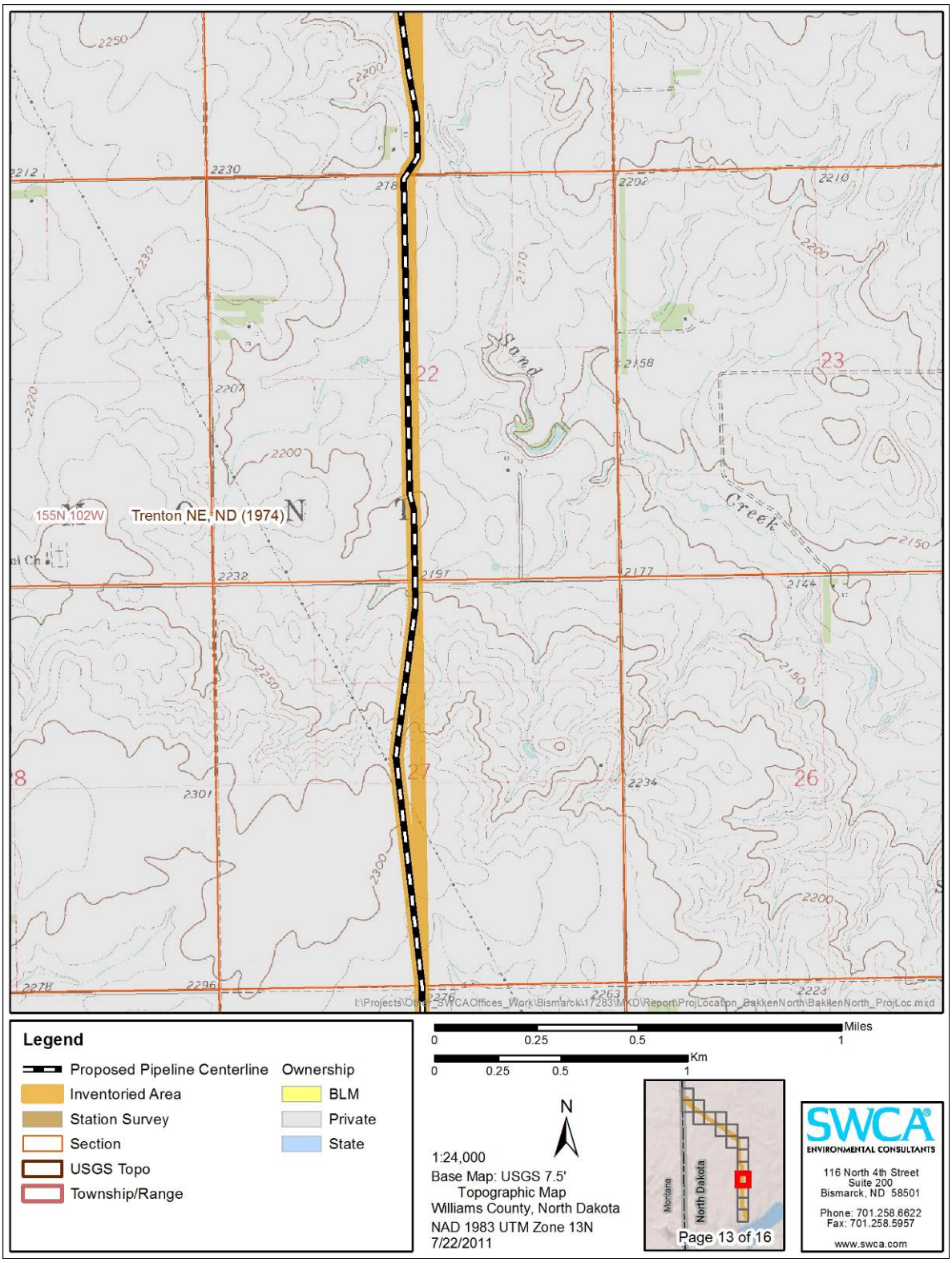

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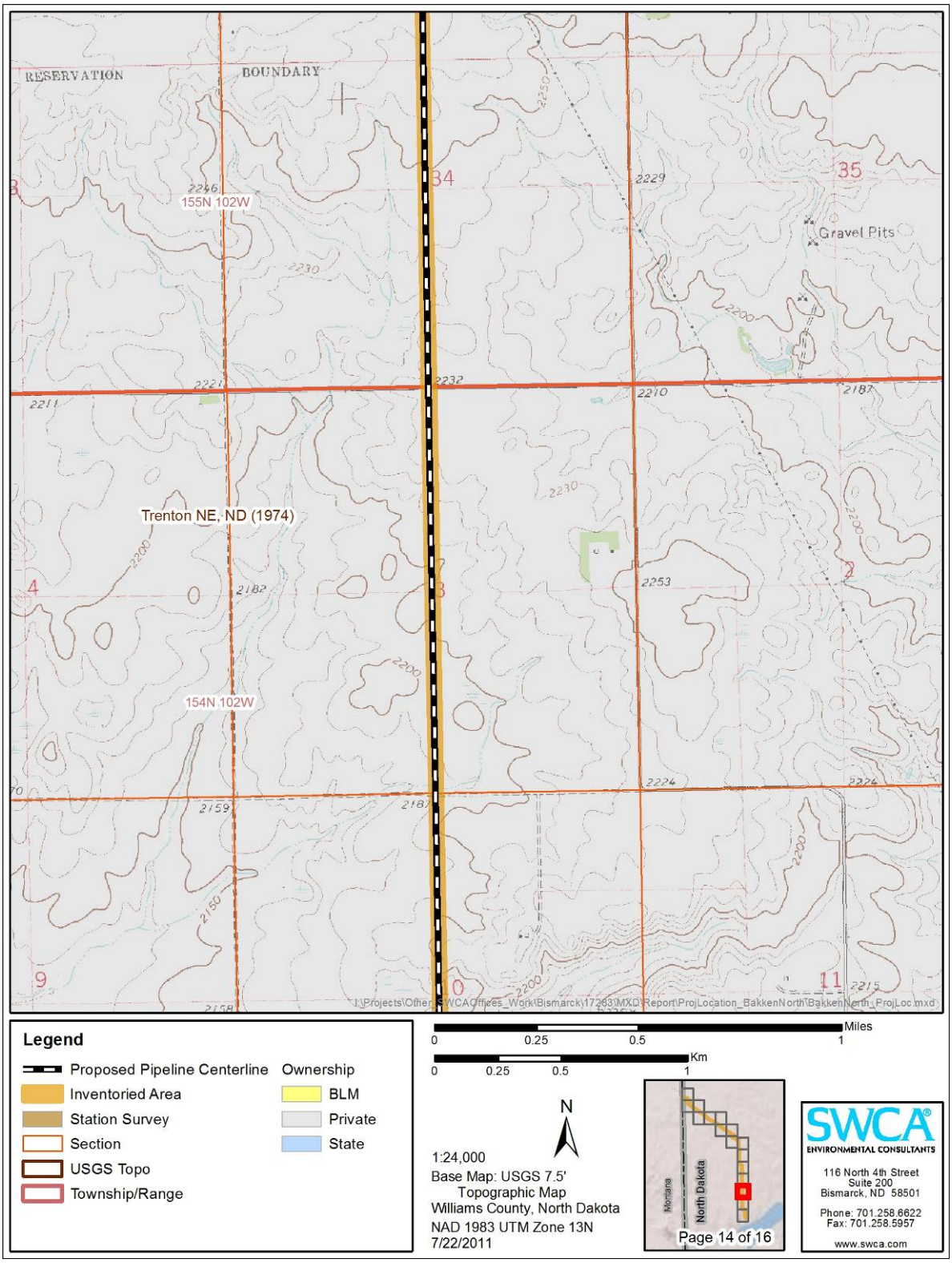

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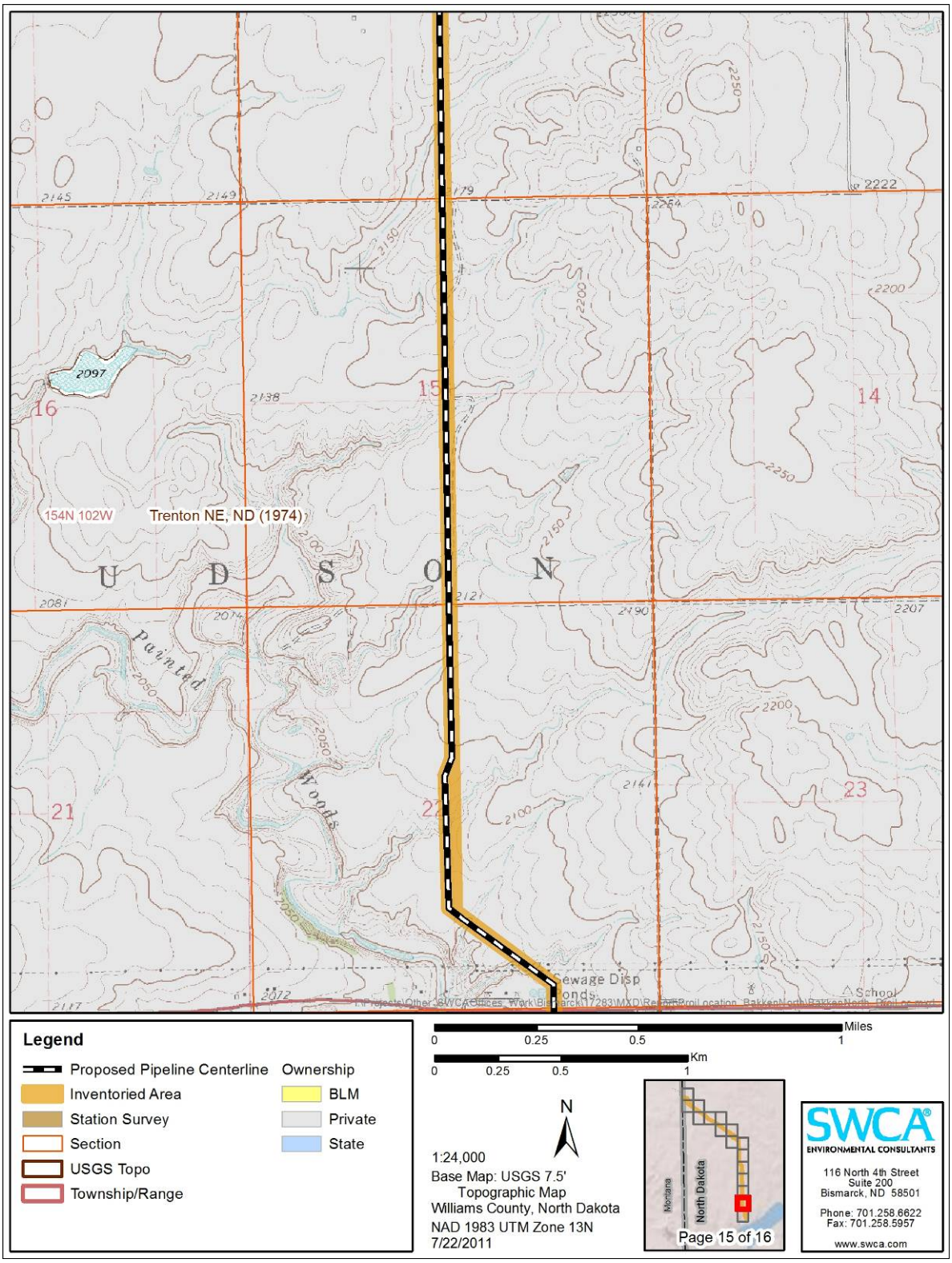

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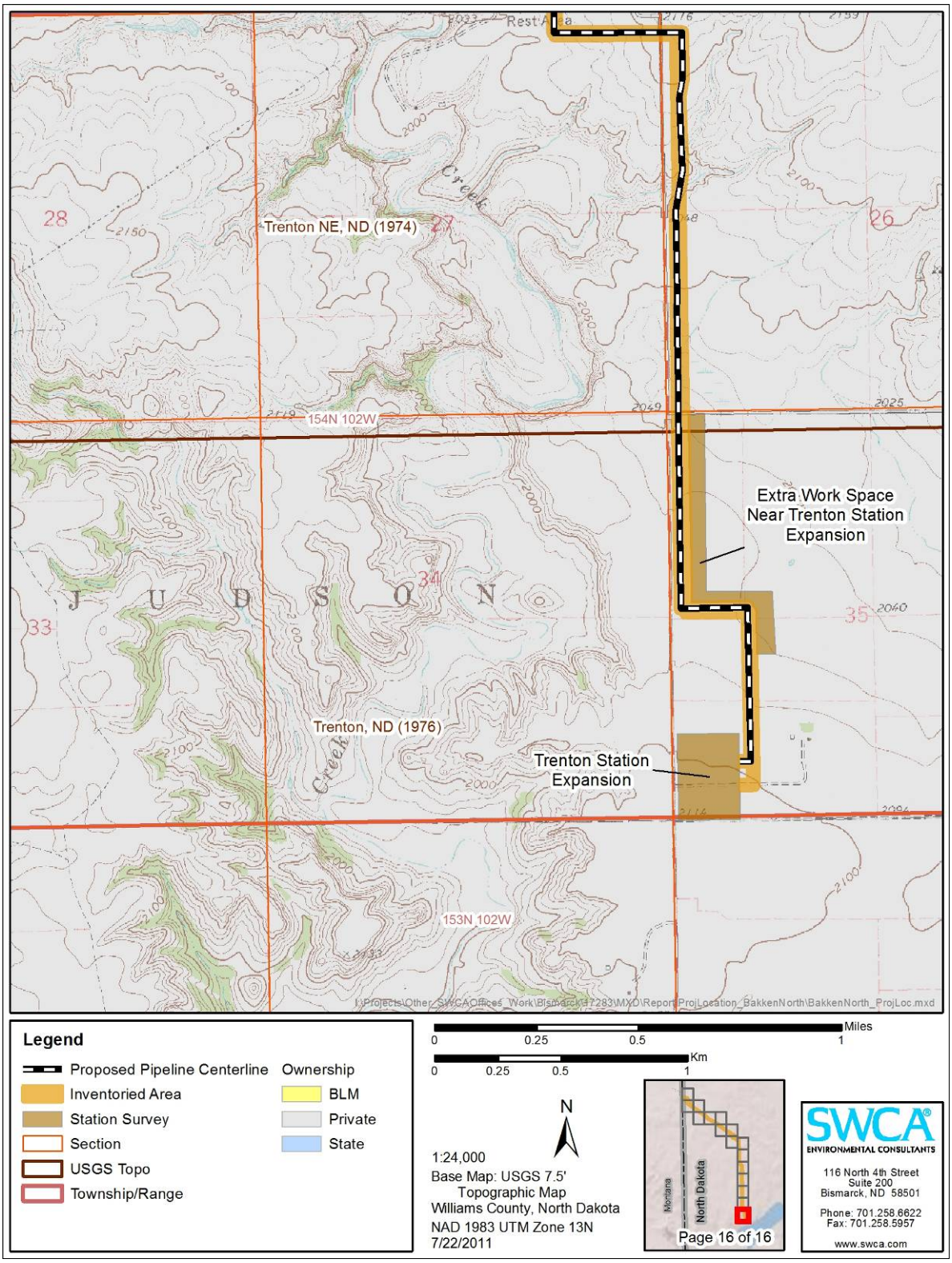

Figure 2p. Project area map 16 of 16.

PROJECT SETTING

TOPOGRAPHY

The project area is located in the Glaciated Dark Brown Prairie ecoregion of the Northwest Glaciated Plains in the Great Plains physiographic province in northwest North Dakota (Northern Prairie Wildlife Resource Center [NPWRC] 2006). The Glaciated Dark Brown Prairie ecoregion is a gently rolling plain that descends to the Missouri River, and is characterized by a drier, well-defined drainage pattern and fewer wetland depressions than the Missouri Coteau (NPWRC 2006). Drainages within the immediate project area include Cow Creek and unnamed tributary draws of Painted Woods Creek. The Missouri River is approximately 1.6 miles (2.6 kilometers [km]) directly to the south of the southernmost end of the project area. The elevation in the project area ranges from approximately 2,133 to 2,362 feet (650 to 720 meters [m]), with the highest elevations in the northern portions of the project area. The general topography of the proposed project area is fairly consistent—significant surface irregularity of gentle rolling plains with few wetlands (NPWRC 2006) (Figure 3). This ecoregion contains a high content of glacial till soils over tertiary sandstone and shale and a defined drainage pattern and is affected by Wisconsinan stage glaciation (NPWRC 2006).

Figure 3. Project area overview depicting general topography of pipeline corridor, facing west.

CLIMATE

The climate for northwest North Dakota is temperate. Based on climatic data collected from Williston Sloulin AP, North Dakota, between 1971 to 2000, January is the coldest month with a mean daily temperature of 8.0 degrees Fahrenheit (°F) while July is the warmest month with

a mean daily temperature of 69.3°F (National Climatic Data Center [NCDC] 2009). Temperature extremes on record range from -50°F at the coldest to 109°F at the warmest. On average, 146 days are frost-free (28°F or above) and the average date of the first fall frost is September 29 and the average date of the last spring frost is May 5 (North Dakota Agricultural Statistics Service 2005). Per annum, Williston Sloulin AP receives 14.16 inches of precipitation (NCDC 2009). The wettest month is June, with an average of 2.36 inches of precipitation received; February is the driest, with only 0.39 inch of precipitation received on average. Forty-three inches of snow are received annually, on average, with the highest accumulations (8.3 inches, on average) received in January (NCDC 2009). The highest monthly snow fall on record occurred in April at which time 30.9 inches of snow fell. Overall, northwest North Dakota, like much of the northwestern Great Plains, is characterized by a moderate to cool climate, with cold, dry winters and mild to warm, dry to moderately wet summers.

HYDROLOGY

Cow Creek bisects the project area, draining southeast into Little Muddy River, which is a first-order tributary of the Missouri River. The Little Muddy River is approximately 8.9 miles (14.4 km) east of the middle of the project area. Small unnamed tributary draws drain southwest into Painted Woods Creek throughout the southernmost 4.2 miles (6.8 km) of the project area. Painted Woods Creek is a first-order tributary of the Missouri River. The Missouri River is approximately 1.6 miles (2.6 km) directly south of the southernmost end of the project area.

GEOLOGY/GEOMORPHOLOGY

Beginning about 45 million years ago, in Eocene time, there was a 10-million-year period of stability and little deposition in the plains. Between 5 and 10 million years ago, regional uplift of the entire western part of the continent caused streams to cut down into and excavate the sediments that had been deposited throughout the last 60 million years. High canyons were left between streams in some places, and broad plateaus were formed and remain in other places. This alluvial deposition roughed out the landscape of the Great Plains and created the physicographic area of the Missouri Plateau (Trimble 1980).

About 2 million years ago, large ice sheets advanced southward from Canada into the United States. These continental glaciers formed, advanced, and retreated several times during the last 2 million years. They smoothed the contours and gave the land a more subdued aspect in areas. At the north and east margins of the Missouri Plateau they lapped onto a high area, leaving a mantle of glacial deposits covering the bedrock surface and forcing streams to adopt new courses along the margin of ice. A high area on the east side of the Williston Basin acted as a barrier to the advance of the ice. The later advances stopped north of the present course of the Missouri River, forming ridges of unsorted, glacially transported rock debris (till) called terminal moraines. Deposits left by stagnant ice formed a distinctive landscape characterized by rolling hills named the Coteau du Missouri (Trimble 1980).

In general, the geology of the project area is characterized by the Holocene- to Pleistocene-aged Glacial Sediment draped over pre-existing topography formation. The Glacial Sediment

formation consists of an unbedded, unsorted mixture of clay, silt, sand, and pebbles, and a few cobbles and boulders, and is at least 100 feet (30 m) thick (Clayton 1980). The primary rock type is compacted clay or mud. Within drainage crossings, soils transition to a Coleharbor Formation River Sediment (Clayton 1980). These sediments are primarily sandy and are distributed by collapsing river banks and alluvial transport.

SOILS

Approximately 32 soil series are present in the project area (Natural Resources Conservation Service [NRCS] 2011); however, the project area is dominated by approximately 62 percent Williams-Bowbells loam, and 20 percent Williams-Zahl loam soil types (Table 1). Williams-Bowbells loam occurs predominantly on 3 to 6 percent slopes within the project area, but is also present on 0 to 3 percent slopes. Williams-Zahl loam is generally present on 6 to 9 percent slopes. Williams-Bowbells loam is a fine-loamy till that occurs on rises. It is characterized by well-drained soils with the depth of the water table varying between 42 to 80+ inches (107 to 203 centimeters [cm]) below the surface. It contains approximately 20 percent calcium carbonate and transitions from a loam to a clay loam between 6 and 10 inches (15 to 25 cm) below the ground surface. Williams-Zahl loam is a fine-loamy till that occurs on knolls, shoulders, or summit landforms. It is characterized by being a well-drained soil with the depth of the water table at 80+ inches (203 cm) below the surface. It contains approximately 20 percent calcium carbonate and transitions from a loam to a clay loam at approximately 5 inches (16 cm) below the ground surface.

Table 1. Soils Present in the Project Area.

Soil Series	Parent Material	Drainage	Slope	Landform
Arnegard loam	Fine-loamy till	Well drained	0–2%	Swales
Arnegard-Shambo loams	Loamy alluvium derived from sedimentary rock	Well drained	2%–6%	Alluvial fans
Appam sandy loam	Sandy and gravelly glaciofluvial deposits	Somewhat excessively drained	0–6%	Rises
Banks loamy fine sand	Sandy alluvium	Excessively drained	0–2%	Floodplains on river valleys
Lehr loam	Fine-loamy alluvium	Well drained	0–2%	Flats
Parnell silty clay loam	Alluvium	Very poorly drained	0–1%	Depressions
Shambo loam	Fine-loamy alluvium derived from sedimentary rock	Well drained	0–2%	Alluvial flats, stream terraces
Tonka silt loam	Alluvium over till	Poorly drained	0–1%	Depressions
Amor-Zahl-Cabba loams	Loamy residuum weathered from mudstone	Well drained	9%–25%	Hills, ridges
Bowdle loam	Sandy and gravelly glaciofluvial deposits	Well drained	0–2%	Terraces

Soil Series	Parent Material	Drainage	Slope	Landform
Cabba-Amor-Zahl loams	Fine-loamy residuum weather from sedimentary rock	Well drained	25%–60%	Ridges
Daglum-Rhodes	Clayey alluvium	Moderately well drained	0–6%	Alluvial fans, alluvial flats
Divide loam	Glaciofluvial deposits	Somewhat poorly drained	0–2%	Outwash plains
Dooley fine sandy loam	Eolian over glacial till	Well drained	0–6%	Flats, rises
Farnuf loam	Alluvium	Well drained	0–2%, 2%–6%, 6%–9%	Alluvial flats, ridges, hills, divides, alluvial fans, and stream terraces
Harriet silt loam	Alluvium	Poorly drained	0–2%	Drainageways, alluvial flats
Hamerly-Tonka complex	Fine-loamy till	Somewhat poorly drained	0–3%	Flats
Korchea-Divide loasm	Fine-loamy till	Well drained	0–2%	Floodplains
Lehr loam	Glaciofluvial deposits	Somewhat excessively drained	2%–6%	Rises
Lehr-Williams	Glaciofluvial deposits	Somewhat excessively drained	0–6%	Rises
Lihen-Blanchard	Sandy alluvium derived from sedimentary rock	Excessively drained	6%–15%	Hills, ridges, knolls
Livona fine sandy loam	Eolian deposits over fine-loamy till	Well drained	0–6%	Rises
Livona-Zahl complex	Eolian deposits over fine-loamy till	Well drained	6%–9%	Rises
Niobell-Williams loams	Glacial Till	Moderately well to well drained	0–6%	Swales, rises
Tally fine sandy loams	Coarse-loamy glaciofluvial deposits	Well drained	0–6%,	Alluvial flats, terraces
Wabek sandy loam	Sandy and gravelly glaciofluvial deposits	Excessively drained	6%–25%	Ridges
Williams-Bowbells loams	Fine-loamy till	Well drained	0–6%	Rises
Williams-Zahl loams	Glacial till	Well drained	3%–9%	Ridges, knolls, till plains
Williams-Zahl-Parnell complex	Fine-loamy till	Well drained	0–9%	Knolls
Wildrose silty clay	Clayey glaciolacustrine deposits	Well drained	0–2%	Flats
Vallers loam saline	Fine-loamy till	Poorly drained	0–1%	Depressions, flats
Zahl-Williams loams	Glacial till	Well drained	9%–60%	Knolls, ridges

Source: NRCS 2011

FLORA AND FAUNA

The project area is situated within the Glaciated Dark Brown Prairie ecoregion of the Northwest Glaciated Plains, characterized by a drier, well-defined drainage pattern and fewer wetland depressions (Figure 4). Present native vegetation includes species such as western wheatgrass (*Pascopyrum smithii*), needle-and-thread grass (*Stipa comata*), green needlegrass (*Nassella viridula*), and blue grama (*Bouteloua gracilis*). Little bluestem (*Schizachyrium scoparium*) appears in areas with thin soil. Some sagebrush (*Artemisia tridentata*) is present in areas of drought (NPWRC 2006). The land has undergone intensive farming and ranching and is tilled mainly for durum or spring wheat.

Figure 4. Overview of the vegetation characteristic of the project area, facing west.

Approximately 160 wildlife species are resident or seasonal visitors to the Missouri River ecosystem, and hundreds of native fish species live in the mainstem and tributaries. Some of the animal species that would have been common and available for human use in the Missouri River Valley area—both prehistorically and historically—include fur bearing mammals such as beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), eastern cottontail (*Sylvilagus floridanus*), elk (*Cervus elaphus*), moose (*Alces alces*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), pronghorn (*Antilocapra americana*), and bison (*Bison bison*); and bird and waterfowl species such as mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), sharp-tailed grouse (*Pedioecetes phasianellus campestris*), golden eagle (*Aquila chrysaetos*), and bald eagle (*Haliaeetus leucocephalus*) (Seabloom et al. 1978).

Several wildlife species that are listed as threatened or endangered under the Endangered Species Act either currently reside or once resided in Williams County. These include the black-footed ferret (*Mustela nigripes*), gray wolf (*Canis lupus*), interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*), piping plover (*Charadrius melodus*), and whooping crane (*Grus americana*) (U.S. Fish and Wildlife Service 2010).

ENVIRONMENTAL CONSTRAINTS

Preservation of archaeological materials within or adjacent to the project area has been impacted largely by natural erosion including ongoing aeolian and colluvial processes. Secondary sources of impact to archaeological resources include livestock grazing; oil and gas development; and road construction and vehicle traffic. Steep slopes tend to restrict land use to cattle grazing or dryland farming. Some oil and gas development has occurred adjacent to the project area, and is presently increasing as demand for domestic energy sources has grown in recent years. In some places, these varied land uses have resulted in increased ground visibility and removal of overburden, allowing for the identification of numerous sites and an interpretation of high site density. In other cases, though, it has simply removed the archaeological materials and resulted in the identification of low site densities. In combination, these factors may have disrupted the contexts of a moderate percentage of cultural materials.

CULTURAL/HISTORIC OVERVIEW

PREHISTORIC CONTEXTS

The following discussion incorporates a variety of sources to develop a prehistoric overview for the work conducted for this project and includes information from the Garrison Study Unit (GSU) in which the project area is located (Gregg and Bleier 2008). As of 2007, 3,303 archaeological sites were identified in the GSU, the majority of which were identified on ridges (40.5 percent); hills, bluffs, and knolls (24.0 percent); and terraces (10.4 percent) (Gregg and Bleier 2008).

Paleoindian Tradition (ca. 11,500–7,900 years before present [B.P.])

Although speculation exists regarding the possibility of earlier habitation of the Great Plains, the Paleoindian tradition is the oldest of the region, and, in general, is associated with a hunting and gathering adaptation (Gregg 1985). The Paleoindian tradition is subdivided here into six main complexes: Clovis, Goshen, Folsom, Hell Gap/Agate Basin, Alberta/Cody, and Parallel Oblique Flaked. Fourteen Paleoindian archaeological resources have been identified in the GSU (Gregg and Bleier 2008). Paleoindian sites in the GSU include, but are not limited to, the Beacon Island site (32MN234A), the Beacon Island Agate Basin site (32MN234), the Moe site (32MN101), and 32ME946.

The Clovis complex (ca. 11,500–10,800 B.P.), defined by large, fluted lanceolate projectile points, is the earliest unequivocal complex in North America. Clovis artifacts have been found with megafauna, such as mammoth, in buried contexts in the Southwest and Great Plains (Grayson and Meltzer 2002); however, although megafauna were probably dietary

constituents, it is debated to what degree Early Paleoindians pursued large game (Cannon and Meltzer 2004; Grayson and Meltzer 2002). In the South Dakota Badlands, the Lange-Ferguson site yields the best evidence for proboscidean exploitation (Hannus 1990). Here, modified mammoth bones are directly associated with a flake and three projectile points were recovered from deposits similar to those containing mammoth, indicating that Clovis hunter-gatherers either killed the animals or scavenged their carcasses (Hannus 1990). Skeletal remains from a single mammoth were unearthed during building construction in 1988 near Powers Lake within the GSU. These remains were shallowly buried, were not radiocarbon dated, and were not appraised for the potential of associated cultural remains (Gregg and Bleier 2008). Few Clovis sites have been recorded in the region. Clovis artifacts were recovered from two sites, a single Clovis point base was recovered from 32ME946 (Floodman 1988) and Clovis points have been recovered from the Beacon Island Agate Basin site (Ahler 2003).

Goshen (ca. 10,900–10,100 B.P.) is a technological complex first identified at Hell Gap, Wyoming (Irwin 1967, 1971), but it is also found at Mill Iron, Montana, Carter-Kerr/McGee, Wyoming, and the Jim Pitts site, located in the South Dakota Black Hills (Sellet 2001). Goshen is poorly understood—the basally thinned, unfluted projectile points share affinities with both Clovis and Folsom, but are also similar to Southern Plains Plainview points. In stratified deposits, Goshen materials typically underlie Folsom (Frison et al. 1996). Plainview or Goshen points were recovered from the Moe site in the GSU (Gregg and Bleier 2008).

The Folsom complex (ca. 10,900–10,200 B.P.) is typified by distinctive fluted lanceolate projectile points. With most large grazers extinct by Folsom times and grasslands dominating the Great Plains, bison populations flourished, providing resources for Folsom hunters (Frison 1991). However, many high-elevation Folsom sites also demonstrate broad diets of diverse small prey (Hill 2007). Probable structures recorded at the Mountaineer and Barger Gulch sites in Colorado suggest long-term occupations in mountain settings (Stiger 2006; Surovell and Waguespack 2007). In North Dakota, there are numerous documented Folsom sites (Gregg 1985), including the Bobtail Wolf (32DU955A), Big Black (32DU955C), and Young-Man-Chief (32DU955D) sites (Root 2000; Shifrin 2000; William 2000). These sites are interpreted as camps, quarries, and lithic workshops where Knife River flint was procured and used for tool production. In the GSU, Folsom points were recovered from the Moe site (32MN101) and Beacon Island Agate Basin site (32MN234) (Gregg and Bleier 2008).

Both the Agate Basin (ca. 10,500–10,000 B.P.) and Hell Gap (ca. 10,000–9,500 B.P.) technocomplexes are typified by lanceolate projectile points with thick lenticular cross-sections (Frison 1991). Based on morphological similarities and stratigraphic evidence, Hell Gap is technologically descended from Agate Basin. Agate Basin and Hell Gap hunter-gatherers were probably specialized bison hunters. Sites like Agate Basin II (Hill 2001) and Casper (Todd et al. 1997) indicate more frequent extraction of marrow and within-bone nutrients, suggesting a greater focus on planning than previously evident. Some sites associated with this tradition have been recorded in North Dakota and South Dakota, but these mainly consist of isolated and surface finds (Gregg 1985). One of the most significant Paleoindian sites in the GSU is the Beacon Island Agate Basin site (Ahler 2003). Agate Basin points have also been recovered from the Moe site, and an isolated Knife River flint Agate Basin point was recorded in the same report as 32ME946 (Gregg and Bleier 2008).

Alberta (9800–9000 B.P.) is a poorly dated technology that probably descends from Hell Gap and is documented at the Hell Gap, Wyoming, and Hudson-Meng, Nebraska, sites (Agenbroad 1978; Frison 1991). Hudson-Meng is one of the largest documented bison kills and suggests that Alberta people focused on bison hunting (Agenbroad 1978); however, more recent work suggests that humans were not responsible for killing the bison and that they died of a natural event (Todd and Rapson 1999). The Cody Complex (9200–8800 B.P.), which includes stemmed/shouldered Eden and Scottsbluff projectile points and the distinctive Cody knife, apparently arose from Alberta (Frison 1991). These sites are widespread across the northwestern and central Great Plains, with components at the Wyoming Horner I, Finley, and Medicine Lodge Creek sites (Frison and Todd 1986; Frison and Walker 2007) and the Mammoth Meadows, Myers-Hindman, and MacHaffie sites in Montana (Davis 1993). Such sites indicate that Cody adaptations were diverse and utilized large fauna as well as small prey and floral resources (Frison et al. 1996; Galvan 2007). Alberta/Cody sites have been recorded in North Dakota and South Dakota. In fact, Hudson-Meng contains extensive Knife River flint, showing a strong connection to the Missouri River region. A single Scottsbluff point was recorded at the Moe site, and Metcalf et al. (1988) recorded a probable Alberta point as an isolated find near Scorio Creek.

The Parallel Oblique Flaked complex is a catch-all grouping of Paleoindian projectile point types (Gregg 1985) including Angostura, Milnesand, Browns Valley, Lusk, Allen, and Frederick; these range in age from around 9400 to 7900 B.P. All types are lanceolate with parallel oblique flaking. Bison kill-butcheries became rare on the northwestern and northern Great Plains after approximately 8000 B.P. (Frison 1998), perhaps due to severe ecological deterioration that could no longer support large bison populations. Complex excavated and surface sites have been recorded in the Dakotas, including sites on the Missouri River. In the GSU, six archaeological resources defined under the general "Plano" category have been identified (Gregg and Bleier 2008).

Plains Archaic Tradition (ca. 8000–1500 B.P.)

The transition from Paleoindian to Archaic is archaeologically visible as an abrupt shift to large notched projectile points (Frison 1991), perhaps indicating a shift to atlatl propelled darts from hand-thrown spears. This transition is also associated with warming/drying trends that prompted diverse subsistence adaptations among hunter-gatherers (Carlson 1994). Ground stone appears in the Archaic, suggesting a greater focus on processing floral resources. In conjunction with the appearance of pithouses and storage pits in the western intermontane basins, this suggests a shift in subsistence base, a reduction in overall residential mobility, and more predictable seasonal rounds (Frison 1991). In the GSU, 96 Archaic archaeological resources have been identified. Thirty-one of these are from unspecified associations (Gregg and Bleier 2008). Important Archaic-age sites in the GSU include the Mondrian Tree site (32MZ58) and the Moe site (32MN101).

The Logan Creek/Mummy Cave complex (5600–4000 B.P.) is the earliest example of large side-notched projectile points on the northern Great Plains. The blending of the Logan Creek and Mummy Cave for this complex is due to varied nomenclature used among archaeologists regionally for similar archaeological complexes (Gregg 1985). Settlement types associated with this complex include bison kills, transient camps, and some stone circle sites. Four

archaeological resources containing large side-notched projectile point varieties have been identified in the GSU (Gregg and Bleier 2008).

The Oxbow complex (5000–4000 B.P.), typified by side-notched, deeply concave-based projectile points, is concentrated in northern Montana, Alberta, and Saskatchewan (Hannus 1994:180) but is also quite common in North and South Dakota, with numerous sites along the Missouri River and its tributary system. Oxbow subsistence apparently centered on bison and sites include bison impoundments and jumps, encampments on stream terraces, stone circles, and processing areas (Hannus 1994; Reeves 1969). However, numerous birds and small mammals were probably exploited (Aaberg et al. 2006:174). Some northern Great Plains sites further yield evidence of complex cultural behavior including bundle burials with elaborate grave goods (Bryan 1991). Four Oxbow archaeological resources have been identified in the GSU (Gregg and Bleier 2008).

The McKean complex (ca. 4500–3400 B.P.) encompasses three distinct sub-phases—the McKean lanceolate, Duncan, and Hannah. The McKean complex is widespread across the Great Plains, and sites from this period can be found associated with bison kills, stone circles, lithic caching, and seasonal settlements (Frison 1991). Slab-lined pit hearths are common, as are ground stone artifacts suggesting a greater reliance on plant resources (Carlson 1994; Frison 1991). McKean complex sites often demonstrate evidence of lithic raw material exchange, including Swan River chert, Tongue River silicified sediment, and Knife River flint (Gregg 1985). In the GSU, 23 archaeological resources dating to the McKean complex have been identified (Gregg and Bleier 2008).

Pelican Lake (ca. 3000–2700 B.P.), typified by broad, thin corner-notched projectile points, is likely a descendant of McKean and is found across the northern and central Great Plains (Frison 1991). This wide spatial distribution may indicate significant population growth in response to the favorable moist conditions of the Sub-Atlantic episode (Reeves 1983). Numerous communal bison kills, such as Head-Smashed-In (Frison 1991), indicate communal bison hunting, but this does not suggest it was an exclusive feature of their subsistence. Rather, Pelican Lake populations probably relied on a broad-based economy across diverse ecozones (Hannus 1994). Thirty-four Pelican Lake archaeological resources have been identified in the GSU (Gregg and Bleier 2008).

Plains Woodland Tradition (ca. 2000–450 B.P.)

Temporally overlapping with the Northwestern Plains Late Archaic, the Plains Woodland tradition is characterized by increased sedentism, garden horticultural activity, expanding regional exchange networks with eastern Woodland populations (Adena and Hopewell), and the elaboration of ceremonial activities and mortuary practices, specifically mound burials (Griffin 1967). Significant technological advances such as bow and arrow and ceramics-use are also apparent (Gregg 1985); however, the fundamental subsistence strategies of the Plains Woodland did not drastically differ from their Archaic predecessors (Zimmerman 1985). It is assumed that this tradition saw the beginning of horticultural practices in the region. For the purposes of this study the complexes that are classed as belonging to the Plains Woodland include Besant, Sonota, Laurel, Avonlea, Old Woman's, and Blackduck. The Besant and Sonata components are well represented in the GSU (Gregg and Bleier 2008). Of the 184

Woodland sites in the GSU, 119 are unspecified, and 37 are Besant and/or Sonata age sites (Gregg and Bleier 2008).

The Besant complex (ca. 2000–1500 B.P.), typified by small to medium-sized side-notched triangular projectile points, represents the earliest presence of ceramics in North Dakota, probably resulting from eastern woodland influence (Walde 2006). Besant ceramics are more common in the eastern half of the Dakotas; the vessels show a basic conoidal shape and suggest lump modeling manufacture with some coarse cording (Wood and Johnson 1973). Besant sites show extensive use of Knife River flint (Reeves 1970). Site types include stone circle sites, habitations on stream and river terraces, and bison kills. Numerous communal kill sites, including the Ruby bison pound in Wyoming (Frison 1991), suggest that Besant people were sophisticated bison hunters. The Sonota complex (1850–1350 B.P.) appears to be a possible sub-complex of Besant, but differs in that burial mounds are common at Sonota sites (Reeves 1983; Wood 1967). These mounds include rectangular subfloor pits/tombs with dismembered bodies and, commonly, articulated bison remains (Johnson and Johnson 1998). The presence of associated exotic artifacts is often cited as evidence of Hopewell influence on Middle Plains Woodland populations (Johnson and Johnson 1998). In the GSU, 37 Besant/Sonota archaeological resources have been identified, including at 32DU2, the Twin Buttes site (32DU32/32ME617), and 32ME254.

Sites from the Laurel complex (2100–850 B.P.) are generally found in the eastern portions of North Dakota, northern Minnesota, and southern Canada. Laurel pottery and mound building are fairly distinct, but lithics associated with this complex tend to be various and lack a particular style (Gregg 1985).

Avonlea complex (ca. 1800–1000 B.P.) sites occur across the northern Great Plains and are contemporaneous with Besant. This complex includes a variety of site types, including stone circles, bison kills, and rock shelter habitations (Reeves 1970). Avonlea represents the first regional complex to produce arrow points exclusively, suggesting a transition to bow and arrow technology (Frison 1988). Avonlea point types are small and indistinctly side-notched. Saskatchewan Basin Complex: Early Variant pottery is found at Avonlea sites (Byrne 1973). Avonlea subsistence in the north relied heavily on communal bison procurement, but in their southern range bison hunting was supplemented by smaller game (e.g., pronghorn), fish, and seasonal plant exploitation (Smith and Walker 1988). Avonlea sites are relatively rare in the Dakotas (Vickers 1994). In North Dakota, the Evans site (32MN301) contained Avonlea projectile points and ceramics (Schneider and Kinney 1978). Only one Avonlea-aged archaeological resource was identified in the GSU.

Rare in North Dakota is the Old Woman's complex (A.D. 700–1300). This complex is contemporary with the Plains Village tradition, so it would seem likely that many associated sites would be granted the latter designation (Gregg 1985).

The Blackduck complex (A.D. 1150–450) derives from northern Minnesota and was concentrated in southern Manitoba. It is contemporary with both Avonlea and Old Woman's complexes, and with Extended and Terminal Middle Missouri traditions. Some evidence of possible Blackduck pottery has been found along the Missouri River, which suggests trade between the Missouri River villagers and the Blackduck people to the north (Joyes 1970).

Plains Village Tradition (ca. 1050–350 B.P.)

Lehmer (1971) defined the Plains Village tradition as possessing the following diagnostic traits: equal horticulture and hunting and gathering strategies; semi-permanent villages near the Missouri River floodplain; earthlodges; large storage and refuse pits; distinctive ceramics; abundant end scrapers and arrow points; bison scapula hoes; and a well-developed bone tool industry. The Plains Village Tradition is divided into the Middle Missouri tradition (A.D. 969–1500) and the Coalescent tradition (A.D. 1300–1650), discussed below. Only 15 Plains Village archaeological resources have been identified in the GSU (Gregg and Bleier 2008).

Three primary Middle Missouri variants are recognized: Initial Middle Missouri (A.D. 969–1297), Extended Middle Missouri (A.D. 1075–1443), and Terminal Middle Missouri (A.D. 1300–1500) (Eighmy and LaBelle 1996). These represent a continuation and intensification of Northern Plains Woodland lifeways and their appearance coincides with the onset of the Medieval Warm Period (Bryson et al. 1970) when a moisture increase likely permitted horticulture in areas previously characterized by tenuous farming conditions (Wood 2001).

The Initial Middle Missouri Variant (IMMV) is thought to have developed as an outgrowth of the Great Oasis (Tiffany 2007) or via the arrival of eastern populations already exploiting a Plains Village lifeway (Lehmer 1971). The IMMV was concentrated in the southern portions of the Middle Missouri region and characterized by highly fortified villages of large, semi-subterranean rectangular houses (Lehmer 1971; Winham and Calabrese 1998).

The Extended Middle Missouri Variant (EMMV) is concentrated in the northern portions of the Middle Missouri region (Lehmer 1971). EMMV groups resided in small villages of semi-subterranean rectangular houses; southern villages were more often fortified than those in the north (Wood 2001). It is unclear whether the EMMV replaced the IMMV or represents a contemporaneous offshoot of the IMMV. Origins aside, it is assumed that IMMV populations were eventually absorbed into EMMV populations. The final expression of this tradition was the Terminal Middle Missouri (Winham and Calabrese 1998:282). These sites were concentrated in a smaller geographic area along the Missouri River in southern North Dakota and characterized by fewer but much larger villages (Wood 2001). Sites again contained long, rectangular semi-subterranean houses but were highly fortified (Wood 2001). A continuation of the Middle Missouri Tradition is recognized historically as the Siuoan-speaking Mandan and Hidatsa (Wood 2001).

The Coalescent period is temporally divided into Initial (650–350 B.P.), Extended (500–300 B.P.), and Post-Contact Coalescent (300 B.P.–Historic period) (Johnson 1998; Lehmer 1971). The Coalescent Tradition is thought to represent a geographic movement of Central Plains Tradition village-dwelling populations to the Missouri River Valley in South Dakota (Blakeslee 1993). Central Plains Traditions might have migrated from Nebraska and Kansas in response to drought brought on by the Pacific climatic episode (Lehmer 1971). Similar to Middle Missouri Tradition groups, Coalescent populations practiced an economy split between mixed cultigen horticulture and bison hunting (Johnson 1998).

Initial Coalescent Variant sites are located on bluffs overlooking the Missouri River and its drainages in southern South Dakota. Populations lived in fortified villages consisting of

subrectangular to circular/oval earthlodges and often surrounded by complex fortifications (Johnson 1998). Violence amongst Coalescent groups is evidenced at the Crow Creek site (39BF11) where approximately 486 individuals were killed in the village fortification ditch around 625 B.P. (Willey and Emerson 1993). Crow Creek is interpreted as evidence of internecine warfare amongst Initial Coalescent groups over land competition (Zimmerman and Bradley 1993) or, conversely, as evidence of warfare between immigrant Coalescent groups and resident Middle Missouri Tradition peoples (Johnson 1998). The Extended Coalescent Variant apparently descended from the Initial Coalescent sometime in the fifteenth century A.D. Sites are concentrated along the Missouri River and its tributaries in central and northern South Dakota (Krause 2001). Extended Coalescent sites are far more abundant than during the Initial Coalsecent and are characterized by a dispersed, unfortified village structure of circular earthlodges (Johnson 1998; Krause 2001; Lehmer 1971). The Extended Coalescent Variant evolved into the Post-Contact Coalescent during the Protohistoric and Historic and the Coalescent Tradition is recognized as the Arikara (Krause 2001). The last post-contact village was Like-a-Fishhook Village, occupied by the Arikara, Mandan, and Hidatsa; it was abandoned in 1886 when groups relocated to the Fort Berthold Reservation (Smith 1972).

HISTORIC CONTEXTS

European Trade and Exploration (A.D. 1738–1858)

Perhaps the earliest attempts at exploring the Northern Great Plains came as a result of the ventures of Pierre Gaultier de Varennes Siure de la Verendrye (Dill 1983). His travels from New France into North Dakota led him as far as the Missouri River (somewhere near Bismarck), and led to subsequent expeditions by his sons, which went farther south into South Dakota (near Pierre) and west towards the Black Hills. While the elder la Verendrye met the Mandan, his sons encountered the Arikara and other tribes in South Dakota. Their reports heightened interest in the region and the possibilities that existed for trade with its inhabitants.

Following the la Verendryes, a modest fur trade developed in the region, but until the expedition of Captains Meriwether Lewis and William Clark returned successfully from their voyage up the Missouri, the region was considered a wild unknown (Schulenberg 1957).

In 1807, Manuel Lisa established a short-lived post at the mouth of the Bighorn, and by 1809 his St. Louis Missouri Fur Company was building posts among most of the tribes all along the Missouri River. Other notable companies, such as the Northwest Company, Hudson Bay Company, the Columbia Fur Company, and the American Fur Company, soon followed suit (Schulenberg 1957). The life of these posts tended to be short, but they did much to influence the tribes who frequented the Missouri River in both North and South Dakota. Fort Union—at the confluence of the Yellowstone and Missouri rivers—was the last of the great posts, and its waning during the late 1850s saw the fur trade in the Dakotas in its last throes.

Post-Contact Tribal Overview (A.D. 1780–1900)

In addition to the tribes that arose from the Middle Missouri and Coalescent traditions (Mandan, Hidatsa, and Arikara), the northern Great Plains and the Missouri River were also used by countless other tribes since before European contact.

The Assiniboine were known to frequent the northern Missouri River (mainly near the confluence with the Yellowstone), and were active in the fur trade throughout the eighteenth and nineteenth centuries. As well, the Cheyenne were pushed westward by the Chippewa during the middle of the eighteenth century and took up at least a temporary settlement period on the Missouri River. At least one earthlodge village has been attributed to the Cheyenne in eastern North Dakota, and some Cheyenne villages on the Missouri River were located between the Mandan to the north, and the Arikara to the south, where they built earthlodges and pursued horticulture and buffalo hunting (Schlesier 1968).

The Plains Cree and Plains Chippewa also frequented the northern Missouri—mainly near the confluence with the Yellowstone, but also near Fort Clark. Both tribes traded actively with the Mandan and Hidatsa. The Crow, although more westerly in their territory, were related to the Hidatsa and would often trade and visit with the Missouri River tribes (Schulenberg 1957).

Based on linguistic evidence, the Sioux (or Dakota) originated from the southwest Great Lakes region (DeMallie 2001a). The timing of the migration is unclear, but ceramic evidence suggests that the Dakota were living on the plains several centuries before the arrival of Europeans (Hanson 1998). Based on linguistics, it is thought that the Assiniboine split from the Sioux sometime before the mid-seventeenth century (Hanson 1998). The Teton Dakota are divided into seven sub-tribes, including the Oglala, Brule, Sans Arc, Hunkpapa, Blackfeet, Miniconjou, and Two Kettles (Hanson 1998). According to DeMallie (2001a), by the mid-eighteenth century, the Teton Dakota hunted bison in the area east of the Missouri River, their movements limited in part by the Arikara stronghold along the Missouri River. However, a series of smallpox epidemics from 1771 to 1781 devastated the Arikira villages (Johnson 1998) and permitted the Teton Dakota to move west of the Missouri River. Like the Teton Dakota, the Yankton and Yanktonai Dakota occupied the prairies east of the Missouri River and north into Minnesota in the mid-seventeenth century (DeMallie 2001a). By the mid-nineteenth century, the Yankton and Yanktonai occupied the prairies east of the Missouri River from the mouth of the Big Sioux River in the south to the Red River in the north (DeMallie 2001b).

The Reservation Period began in the 1860s and continues into today. This time period contains numerous accounts of hurt feelings and unjust actions—including government actions to stop tribal ceremonialism, forced boarding school education of Indian children, and attempts at termination and relocation to solve the "Indian Problem" in the Dakotas. Regardless of this checkered history, the tribes who lived on, and used, the Missouri River have persisted to the present as strong and vital people with a living culture which has survived for present and future generations.

In the GSU, 5 Hidatsa, 1 Arikara, 1 Chippewa, 1 Mandan, and 21 unspecified historic Native American archaeological resources have been identified (Gregg and Bleier 2008).

Homesteading in the Dakotas (A.D. 1860–1930)

The first homestead in North Dakota was filed in 1868, which was the only homestead filed until 1871. The true rush for homesteads did not take place until 1885. This rush was spurred by the extension of the Northern Pacific Railroad across the Red River from Minnesota

(Works Progress Administration [WPA] 1950). Western North Dakota—including Williams County—did not see much settlement prior to the 1890s, and the major settlement of this region did not start in any great numbers until between 1900 and 1910. In general, those homesteaders who selected lands along the Missouri River were able to do some crop farming, but the majority of homesteads were arranged as ranch operations for sheep or cattle.

In addition to the homesteading, which brought an increasing number of people to western North Dakota, the discovery of large deposits of lignite coal further boosted interest in the development of Williams County and the surrounding area (WPA 1950). Although slow at first, the mining industry started to flourish during the 1930s; to this day it remains a major focus of activity which drives the economy of both the county and the state. In total, eight historic Euro-American archaeological resources have been identified in the GSU (Gregg and Bleier 2008).

BACKGROUND RESEARCH

As part of the initial phase of this investigation, SWCA conducted a background search of archaeological and historical literature and records for the project area and surrounding 1-mile area. Researchers searched relevant records holdings at the State Historical Society of North Dakota (SHSND) and other available sources for information regarding previously recorded historic and prehistoric sites located within the project area. Background research was conducted on January 26, March 7 and 8, and April 12, 2011.

Results of the background search identified 59 previously recorded cultural resources within the project area and surrounding 1-mile study area (Table 2). Of the 59 resources, 45 are considered prehistoric. Thirty-one of the prehistoric resources have a stone circle or cairn feature, and five of those sites have an associated cultural material scatter. Four of the prehistoric resources are cultural material scatters. Six of the prehistoric resources are site leads and have not been fully recorded. Four of the resources are isolated prehistoric flaked lithic or ground stone artifacts. The 13 historic resources consist of one homestead, two depressions, two churches, two site leads to quarries/mines, one school house, one rock pile, one building, one site lead to a building, one bridge, and one dog grave. One site is a multicomponent stone circle, cairn, homestead, depression, and cultural material scatter. Regarding eligibility for listing on the National Register of Historic Places (NRHP), only one of the previously recorded sites (32WI269) has been recommended as potentially eligible, 47 have been left unevaluated, and the remaining 11 are recommended not eligible. Three previously recorded sites (32WI175, 32WI176, and 32WIX148) are within the project area, and were revisited during the current inventory (discussed below).

Twenty-three previous studies, or other research projects, have been performed within the 1-mile study area, all of which are cultural resource inventories. A bibliographic listing of previous archaeological and historic studies for project lands and the 1-mile study area in Williams County, North Dakota, is provided in Appendix A.

Table 2. Previously Recorded Resources within 1-mile Study Area.

Site Number	Site Name	Legal Location (S/T/R)	Site Type	Cultural Affiliation	NRHP Recommendation
32WI85	Photo Folly Cairn	SW¼ SE¼ NE¼ Section 10, T154N, R102W	Cairn	Unknown Prehistoric	Not Eligible
32WI87	None	NE¼ NE¼ NE¼ Section 15, T155N, R102W	School House	Unknown Historic	Unevaluated
32WI88	Cowboy Doll Site	NE¼ NE¼ SE¼ Section 15, T155N, R102W	Homestead and Cultural Material Scatter	Historic 1912–1935, Unknown Protohistoric	Not Eligible
32WI89	None	NE¼ SE¼ SE¼ Section 15, T155N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI175	None	SW¼ NW¼ SE¼, NW¼ SW¼ SE¼ Section 15, T155N, R102W	Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI176	None	NW¼ NW¼ SE¼ Section 15, T155N, R102W	Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI177	None	SW¼ NW¼ SE¼ Section 15, T155N, R102W	Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI185	None	NW¼ NE¼ SE¼ Section 31, T158N, R103W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI186	None	SE¼ SE¼ SE¼ Section 31, T158N, R103W	Stone Circle and Possible Cairn	Unknown Prehistoric	Unevaluated
32WI187	None	SW¼ SE¼ SE¼, SE¼ SE¼ SE¼ Section 31, T158N, R103W; NE¼ NE¼ NE¼ Section 6, T157N, R103W	Stone Circle and Possible Cairn	Unknown Prehistoric	Unevaluated
32WI189	None	SW¼ SE¼ SE¼ Section 31, T158N, R103W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI192	None	SW¼ NE¼ SE¼ Section 7, T157N, R103W	Cultural Material Scatter	Unknown Prehistoric	Unevaluated

Site Number	Site Name	Legal Location (S/T/R)	Site Type	Cultural Affiliation	NRHP Recommendation
32WI193	None	NE¼ NW¼ SE¼ Section 7, T157N, R103W	Stone Circle and Cairn	Unknown Prehistoric	Unevaluated
32WI194	None	NW¼ NE¼ SE¼ Section 7, T157N, R103W	Cairn	Unknown Prehistoric	Unevaluated
32WI196	None	SW¼ NE¼ NE¼, NW¼ SE¼ NE¼ Section 10, T155N, R102W	Stone Circle and Cairn	Unknown Prehistoric	Unevaluated
32WI197	None	NE¼ NW¼ NE¼, NW¼ NE¼ NE¼ Section 10, T155N, R102W	Stone Circle and Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI207	None	NE¼ SE¼ SW¼, SE¼ NE¼ SW¼, SW¼ NW¼ SE¼, NW¼ SW¼ SE¼ Section 11, T155N, R102W	Stone Circle, Cairn, and Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI208	None	NE¼ SW¼ SW¼ Section 11, T155N, R102W	Stone Circle, Cairn, Homestead, Depression, Cultural Material Scatter	Unknown Prehistoric and Unknown Historic	Unevaluated
32WI258	None	SW¼ NW¼ SE¼ Section 31, T158N, R103W	Depression	Unknown Historic	Not Eligible
32WI259	None	NW¼ NE¼ NE¼ Section 31, T158N, R103W	Depression, Foundation and Cultural Material Scatter	Unknown Historic	Not Eligible
32WI264	None	NE¼ SW¼ SE¼, N½ SE¼ SE¼ Section 31, T158N, R103W	Stone Circle and Possible Cairn	Unknown Prehistoric	Unevaluated
32WI269	None	N½ NE¼ SW¼, SE¼ NE¼ SW¼ Section 11, T155N, R102W	Stone Circle and Cultural Material Scatter	Unknown Prehistoric	Eligible

Site Number	Site Name	Legal Location (S/T/R)	Site Type	Cultural Affiliation	NRHP Recommendation
32WI270	None	W½ NW¼ SW¼ Section 11, T155N, R102W	Stone Circle and Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI271	None	S½ SW¼ SE¼, SW¼ SE¼ SE¼ Section 31, T158N, R103W; NE¼ NW¼ NE¼, NW¼ NE¼ NE¼ Section 6, T157N, R103W	Stone Circle and Cairn	Unknown Prehistoric	Unevaluated
32WI308	None	SW¼ SW¼, E½ NW¼ SW¼, NW¼ NE¼ SW¼, SE¼ SW¼ NW¼, SW¼ SE¼ NW¼ Section 14, T156N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI309	None	S½ SE¼ NW¼, SW¼ SW¼ NE¼, NE¼ NW¼, N½ SE¼ SW¼, SW¼ SE¼ SW¼, E½ SW¼ SW¼ Section 14, T156N, R102W	Stone Circle, Cairn, and Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WI310	None	SW¼ SE¼ SE¼ Section 3, T153N, R102W; NW¼ NE¼ NE¼ Section 10, T153N, R102W	Stone Circle and Cairn	Unknown Prehistoric	Not Eligible
32WI322	Cow Creek	SE¼ NE¼ SE¼ Section 8, T156N, R102W; SW¼ NW¼ SW¼ Section 9, T156N, R102W	Historic Bridge	Historic 1917	Not Eligible
32WI878	Scandia Valley Church & Cemetery	NW¼ SW¼ SW¼ Section 25, T157N, R103W	Historic Church	Historic 1926	Unevaluated
32WI883	Scandia Evangelist Lutheran Church & Cemetery	SE¼ SE¼ SE¼ Section 29, T158N, R103W	Historic Church	Historic 1919	Unevaluated
32WI019	None	SE¼ NE¼ SW¼ Section 24, T159N, R95W	Stone Circle	Unknown Prehistoric	Unevaluated

Site Number	Site Name	Legal Location (S/T/R)	Site Type	Cultural Affiliation	NRHP Recommendation
32WI020	None	NE¼ SE¼ NW¼ Section 36, T159N, R95W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI354	None	SE¼ SE¼ NW¼ Section 36, T158N, R95W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI355	None	NE¼ NE¼ SW¼ Section 24, T159N, R95W	Rock Pile and Cultural Material Scatter	Unknown Historic	Unevaluated
32WI893	Lindahl Lutheran Church	SW¼ NW¼ SW¼ Section 11, T158N, R95W	Historic Building	Historic 1915–1930	Not Eligible
32WI944	None	NE¼ SW¼ SE¼ Section 3, T153N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI953	None	NE¼ NE¼ SE¼ Section 34, T154N, R102W	Stone Circle and Cairn	Unknown Prehistoric	Unevaluated
32WI954	None	NE¼ NE¼ SE¼, SE¼ SE¼ NE¼ Section 34, T154N, R102W	Stone Circle and Cairn	Unknown Prehistoric	Unevaluated
32WI955	None	SE¼ SE¼ NE¼ Section 27, T154N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI956	None	SE¼ SE¼ NE¼ Section 27, T154N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI957	None	NE¼ SE¼ SE¼, Section 15, T155N, R102W; NW¼ SW¼ SW¼ Section 14, T155N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI966	None	SE¼ NE¼ NE¼ Section 10, T155N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WI967	None	NE¼ NE¼ SE¼ Section 10, T155N, R102W	Cairn	Unknown Prehistoric	Unevaluated
32WI968	None	NE¼ SE¼ NE¼ Section 10, T155N, R102W	Cairn	Unknown Prehistoric	Unevaluated

Site Number	Site Name	Legal Location (S/T/R)	Site Type	Cultural Affiliation	NRHP Recommendation
32WI1078	None	NW¼ NW¼ SW¼ Section 21, T154N, R102W	Dog Grave	Unknown Historic	Unevaluated
32WI1079	None	NW¼ NW¼ SW¼ Section 21, T154N, R102W	Stone Circle	Unknown Prehistoric	Unevaluated
32WIX2	None	E½ NE¼ NW¼, W½ NW¼ NE¼ Section 27, T154N, R102W	Lead to Cairn and Stone Circle	Unknown Prehistoric	Unevaluated
32WIX103	None	SW¼ NE¼ Section 16, T154N, R102W	Lead to Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WIX106	None	SE¼ NW¼ Section 34, T154N, R102W	Lead to Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WIX148	None	SW¼ SE¼ Section 15, T155N, R102W	Lead to Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WIX173	None	SW¼ SW¼ Section 9, T156N, R102W	Lead to Cultural Material Scatter	Unknown Prehistoric	Unevaluated
32WIX174	Cow Creek Coal Mine, Big Four Mine, Skogberg, Fedge, Fedje	Section 14, T156N, R102W	Lead to Historic Quarry/ Mine	Historic 1913–1930	Unevaluated
32WIX214	Manger Post Office	SW¼ SE¼ Section 30, T157N, R102W	Lead to Historic Building	Historic Unknown	Unevaluated
32WIX365	None	NW¼ SW¼ SW¼ Section 11, T155N, R102W	Isolated Modified/ Tested Cobble	Unknown Prehistoric	Not Eligible
32WIX366	None	SW¼ NE¼ SE¼ Section 15, T155N, R102W	Lead to Cairn	Unknown Prehistoric	Unevaluated
32WIX367	None	SW¼ SW¼ SE¼ Section 15, T155N, R102W	Isolated Projectile Point	Unknown Prehistoric	Not Eligible
32WIX483	None	SE¼ SE¼ Section 28, T155N, R102W	Lead to Garretson Mine	Unknown Historic	Unevaluated

Site Number	Site Name	Legal Location (S/T/R)	Site Type	Cultural Affiliation	NRHP Recommendation
32WIX531	None	NE¼ NE¼ NE¼ Section 15, T155N, R102W	Isolated Projectile Point	Late Prehistoric	Not Eligible
32WIX532	None	SE¼ NE¼ SE¼ Section 34, T154N, R102W	Isolated Ground Stone	Unknown Prehistoric	Not Eligible

NRHP = National Register of Historic Places
S/T/R = Section/Township/Range

FIELDWORK METHODS

CLASS III INVENTORY METHODS

Fieldwork was designed so that project archaeologists could collect all appropriate and necessary data for the completion of the project report of results and recommendations, and to ensure accurate completion of site forms for all resources encountered.

In accordance with the scope of work, archaeologists surveyed a 140-foot-wide corridor (70-feet on either side of the proposed centerline) using parallel linear transects with spacing not exceeding 30 m. The ground surface was examined for artifacts, features, or other evidence of cultural occupation. Cut banks, eroded surfaces, and other areas with significant exposure were examined intensively throughout fieldwork, especially where previously recorded cultural resources existed. In areas with high vegetation cover and high probability of cultural resources, survey transects were reduced to 10 m to maintain adequate visibility. Ground visibility during the project ranged from 0 to 30 percent, with highest visibility in agricultural fields and heavily grazed areas. No snow cover was present within the project area at the time of inventory.

Where cultural resources were located, project archaeologists made an intensive effort to fully and accurately establish the extent and boundaries of new and previously recorded sites. As such, sites were mapped using sub-meter accurate Trimble Global Positioning System (GPS) units. When detailed mapping or remapping was required, all linear site features, such as site boundaries, roads, and fence lines, as well as point features, such as the site datum, cultural features, artifact concentrations, diagnostic artifacts and tools, and other necessary data, were mapped with the Trimble GPS unit for post-processing into ArcMap 9.3 shapefiles, and for plotting onto associated USGS 7.5-minute quadrangles to ensure accuracy and to produce required location maps of all sites and resources.

In addition to site mapping, project personnel photographed sites in overview and for other data collection needs. Associated features and diagnostic artifacts were described, measured, recorded with GPS, and photographed, as appropriate. Field personnel noted environmental setting, context, topography, and geographical location for each cultural resource.

EVALUATIVE SHOVEL TESTING METHODS

Evaluative site shovel testing is used to determine a site's significance under Criterion D of the National Register of Historic Places (NRHP) and to identify contributing and non-contributing portions of a site, if applicable (see detailed discussion of evaluation criteria, below). All archaeological investigative methods applied during the project meet the standards set forth by the North Dakota State Historical Preservation Office. Field methods included subsurface testing involving 30 × 30–centimeter (cm) shovel tests placed across the site or site vicinity to identify areas containing possible subsurface deposits in order to assist in evaluating NRHP eligibility. Shovel test locations were plotted in areas that displayed potential for buried deposits, such as depression features and bare ground areas that appeared to have been subject to ground-disturbing activity. When possible, additional features (e.g.,

exposed road cuts, rodent burrows, etc.) were used to help determine the subsurface deposition to minimize impacts to the site.

Shovel tests were excavated in levels of 10 cm below surface (cmbs) so that depths of discovery could be assigned to the nearest 10-cm interval. All matrix from the tests was screened through 1/8-inch metal hardware mesh. Efforts were made to ensure that the tests were excavated to bedrock or clearly archaeologically sterile soils.

Site-wide testing was terminated when sufficient evidence to demonstrate the presence of subsurface archaeological contexts was achieved, an eligibility recommendation could be made, and contributing and non-contributing portions of the site were defined. Although fully recorded, artifacts found within 20 cmbs are generally considered to be in the taphonomically active zone, not thought to necessarily demonstrate the potential for interpretable subsurface archaeological contexts.

In addition to recording cultural material identified in positive shovel tests, sediment descriptions were recorded for each observed stratigraphic unit. The color, sediment type, moisture content, and texture were recorded. The provenience of all test units was recorded and plotted on the site map. Upon completion, all shovel test units were backfilled and contoured across the ground surface. All artifacts were reburied in the shovel tests from which they were recovered.

SITE EVALUATION

SWCA evaluated sites and their significance, as defined by criteria set forth in Title 36 Code of Federal Regulations 60.4 (National Park Service [NPS] 1991), which states:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B) That are associated with the lives of persons significant in our past; or
>
> C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D) That has yielded or may be likely to yield information important in prehistory or history.

Not eligible sites have lost integrity and are unlikely to contribute further data significant to knowledge of prehistory or history.

Prehistoric Archaeological Sites

Prehistoric lithic scatters/campsites (sites without any structures or association with known significant events or persons) recorded for the project generally will not contain NRHP discussion for Criteria A, B, or C. Instead, for NRHP recommendation purposes, these properties will be discussed for their potential to yield information significant to prehistory or the archaeological record under NRHP Criterion D. Special cases generally apply to Criterion A, where a prehistoric site type (such as a stone circle site) may not be recommended eligible for the NRHP from an archaeological perspective, but may be considered important to cultures of Native American peoples.

Evaluation of the significance of archaeological sites under Criterion D considers general characteristics such as the nature, size, and diversity of the site assemblage; the potential presence or absence of subsurface cultural deposits; the nature of any features within the site (construction techniques, building materials, structural integrity); and the age range reflected by the site assemblage. Sites considered to be significant generally contain an assemblage of cultural remains that reflects sufficient diversity to permit identification of activities and to allow confirmation of the period of site use. Sites with the most potential to address research questions about human lifeways contain associated features, structures, and/or relatively intact and dateable artifacts.

Historic Archaeological Sites or Components

Historic sites containing or consisting of preserved features or structures are evaluated primarily under Criteria A, B, and C. Historic trash scatters lacking associated features or structures are primarily evaluated under Criterion D. In general, these types of sites represent ephemeral prospecting or stock management activities, but they lack identifiable or important association with specific persons or events of regional or national history (Criteria A and B), and they lack the formal and structural attributes necessary to qualify as eligible under Criterion C. The evaluation of significance of historic archaeological sites under Criterion D focuses on the capacity of the sites or components to yield significant information regarding knowledge of history during the period(s) of site significance. Evaluation of the significance of historic sites considers general characteristics such as the nature, size, and diversity of the site assemblage; the potential presence or absence of subsurface cultural deposits; the nature of any features within the site; construction techniques; building materials; structural integrity; and the age range reflected by the site assemblage.

Historic sites considered to be significant under Criterion D generally contain an assemblage of cultural remains that reflects sufficient diversity to permit identification of activities and to allow confirmation of the period of site use. Sites with the most potential to address research questions contain associated features, structures, and relatively intact and datable artifacts. Significant sites are those that could impart information not available solely from historical documents. Although archival research may provide an essential form of information, often historical records are inaccurate or incomplete. For example, examination of construction techniques or household assemblages can provide information on economic slumps, reuse of structures for other than original purposes, and re-occupation cycles. As a result, insight may be gained into questions about human lifeways that are often asked in archaeology, but rarely specified directly in historical documentation.

Non-Archaeological Historic Sites or Components

Non-archaeological historic sites or sites with non-archaeological components are those primarily assessed for NRHP eligibility under Criteria A, B, or C, rather than Criterion D and typically are not subject to subsurface testing. Individual segments of significant historic sites are evaluated as contributing or non-contributing in terms of physical and environmental integrity. Examples of historic site types include linear historic features, such as transportation routes and water conduits, standing building and structure sites, and potentially extend to any historic feature on an otherwise archaeological site, such as Traditional Cultural Property (TCP) features. Historic and ethnographic sites evaluated for potential contribution to history or cultural traditions for reasons beyond their possible future research value tend to have different evaluation and management considerations than archaeological sites. Typically, the integrity of historic sites is addressed using the guidelines presented in National Register Bulletin 15 (NPS 1991), which defines the seven elements of integrity as location, design, materials, workmanship, setting, feeling, and association. As such, properties are basically evaluated in consideration of their physical integrity and the integrity of their surroundings. TCPs are also considered under the guidelines of National Register Bulletin 38 (Parker and King 1998).

INVENTORY RESULTS AND RECOMMENDATIONS

During the Bakken North Pipeline inventory, SWCA archaeologists revisited two previously recorded sites (32WI175 and 32WI176) and newly recorded 19 resources, including 13 sites and six isolated finds. Of the newly recorded resources, five are stone circle sites, four are historic homesteads, one is a stone cairn site, and three are historic cultural material scatters. The isolated finds consists of four historic artifacts, one prehistoric artifact, and one multicomponent isolate. All resources are discussed in detail below. Copies of the North Dakota Site Forms for all resources are provided in the detached Appendix B, and resource location maps are provided in Appendix C.

SWCA attempted to revisit 32WIX148, a site lead for a cultural material scatter. Based upon information available from the SHSND, the site lead appeared to overlap the project area. No cultural materials or features associated with 32WIX148 were observed within the project area.

PREVIOUSLY RECORDED RESOURCES

32WI175

Site Type:	Cultural Material Scatter
Association:	Unknown Prehistoric
Site Size:	44.3 by 25.0 m (866.2 m^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description and Previous Recording

32WI175 is a sparse prehistoric cultural material scatter located in a plowed field on a terrace above Sand Creek (Figures 5 and 6). Vegetation on site consists of harvested western wheatgrass, allowing for 5 percent ground surface visibility. Soils consist of brown loam to clay loam formed through colluvial processes. Impacts to this site include intensive agricultural plowing that has occurred over the course of several years. The site is in poor condition and retains little surface integrity.

32WI175 was originally recorded by Metcalf Archaeological Consultants, Inc. (Metcalf) in 1986 as part of a Bureau of Land Management (BLM) Coal Class II project. Four flaked lithic tools and a lithic debris scatter were identified at that time. The tools included the distal fragment of a white petrified wood scraper, one Knife River flint biface fragment, one brown banded chert biface, and one yellow-brown opaque petrified wood core. No artifacts were collected. Metcalf noted that the site area had been freshly plowed and ground surface visibility was approximately 70 percent.

Figure 5. 32WI175. Site overview, facing north.

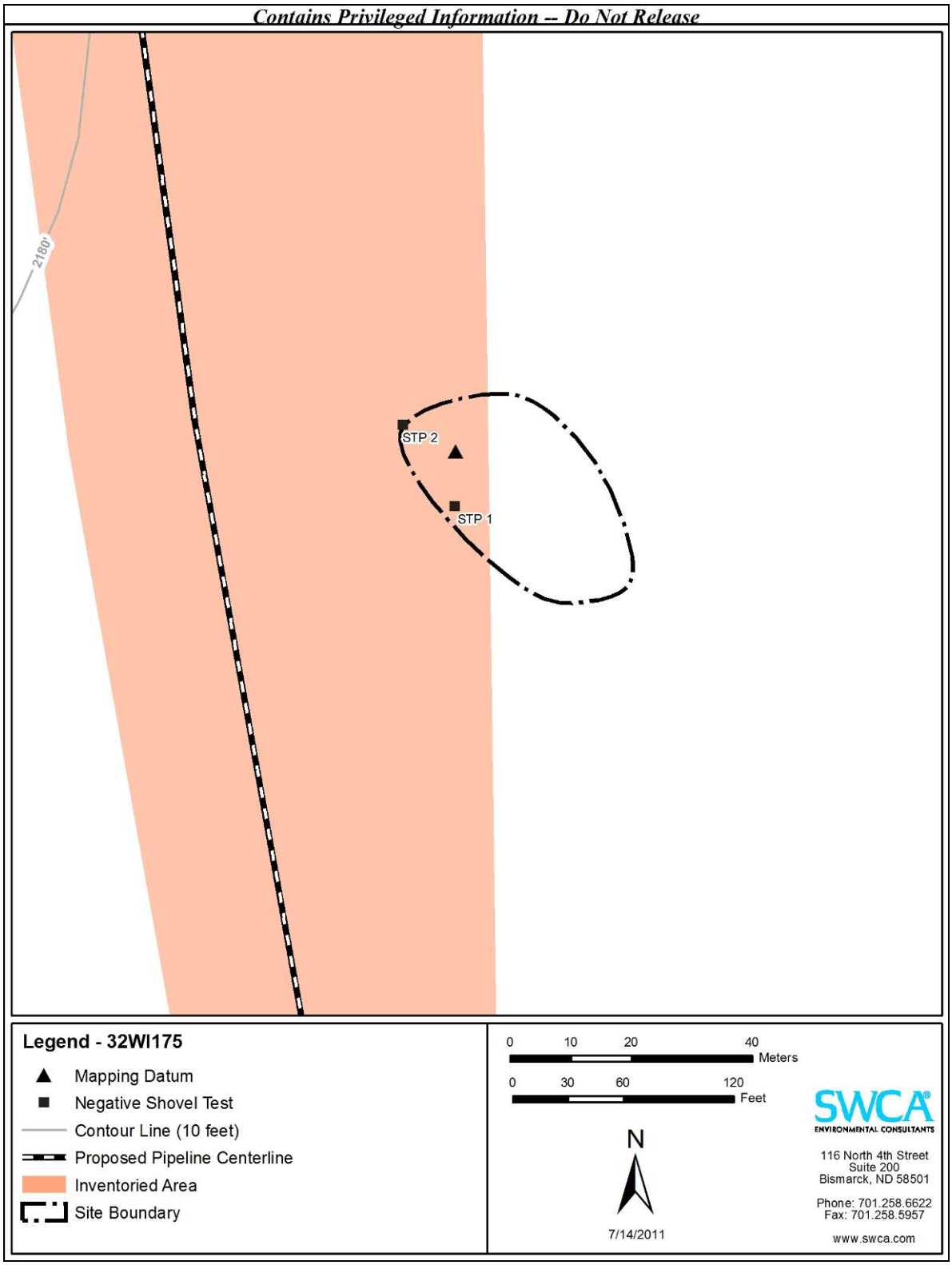

Figure 6. 32WI175. Site sketch map.

Survey Results

SWCA revisited 32WI175 on April 19, 2011. No artifacts were observed at this time. The assemblage identified in 1986 has likely been plowed and disturbed and is buried within the plow zone or lies beneath vegetated cover. No changes have been made to the previous site boundary.

Shovel Test Results

Shovel testing was performed at 32WI175 on June 7, 2011, to evaluate the site's potential to contain intact and interpretable subsurface deposits. Two shovel tests were excavated to a depth of 44 to 47 cmbs (Table 3). Shovel tests were placed only within the current project survey corridor. Shovel Test 1 was terminated when a large rock was encountered. Shovel Test 2 was terminated when compact clay was encountered. The dominant sediment encountered was silty clay loam. No cultural materials were observed in either shovel test.

Table 3. Shovel Test Results for 32WI175.

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
1	30 cm	44 cmbs	0-44 cmbs: dark brown silty clay loam Terminated due to large rock at 44 cmbs	None
2	30 cm	47 cmbs	0-33 cmbs: dark brown silty clay loam 33-47 cmbs: brown/gray clay loam Terminated due to compact clay	None

NRHP Eligibility Recommendation

32WI175 is a cultural material scatter identified on a terrace above Sand Creek. The site was originally recorded in 1986 and was left unevaluated regarding its NRHP eligibility. During the current revisit, it was determined that the assemblage identified in 1986 no longer remains on the surface. The site is currently in poor condition, with impacts from plowing and other agricultural practices. Subsurface testing was performed at the site, but no artifacts were observed in either of the shovel tests. The uniformity of the agriculturally-disturbed soils observed in the shovel tests suggests that the site is unlikely to contain intact subsurface cultural deposits. Given the lack of diagnostic artifacts or datable features combined with the lack of subsurface cultural deposits and the site's disturbed depositional setting, 32WI175 is unlikely to yield important information necessary to refine temporal and cultural association nor to the history of the region. Therefore, SWCA recommends 32WI175 not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction. However, as currently proposed, the pipeline construction corridor avoids the site.

32WI176

Site Type:	Cultural Material Scatter
Association:	Unknown Prehistoric
Site Size:	42 by 21.3 m (622.6 m^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description and Previous Recording

32WI176 is a sparse prehistoric cultural material scatter situated on a terrace above Sand Creek in a plowed field (Figures 7 and 8). Vegetation on site consists of harvested western wheatgrass, allowing for 10 percent ground surface visibility. Soils consist of brown loam to clay loam formed through colluvial processes. The site is in poor condition and has been impacted by intensive agricultural plowing. The site retains little surface integrity.

Originally recorded by Metcalf in 1986 as part of the BLM Coal Class II project, 32WI176 consisted of a sparse lithic scatter in a freshly plowed field. Four flakes of lithic debitage were identified at that time and included one petrified wood flake, two brown and gray chert flakes, and one quartzite flake. No artifacts were collected. Ground surface visibility ranged from 60 to 90 percent. This site was left unevaluated regarding its NRHP eligibility. Metcalf recommended testing to assess potential for intact subsurface deposits below the plow zone.

Figure 7. 32WI176. Site overview, facing north.

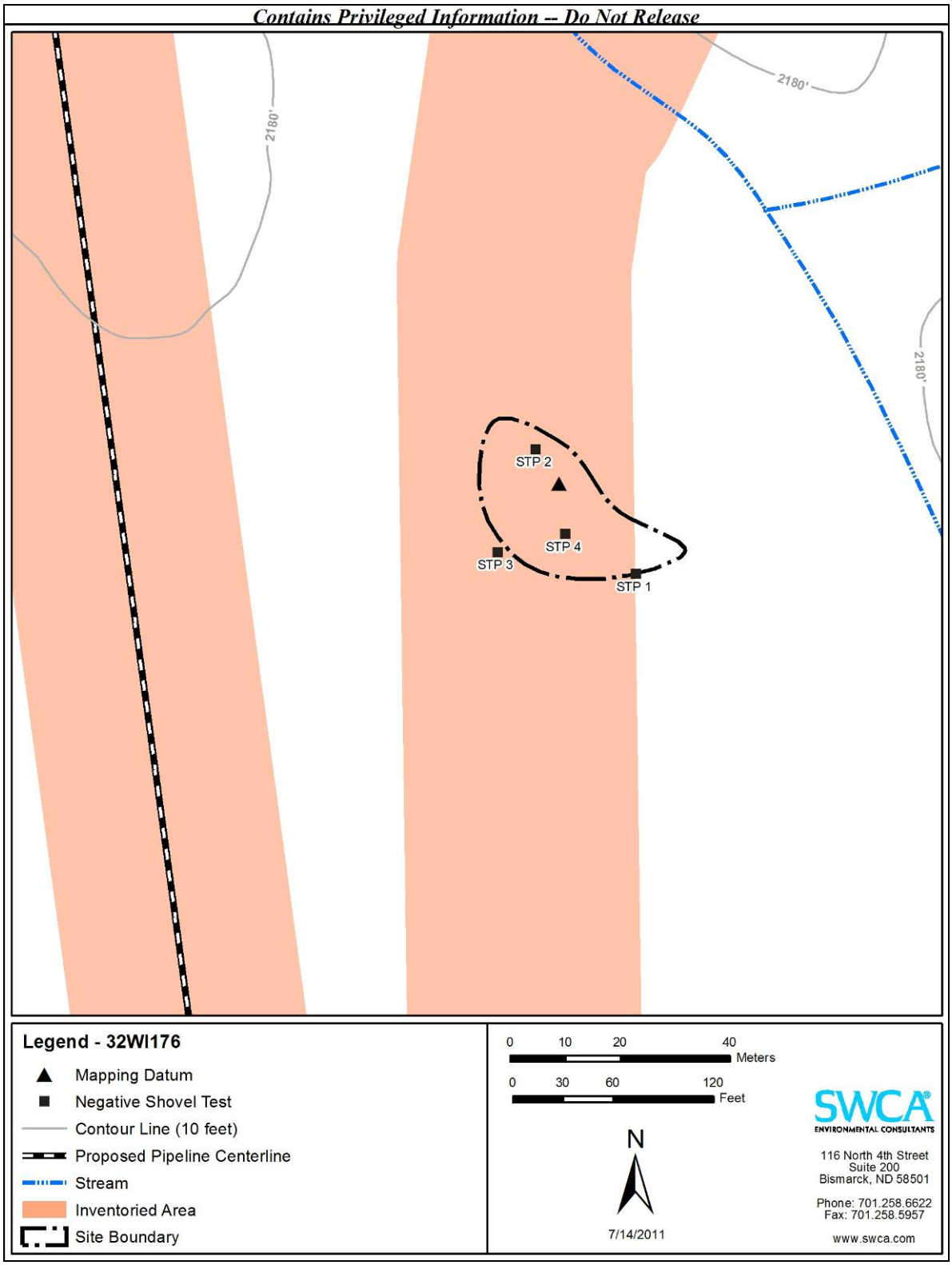

Figure 8. 32WI176. Site sketch map.

Survey Results

SWCA revisited 32WI176 on April 19, 2011. Only one piece of debitage was observed at this time. The artifact is a fine gray quartzite secondary flake, size 4 cm. It appears that the majority of the assemblage identified in 1986 has likely been plowed and/or disturbed.

Shovel Test Results

Shovel testing was performed at 32WI176 on June 7, 2011, to evaluate the site's potential to contain intact and interpretable subsurface deposits. Four shovel tests were excavated to a depth of 45 to 61 cmbs (Table 4). Shovel Test 1 was terminated when compact clay was encountered. Shovel Tests 2, 3, and 4 were terminated when a layer of dense gravel and rock was encountered. The dominant sediment encountered was sandy clay loam. No cultural materials were observed in any of the four shovel tests.

Table 4. Shovel Test Results for 32WI176.

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
1	30 cm	61 cmbs	0-28 cmbs: dark brown sandy clay loam 28-61 cmbs: gray/ brown clay Terminated due to compact clay	None
2	30 cm	45 cmbs	0-26 cmbs: dark brown sandy clay loam 26-45 cmbs: brown clay loam Terminated due to dense gravel and rock layer	None
3	30 cm	52 cmbs	0-19 cmbs: dark brown sandy clay loam 19-52 cmbs: brown clay loam Terminated due to dense gravel and rock layer	None
4	30 cm	53 cmbs	0-30 cmbs: dark brown silty clay loam 30-53 cmbs: brown clay loam Terminated due to dense gravel and rock layer	None

NRHP Eligibility Recommendation

32WI176 is a cultural material lithic scatter originally recorded in 1986 on a terrace above Sand Creek. Metcalf left the site unevaluated regarding its NRHP eligibility. During the current revisit, SWCA observed a single lithic artifact on the site's surface and determined that the majority of the assemblage identified in 1986 no longer remains on the surface. The site has been repeatedly impacted from years of plowing and agricultural practices and is in poor condition. Subsurface testing was performed at the site, but no artifacts were observed in either of the shovel tests; the site appears to be limited to the surface. The uniformity of the agriculturally-disturbed soils observed in the shovel tests suggests that the site is unlikely to contain intact subsurface cultural deposits. Given the lack of diagnostic artifacts or datable features combined with the lack of subsurface cultural deposits and the site's disturbed depositional setting, 32WI176 is unlikely to yield important information necessary to refine

temporal and cultural association nor to the history of the region. Therefore, SWCA recommends 32WI176 not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

The site has been avoided by a reroute and will not be impacted. No further work is needed.

NEWLY RECORDED RESOURCES

32WI1146

Site Type:	Depression, Foundation, and Cultural Material Scatter
Association:	1920s to 1950s
Site Size:	388.2 by 166.3 feet (46,782 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1146 is an Historic period site consisting of a cultural material scatter, a depression, and a foundation (Figures 9 and 10). The site is located within rolling grasslands on a small rise/knoll with a western aspect. A stock pond is approximately 20 m west of the site. Situated in a fallow portion of a freshly plowed agricultural field of western wheatgrass, a small portion of the site extends from the fallow area into the plow zone. Within the fallow portion of the site, cheatgrass dominates the surface. Ground surface visibility ranges from 0 percent within the fallow portion to 95 percent within the plow zone. Soils consist of light grayish-brown sandy loam with large cobbles and small pebble inclusions. Impacts to this site include intensive agricultural plowing and bioturbation caused by prairie dog burrows. The site is in poor condition and retains little surface integrity.

Contains Privileged Information -- Do Not Release

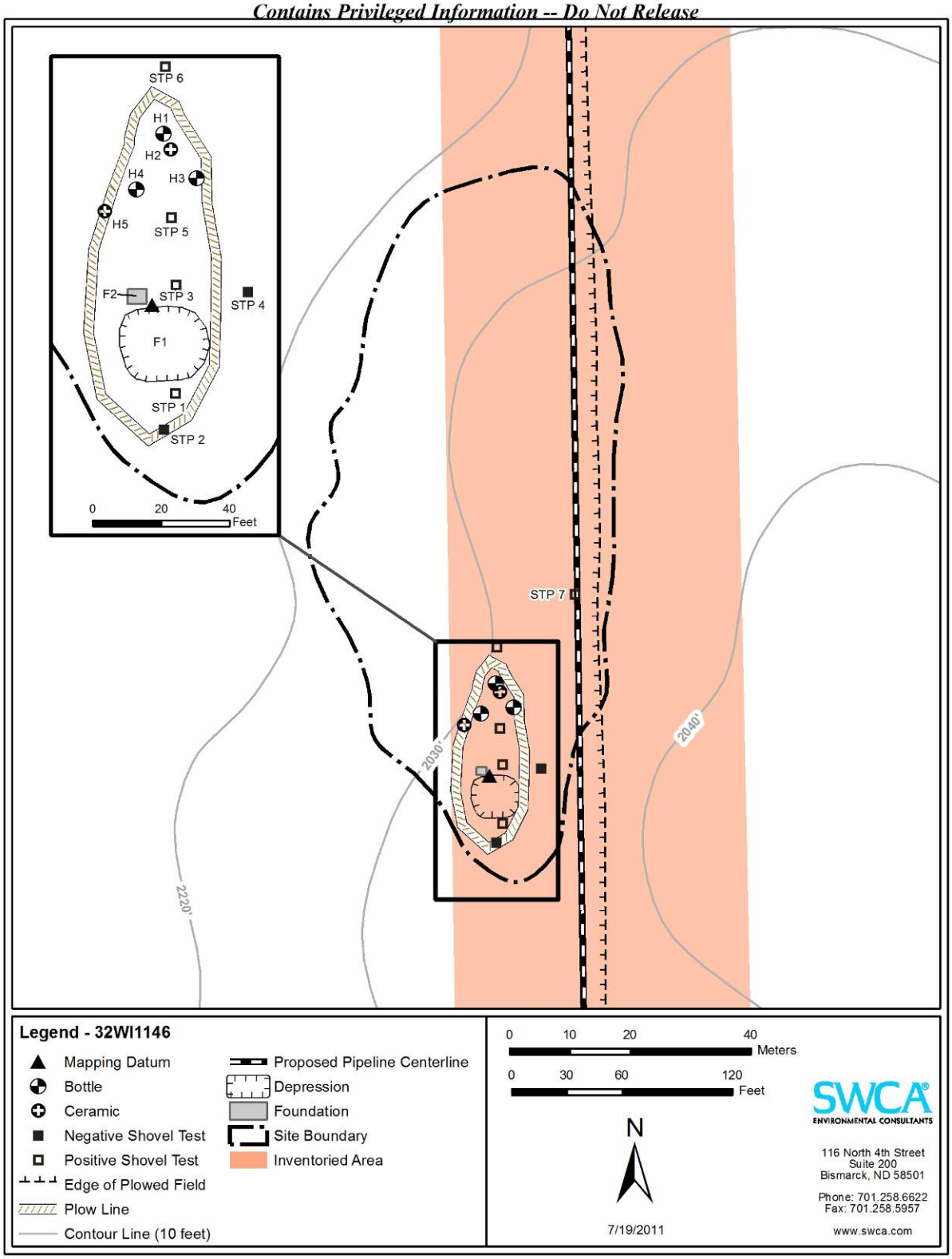

Figure 9. 32WI1146. Site sketch map.

Figure 10. 32WI1146. Site overview, facing west.

Survey Results

SWCA newly recorded 32WI1146 on April 18, 2011. The site contains one depression (Feature 1), one foundation (Feature 2), and a debris scatter. Seven artifacts (H1-H7) were found to be diagnostic and include five glass bottles and two fragments of ceramic dishes. Also included in the artifact assemblage are non-diagnostic pieces of miscellaneous metal, ceramic, bone, aqua glass, colorless glass, an iron stove, and a rubber boot. Artifacts are refuse-related, and the non-diagnostic artifacts were generally found disassembled or broken and therefore could not be categorized by function.

Feature 1 is a depression measuring 22 feet east/west by 19 feet north/south (Figure 11). The depression is approximately 4 feet in depth and is filled with several hundred cobbles, likely relating to agricultural field clearing. Barbed wire is also present within the depression.

Feature 2 is a rectangular-shaped concrete foundation measuring 4 feet north/south by 5 feet east/west (Figure 12). The foundation is approximately 1.5 feet in depth. An iron stove and four cobbles are located in the center of the foundation.

Figure 11. 32WI1146. Feature 1, depression, facing west.

Figure 12. 32WI1146. Feature 2, foundation, facing west.

H1 is the mouth and neck fragment of a colorless glass bottle (Figure 13). The mouth is capped with a screw-cap aluminum lid embossed with the words U.S. 1,771,034 NATIONAL DISTILLERS 1,875,431 PATS. Aluminum screw-caps date as far back as 1924 (Kimball 1993). U.S. National Distillers was one of the first companies to begin distilling promptly following

prohibition. A patent number search revealed that the two patent numbers listed date to 1930 and 1932 (U.S. Patent and Trademark Office 2009).

Figure 13. 32WI1146. H1, bottle fragment with diagnostic lid.

H2 and H5 are two separate pieces of ceramic whiteware dishes (Figure 14). The pieces have an individualized red-, pink-, and blue-colored transfer print in a flower pattern. The pieces are slightly curved indicating that they likely belonged to a dish plate. This style of ceramic is called Chintz. While earlier transfer prints were monochromatic, Chintz was known for its brilliant colors and was popular between the 1920s and the late 1950s (Scott 2010).

H3 is a complete colorless glass medicine bottle (Figure 15). The bottle is rectangular in shape with a tapered neck and a glass stopper cap. Embossed down the body of the bottle are ounce measurement lines. It appears that the bottle holds up to 10 ounces. The exact type of glass stopper is unclear, rendering it difficult to determine an estimated age of the bottle.

H4 is a nearly complete aqua glass medicine bottle (Figure 16). Only a portion of the rectangular body is present. The body is embossed the words DR. KILMER'S SWAMP ROOT KIDNEY LIVER & BLADDER BINGHAMTON N.Y. U.S.A. Dr. Andral S. Kilmer set up business in Binghamton, New York, in 1878, where he developed his line of medicine, pills, and ointments. By 1895, Kilmer had a line of 18 different medicines. Of these, the most common was the swamp root remedy (Digger Odell Publications 2007). Aqua is a very common color in all types of American-made bottles that date from the early nineteenth century to the 1920s. Aqua bottles became comparatively rare as the color choice for bottle makers after the 1920s (Miller and McNichol 2002) because arsenic-based clarifiers made clearer glass possible.

Figure 14. 32WI1146. H2, ceramic whiteware fragment with rose transfer print design.

Figure 15. 32WI1146. H3, colorless glass medicine bottle.

Figure 16. 32WI1146. H4, aqua glass medicine bottle with embossing.

H6 and H7 are complete, identical colorless glass medicine bottles (Figure 17). They likely hold a volume of approximately 2 ounces and have the words DR. KING'S PILLS embossed across a square-shaped body. Little information could be found on Dr. King's Pills. On the base is an Owens-Illinois maker's mark. This variation of the Owens-Illinois Glass Company maker's mark dates from 1929 to 1954, after which they changed to a letter I inside a circle (Toulouse 1971).

Figure 17. 32WI1146. H6, colorless glass medicine bottle with embossing and maker's mark.

Shovel Test Results

Shovel testing was performed at 32WI1146 on June 8, 2011, to evaluate the site's potential to contain intact and interpretable subsurface deposits. Seven shovel tests were excavated to a depth of 50 to 61 cmbs (Table 5). All were terminated when compact clay or calcium carbonate deposits were encountered. The dominant sediment encountered was sandy clay loam which, in four of the tests, graded into clay at depths exceeding approximately 20 cmbs. Five of the seven shovel tests yielded cultural material. Shovel Tests 1, 3, 5, 6, and 7 revealed shallowly buried modern material. Shovel Test 7 revealed diagnostic historical cultural materials to a depth of 20 cmbs. However, because the artifacts were limited to the top 30 cm of sediment, within areas subject to bioturbation, plowing, and other surface impacts, it is likely that these deposits are disturbed.

Table 5. Shovel Test Results for 32WI1146.

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
1	30 cm	50 cmbs	0-22 cmbs: dark brown sandy clay loam 22-50 cmbs: brown silty clay; calcium carbonate starts at 40 cmbs Terminated due to calcium carbonate deposits	10 cmbs: 1 nail; 1 rodent bone 30 cmbs: 1 piece of unknown metal
2	30 cm	60 cmbs	0-10 cmbs: dark brown sandy clay loam 10-27 cmbs: brown/reddish brown silty clay 27-60 cmbs: dark brown silty clay Terminated due to compact clay	None
3	30 cm	60 cmbs	0-30 cmbs: dark brown clay loam; coal dispersed throughout layer 30-60 cmbs: brown silty clay loam; contains moderate small cobble inclusions Terminated due to calcium carbonate deposits	10 cmbs: 1 glass fragment; 1 metal buckle; 1 wire fragment; 1 metal disk
4	30 cm	52 cmbs	0-32 cmbs: dark brown sandy clay loam 32-52 cmbs: light brown sandy clay loam Terminated due to compact soils	None
5	30 cm	52 cmbs	0-23 cmbs: dark brown sandy silt loam 23-37 cmbs: light brown sandy clay 37-52 cmbs: brown sandy clay Terminated due to calcium carbonate deposits	Topsoil: 1 crushed metal can 30 cmbs: 1 metal nail; 1 unknown metal fragment

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
6	30 cm	61 cmbs	0-21cmbs: dark brown sandy clay loam 21-61 cmbs: brown silty clay Coal scattered throughout all levels Terminated due to calcium carbonate deposits	10-20 cmbs: 2 fragments of pane glass; 1 metal fragment 21 cmbs: 1 shard of glass embossed with FO
7	30 cm	61 cmbs	0-20 cmbs: dark brown sandy clay loam 20-61 cmbs: light brown sandy clay Terminated due to compact clay	0-10 cmbs: 1 sherd whiteware 10-20 cmbs: 1 sherd salt-glazed stoneware

Historical Research

SWCA conducted historic background research for Section 34, T155N, R102W. According to the BLM GLO land patent search, the land in the southwest quarter of Section 34 was part of a 157.12-acre land claim patented to Lars Knudson on January 11, 1910, under the authority of the Original Homestead Act of 1862 (BLM 2011 [1910]:Accession 102022). Lars, also presumably known as Louis, was born in Denmark in approximately 1853 and immigrated to the United States in 1873 and was married to Mary Knudson by 1910 when he patented the land in Williams County (U.S. Bureau of the Census 1910:Roll T624_1149, Page 15B). Historical documentation for Louis Knudson's residence to the very early part of the twentieth century is limited, although his acquisition of the homestead patent in 1910 suggests that he was living in Williams County preceding the purchase. The 1920 U.S. census lists Lars widowed, and renting property in Williston, North Dakota (U.S. Bureau of the Census 1920:Roll T625_1342). The BLM GLO has no record of who the land passed to in the years between 1910 and 1920, when Lars subsequently moved to Williston and started renting property.

NRHP Eligibility Recommendation

The artifact assemblage identified at 32WI1146 is likely a product of its proximity to nearby farms. Considering the relative age of the artifacts, ca. 1920 to 1950, it is evident that the location of 32WI1146 represents multiple episodes of abandonment or dumping. Based on archival research, the location of the site, the soil deposition, and the nature of the diagnostic artifacts within the assemblage, it appears that the site is unlikely to provide additional significant information beyond the data that have been collected during the current inventory phase.

The site could not be associated with a significant historical event or person, and consequently 32WI1146 is recommended not eligible for nomination to the NRHP under Criteria A and B. The artifacts and features do not appear to exhibit any distinctive characteristic of a type, period, or method of construction, or to represent the work of a master or possess high artistic values, and consequently the site is recommended not eligible under Criterion C. Subsurface testing was performed at the site and the artifact assemblage appears to be limited to the surface and near surface in an area which has been subjected to disturbance from agricultural activities and does not indicate intact subsurface deposits. Therefore, 32WI1146 is unlikely to

yield important information necessary to refine temporal and cultural association nor to the history of the region. Consequently the site is recommended not eligible for nomination to the NRHP under Criterion D. Overall, the site is recommended not eligible for nomination to the NRHP under any criteria.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction.

32WI1147

Site Type:	Stone Circles, Stone Cairn, Cultural Material Scatter
Association:	Unknown Prehistoric
Site Size:	171.3 by 72.6 m (4,446.7 m^2)
NRHP Recommendation:	Unevaluated
Management Recommendation/Project Effect:	Avoid, No Further Work /No Effect

Site Description

32WI1147 is a prehistoric stone circle, stone cairn, and cultural material scatter site located within rolling grasslands atop a low, subtle ridge that terminates at an unnamed stream to the southwest (Figures 18 and 19). The stream bounds the site to the west and southwest. A large building is visible to the north, and a farm is visible to the northwest. 32WI1149, a prehistoric stone circle site (discussed below) is 62 m to the southeast. Cheatgrass is the dominant vegetation on site, resulting in less than 5 percent ground surface visibility. Soils consist of a very dark brown, highly organic clay loam. Impacts include plowing and ranching. The site is in fair condition, although some of the stones in the features may be displaced.

Figure 18. 32WI1147. Site overview, facing north.

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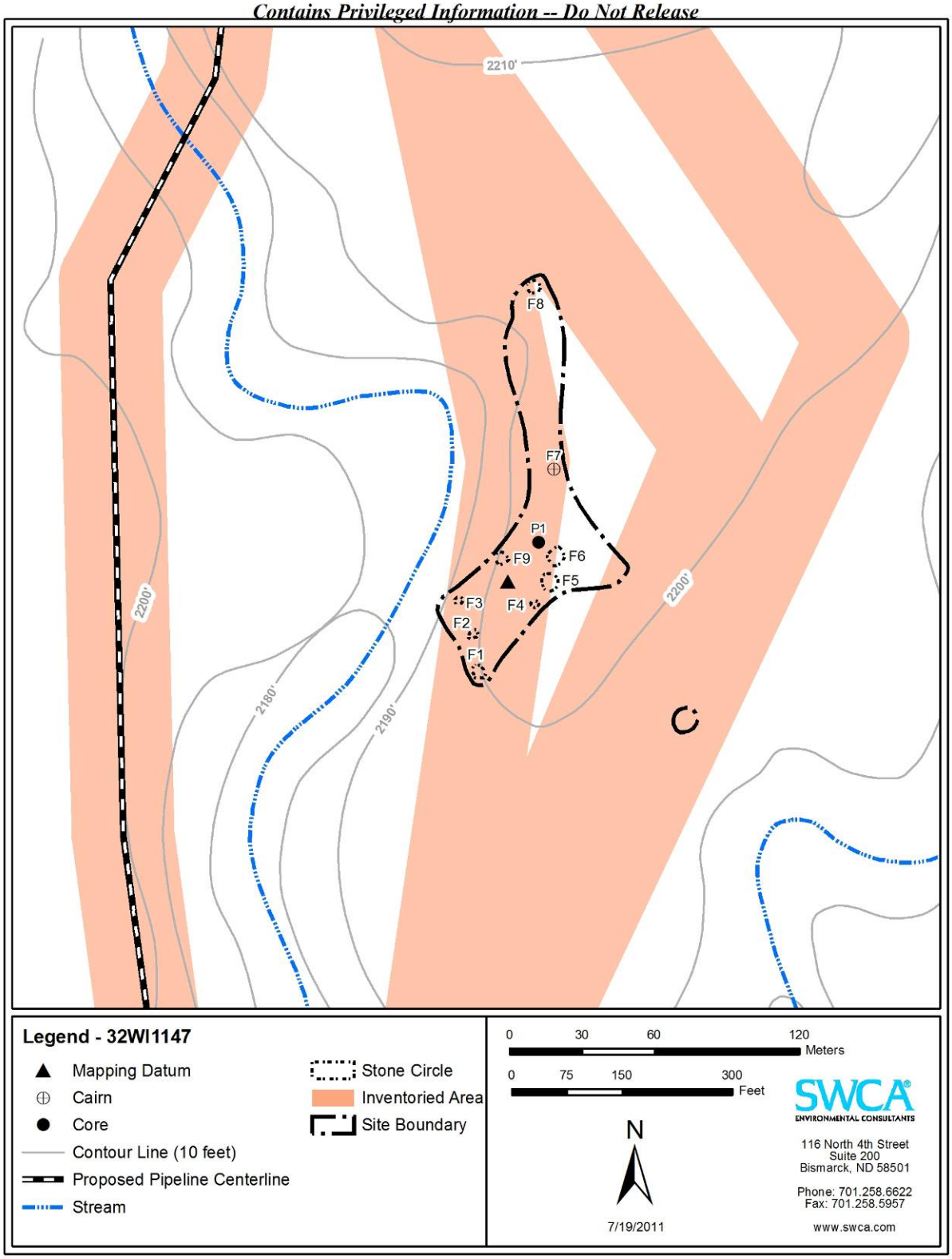

Figure 19. 32WI1147. Site sketch map.

Survey Results

SWCA newly recorded 32WI1147 on April 19, 2011. The site contains eight stone circles, one stone cairn, and a lithic scatter with one tool. All features are composed of quartzite rock.

Feature 1 is a complete, circular-shaped stone circle measuring 5.2 m east/west by 5.9 m north/south (Figure 20). The circle contains 35 stones that range in size from 18 to 42 cm. The stones are moderately to deeply sodded with 15 to 50 percent lichen growth on the stones. Multiple courses of stones are present and a gap is present in the circle's northwestern wall.

Feature 2 is an irregularly shaped stone circle alignment with poor definition (Figure 21). The feature measures 2.6 m east/west by 3.2 m north/south. The stone circle contains 21 stones that range in size from 11 to 59 cm. The stones are deeply sodded.

Feature 3 is a half-complete, circular-shaped stone circle measuring 2.1 m east/west by 3.0 m north/south (Figure 22). The circle is moderately defined and contains 14 stones ranging in size from 7 to 31 cm. The stones are moderately to deeply sodded with approximately 50 to 85 percent of lichen growth. A single course of stones is present and a 2.1-m-wide gap appears in the northwestern wall of the circle.

Feature 4 is a three-quarter-complete, circular-shaped stone circle measuring 2.4 m east/west by 1.9 m north/south (Figure 23). The circle contains six stones that range in size from 16 to 30 cm. The feature is well-defined and the stones are deeply sodded. A single course of stones is present and 1.9-m-wide gaps appear in the northeastern and southwestern walls of the circle. The stones encompass the perimeter of a depression, which may be natural.

Figure 20. 32WI1147. Feature 1, stone circle, with tape measure set at 2 m, facing south.

Figure 21. 32WI1147. Feature 2, stone circle, with tape measure set at 1 m, facing north.

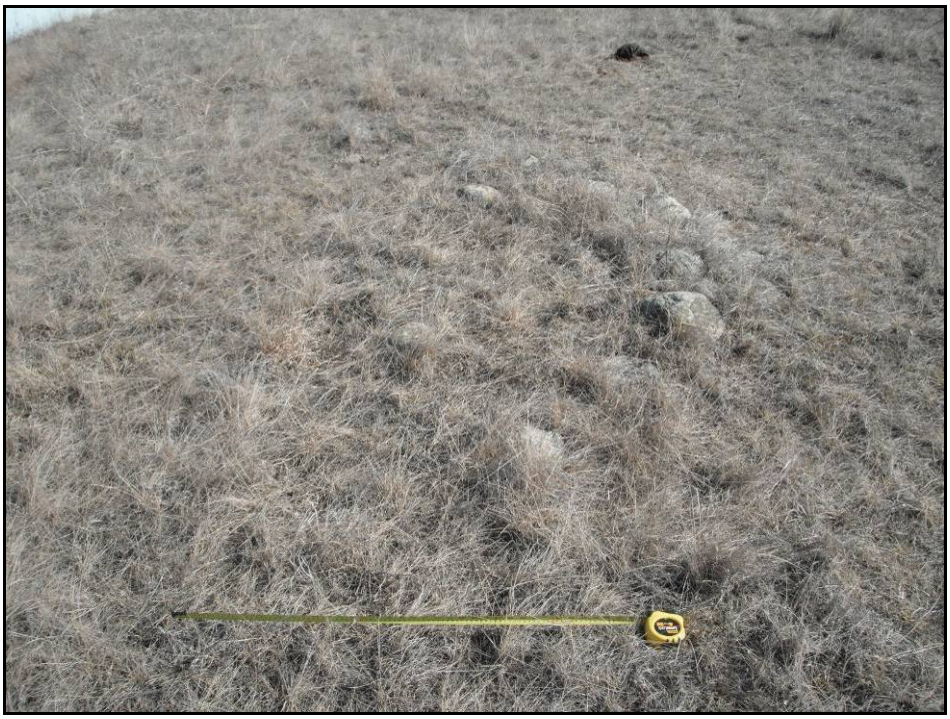

Figure 22. 32WI1147. Feature 3, stone circle, with tape measure set at 1 m, facing north.

Figure 23. 32WI1147. Feature 4, stone circle, with tape measure set at 1 m, facing west.

Feature 5 is a well-defined complete, circular-shaped stone circle with two to four courses of stones present. The feature measures 5.6 m east/west by 5.7 m north/south (Figure 24). The circle contains approximately 54+ stones that range in size from 4 to 36 cm. The circle has good definition and the stones are moderate to deeply sodded. Gaps measuring 1.8 to 2.2 m wide appear in the northeastern and southwestern walls of the circle.

Feature 6 is a complete, oval-shaped stone circle measuring 6.6 m east/west by 7.4 m north/south (Figure 25). The circle contains approximately 84+ rocks ranging in size from 5 to 48 cm. The circle has moderate definition and the stones are shallow to moderately sodded with 5 to 75 percent lichen growth. One to two courses of stones are present. No gaps in the walls are present. An alignment of 18 north/south-trending stones bisects the circle.

Feature 7 is an irregularly shaped stone cairn in moderate condition (Figure 26). The cairn measures 1.4 m east/west by 1.0 m north/south and is 24 cm tall. The cairn is built of three exposed stacked red quartzite cobbles measuring 12 to 32 cm in size; however, additional stones may be present beneath the current surface. The stones are moderately sodded, with 20 to 50 percent lichen coverage. Three gray rocks are aligned to the north of the cairn.

Figure 24. 32WI1147. Feature 5, stone circle, with tape measure set at 2 m, facing north.

Figure 25. 32WI1147. Feature 6, stone circle, with tape measure set at 2 m, facing northwest.

Figure 26. 32WI1147. Feature 7, stone cairn, with tape measure set at 1 m facing north.

Feature 8 is a three-quarter-complete, circular-shaped stone circle measuring 4.2 m east/west by 4.6 m north/south (Figure 27). The circle contains nine rocks with two additional red quartzite stone in the center of the circle. The circle is poorly defined; however, the stones present are deeply sodded and one to two courses are present. A 2.6-m-wide gap appears in the northern wall of the circle.

Feature 9 is a complete, oval-shaped stone circle measuring 5.6 m east/west by 5.5 m north/south (Figure 28). The circle contains 47 rocks that range in size from 12 to 43 cm. The stone are covered in 20 to 85 percent of lichen growth. The circle is well defined and the stones are deeply sodded. Two to three courses of stones are present. A 0.8-m-wide gap appears in the southern wall of the circle.

The artifact assemblage consists of one core tool and three pieces of debitage. P1 is a white, fine-grained quartzite core tool with six flake scars on one side forming a 6-cm-long modified edge. Debitage includes one white/cream colored chert shatter, size 2 cm; one purple banded quartzite flake, size 5 cm; and one white quartzite flake, size 2 cm.

Figure 27. 32WI1147. Feature 8, stone circle, with tape measure set at 2 m, facing east.

Figure 28. 32WI1147. Feature 9, stone circle, with tape measure set at 2 m, facing south.

NRHP Eligibility Recommendation

32WI1147 is a prehistoric stone circle, stone cairn, and cultural material lithic scatter site in fair condition. While no subsurface testing was performed at the site due to the presence of cultural features that may be considered of a sacred nature, subsurface testing may yield important information necessary to refine temporal association. Accordingly, SWCA recommends the site remain unevaluated regarding its NRHP eligibility under Criterion D until subsurface testing can be conducted. Due to the presence of features that may be considered of a sacred nature, the site also remains unevaluated regarding its NRHP eligibility under Criterion A pending tribal consultation.

Management Recommendation

SWCA recommends avoidance of 32WI1147 pending subsurface testing and tribal consultation; however, since the site has been adequately avoided by a reroute and will not be affected, no further work is needed.

32WI1148

Site Type:	Cultural Material Scatter
Association:	Historic – Post 1880
Site Size:	109.1 by 64.9 feet (3,965.6 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1148 is an historic cultural material scatter located on a short, northwest-trending downhill ridge (Figures 29 and 30). The ridge connects to a higher and longer ridge to the southeast. A northwest/southeast-trending two-track road is approximately 25 m south and a hedge row of shrubs is 60 m east of the site. Two seasonal ponds exist in the low-lying areas approximately 60 m and 130 m to the north and west, respectively. Vegetation consists of a plowed area with wheat stalk remnants, allowing for 75 percent ground surface visibility. Grasses border the site to the east and northeast. Soils are dark brown clay loam of colluvial deposition. The site is in very poor condition due to heavy and repeated plowing.

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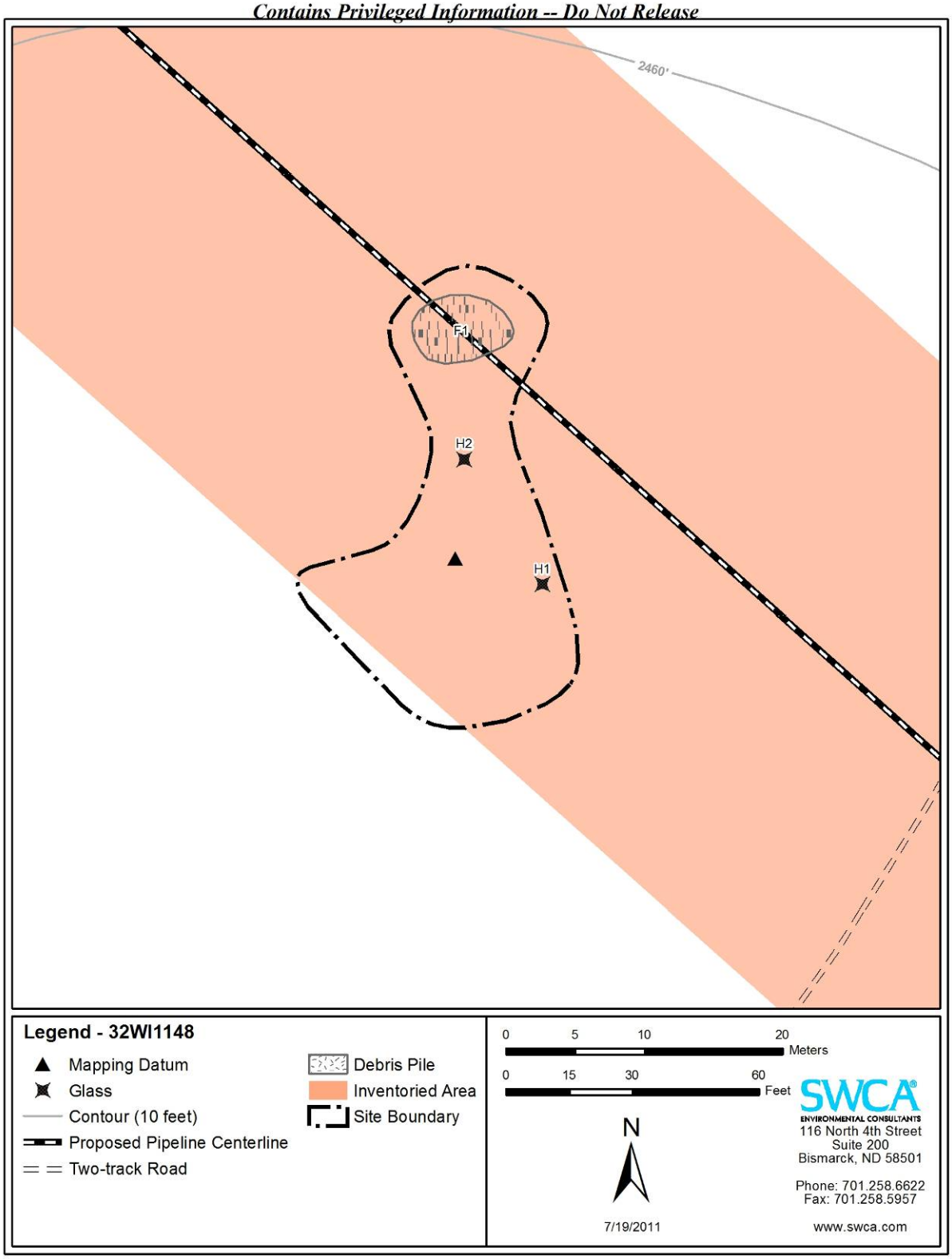

Figure 29. 32WI1148. Site sketch map.

Figure 30. 32WI1148. Site overview from southern edge of site along pipeline, facing north-northwest.

Survey Results

SWCA newly recorded 32WI1148 on May 11, 2011. The site consists of one feature, two diagnostic bottle bases, and a cultural material scatter. Feature 1 is a debris pile of architectural wood with nails and metal attachments that has been piled up next to a small tree in the northern end of the site (Figure 31). The pile measures 12 feet north/south by 22 feet east/west.

The artifact assemblage includes two clear bottle glass fragments, one clear flat glass fragment, one amber bottle glass fragment, two diagnostic amethyst bottle fragments, two stone ware fragments, several wire nails, one metal attachment, one milk glass fragment, one clear glass tumbler fragment, one cobalt glass fragment, and one small metal gear.

H1 is an amethyst glass bottle finish neck and finish fragment that measures 1 ¾ inches long by ¾ inch in diameter at the top and with a 3/8-inch opening. The artifact has a packer finish.

H2 is a rectangular amethyst glass bottle base fragment with flat chambers. The artifact measures 2 inches long by 1 ½ inches wide and 1 inch tall. The maker's mark is a backwards 4. Amethyst discoloration of glass is the result of a temporally significant clarification process. The process was in use from the 1880s until circa 1920 (Lindsey 2011).

Figure 31. 32WI1148. Feature 1, debris pile, tape measure set at 3 feet, facing northeast.

Historical Research

SWCA conducted historic background research for Section 24, T157N, R103W. According to the BLM GLO land patent search, the land in the northeast quarter of Section 24 was part of a 160-acre land claim patented to Simen N. Faugner on January 5, 1911, under the authority of the Homestead Act of 1862 (BLM 2011 [1911]:Accession 168402). A search of the 1910 U.S. Census records revealed that a Simon Fougner lived in T157N, R103W. Simen, or Simon, was born in Norway around 1870 and immigrated to the United States in 1896 (U.S. Bureau of the Census 1910:Roll T624_1149, Page 5A). He worked as a farmer and was married to Bendiks Fougner. The Fougners had six children including two sons (Ole M. and Ingval) and four daughters (Bertha, Helen, Selma G., and Cora E.). The 1925 State Census indicates that Simon and Bendiks were living in Strandahl, North Dakota, with their daughters Selma and Cora (North Dakota State Censuses 1915 and 1925:Roll ndsc_5243, Page 2).

NRHP Eligibility Recommendation

32WI1148 is an historic cultural material site consisting of one feature and a sparse cultural material scatter. SWCA recommends the site not eligible for nomination to the NRHP under Criteria A or B, because the site was not found to be linked to historically significant events or people. 32WI1148 is recommended not eligible for nomination to the NRHP under Criterion C since no standing structures remain at the site which reflect the work of a master or embody distinctive characteristics of a type, period, or method of construction. While no subsurface testing was performed at the site, the feature and cultural material associated with the site appear to be limited to the surface and are unlikely to yield important information necessary to refine temporal and cultural association. Accordingly, SWCA recommends the site not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction.

32WI1149

Site Type:	Stone Circle
Association:	Unknown Prehistoric
Site Size:	10.3 by 9.6 m (79.2 m^2)
NRHP Recommendation:	Unevaluated
Management Recommendation/Project Effect:	Avoid, No Further Work /No Effect

Site Description

32WI1149 is an unknown prehistoric stone circle located on a small knoll on the side of a small ridge (Figures 32 and 33). A small drainage is approximately 40 m southeast. Several buildings are visible from the site including a grain silo to the northeast, a farm house and outbuildings to the southwest, and a pumping station to the north. 32WI1147, a prehistoric stone feature site, is located approximately 62 m northwest of the site. Vegetation consists of prairie grasses and short forbs less than 1 foot tall. Ground surface visibility is 5 percent. Soils are highly organic dark brown silty clay loam with colluvial deposition. The site is in fair condition and lightly impacted by grazing, erosion, and bioturbation from prairie dogs.

Figure 32. 32WI1149. Site overview with drainage in background, facing east.

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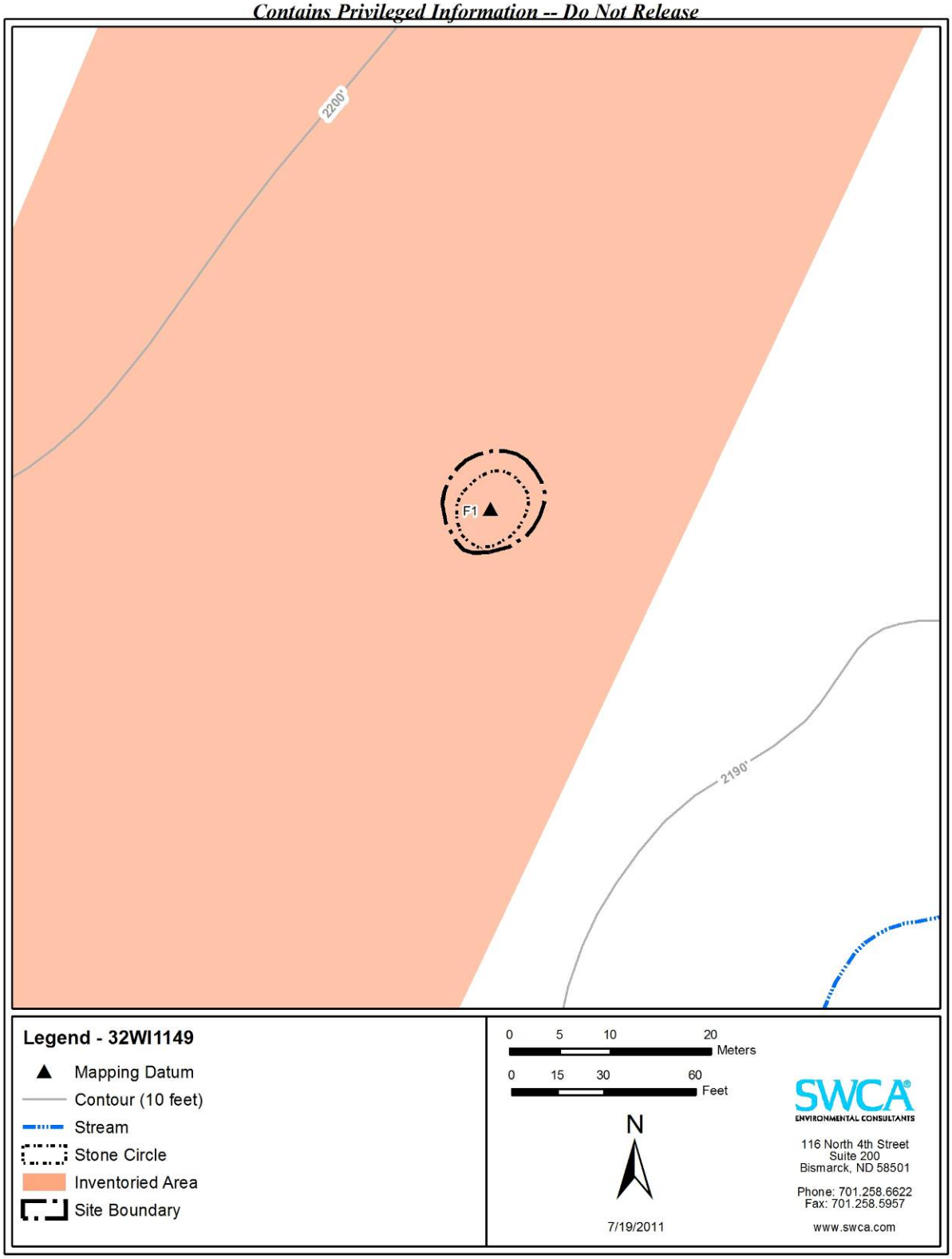

Figure 33. 32WI1149. Site sketch map.

Survey Results

SWCA newly recorded 32WI1149 on May 13, 2011. The site consists of a single stone circle (Figure 34). Feature 1 is a complete, oval-shaped stone circle that is moderately defined. The feature measures 6.6 m east/west by 7.2 m north/south. The circle contains 30 quartizite stones that range in size from 10 to 60 cm. The stones are moderately to deeply sodded and contain less than 10 percent lichen growth. A single course of stones is present. Several rocks are present in the center of the circle. No artifacts were observed on site.

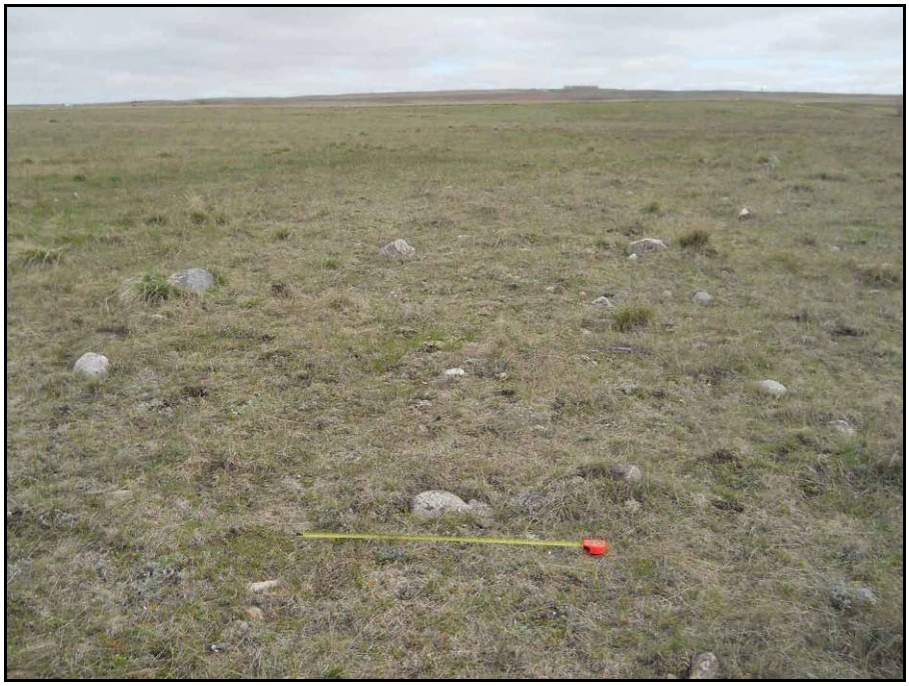

Figure 34. 32WI1149. Feature 1, stone circle, with tape measure set at 1 m, facing north.

NRHP Eligibility Recommendation

32WI1149 is a stone circle site in fair condition with deeply sodded stones indicating potential for intact subsurface deposits. While no subsurface testing was performed at the site due to the presence of a cultural feature that may be considered of a sacred nature, subsurface testing may yield important information necessary to refine temporal association. Accordingly, SWCA recommends the site remain unevaluated regarding its NRHP eligibility under Criterion D until subsurface testing can be conducted. Due to the presence of a feature that may be considered of a sacred nature, the site also remains unevaluated regarding its NRHP eligibility under Criterion A pending tribal consultation.

Management Recommendation

SWCA recommends avoidance of 32WI1149 pending subsurface testing and tribal consultation; however, the site has been adequately avoided by a reroute and will not be affected. No further work is needed.

32WI1150

Site Type:	Cultural Material Scatter
Association:	Unknown Historic
Site Size:	147.3 by 143.6 feet (17,212.4 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1150 is an historic cultural material scatter located on an east-facing hill slope in a plowed field with a view to the north-northeast (Figures 35 and 36). An intermittent drainage is approximately 250 m west of the site. A north/south-trending two-track road is 20 m east of the site. A field clearing rock pile is located within the site boundary. Oil tanks are visible to the east and a farmstead with trees is visible to the north-northeast near an unnamed drainage. Vegetation consists of a few wheat remnants with bare ground visibility ranging from 95 to 100 percent. Soils are dark brown silty clay loam with rock and pebble inclusions. The site is in poor condition and has been disturbed by plowing and agricultural activities.

Survey Results

SWCA newly recorded 32WI1150 on May 13, 2011. The site consists of a sparse cultural material scatter within the field and near a field clearing rock pile on the western edge of the site. The artifact assemblage consists of nine fragments of whiteware ceramics, three fragments of salt-glazed stoneware, two fragments of amber glass, five fragments of aqua glass, one fragment of flat glass, six fragments of clear glass, one metal scrap, and one fragment of milk glass. All of the fragments of glass except the flat glass were jar or bottle fragments.

Figure 35. 32WI1150. Site overview from north end of site, facing south.

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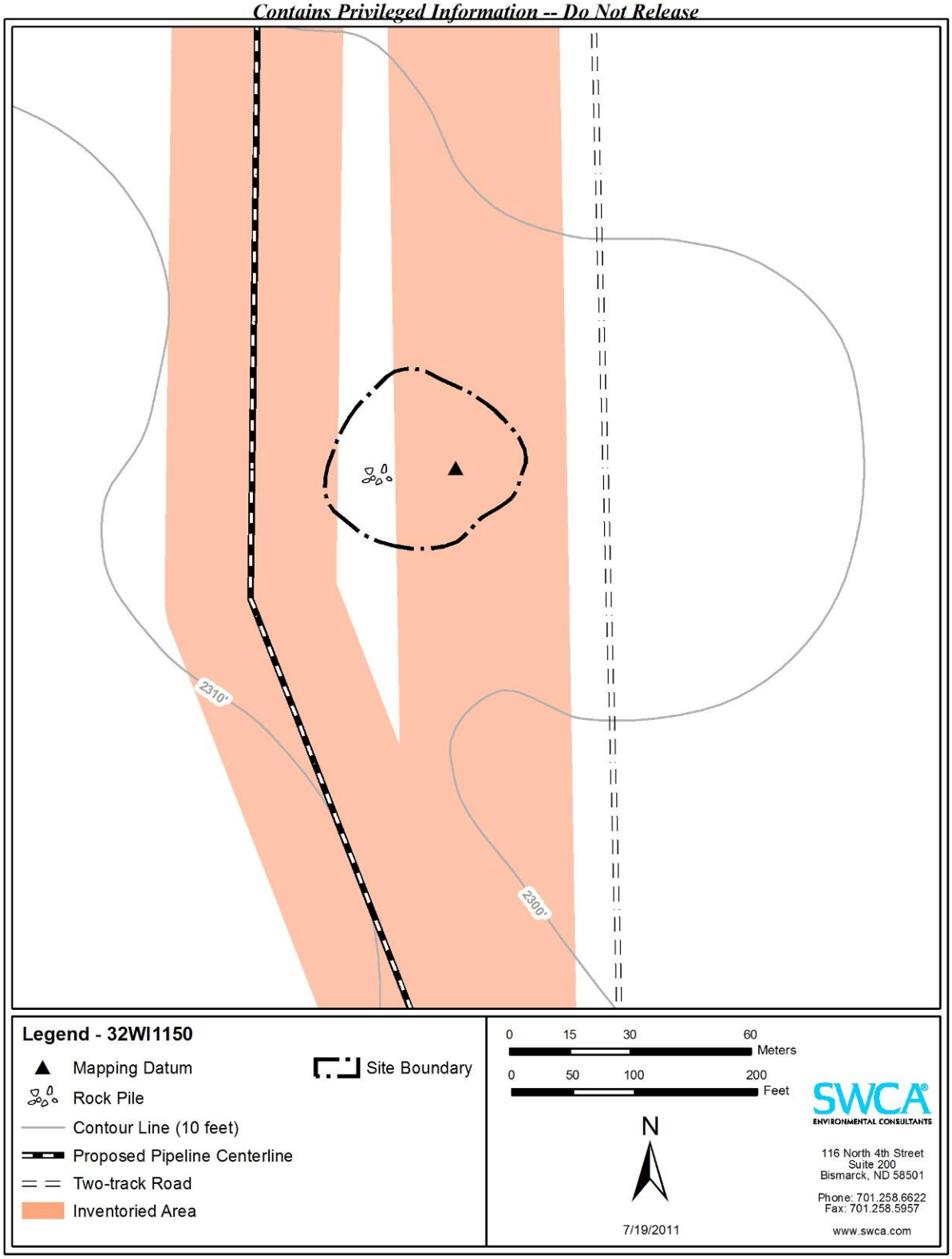

Figure 36. 32WI1150. Site sketch map.

Historical Research

SWCA conducted historic background research for Section 21, T154N, R102W. According to the BLM GLO land patent search, the land in the northeast quarter of Section 21 was part of a 160-acre land claim patented to Kathrine Farra on May 27, 1909, under the authority of the Homestead Act of 1862 (BLM 2011 [1909]:Accession Number 64793). Farra immigrated to North Dakota in 1908 according to immigration records, but no country of origin was listed for her (Gale Research 2010). No further records were available for Kathrine Farra.

NRHP Eligibility Recommendation

32WI1150 is an historic site consisting of a sparse cultural material scatter. SWCA recommends the site not eligible for nomination to the NRHP under Criteria A or B, because the site was not found to be linked to historically significant events or people. 32WI1150 is recommended not eligible for nomination to the NRHP under Criterion C since the site lacks evidence of foundations or standing structures that may have been located on the site. While no subsurface testing was performed at the site, the artifact assemblage appears to be limited to the surface and is unlikely to yield important information necessary to refine temporal and cultural association. Accordingly, SWCA recommends the site not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction. However, as currently proposed, the construction corridor avoids the site.

32WI1151

Site Type:	Stone Circles, Stone Alignment
Association:	Unknown Prehistoric
Site Size:	45.9 by 22.3 m (840.5 m^2)
NRHP Recommendation:	Unevaluated
Management Recommendation/Project Effect:	Avoid, Neck Down, and Fence /No Effect

Site Description

32WI1151 is an unknown prehistoric stone circle site located on an east-facing hill slope overlooking a valley to the east (Figures 37 and 38). Several drainages are situated to the north, south, and east of the site. A north/south-trending fence and unnamed improved road border the east edge of the site. Several structures are visible from the site including oil tanks on the hill to the east, and a farmstead and tree-line to the northeast. Vegetation consists of short prairie grasses and various forbs. Soils are medium brown to dark brown silty clay loam with colluvial deposition. The site is in fair condition and has been impacted by grazing and erosion.

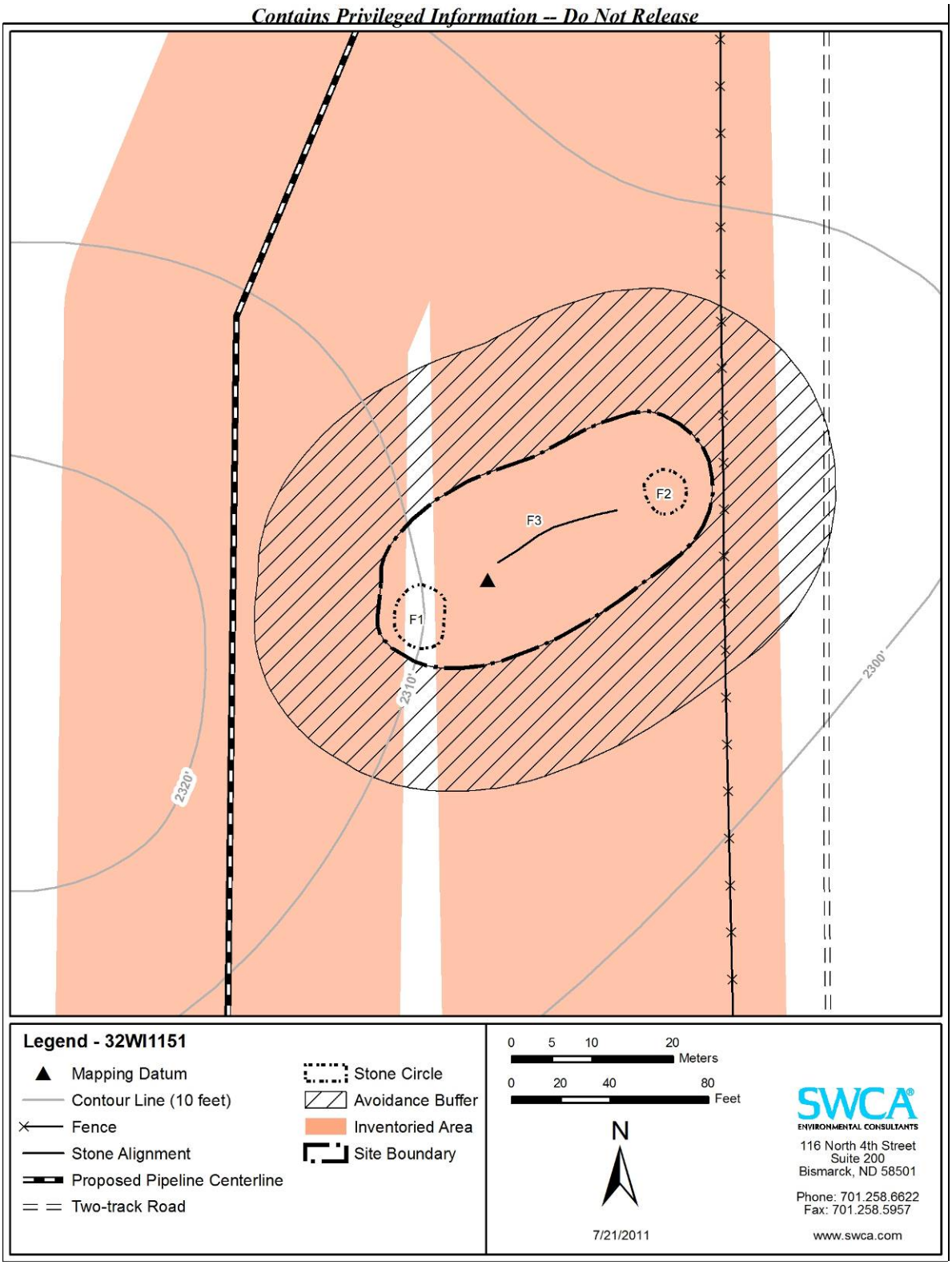

Figure 37. 32WI1151. Site sketch map.

Figure 38. 32WI1151. Site overview with north/south-trending fence line in background, facing east.

Survey Results

SWCA newly recorded 32WI1151 on May 13, 2011. The site consists of two stone circles and one stone alignment. No artifacts were observed on site.

Feature 1 is a moderately defined, complete circular-shaped stone circle measuring 4.3 m east/west by 4.7 m north/south (Figure 39). The circle contains 37 stones that range in size from 9 to 27 cm. The stones are moderately sodded and contain approximately 80 percent lichen. A single course of stones is present.

Feature 2 is a moderately defined, complete, circular-shaped stone circle measuring 5.5 m east/west by 5.9 m north/south (Figure 40). The circle contains 52 stones that range in size from 10 to 35 cm. The stones are moderately sodded and contain approximately 80 percent lichen growth. A single course of stones is present.

Feature 3 is a moderately defined northeast/southwest-trending stone alignment measuring 13.15 m in length (Figure 41). The alignment is located between Features 1 and 2 but is not adjoined to either feature. Feature 3 contains 81 stones that range in size from 9 to 43 cm. The stones are moderately sodded with approximately 90 percent lichen growth.

Figure 39. 32WI1151. Feature 1, stone circle, with flags at feature edge and tape measure set to 1 m, facing west.

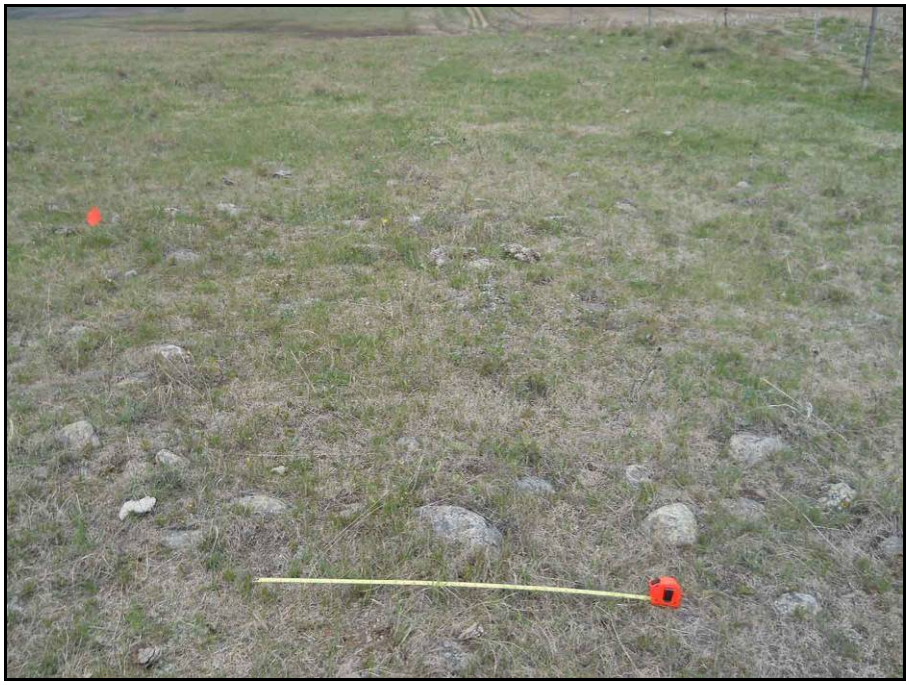

Figure 40. 32WI1151. Feature 2, stone circle, with flag at feature edge and tape measure set to 1 m, facing north.

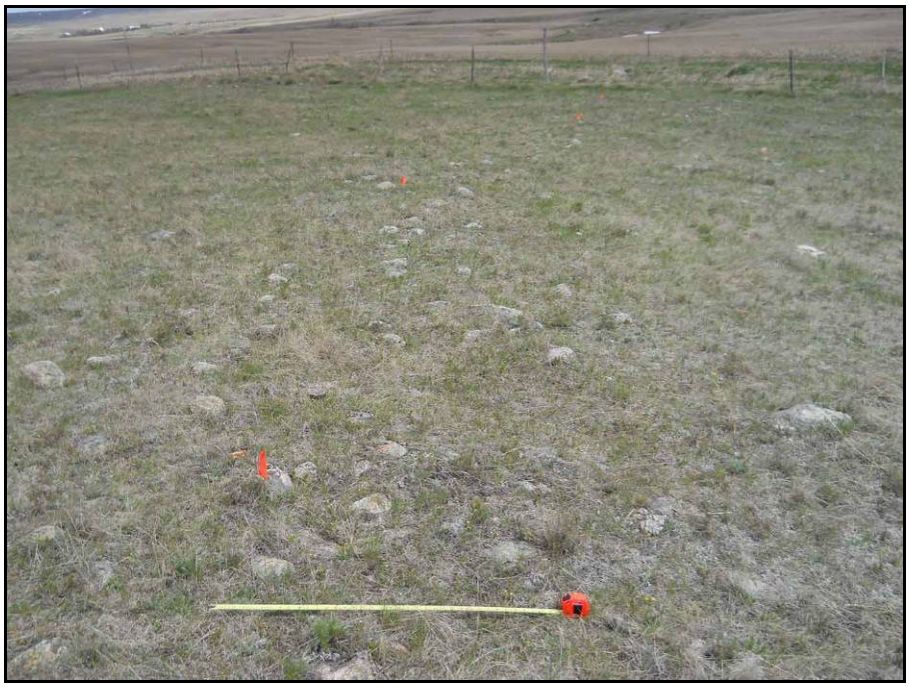

Figure 41. 32WI1151. Feature 3, stone alignment, from western end with fence line in background, facing east. Flags mark the feature edge and tape measure is set to 1 m.

NRHP Eligibility Recommendation

32WI1151 is a stone circle and stone alignment site and is in fair condition. The features are moderately sodded and the depth of the stones suggests the potential for intact subsurface deposits. While no subsurface testing was performed at the site due to the presence of cultural features that may be considered of a sacred nature, subsurface testing may yield important information necessary to refine temporal association. Accordingly, SWCA recommends the site remain unevaluated regarding its NRHP eligibility under Criterion D until subsurface testing can be conducted. Due to the presence of features that may be considered of a sacred nature, the site also remains unevaluated regarding its NRHP eligibility under Criterion A pending tribal consultation.

Management Recommendation

SWCA recommends avoidance of 32WI1151 pending subsurface testing and tribal consultation. SWCA recommends a 50-foot-wide avoidance buffer be placed around the site boundary (see Figure 37) and that the pipeline construction corridor be rerouted and necked-down, as needed, so that all construction activities and vehicle traffic remain outside of this buffer zone. SWCA further recommends fencing of the eastern edge of the temporary construction corridor to ensure that all construction activities remain within the corridor.

32WI1152

Site Type:	Cultural Material Scatter/Trash Dump
Association:	Unknown Historic
Site Size:	64.2 by 47.3 feet (2,270.3 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1152 is an historic cultural material scatter or trash dump located on an east-southeast-facing slope of a gentle ridge overlooking a valley and drainage to the east (Figures 42 and 43). A north/south-trending fence is approximately 20 m east and a two-track road flanks the west side of the site. A farm house and barn are visible to the northwest and 67th Street NW is approximately 200 m north. Vegetation consists of prairie grasses and short forbs, allowing for 50 percent ground surface visibility. Soils are light to medium brown sandy clay loam with rock and pebble inclusions and colluvial deposition. The site is in poor condition and has been impacted by plowing and erosion.

Figure 42. 32WI1152. Site overview from northeastern site boundary, facing southwest.

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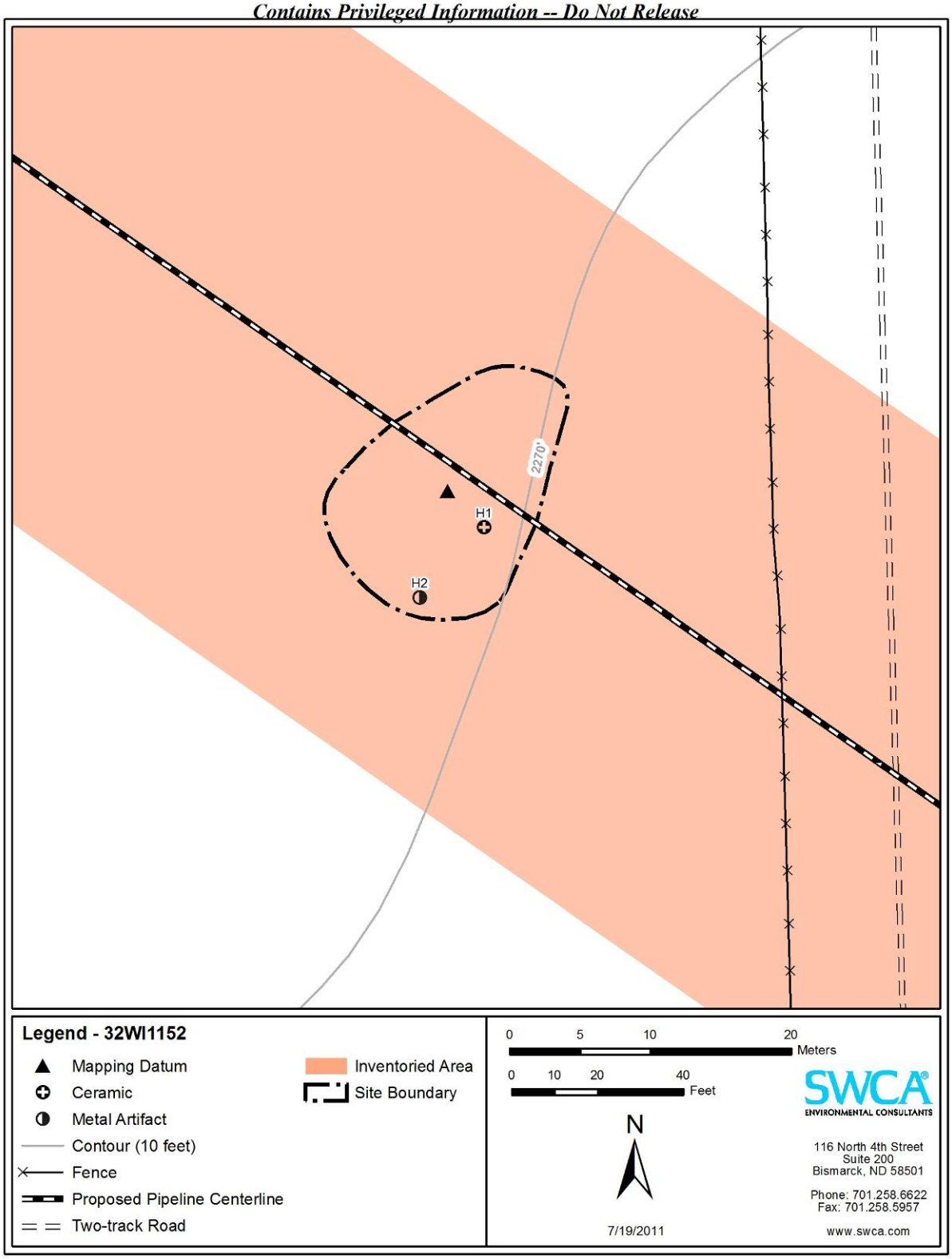

Figure 43. 32WI1152. Site sketch map.

Survey Results

SWCA newly recorded 32WI1152 on May 14, 2011. The site consists of an historic cultural material scatter or trash dump. The artifact assemblage includes one piece of whiteware ceramic; two pieces of porcelain; one aqua bottle glass fragment; one clear bottle glass fragment; two pink bottle glass fragments; three clear flat glass fragments; one amethyst glass bottle finish; and one decorative metal fragment. H1 is a porcelain plate fragment with an impressed design near the rim and has a scalloped edge. H2 is a metal piece that is decorated with an impressed design and partial number of 45 on the inside surface. The site appears to have been an historic dump area possibly associated with the two-track road to the east. No features were observed.

Historical Research

SWCA conducted historic background research for Section 33, T157N, R102W. According to the BLM GLO land patent search, the land in the northeast quarter of Section 33 was part of a 160-acre land claim patented to Herbert L Shuttleworth on July 30, 1908, as a Cash Entry (BLM 2011 [1908]:Accession 5885). The land in the southeast quarter of Section 33 was patented as part of a 160-acre land claim by Maggie Shuttleworth one year later on June 7, 1909; this was also a cash sale entry. A search of the 1920 U.S. Census records revealed that Maggie Shuttleworth is Herbert's mother and they lived in the same household with Herbert's wife Belle and their three daughters (Marie, Fay, and Evelyn). In 1920, the Shuttleworths lived in Survey, Ward County, North Dakota (U.S. Bureau of the Census 1920:Roll T625_1343, Page 10A). Maggie was born in Canada around 1852. Herbert was born in Missouri in 1877 and was working as the manager of a lumber yard in 1920. Whether or not the Shuttleworths lived on their property in Section 33, T157N, R102W cannot be determined from the available records.

NRHP Eligibility Recommendation

32WI1152 is an historic cultural material site consisting of a sparse cultural material scatter. SWCA recommends the site not eligible for nomination to the NRHP under Criteria A or B, because the site was not found to be linked to historically significant events or people. 32WI1152 is recommended not eligible for nomination to the NRHP under Criterion C since no standing structures are present at the site and none of the cultural material reflects the work of a master or embodies distinctive characteristics of a type, period, or method of construction. While no subsurface testing was performed at the site, the cultural material appear to be limited to the surface and the site lacks diagnostic artifacts or features likely to yield important information necessary to refine temporal and cultural association. Accordingly, SWCA recommends the site not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction.

32WI1153

Site Type:	Homestead, Cultural Material Scatter
Association:	Unknown Historic
Site Size:	224.7 by 149.8 feet (24,766.3 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1153 is an historic homestead site located on a south-facing ridge slope overlooking a large valley and permanent stream to the south (Figures 44 and 45). A smaller drainage exists approximately 30 m to the southwest. North/south-trending 145th Avenue, a ditch, and a fence line flank the eastern boundary of the site and 64th Street NW is visible about 0.5 mile south. A dilapidated house and partially buried outbuilding are west of the site. Vegetation consists of prairie grasses, which completely cover the site, and some woody forbs near the western edge, allowing for less than 1 percent ground surface visibility. Soils are highly organic dark brown sandy clay loam with pebble inclusions. The site is in poor condition and erosion has impacted the site.

Figure 44. 32WI1153. Site overview with Feature 2 in foreground and figure standing at Feature 1, facing north.

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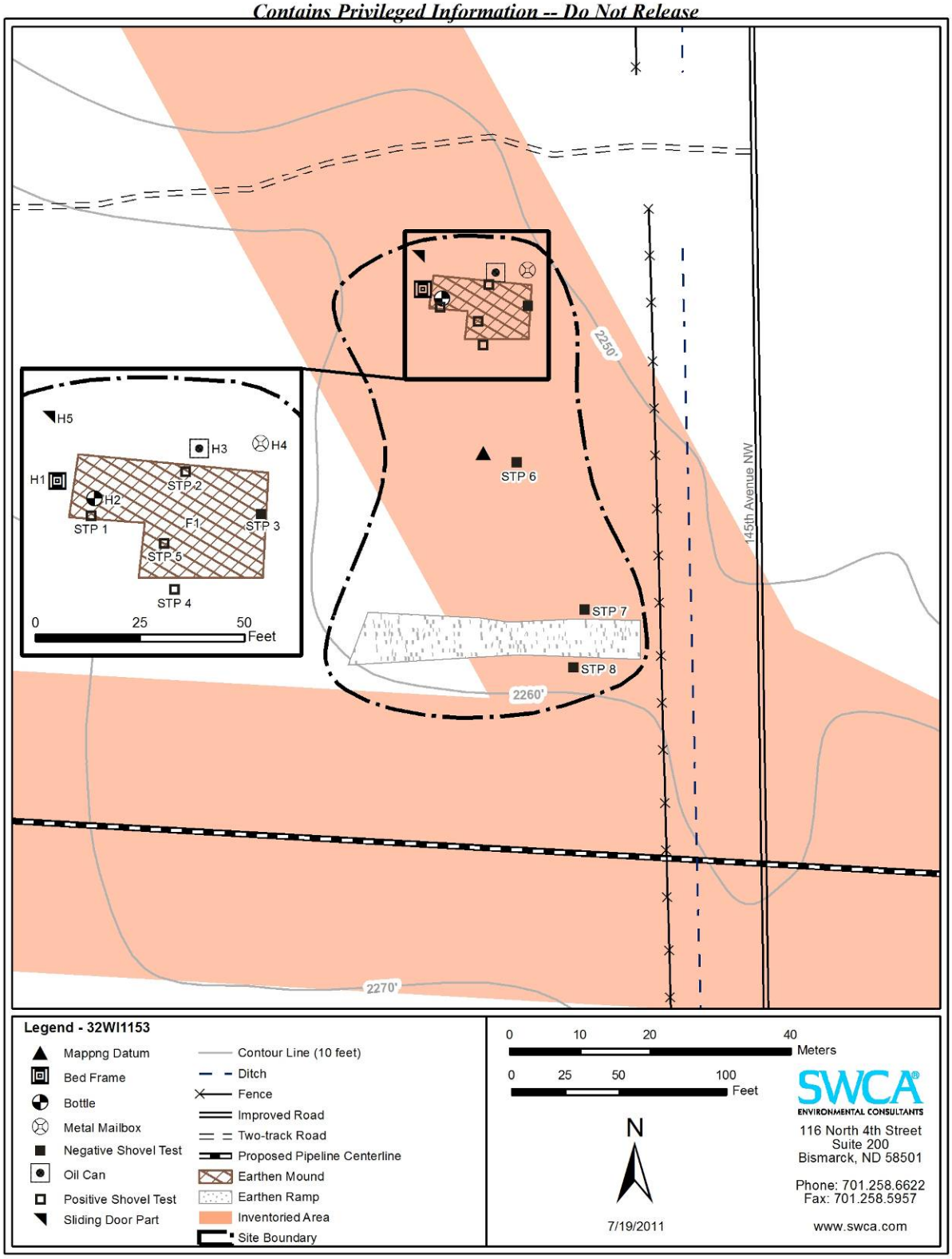

Figure 45. 32WI1153. Site sketch map.

Survey Results

SWCA newly recorded 32WI1153 on May 14, 2011. The site consists of two historic features and a cultural material scatter.

Feature 1 is a rectangular earthen mound with stacked quartzite stone-lined sides on the north, south, and east elevations and an earthen ramp on the west elevation (Figure 46). The feature measures 27.9 feet north/south by 46.3 feet east/west. Erosion has caused the stone lining of the feature to slump to the south. Although the feature is fairly intact, the building that once stood at this location is now gone. The feature may have been a garage or workshop based on the earthen ramp into the feature.

Feature 2 is a rectangular earthen ramp that measures 23.6 feet north/south by 130.6 feet east/west (Figure 47). Feature 2 appears to have been a built up driveway that allowed access to the property from 145th Avenue NW.

The artifact assemblage includes one metal bed headboard frame (H1), one Owen's Illinois clear glass jug base (H2), one metal oil can with a maker's mark (H3), one metal nail box inscribed with WILLIAMS 88 (H4), one metal and wood sliding door threshold (H5), several wooden architectural beams, three amber and clear glass fragments, one metal pipe, 11 pieces of unidentified scrap metal, and one unidentifiable metal can with screw top spout. The artifact scatter is concentrated in and around Feature 1.

Figure 46. 32WI1153. Feature 1, earthen mound south elevation, with tape measure set at 3 feet, facing northeast.

Figure 47. 32WI1153. Feature 2, earthen ramp, with tape measure set at 3 feet, facing northeast.

Shovel Test Results

Shovel testing was performed at 32WI1153 on June 7, 2011, to evaluate the site's potential to contain intact and interpretable subsurface deposits. Eight shovel tests were excavated to a depth of 22 to 63 cmbs (Table 6). Shovel Tests 1, 2, 4, 6, and 7 were terminated when sterile soils or calcium carbonate deposits were encountered. Shovel Tests 3, 5, and 8 were terminated when dense gravels or large rocks impeded excavating. The dominant sediment encountered was clay loam which, in five of the tests, graded into sandy clay loam at depths exceeding approximately 19 to 30 cmbs. Four of the eight shovel tests yielded cultural material. Shovel Tests 1, 2, 4, and 5, revealed shallowly buried historic material. The artifacts recovered from Shovel Tests 1, 2, and 5 are likely the result of the collapse or dismantling of the original structure. The artifacts recovered from the four positive shovel tests lack any diagnostic characteristics and, therefore, will not contribute to refinement of the temporal and cultural association of the site or to the history of the region.

Table 6. Shovel Test Results for 32WI1153.

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
1	30 cm	54 cmbs	0-30 cmbs: dark brown clay loam 30-54 cmbs: dark brown sandy clay loam Terminated due to sterile soils and calcium carbonate deposits	0-40 cmbs: 50+ pieces of architectural wood; 11 pieces of can metal; 3 wire nails; 2 pieces of concrete

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
2	30 cm	43 cmbs	0-19 cmbs: dark brown clay loam 19-43 cmbs: light brown sandy clay loam Terminated due to sterile soils and calcium carbonate deposits	0-19 cmbs: 50+ pieces of architectural wood; 1 wire nail; 1 piece of concrete
3	30 cm	43 cmbs	0-30 cmbs: dark brown clay loam with moderate gravel inclusions 30-43 cmbs: brown sandy clay loma with moderate to dense gravel inclusions Terminated due to densely packed gravels	None
4	30 cm	41 cmbs	0-14 cmbs: dark brown clay loam with light gravel inclusions 14-30 cmbs: brown clay loam 30-41 cmbs: light brown sandy clay loam with calcium carbonate inclusions Terminated due to sterile soils	10 cmbs: 1 nail
5	30 cm	22 cmbs	0-22 cmbs: brown sandy clay loam Terminated due to large boulder at 22 cmbs	5 cmbs: 1 nail 15 cmbs: 1 nail
6	30 cm	46 cmbs	0-22 cmbs: dark brown clay loam 22-46 cmbs: brown sandy clay loam with increasing gravel and calcium carbonate inclusions toward bottom of level Terminated due to sterile soils	None
7	30 cm	63 cmbs	0-63 cmbs: dark brown silty clay Terminated due to densely packed calcium carbonate level	None
8	30 cm	57 cmbs	0-57 cmbs: dark brown/black silty sandy clay; dense roots 0-20 cmbs Terminated due to rock layer	None

Historical Research

SWCA conducted historic background research for Section 8, T156N, R102W. According to the BLM GLO land patent search, the land in the northeast quarter of Section 8 was part of a 160-acre land claim patented to John Battes Jr. on January 15, 1919, under the authority of the Original Homestead Act of 1862 and is subject to the limitations of the Act of 1910 (BLM 2011 [1919]:Accession 659499). After performing historic research, SWCA was unable to locate records of the John Battes Jr. who patented this piece of land in 1919.

NRHP Eligibility Recommendation

32WI1153 is an historic homestead site consisting of two features and a sparse cultural material scatter. SWCA recommends the site not eligible for nomination to the NRHP under Criteria A or B, because the site was not found to be linked to historically significant events

or people. 32WI1153 is recommended not eligible for nomination to the NRHP under Criterion C since the foundations are the only remaining portions of standing structures that were once located on the site. The removal of the structure associated with the foundations and the disturbance to the site from agricultural activities, such as tilling, have greatly impacted the site's integrity and as a result the site is unlikely to yield further information to the history of the region. Subsurface testing was performed at the site and the artifact assemblage appears to be limited to the surface and near surface which does not indicate intact subsurface deposits. Additionally, a lack of diagnostic artifacts was observed in the shovel test assemblage. Therefore, 32WI1153 is unlikely to yield important information necessary to refine temporal and cultural association or to contribute to the history of the region. Accordingly, SWCA recommends the site not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction. However, as proposed, the construction corridor will avoid the site.

32WI1154

Site Type:	Homestead, Cultural Material Scatter
Association:	Unknown Historic
Site Size:	246.7 by 162.1 feet (28,939.1 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1154 is an historic homestead and cultural material scatter located on a southeast-facing hill slope overlooking a large valley and permanent stream to the south-southeast (Figures 48 and 49). Hills are located on the north and northwest sides of the site. The site is bisected by a northwest/southeast-trending two-track road. A permanent stream is approximately 200 m south of the site. An existing barn and shed are located south of the site and are surrounded by abandoned farm equipment. Vegetation consists of prairie grasses and woody forbs, allowing for less than 1 percent ground surface visibility. A row of east/west-trending trees is 5 m south of the site. Soils are dark brownish-gray silty clay loam with a high content of organics and small pebble inclusions. Deposition is colluvial. The site is in very poor condition and has been impacted by erosion and disuse.

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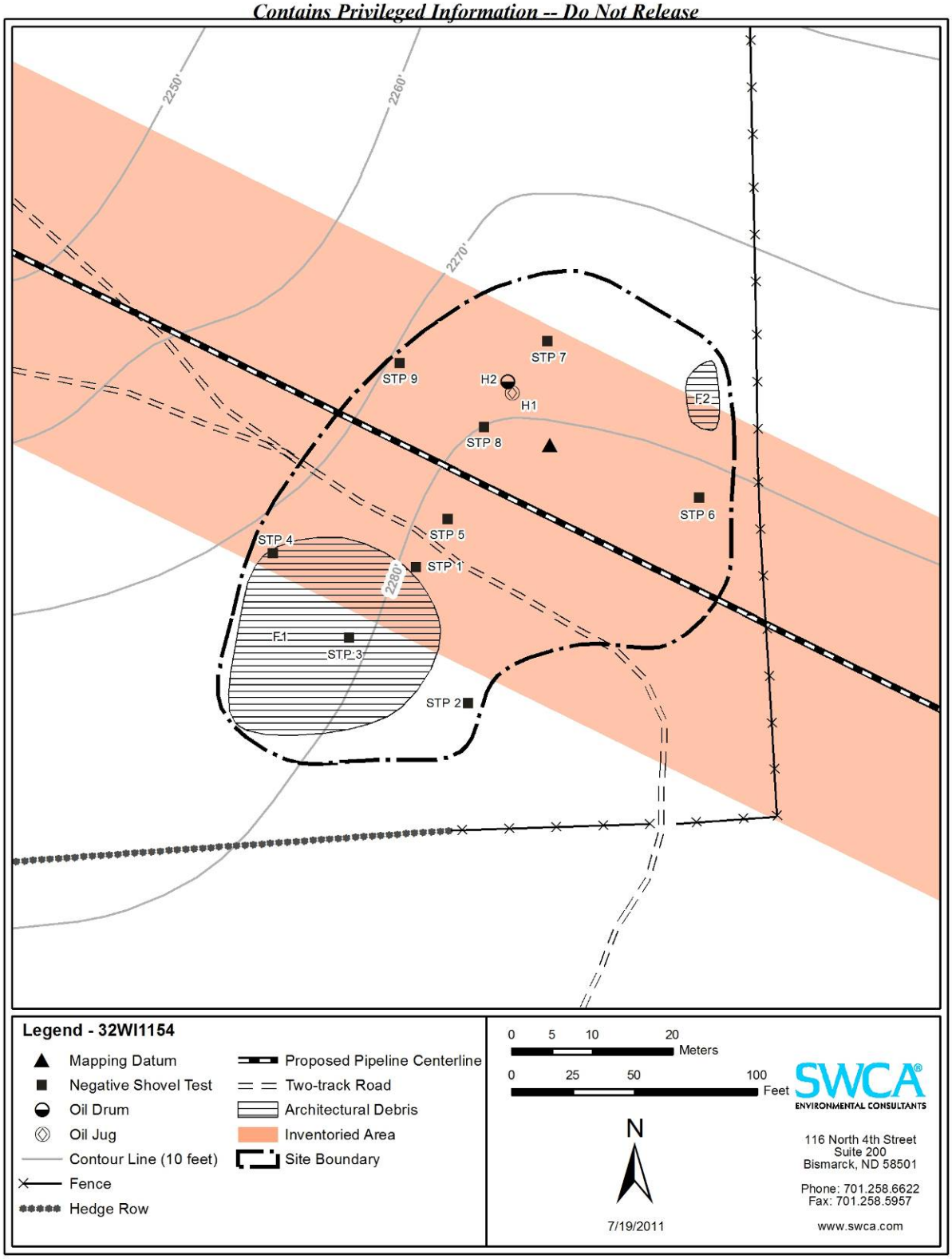

Figure 48. 32WI1154. Site sketch map.

Figure 49. 32WI1154. Site overview with Feature 1 in foreground, facing northeast.

Survey Results

SWCA newly recorded 32WI1154 on May 14, 2011. The site consists of two historic features and a cultural material scatter. Feature 1 is located south of the two-track road while Feature 2 and the remaining cultural material scatter are located north of the road. Feature 1 consists of a dilapidated building roof and gables, and various pieces of wooden boards and metal attachments, most likely from a structure or several structures in an area measuring approximately 80 feet north/south by 80 feet east/west (Figure 50). Feature 2 consists of a galvanized metal stock water tank and a wood debris pile; the wood debris appears to be the remains of a structure (Figure 51). The feature covers an area measuring approximately 26 feet north/south by 15 feet east/west. The artifact assemblage not associated with the features includes wood debris, farm equipment, two metal oil drums with maker's marks, one metal bucket, one metal and wood trailer, one corrugated metal trough, wooden fence posts, tractor wheels and tires, a metal wheel filled with concrete, three unidentified wood and metal structure pieces, barbed wire spools, one coffee can, an unidentified metal implement, flat glass fragments, metal chains, and screws.

H1 is a partially crushed oil jug with a maker's mark that reads G.P & F. MILW. WIS. The Geuder, Paeschke, and Frey Company was a tinware manufacturing business based out of Milwaukee, Wisconsin. The company was originally founded in 1880 by Charles Paeschke and William Geuder as the Geuder, Paeschke and Co. In 1882, the firm changed its name to Geuder and Paeschke Manufacturing Co. and later became the Geuder, Paeschke and Frey Company in 1909 (Wisconsin Historical Society 2011).

H2 is an oil drum.

Figure 50. 32WI1154. Feature 1, dilapidated roof and gable, with tape measure set at 3 feet, facing south.

Figure 51. 32WI1154. Feature 2, stock tank and debris pile, with tape measure set at 3 feet, facing north-northwest.

The site appears to be associated with the barn and shed located south of the site. Because both of these buildings are still in use they were not formally recorded or evaluated as part of

the site. The landowner indicated that the roof and gable located as part of Feature 1 are from a shed that was built around the 1930s or 1940s.

Shovel Test Results

Shovel testing was performed at 32WI1154 on June 7, 2011, to evaluate the site's potential to contain intact and interpretable subsurface deposits. Nine shovel tests were excavated to a depth of 27 to 55 cmbs (Table 7). All shovel tests were terminated when water was encountered. The dominant sediment encountered was silty clay loam which, in eight of the tests, graded into clay loam at depths exceeding approximately 20 to 45 cmbs. None of the nine shovel tests yielded cultural material.

Table 7. Shovel Test Results for 32WI1154.

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
1	30 cm	41 cmbs	0-25 cmbs: dark brown silty clay loam 25-41 cmbs: brown clay loam Terminated due to water	None
2	30 cm	45 cmbs	0-24 cmbs: dark brown silty clay loam 24-45 cmbs: brown clay loam Terminated due to water	None
3	30 cm	27 cmbs	0-20 cmbs: dark brown silty clay loam 20-27cmbs: brown clay loam Terminated due to water	None
4	30 cm	54 cmbs	0-30 cmbs: dark brown silty clay loam 30-45 cmbs: brown/gray clay loam 45-54 cmbs: brown/gray clay loam with calcium carbonate inclusions Terminated due to water	None
5	30 cm	43 cmbs	0-21 cmbs: dark brown silty clay loam 21-43 cmbs: brown clay loam Terminated due to water	None
6	30 cm	55 cmbs	0-45 cmbs: dark brown silty clay loam 45-55 cmbs: brown clay loam Terminated due to water	None
7	30 cm	43 cmbs	0-43 cmbs: dark brown silty clay loam Terminated due to water	None
8	30 cm	46 cmbs	0-35 cmbs: dark brown silty clay loam 35-46 cmbs: brown clay loam Terminated due to water	None
9	30 cm	44 cmbs	0-28 cmbs: dark brown silty clay loam 28-44 cmbs: brown clay loam Terminated due to water	None

Historical Research

SWCA conducted historic background research for Section 9, T156N, R102W. According to the BLM GLO land patent search, the land in the northwest quarter of Section 9 was part of a 160-acre land claim patented to Alfred T. West on April 5, 1909, under the authority of the Land Law of 1820 (BLM 2011 [1909]:Accession 54799). After performing historic research SWCA was unable to locate records of the Alfred T. West who patented this piece of land in 1909.

NRHP Eligibility Recommendation

32WI1154 is an historic homestead site consisting of two features and a sparse cultural material scatter. SWCA recommends the site not eligible for nomination to the NRHP under Criteria A or B, because the site was not found to be linked to historically significant events or people. 32WI1154 is recommended not eligible for nomination to the NRHP under Criterion C since the foundations are the only remaining portions of standing structures that were once located on the site. The removal of the structure associated with the foundation and the disturbances to the site from agricultural activities, such as tilling, and continued modern use have greatly impacted the site's integrity and as a result the site is unlikely to yield further information to the history of the region. Subsurface testing performed at the site yielded no subsurface deposits; therefore, the features and cultural material associated with the site are limited to the surface and are unlikely to yield important information necessary to refine temporal and cultural association or to the history of the region. Accordingly, SWCA recommends the site not eligible for nomination to the NRHP under Criterion D.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is warranted. Avoidance of this site is not necessary during construction.

32WI1155

Site Type:	Depression and Cultural Material Scatter
Association:	Unknown Historic
Site Size:	533.3 by 303.9 feet (55,112.4 feet^2)
NRHP Recommendation:	Not Eligible
Management Recommendation/Project Effect:	No Further Work/No Effect

Site Description

32WI1155 is an historic depression and cultural material scatter located on the top and south-facing slopes of a rolling hill (Figures 52 and 53). North/south-trending 143rd Avenue NW is 50 m west and east/west-trending Highway 2 is approximately 200 m north of the site. A northeast/southwest-trending drainage is visible approximately 50 m east and southeast. Vegetation to the north, south, and east of the site consists of tall grasses, brome, and various forbs, allowing for ground surface visibility of less than 10 percent. A possible pipeline scar, with very little vegetation, bisects the site, allowing for approximately 100 percent ground surface visibility. Soils consist of dark brown sandy loam with colluvial deposition. Impacts to this site include agricultural plowing and vehicle traffic. The site is in poor condition due to heavy disturbance from plowing and pipeline construction.

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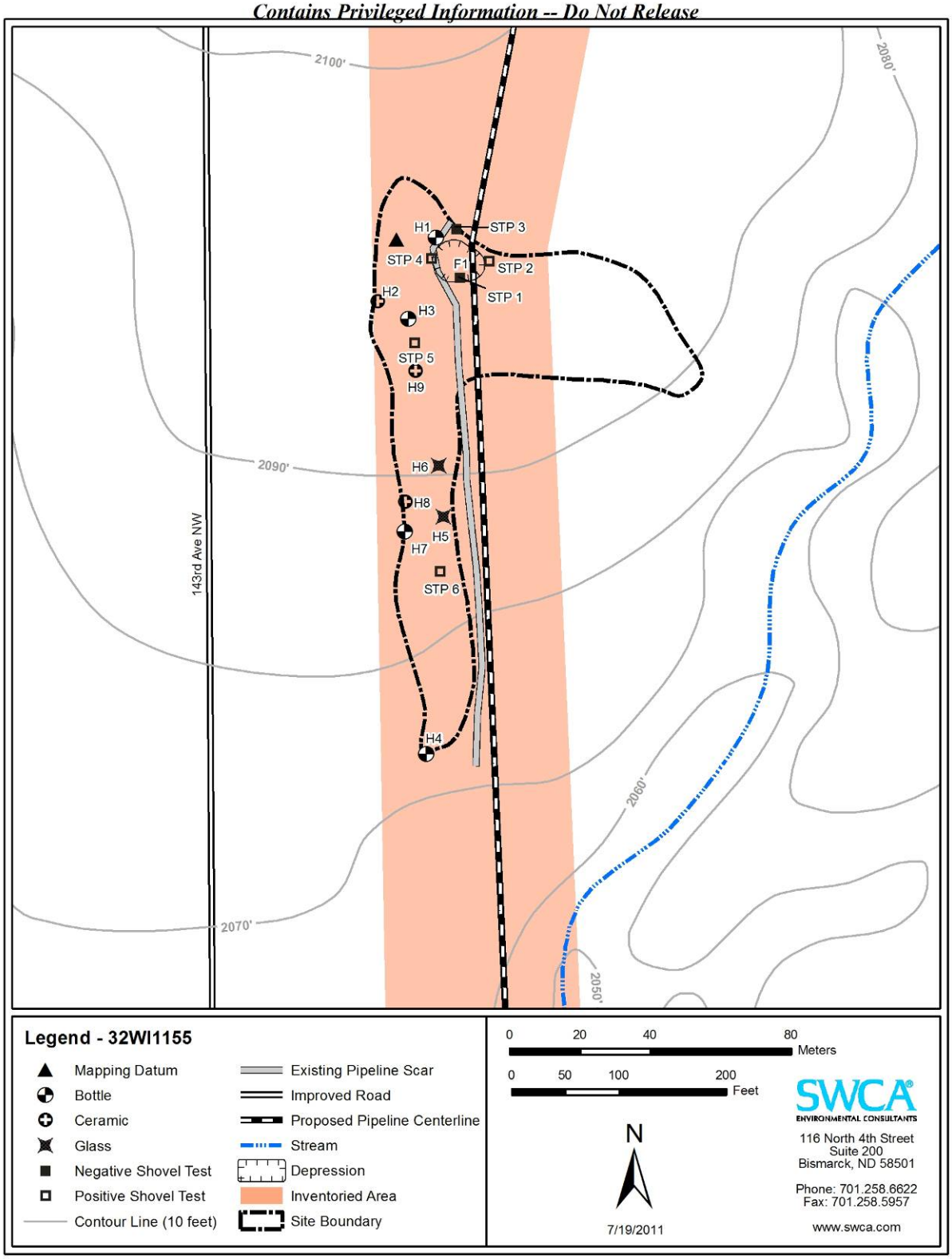

Figure 52. 32WI1155. Site sketch map.

Figure 53. 32WI1155. Site overview with view of pipeline scar, facing north.

Survey Results

SWCA newly recorded 32WI1155 on April 21, 2011. The site consists of a depression (Feature 1) and a cultural material scatter with nine diagnostic artifacts. The artifact assemblage includes fragments of ceramic whiteware, porcelain, transfer print ceramics, ceramic stoneware, amber glass, cobalt glass, aqua glass, green glass, amethyst glass, wire fragments, various pieces of metal, leather, rubber, and cut bone. Most of the artifacts have been scattered and broken by plowing. The artifacts are concentrated in the northern portion of the site, but extend downhill to the south, most likely effects of slopewash and movement from plowing. A scatter of cinderblocks, concrete, tires, and other trash was observed west of the feature.

Feature 1 is a depression measuring 32 feet north/south by 35 feet east/west (Figure 54). The depression is surrounded by a heavily disturbed plowed field and several hundred rocks piled in and around the depression. The rocks may be from a push pile from field clearing west of the site. A bent piece of metal is sticking out of the east end of the feature. Broken pieces of concrete are mixed in with cobbles on the west end of the feature. Some of the cobbles in the pile appear to have been cemented together. Artifacts associated with the depression include six pieces of broken red brick, one crushed can, one fragment of aqua glass, and one piece of milled lumber.

Figure 54. 32WI1155. Feature 1, depression filled in with rocks, tape set at 1 m, facing north.

H1 is a fragment of a Coca-Cola aqua glass bottle. The fragment is a piece of the bottle body and is embossed with CO.

H2 is a flow blue ceramic fragment on a whiteware ceramic.

H3 is a clear medicinal bottle with cap. The maker's mark has a number 3 on the base in a suction seal.

H4 is a brown beer bottle crown-cap finish and neck fragment.

H5 is the top and neck of a non-machine-made aqua glass bottle.

H6 is a body fragment of an aqua glass bottle embossed with the letters OT above N.

H7 is a base fragment of an amethyst glass bottle. The base exhibits a suction seal but no maker's marks. Amethyst discoloration of glass is the result of a temporally significant clarification process. The process was in use from the 1880s until circa 1920 (Lindsey 2011).

H8 is a rim fragment of a whiteware ceramic. The ceramic has a multi-colored floral decal print over the glaze.

H9 is a fragment of a whiteware ceramic with a transfer print under the glaze. The transfer print exhibits two blue birds sitting on a flowered branch.

Shovel Test Results

Shovel testing was performed at 32WI1155 on June 8, 2011, to evaluate the site's potential to contain intact and interpretable subsurface deposits. Six shovel tests were excavated to a depth of 27 to 56 cmbs (Table 8). Shovel Tests 1, 4, and 5 were terminated when sterile soils or calcium carbonate deposits were encountered. Shovel Tests 2 and 3 were terminated when dense gravels or large rocks impeded excavating. Shovel Test 6 was terminated due to compact soils. The dominant sediment encountered was silty clay loam which, in five of the tests, graded into sandy clay loam at depths exceeding approximately 13 to 23 cmbs. Four of the six shovel tests yielded cultural material. Shovel Tests 2, 4, 5, and 6 revealed shallowly buried modern material. However, because the artifacts were limited to the top 20 cm of sediment, within areas subject to bioturbation, plowing, and other surface impacts, it is likely that these subsurface cultural deposits are disturbed.

Table 8. Shovel Test Results for 32WI1155.

Test Number	Diameter	Depth	Soil Matrix	Cultural Material
1	30 cm	56 cmbs	0-23 cmbs: brown silty clay loam 23-56 cmbs: light gray-brown sandy silt clay Terminated due to sterile soils and calcium carbonate deposits	None
2	30 cm	46 cmbs	0-18 cmbs: brown silty clay loam 18-46 cmbs: lighter brown sandy clay loam Terminated due to a large rock at 46 cmbs	5-10 cmbs: 1 shard of milk glass
3	30 cm	27 cmbs	0-27 cmbs: brown clay loam Terminated due to rocks at 27 cmbs	None
4	30 cm	55 cmbs	0-44 cmbs: dark brown silty clay loam 24-55 cmbs: light gray-brown sandy clay loam; calcium carbonate inclusions beginning at 50 cmbs. Terminated due to sterile soils with calcium carbonate inclusions	10 cmbs: 1 shard glass
5	30 cm	48 cmbs	0-17 cmbs: dark brown silty clay loam 17-48 cmbs: grayish-brown sandy clay loam; calcium carbonate inclusions beginning at 45 cmbs Terminated due to sterile soils with calcium carbonate inclusions	10-17 cmbs: 1 shard glass
6	30 cm	53 cmbs	0-13 cmbs: dark brown silty clay loam 13-25 cmbs: light brown sandy clay loam with moderate gravels 25-53 cmbs: very dark brown clay loam Terminated due to compact soils	10 cmbs: 1 sherd whiteware with black transferprint maker's mark

Historical Research

SWCA conducted historic background research for Section 26, T154N, R102W. According to the BLM GLO land patent search, the land in the northwest quarter of Section 26 was part of a 160-acre land claim patented to Anna Nelson on August 1, 1910, under the authority of the Land Law of 1820 (BLM 2011 [1910]:Accession 147042). After performing historic research SWCA was unable to locate records of the Anna Nelson who patented this piece of land in 1910.

NRHP Eligibility Recommendation

32WI1155 is an historic site consisting of a sparse cultural material scatter. SWCA recommends the site not eligible for nomination to the NRHP under Criteria A or B, because the site was not found to be linked to historically significant events or people. 32WI1155 is recommended not eligible for nomination to the NRHP under Criterion C since the site lacks evidence of foundations or standing structures that may have been located on the site. Subsurface testing was performed at the site and the artifact assemblage appears to be limited to the surface and near surface an area which has been subjected to disturbance from agricultural activities and pipeline construction and does not indicate intact subsurface deposits. Therefore, 32WI1155 is unlikely to yield important information necessary to refine temporal and cultural association nor to the history of the region, consequently the site is recommended not eligible for nomination to the NRHP under Criterion D. Accordingly, SWCA recommends the site not eligible for nomination to the NRHP under all criteria.

Management Recommendation

All relevant material data have been recovered with the current recording of the site and no additional work is recommended. Avoidance of this site is not necessary during construction.

32WI1156

Site Type:	Stone Circles
Association:	Unknown Prehistoric
Site Size:	114.6 by 48.2 m (4,285.1 m^2)
NRHP Recommendation:	Unevaluated
Management Recommendation/Project Effect:	Avoid, Neck Down, and Fence /No Effect

Site Description

32WI1156 is a stone feature site located on the top and northeast side of an east/west-trending rolling ridge overlooking a valley (Figures 55 and 56). Scattered boulders and cobbles are spread on the ridge top. An east/west-trending fence line separates the site from a plowed field. East/west-trending 56th Street NW is approximately 700 m north of the site, and a small drainage is approximately 20 m west. Vegetation consists of short grasses, prairie flowers, and various forbs, allowing for 5 to 10 percent ground surface visibility. Soils are brown sandy clay with colluvial and glacial deposition. The site is in fair condition and the features appear to be intact. Impacts to the site include grazing, plowing, and erosion.

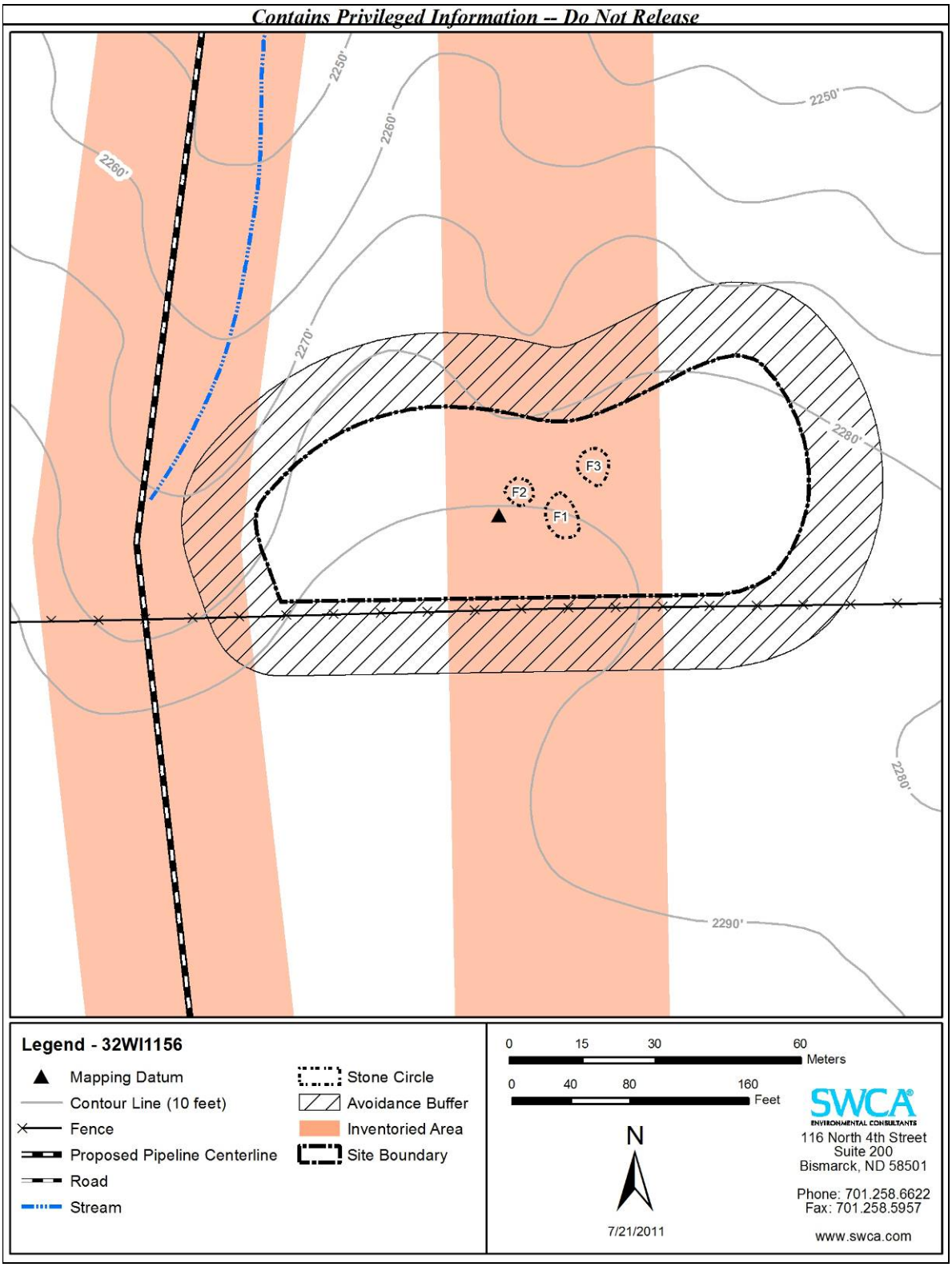

Figure 55. 32WI1156. Site sketch map.

Figure 56. 32WI1156. Site overview, facing east.

Survey Results

SWCA newly recorded 32WI1156 on April 23, 2011. The site consists of three stone circles and one lithic flake in the survey area. SWCA observed three additional three stone circles and two cairns outside of the project area; however, these features were not recorded due to restricted landowner access. Two stone circles and one stone cairn were observed to the west of the recorded features; one stone circle and one stone cairn were observed to the east. The site boundary illustrated on the site sketch map (Figure 55) reflects an estimation of the full site size.

Feature 1 is a moderately defined, complete circular-shaped stone circle measuring 7.50 m east/west by 7.25 m north/south (Figure 57). The circle contains 17 stones that range in size from 18 to 40 cm. Lichen growth ranges from 40 to 70 percent coverage on the stones, which are deeply sodded. A single course of stones is present and a 3.5-m gap is present in the eastern wall of the circle.

Feature 2 is a complete, circular-shaped stone circle with moderate definition (Figure 58). The feature measures 4.30 m east/west by 4.86 m north/south. The circle contains eight stones that range in size from 14 to 30 cm. The stones are deeply sodded and contain approximately 90 percent lichen growth. Two courses of stones are present and a 3.53-m gap is present on the eastern edge of the feature.

Feature 3 is complete, circular-shaped stone circle measuring 5.24 m east/west by 6.29 m north/south (Figure 59). The circle is poorly defined due to the deeply sodded stones. The feature contains 30 stones ranging in size from 10 to 39 cm. A single course of stones is present. A 3.53-m-wide gap appears in the southern wall of the circle. One piece of greenish-gray chert shatter, size 2 cm, was observed near Feature 3.

Figure 57. 32WI1156. Feature 1, stone circle, with tape measure set at 1 m, facing southeast.

Figure 58. 32WI1156. Feature 2, stone circle, with tape measure set at 1 m, facing northwest.

Figure 59. 32WI1156. Feature 3, stone circle, with tape measure set at 1 m, facing northwest.

NRHP Eligibility Recommendation

32WI1156 is a stone circle site in fair condition. The stone features exhibit deep sodding and indicate potential for intact subsurface deposits. While no subsurface testing was performed at the site due to the presence of cultural features that may be considered of a sacred nature, subsurface testing may yield important information necessary to refine temporal association. Accordingly, SWCA recommends the site remain unevaluated regarding its NRHP eligibility under Criterion D until subsurface testing can be conducted. Due to the presence of features that may be considered of a sacred nature, the site also remains unevaluated regarding its NRHP eligibility under Criterion A pending tribal consultation.

Management Recommendation

SWCA recommends avoidance of 32WI1156 pending subsurface testing and tribal consultation. SWCA recommends a 50-foot-wide avoidance buffer be placed around the site boundary (see Figure 55) and that the pipeline construction corridor be rerouted and necked-down, as needed, so that all construction activities and vehicle traffic remain outside of this buffer zone. SWCA further recommends fencing of the eastern edge of the temporary construction corridor to ensure that all construction activities remain within the corridor.

32WI1157

Site Type:	Stone Circle
Association:	Unknown Prehistoric
Site Size:	40.1 by 36.1 m (1,138.5 m^2)
NRHP Recommendation:	Unevaluated
Management Recommendation/Project Effect:	Avoid, Neck Down, and Fence/No Effect

Site Description

32WI1157 is an unknown prehistoric stone circle located on a southwest-facing slope of a rolling hill, overlooking valleys to the south and east (Figures 60 and 61). An east/west-trending fence is approximately 30 m south and a pipeline scar is approximately 20 m south of the site. East/west-trending 59th Street NW is 50 m south and a small two-track road is 30 m west of the site. At the time of recording, well pad construction was taking place west of the site. Vegetation consists of brome, low grasses, prairie flowers, and various forbs, allowing for approximately 5 to 10 percent ground surface visibility. Soils are brown clay loam of colluvial deposition. The site is in fair condition and has been impacted by plowing, grazing, and possibly pipeline construction.

Figure 60. 32WI1157. Site overview with well pad construction in the background, facing west.

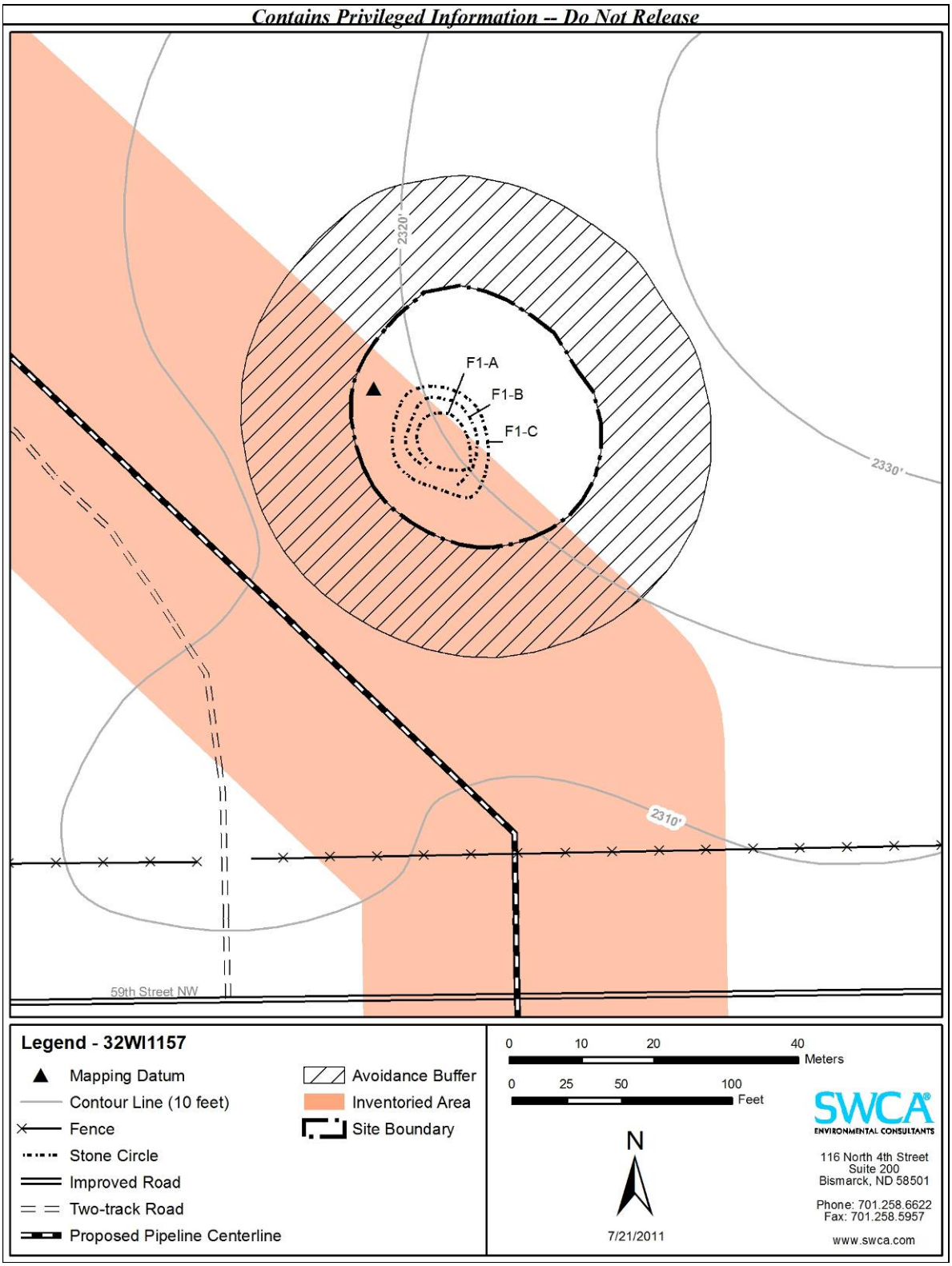

Figure 61. 32WI1157. Site sketch map.

Survey Results

SWCA newly recorded 32WI1157on April 25, 2011. The site consists of one stone circle feature with three concentric rings (Figure 62). Overall the stones in all three rings are deeply sodded and range in size from 12 to 42 cm.

Figure 62. 32WI1157. Feature 1, stone circle, with tape measure set at 1 m, facing northeast.

Feature 1a is the smallest ring of the stone circle and lies in the center of the concentric rings. The feature is a complete, circular-shaped stone ring that measures 6.7 m northeast/southwest by 7.6 m northwest/southeast. The feature contains approximately 82 stones that exhibit 20 to 60 percent lichen coverage. The ring has two to three courses of stones and is moderately defined.

Feature 1b is the second ring of the stone circle and encompasses Feature 1a. The feature is a three-quarter-complete stone ring that measures 11.1 m northeast/southwest by 9.3 m northwest/southeast. The feature contains approximately 60 stones that exhibit 50 to 80 percent lichen coverage. The ring has one to two courses of stones.

Feature 1c is the outermost stone ring of the stone circle and encompasses both Features 1a and 1b. The feature is a three-quarter-complete stone ring that measures 17.5 m northeast/southwest by 15.5 m northwest/southeast. The feature contains approximately 70 stones with 50 to 80 percent lichen coverage and one to two courses of stones.

Features 1a and 1b are both well-defined in the southwest quadrant of the stone circle but are poorly defined throughout the other quadrants due to scattered stones. The area has been previously plowed, which may explain the disturbance to the features.

NRHP Eligibility Recommendation

32WI1157 is a stone circle site consisting of three concentric rings. The site is in fair condition and the depth of the stones indicates potential for intact subsurface deposits. While no subsurface testing was performed at the site due to the presence of cultural features that may be considered of a sacred nature, subsurface testing may yield important information necessary to refine temporal association. Accordingly, SWCA recommends the site remain unevaluated regarding its NRHP eligibility under Criterion D until subsurface testing can be conducted. Due to the presence of features that may be considered of a sacred nature, the site also remains unevaluated regarding its NRHP eligibility under Criterion A pending tribal consultation.

Management Recommendation

SWCA recommends avoidance of 32WI1157 pending subsurface testing and tribal consultation. SWCA recommends a 50-foot-wide avoidance buffer be placed around the site boundary (see Figure 61) and that the pipeline construction corridor be rerouted and necked-down, as needed, so that all construction activities and vehicle traffic remain outside of this buffer zone. SWCA further recommends fencing of the northeastern edge of the temporary construction corridor to ensure that all construction activities remain within the corridor.

32WI1158

Site Type:	Stone Cairn
Association:	Unknown
Site Size:	18.8 by 28.13 m (28.13 m^2)
NRHP Recommendation:	Unevaluated
Management Recommendation/Project Effect:	Avoid, Neck Down, and Fence /No Effect

Site Description

32WI1158 is a single stone cairn site of unknown age or cultural affiliation, located within rolling grasslands located on the top of a small knoll on the north-facing slope of a ridge (Figures 63 and 64). The site is located approximately 0.55 mile to the west of 143rd Avenue NW and 0.34 mile to the south of 56th Street NW. Vegetation includes green needlegrass, Kentucky bluegrass, western wheatgrass, and western snowberry, resulting in ground surface visibility of between 5 and 10 percent. Soils consist of a very dark brown, sandy clay loam. The site is in fair condition, but has been impacted by grazing.

Survey Results

SWCA newly recorded 32WI1158 on June 14, 2011. The site contains a single stone cairn feature located on the top of a small knoll on the north-facing slope of a ridge.

Feature 1 is a circular stone cairn in poor condition (Figure 65). The cairn measures 95 cm east/west by 116 cm north/south and is 7 cm tall. The cairn consists of eight cobbles ranging in size from 12 to 32 cm. The stones are lightly to moderately sodded, with approximately 20 percent lichen coverage. No cultural materials or other features were observed.

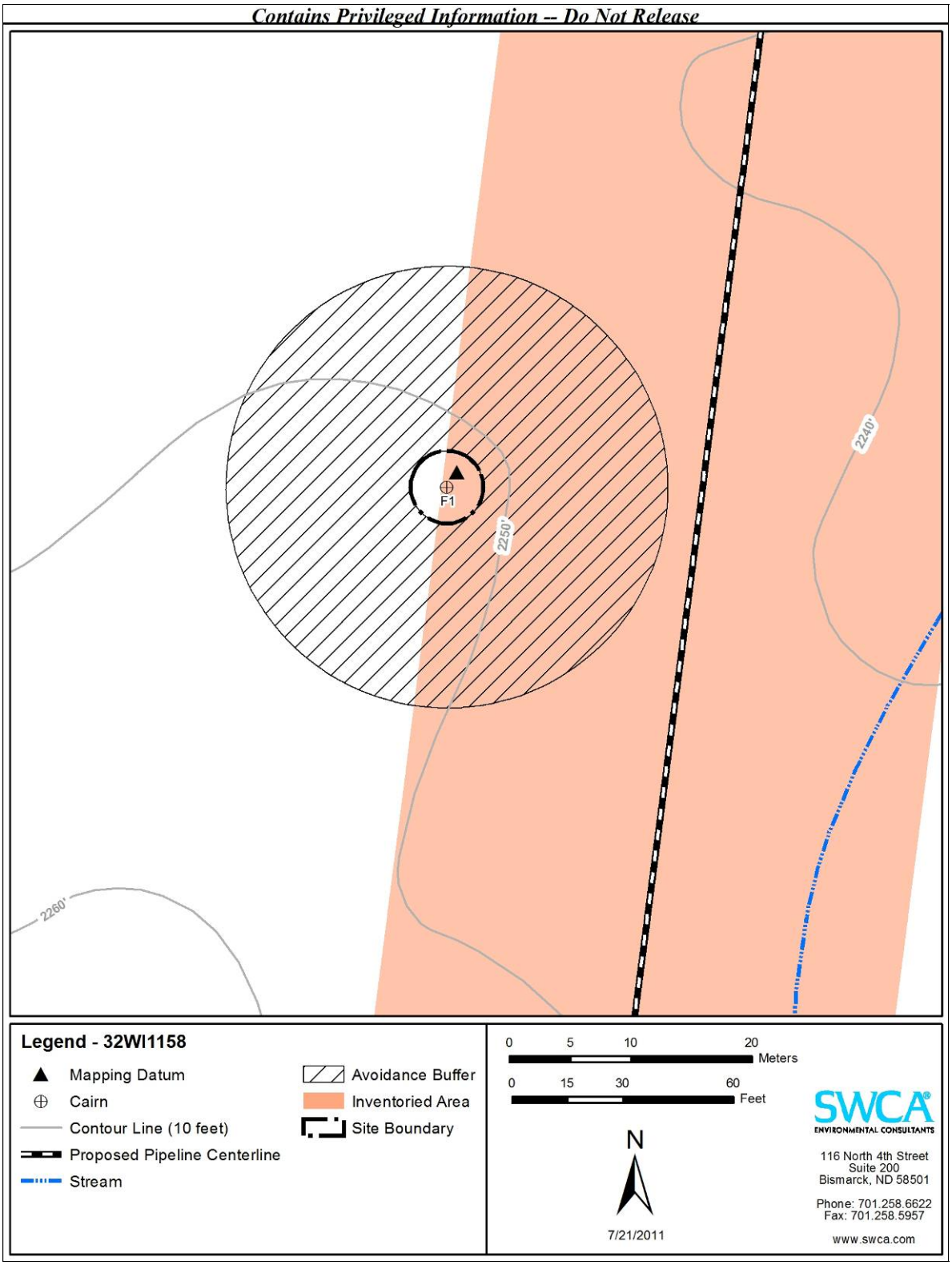

Figure 63. 32WI1158. Site sketch map.

Figure 64. 32WI1158. Site overview, facing west.

Figure 65. 32WI1158. Feature 1, stone cairn, facing east.

NRHP Eligibility Recommendation

32WI1158 is a stone cairn of unknown age or cultural affiliation in fair condition. While no subsurface testing was performed at the site due to the presence of a cultural feature that may be considered of a sacred nature, subsurface testing may yield important information necessary to refine temporal association. Accordingly, SWCA recommends the site remain unevaluated regarding its NRHP eligibility under Criterion D until subsurface testing can be conducted. Due to the presence of a feature that may be considered of a sacred nature, the site also remains unevaluated regarding its NRHP eligibility under Criterion A pending tribal consultation.

Management Recommendation

SWCA recommends avoidance of 32WI1158 pending subsurface testing and tribal consultation. SWCA recommends a 50-foot-wide avoidance buffer be placed around the site boundary (see Figure 63) and that the pipeline construction corridor be rerouted within the surveyed area and necked-down, as needed, so that all construction activities and vehicle traffic remain outside of this buffer zone. SWCA further recommends fencing of the western edge of the temporary construction corridor to ensure that all construction activities remain within the corridor.

ISOLATED FINDS

SWCA documented six isolated finds during the course of the inventory. By definition, isolated finds are considered to lack the historic integrity to be determined eligible for nomination to the NRHP. The isolated finds are not likely to contribute additional information on the history of the region. Therefore, no further work is recommended for these resources.

32WIX561

SWCA newly recorded the isolated artifacts on May 13, 2011. The isolated find consists of Historic period isolated artifacts located in a heavily plowed field. East/west-trending 62nd Street NW is approximately 5 m north of the isolate. An intermittent stream is approximately 100 m southeast. Vegetation consists of a few prairie grasses, allowing for 95 to 100 percent ground surface visibility. Soils are brown sandy loam with colluvial and glacial deposition. The area is in poor condition and has been impacted by plowing. The isolated artifacts consist of two fragments of whiteware ceramics and two fragments of stoneware ceramics with a salt glaze.

32WIX562

SWCA newly recorded the isolate on May 14, 2011. The isolated find consists of one Prehistoric period and one Historic period artifact located in a plowed agricultural field. Vegetation consists of prairie grasses and forbs, allowing for 30 percent ground surface visibility. Soils are brown sandy loam with colluvial and glacial deposition. The area is in poor condition and has been impacted by plowing. The isolate consists of one gray/green siltstone secondary flake measuring 43 by 21 by 9 mm and one piece of white porcelain with a hand-painted scalloped edge, with red paint under the glaze.

32WIX563

SWCA newly recorded the isolate on May 14, 2011. The isolated find consists of one Historic period isolated artifact located on top of a grassland ridge. Vegetation consists of prairie grasses and forbs, allowing for 10 percent ground surface visibility. Soils are brown sandy loam with colluvial and glacial deposition. The area has been impacted by plowing and is in poor condition. The isolate consists of one piece of a machine-made clear glass bottle base measuring 2.25 by 2.25 by 0.25 inches.

32WIX564

SWCA newly recorded the isolate on April 19, 2011. This isolated find consists of a single piece of historic glass debris located within rolling grasslands in a plowed agricultural field with a slight north aspect. The artifact was found within a harvested western wheatgrass field with approximately 50 percent ground surface visibility. Soils were a brown clay loam with colluvial deposition. Impacts to this resource area include intensive agricultural plowing. The resource area is in poor condition and retains little surface integrity.

The artifact is a fragment of an aqua glass insulator. The fragment measures approximately 2 inches and is ¼ inch thick. MAY 2 is embossed on the exterior of the fragment. Five decorative beads line the base of the insulator fragment. Aqua is a very common color in all types of American-made bottles that date from the early nineteenth century to the 1920s. Aqua bottles became comparatively rare as the color choice for bottle makers after the 1920s (Miller and McNichol 2002) because arsenic-based clarifiers made clearer glass possible.

32WIX565

SWCA newly recorded 32WIX565 on April 12, 2011. The isolated find consists of one Prehistoric period artifact located on the southern slope of a rolling hill in a previously plowed field. A north/south-trending fence is approximately 5 m east. Vegetation includes overgrowth of the field with cheatgrass, small bunch grasses, and forbs, allowing for approximately 60 to 75 percent ground surface visibility. Soils are brown sandy loam with colluvial and glacial deposition. The area is in poor condition and has been impacted by agricultural activities including plowing. The isolated artifact consists of one piece of gray and white chert shatter that measures 50 by 35 by 30 millimeters (mm). The flake exhibits 20 percent cortex and has been lightly heat treated.

32WIX566

SWCA newly recorded the isolated artifact on April 22, 2011. The isolated find consists of three Historic period artifacts located in a plowed wheat field on a slight southwestern-facing hill slope. The artifacts are located approximately 50 m west of an historic homestead observed outside of the survey corridor. An unmaintained two-track road is approximately 20 m west of the site. Vegetation consists of plowed wheat stalks and some grass, allowing for 10 to 50 percent ground surface visibility. Soils are dark brown sandy loam with few cobbles and colluvial and glacial deposition. The area is in poor condition and has been impacted by plowing. The three historic artifacts include one fragment of amethyst glass possibly from a broken tumbler, one decorated fragment of iron, and one fragment of stoneware. The artifacts are scattered in an area of approximately 15 by 5 m. The material of the amethyst fragment indicates a likely date of manufacture between 1880 and 1920 (Lindsey 2011).

CONCLUSIONS

SWCA conducted a Class I and Class III cultural resource inventory on behalf of PAA between April 18 and June 16, 2011, for the Bakken North Pipeline project. PAA proposes to construct a 78.47-mile-long, 12- to 16-inch-diameter crude oil pipeline from the Trenton Station, approximately 4.00 miles northeast of Trenton, North Dakota, to the Raymond Station, near Raymond, Montana. The entire 31.71-mile-long North Dakota portion of the proposed Bakken North Pipeline is within Williams County and crosses 30.70 miles of private land and 1.01 miles of state land. The Montana portion is entirely on private land within Sheridan County, Montana. The proposed construction ROW width is approximately 70 feet with a 50-foot-wide permanent ROW and 20 feet of temporary work space. SWCA also inventoried two areas for the development of additional facilities for the Trenton Station; one area would expand the Trenton Station adjacent to North Dakota Highway 1804 and a second area for an origination station. A third proposed extra work space extends 4,000 feet along the east side of the pipeline corridor for (18.00 non-overlapping acres) approximately 0.5 mile north of the proposed Trenton Station expansion.

Cultural resources inventory was performed for the entire pipeline corridor; however, this report addresses the work performed on the proposed 31.71 miles of pipeline and additional facilities located on private and state lands in Williams County, North Dakota, and falls under the jurisdiction of the NDPSC. The Class III inventory includes a 140-foot-wide survey corridor centered on the 31.71-mile-long proposed pipeline centerline (537.78 acres) and the additional areas for reroutes and alignment changes totaling 177.32 acres. A total of 65.29 acres were surveyed for the extra work space areas: 20.54 acres for the Trenton Station expansion, 19.67 acres for the origination facility, and 25.08 acres (18.00 non-overlapping acres) for the extra workspace area near the Trenton Station expansion (a 4,000 foot-long area located to the east of the pipeline corridor). During the inventory, two previously recorded sites (32WI175 and 32WI176) were revisited and 19 cultural resources were newly recorded including 13 sites and six isolated finds. Both of the previously recorded resources (32WI175 and 32WI176) and seven of the newly recorded resources (32WI1146, 32WI1148, 32WI1150, 32WI1152, 32WI1153, 32WI1154, and 32WI1155) are recommended not eligible for the National Register of Historic Places (NRHP) and no further work is recommended. The six isolated finds (32WIX561, 32WIX562, 32WIX563, 32WIX564, 32WIX565, and 32WIX566) are recommended not eligible for the NRHP. The five prehistoric stone circle sites (32WI1147, 32WI1149, 32WI1151, 32WI1156, and 32WI1157) and one stone cairn site of unknown age or cultural affiliation (32WI1158) have been left unevaluated regarding their NRHP eligibility and avoidance is recommended. Reroutes have already been established to avoid the sites recommended eligible and those sites left unevaluated. 32WI1147 and 32WI1149 have been adequately avoided by the reroutes and will not be impacted, therefore, no further work is required. However, SWCA recommends a 50-foot-wide avoidance buffer be placed around 32WI1151, 32WI1156, 32WI1157, and 32WI1158, and that the pipeline construction corridor be rerouted within the surveyed area and necked-down, as needed, so that all construction activities and vehicle traffic remain outside of this buffer zone. SWCA further recommends fencing of the edge of the temporary construction corridor near the avoidance buffers to ensure that all construction activities remain within the corridor. With

the above stipulations, it is recommended that a determination of *No Historic Properties Affected* and *No Significant Sites Affected* be granted for the project to proceed as planned.

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APPENDIX A
List of Previous Studies

Bibliographic Listing of Previous Archaeological and Historic Studies for Project Lands in Williams County, North Dakota.

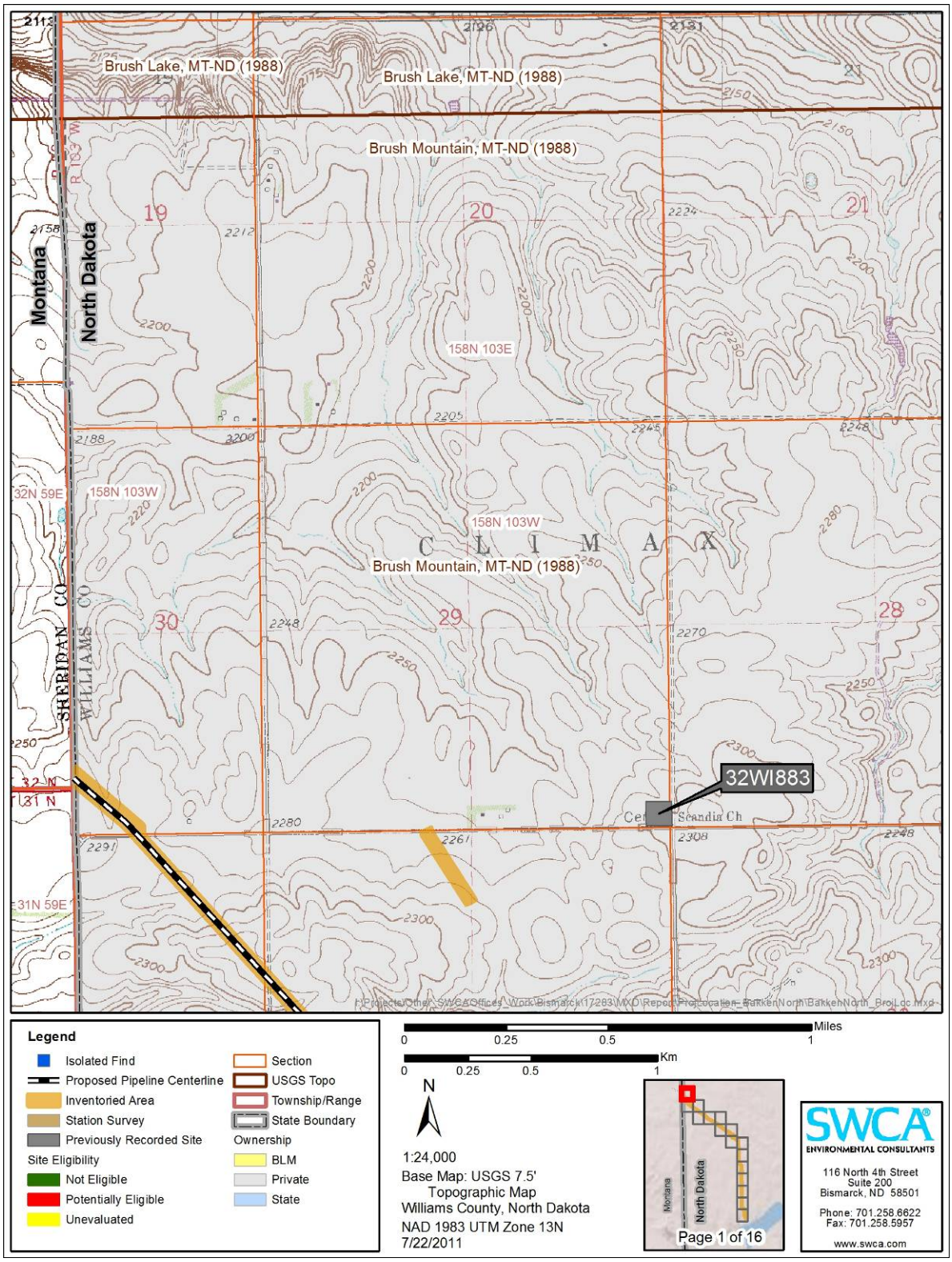
Manuscript Number	Location	Title	Authors	Year
001686	Section 36, T154N, R102W; Sections 1, 2, T153N, R102W	A Class III Intensive Inventory of the Proposed Route of MDU Trenton Plant Line in Williams County, North Dakota	J. Pearson and A. Simon	1981
003251	Sections 31, 32, T156N, R95W; Sections 31, 32, 33, 34, 35, 36, T156N, R96W; Sections 31, 32, 33, 34, 35, 36, T156N, R97W; Sections 31, 32, 33, 34, 35, 36, T156N, R98W; Sections 35, 36, T156N, R99W	Archaeological Investigations Along the Portal Beaver Lodge to Alexander Pipeline, Williams and McKenzie Counties, ND	D. Kuehn and J. Borchert	1984
003381	Section 1, T153N, R102W	Rocky Mountain Geophysical, Inc. Proposed Seismic Survey—Segments DD, GG, HH and KK Lake Sakakawea, Williams and McKenzie Counties, ND	V. Gnabasik	1983
004232	Section 27, T154N, R102W; Section 3, T153N, R102W	A Cultural Resource Inventory of Select Areas Along Highway 1804, Williams County, North Dakota	L. Blikre and D. Kuehn	1987
004292	Section 1, T153N, R102W	A Reconnaissance Survey and Preliminary Assessment of the Cultural Resources of Lake Sakakawea in Williams and McKenzie Counties, North Dakota Vols 1 & 2	B. Noisat, J. Campbell, G Moore, and K. Schweigert	1986
004319	Sections 5, 8, T155N, R95W; Sections 29, 32, T156N, R95W	Cultural Resource Investigations on the North Dakota Segment of the Exxon Company, USA Bairoil – Dakota CO2 Pipeline Project, Golden Valley, Billings, Stark, Dunn, McKenzie, & Williams Co., Western North Dakota Vols 1 & 2	M. Metcalf and K. Schweigert	1987
004506	Sections 25, 36, T154N, R102W	MDU-Basin Charlie Creek to Williston 230 KV Electric Transmission Line, Williams & McKenzie Co., ND (UW#1016)	J. Borchert	1988

Manuscript Number	Location	Title	Authors	Year
004540	Section 1, T155N, R99W; Section 35, T156N, R98W	Final Report of Reconnaissance Surveys in Williston, Kenmare, and Eight Smaller Communities in Mountrail, Williams, Ward, and Renville Counties in Northwestern ND	M. Fiege, F. Quivik, D. Martin, and J. Kestle	1988
004707	Section 3, T153N, R102W	Archaeological Survey of North Dakota State Highway Department Stockpile Area in SE ¼, Section 3, T. 153N., R. 102 W., Williams County, North Dakota, and Archaeological Significance Testing of Site 32WI310	R. Christensen	1989
005749	Sections 6, 7, 8, T155N, R95W; Sections 29, 31, 32, T156N, R95W	Amerada Hess Corporation, 10 Inch Natural Gas Pipeline Project Cultural Resources Inventory McKenzie and Williams Counties, North Dakota and Final Report	B. Olson	1992
007279	Sections 25, 26, 27, T154N, R102W	Results of a Class II and Class III Cultural Resource Inventory for NDDOT Project Area NH-7-002(038)000, Williams County, ND	T. Larson	1998
008057	Sections 29, 32, T156N, R96W	STATEOP-381 Class III Inventory Report, Williams Co., ND	B. Christensen	2001
008463	Sections 25, 26, 27, 34, 36, T154N, R102W	Cultural Resource Investigation Williston To Wolf Point Transmission Line Roosevelt Co., MT & Williams Co., ND	D. Hall, S. Knudsen, and J. Lockman	2002
008670	Section 12, T156N, R99W	Cultural Resource Investigations Along U.S. Highway 2 in Ward, Mountrail, and Williams Counties, North Dakota Vol 1 & 2	B. Perkl, B. Mitchell, J. Lindbeck, S. Buskey, R. Weddle, M. Beck, and G. Bolling	2001
009237	Section 34, T154N, R102W; Section 3, T153N, R102W	Plains Pipeline Trenton Loop: A Class III Cultural Resource Inventory in Williams and McKenzie Co., ND and Addendums B and C and D	E. Stine, D. Hiemstra, And A. Bleier	2005

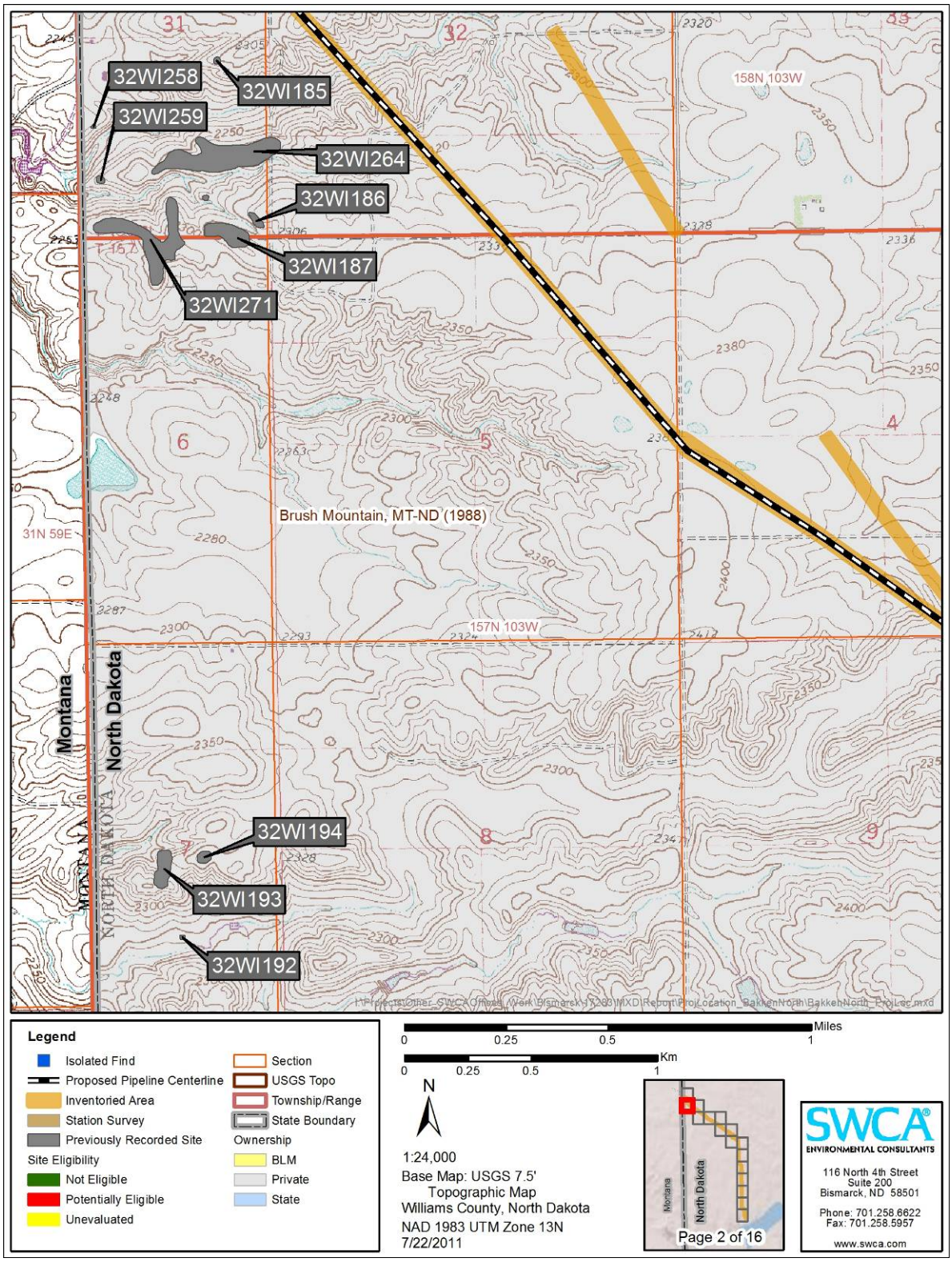
Manuscript Number	Location	Title	Authors	Year
009856	Sections 5, 6, T155N, R95W; Sections 1, 2, 3, 4, 5, 6, T155N, R96W; Sections 1, 2, 3, 4, 5, 6, T155N, R97W; Sections 1, 2, 3, 4, 5, 6, T155N, R98W; Sections 1, 2, T155N, R99W; Sections 31, 32, T156N, R95W; Sections 31, 32, 33, 34, 35, 36, T156N, R96W; Sections 31, 32, 33, 34, 35, 36, T156N, R97W; Sections 31, 32, 33, 34, 35, 36, T156N, R98W; Sections 35, 36, T156N, R99W	Enbridge Pipelines (North Dakota) LLC, North Dakota Pipeline Expansion Project: A Class II and Class III Cultural Resource Inventory and Evaluative Testing of Three Sites, Williams Co., ND	J. Harty, P. Heiner, and J. Morrison	2006
010128	Sections 1, 12, T155N, R99W; Section 30, T156N, R96W	Historic Bridges in North Dakota 2004 Revision	M. Hustetler and J. Goff	2005
010603	Section 28, T156N, R97W	Class III: Intensive Cultural Resources Inventory ND01 Radiance Alt 62nd Street Northwest, Ray, Williams Co., ND	E. Eigenberger	2008
011084	Sections 25 36, T154N, R102W; Section 1, T153N, R102W	Trenton Indian Health Services Survey: A Class III Cultural Resource Inventory, Williams Co., ND	W. Burns	2009
011243	Sections 31, 32, T156N, R95W	A Class I and Class III Cultural Resource Inventory of the Red Sky Oil Pipeline in Mountrail and Williams Co., ND	J. Markman, A. Hutchinson, and A. Wuenschel	2009
011686	Sections 5, 32, T155N, R95W	Beaver Lodge to Berthold Pipeline: A Class III Cultural Resource Inventory, Mountrail, Ward, & Williams Counties, ND	J. Harty, M. Shropshire, and D. Klinner	2010
011790	Sections 5, 8, 32, T155N, R95W	SORTI and Dunn Pipeline Projects: A Class III Cultural Resource Inventory, Williams and McKenzie Co., ND	J. Harty, M. Shropshire, and D. Klinner	2010
011942	Sections 26, 27, 35, T154N, R102W	Williams Rural Water Association 2003-2004: A Class II & III Cultural Resources Inventory in Williams Co., ND	W. Bluemle	2004

APPENDIX B
(Detached)
North Dakota Site Forms

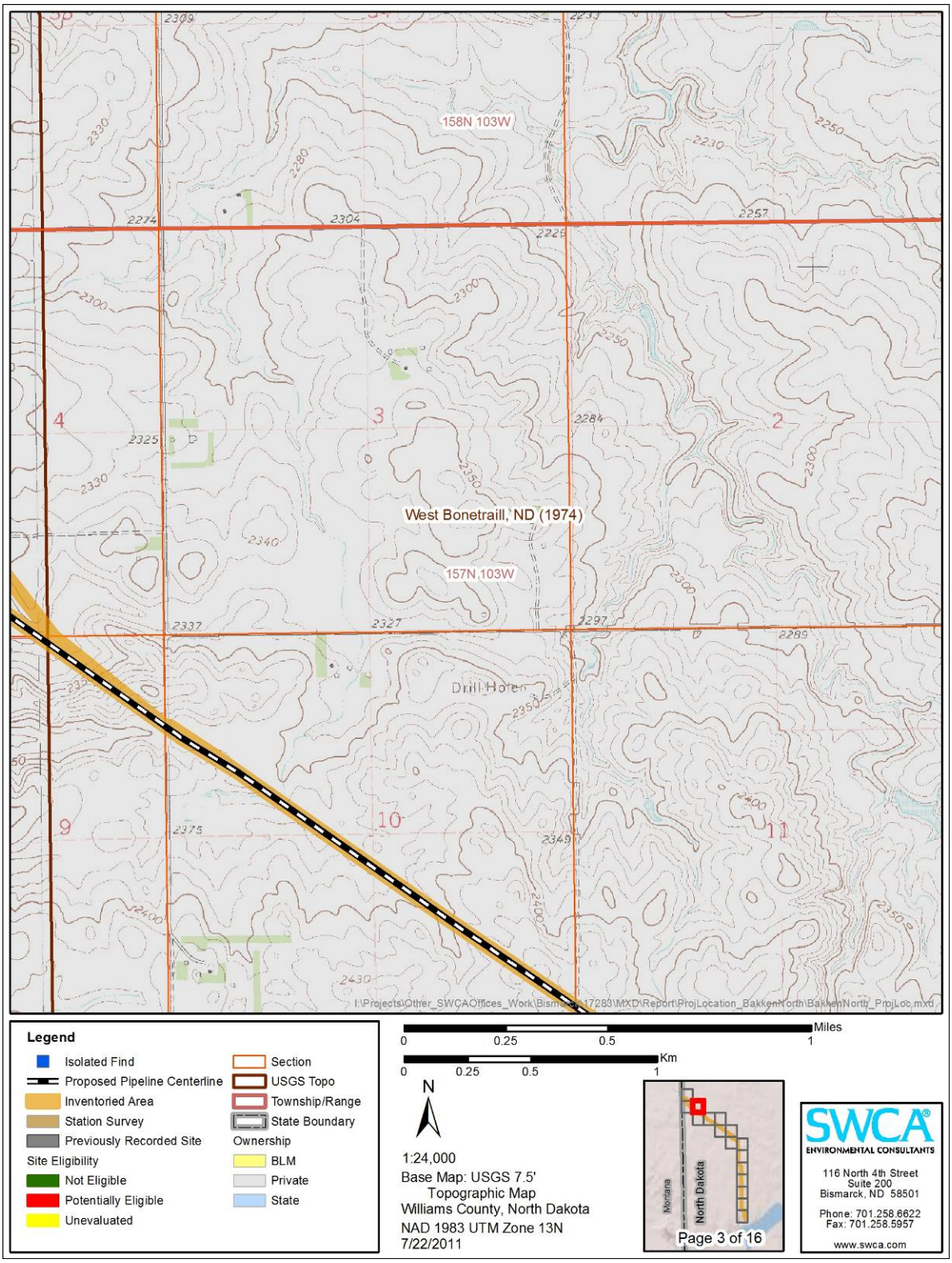
APPENDIX C
Resource Location Maps



Resource location map 1 of 16.



Resource location map 2 of 16.



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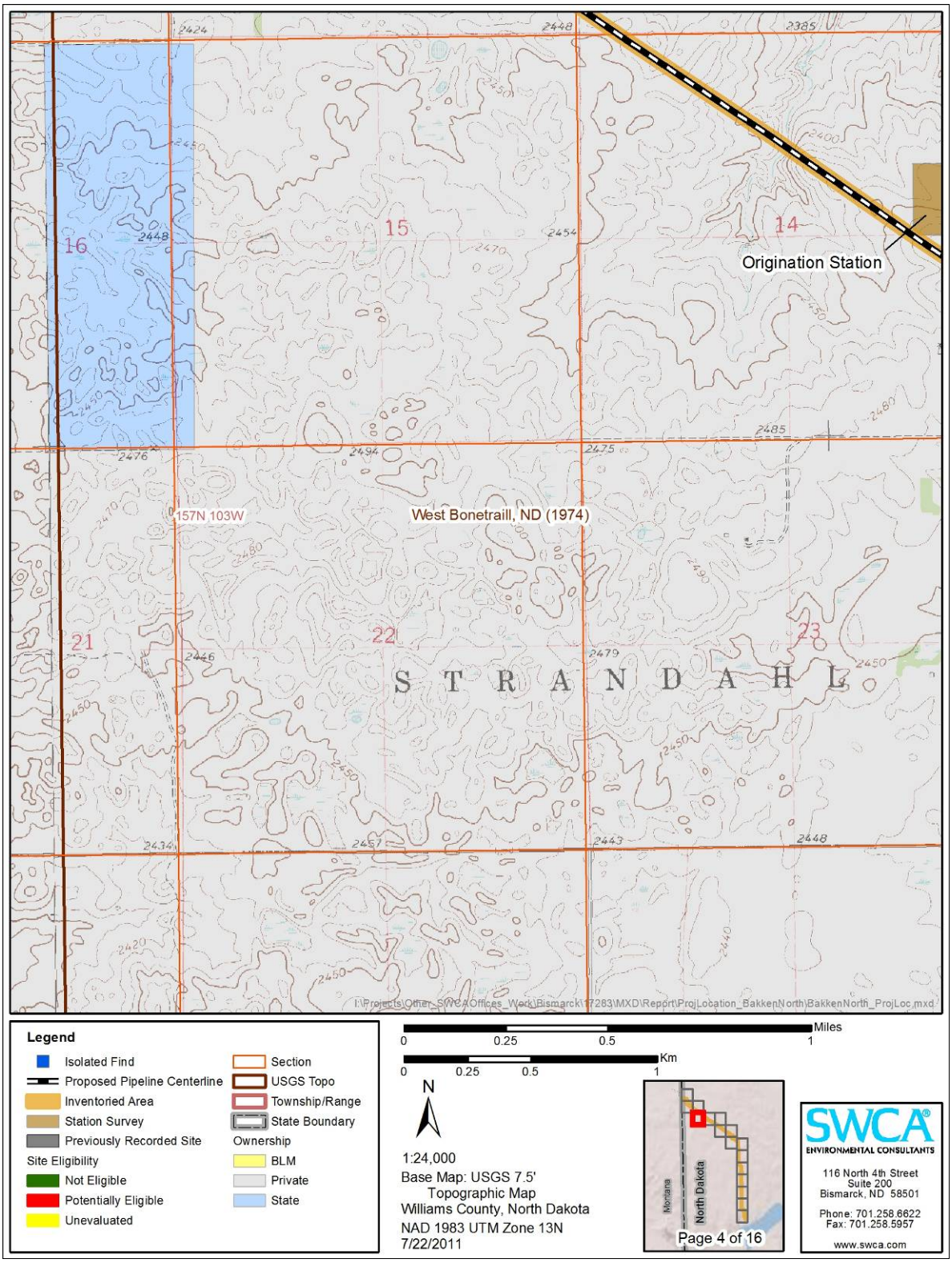

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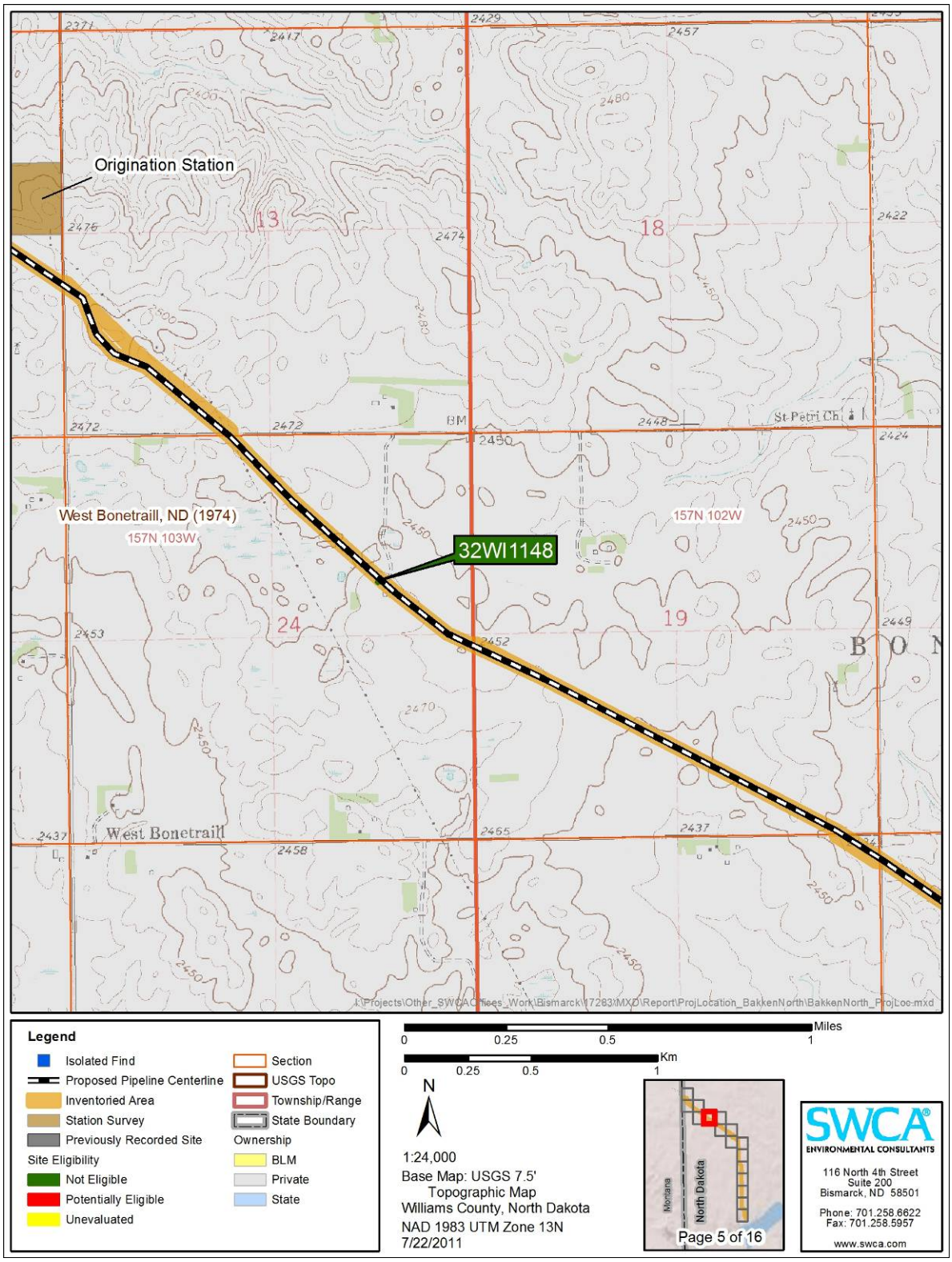

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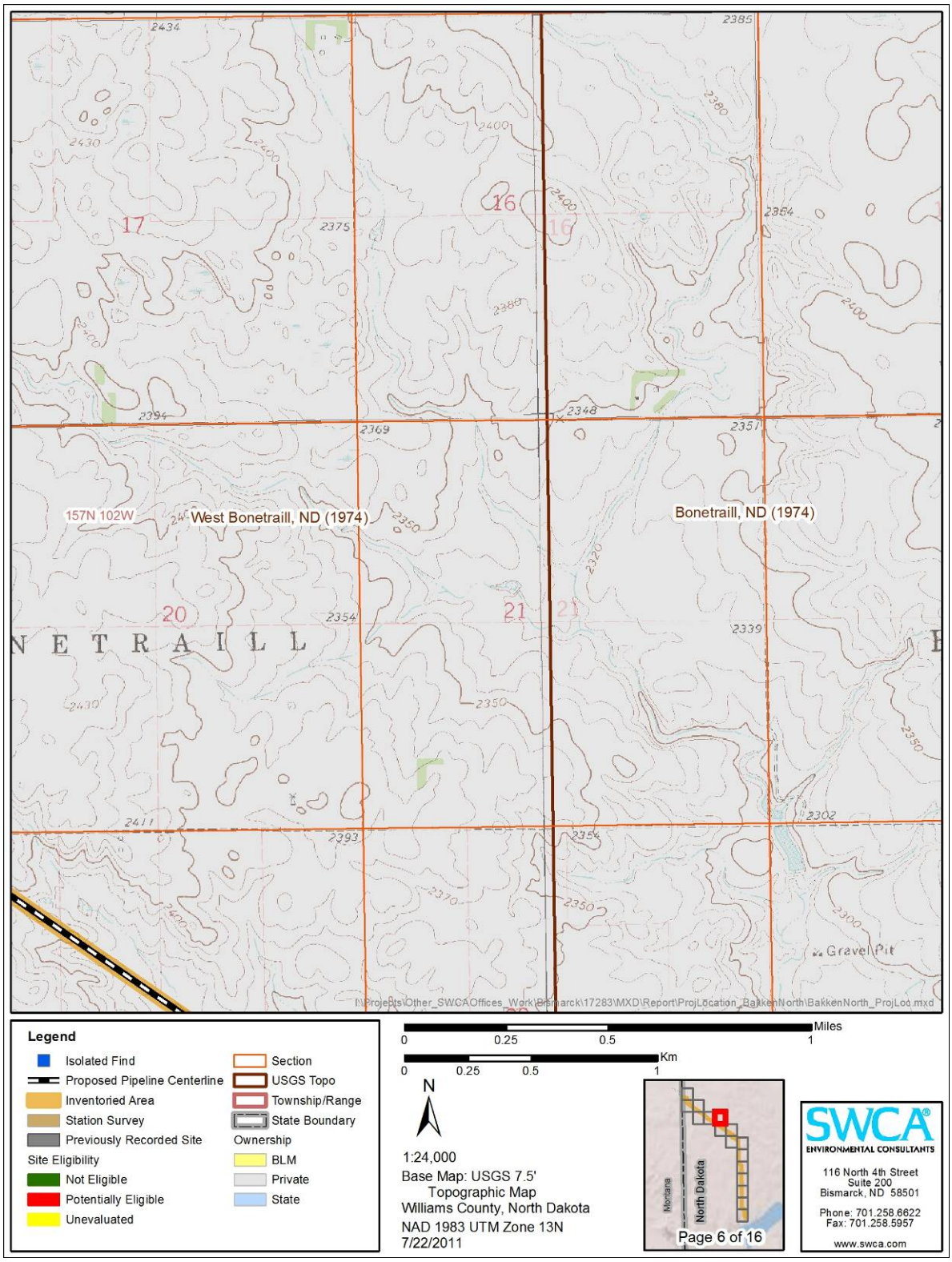

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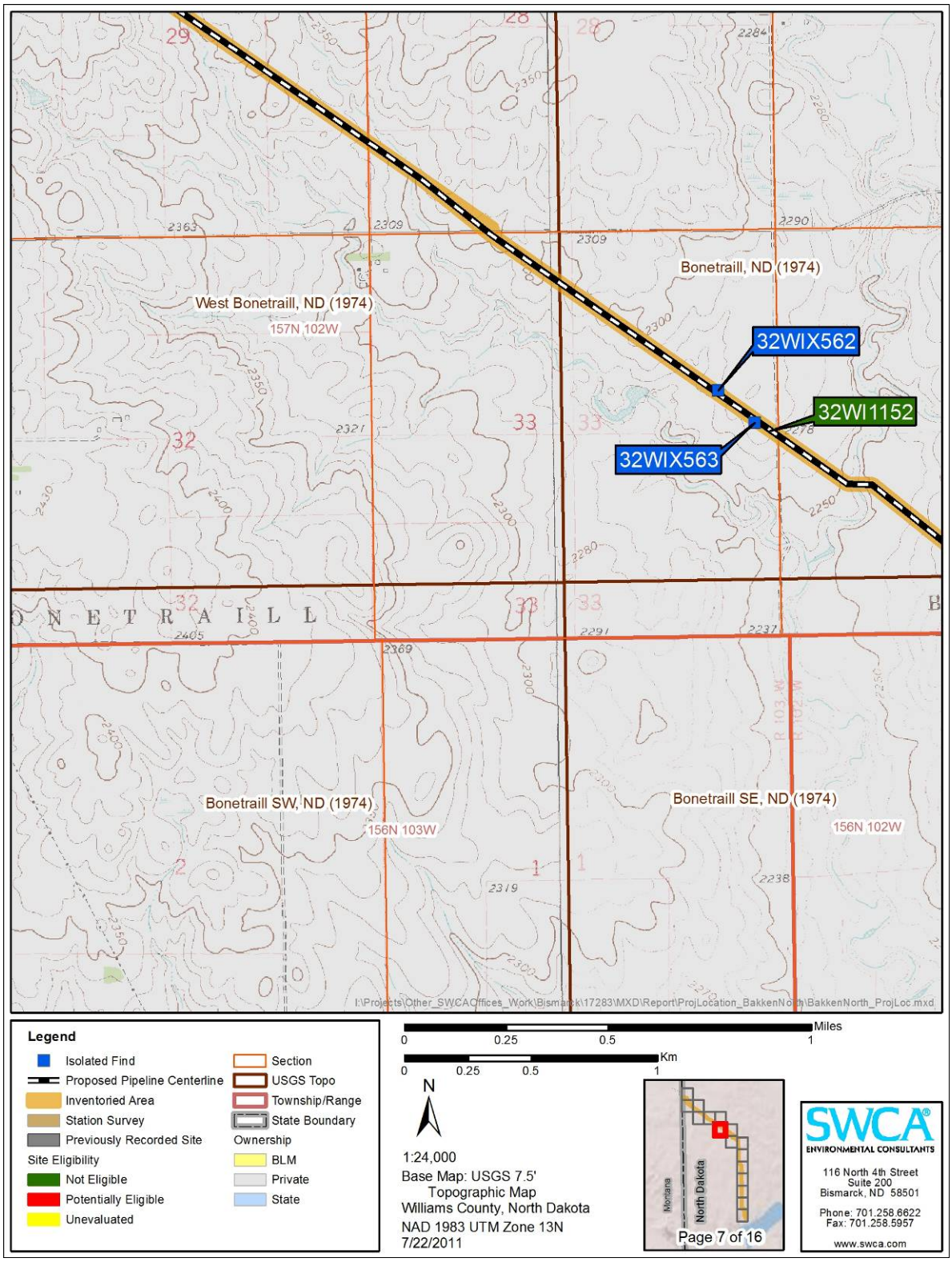

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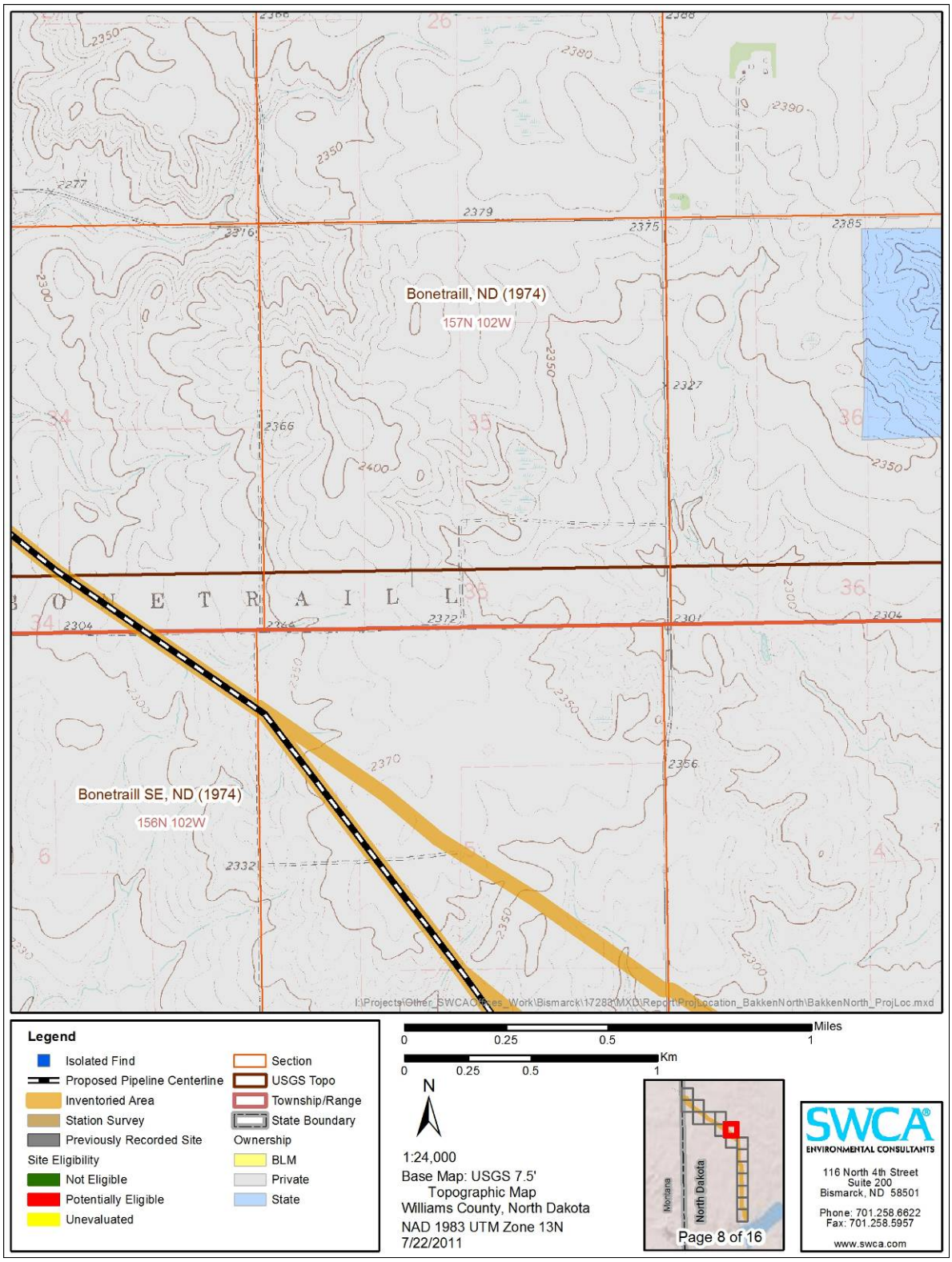

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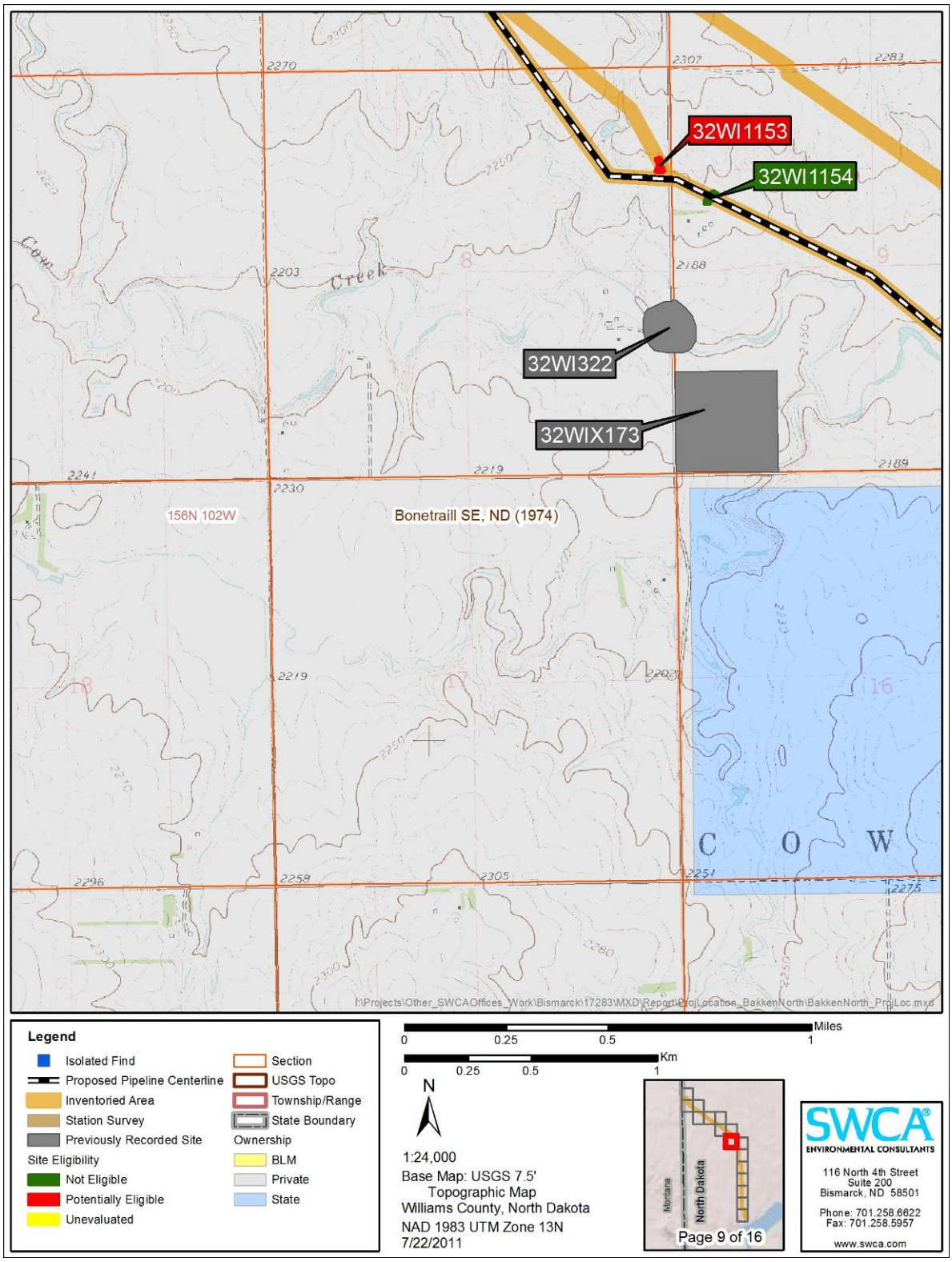
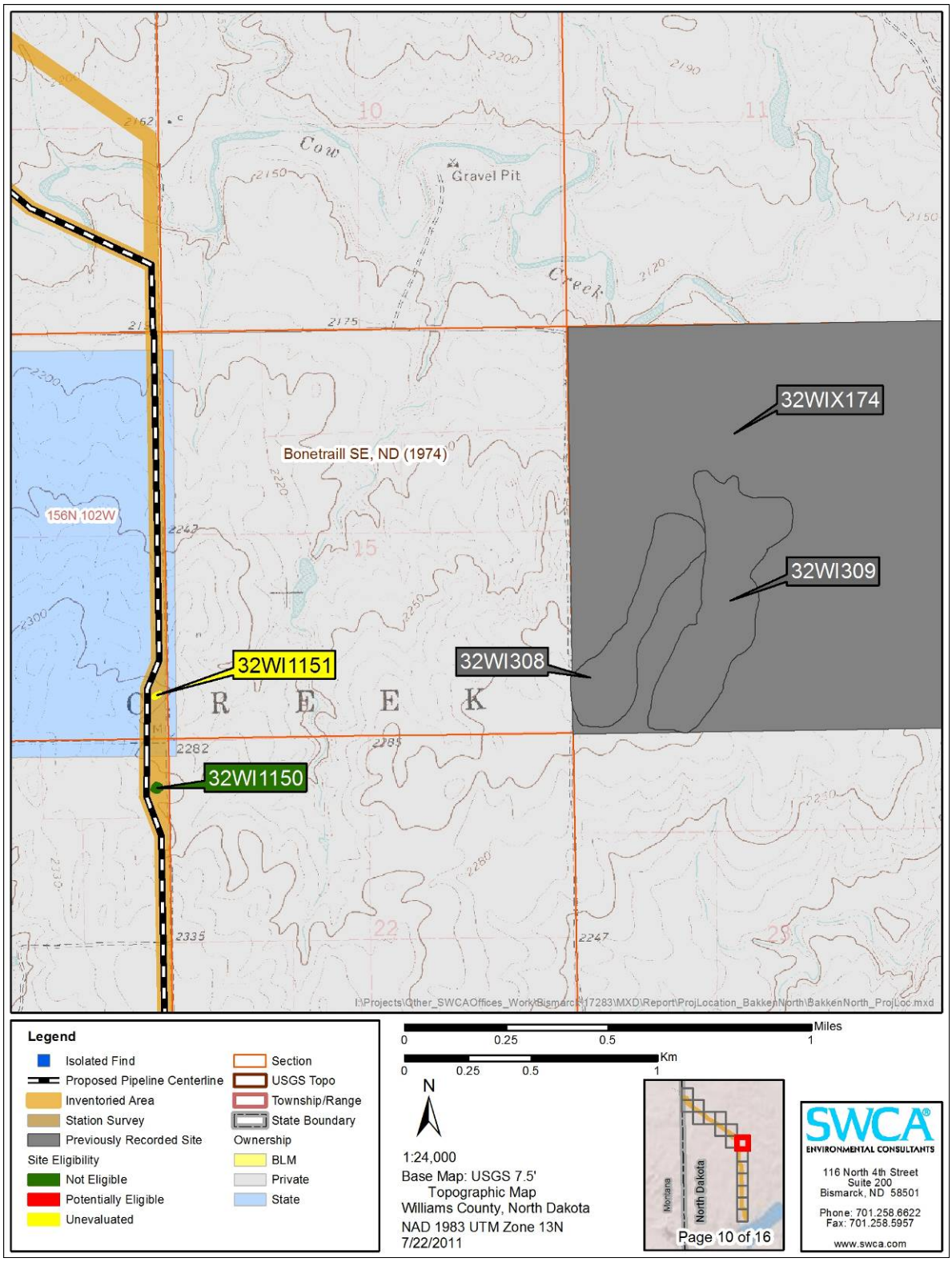
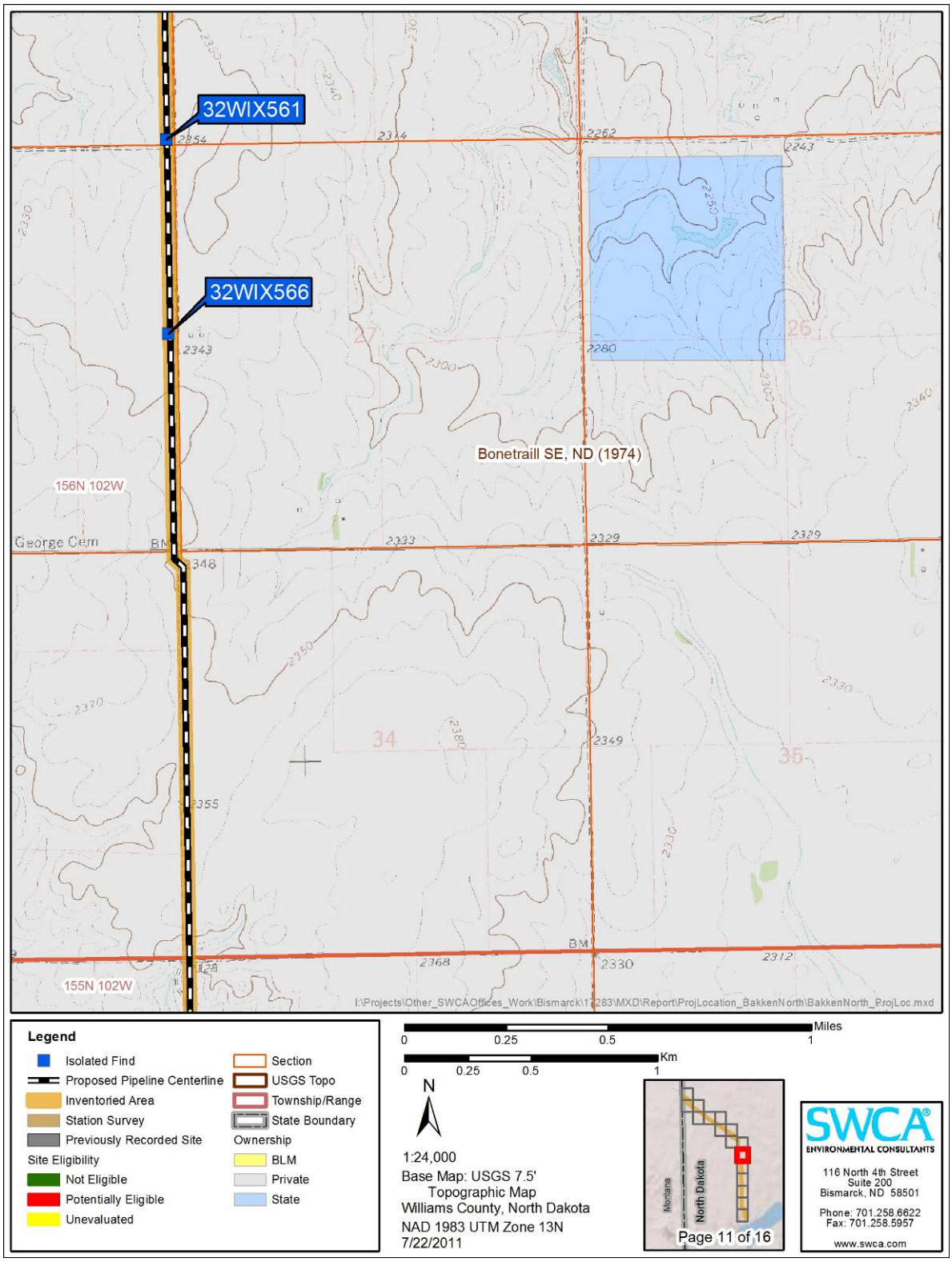


Resource location map 9 of 16.



Resource location map 10 of 16.



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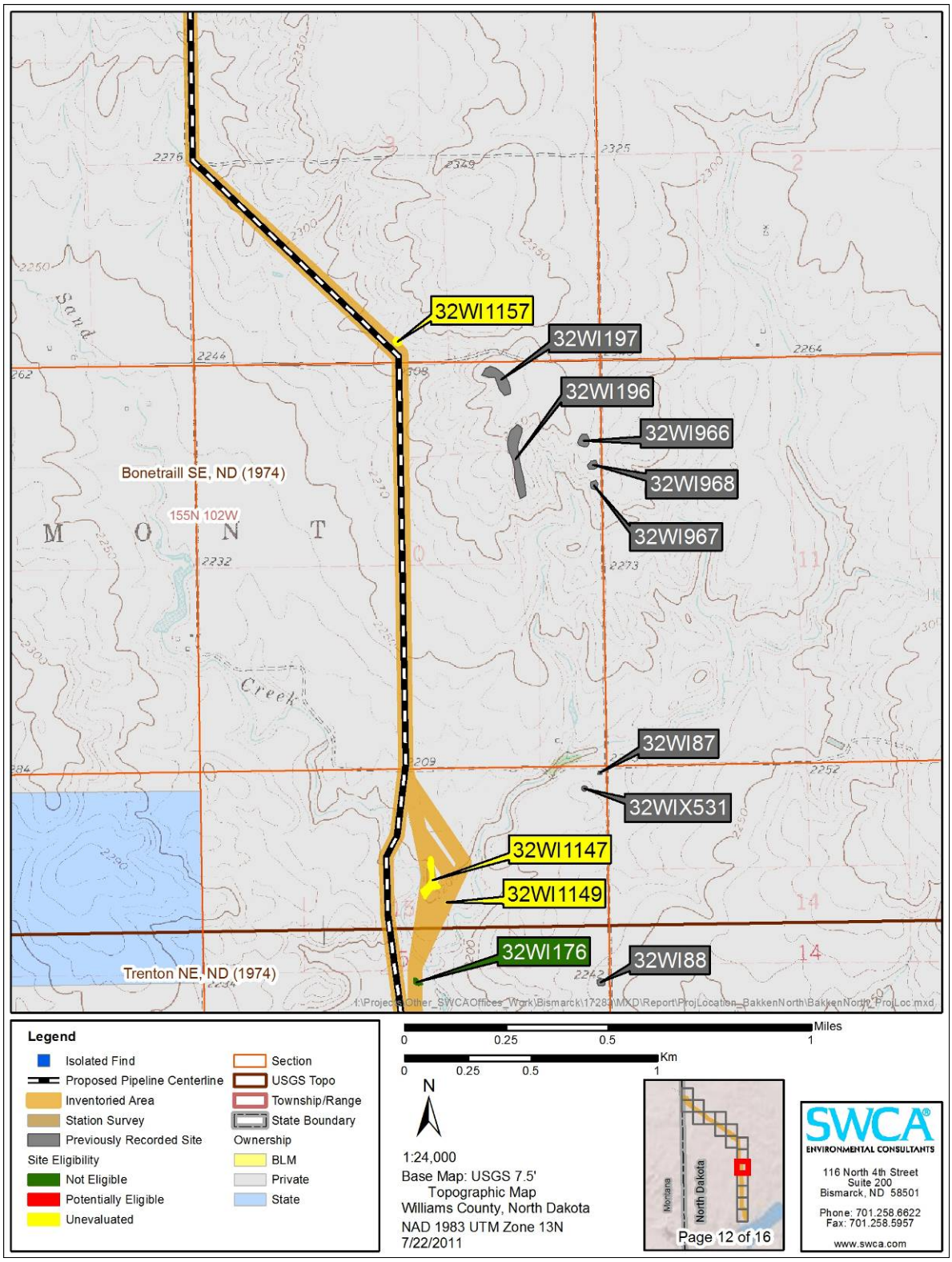
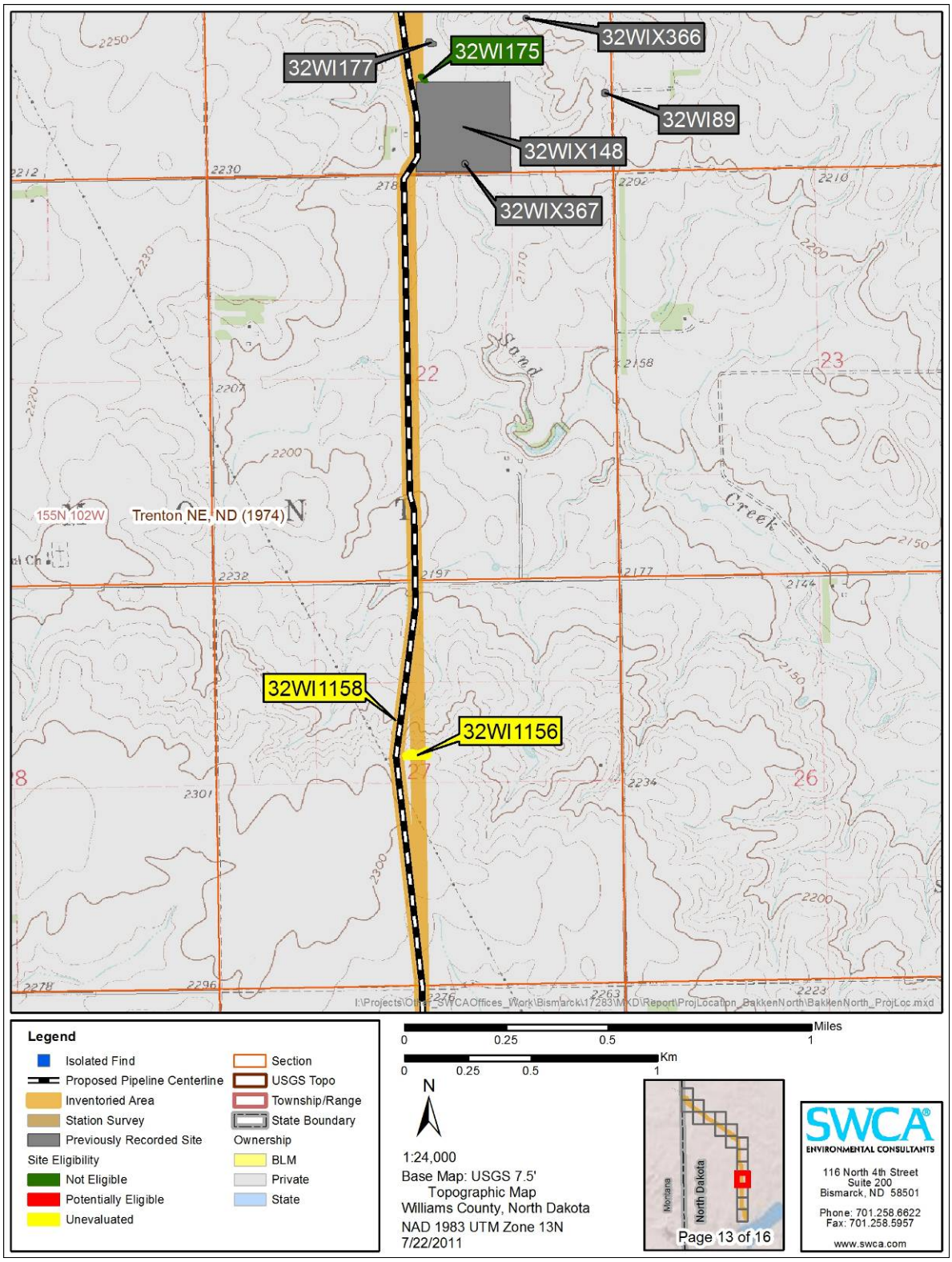


Resource location map 12 of 16.



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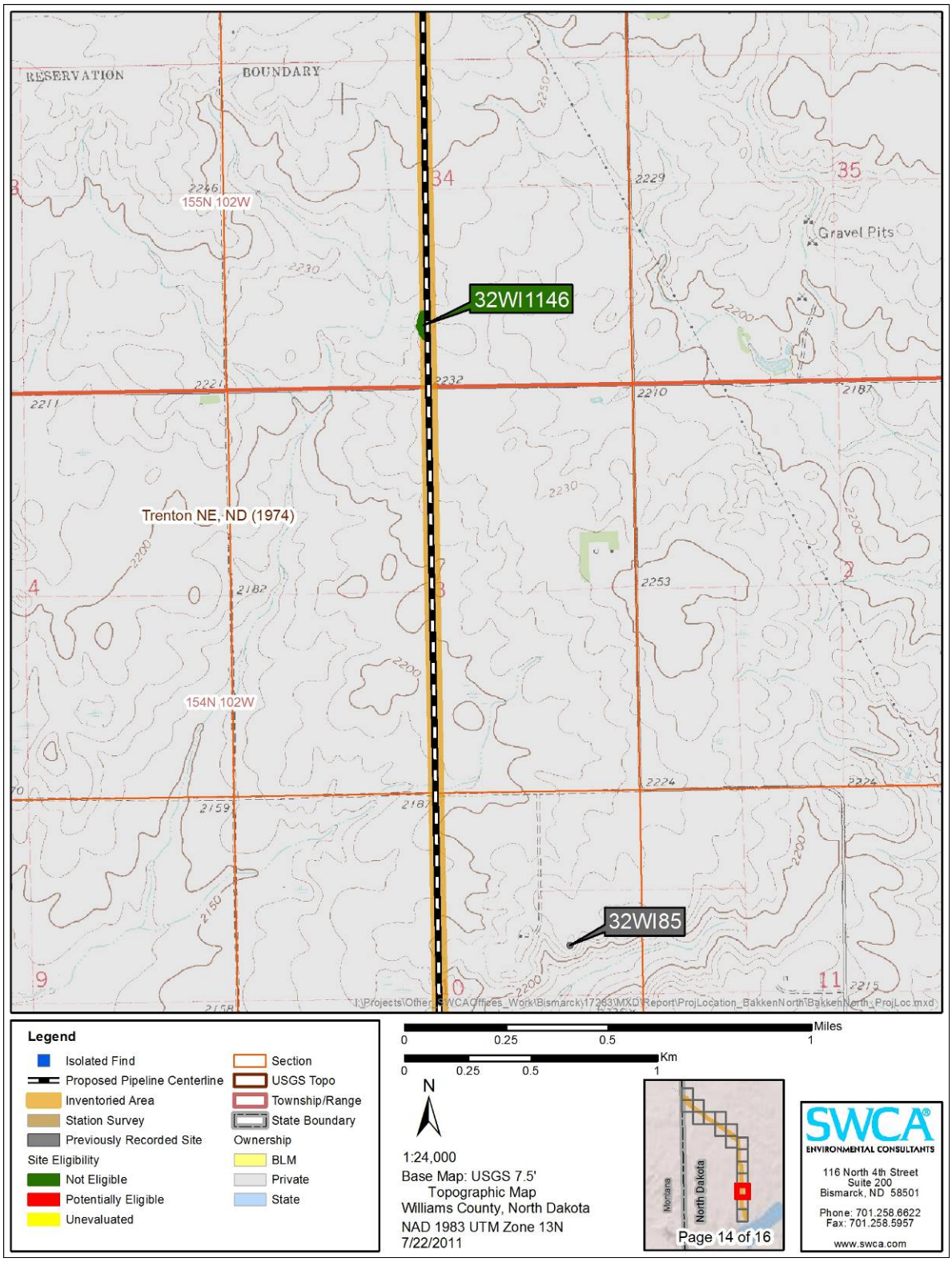

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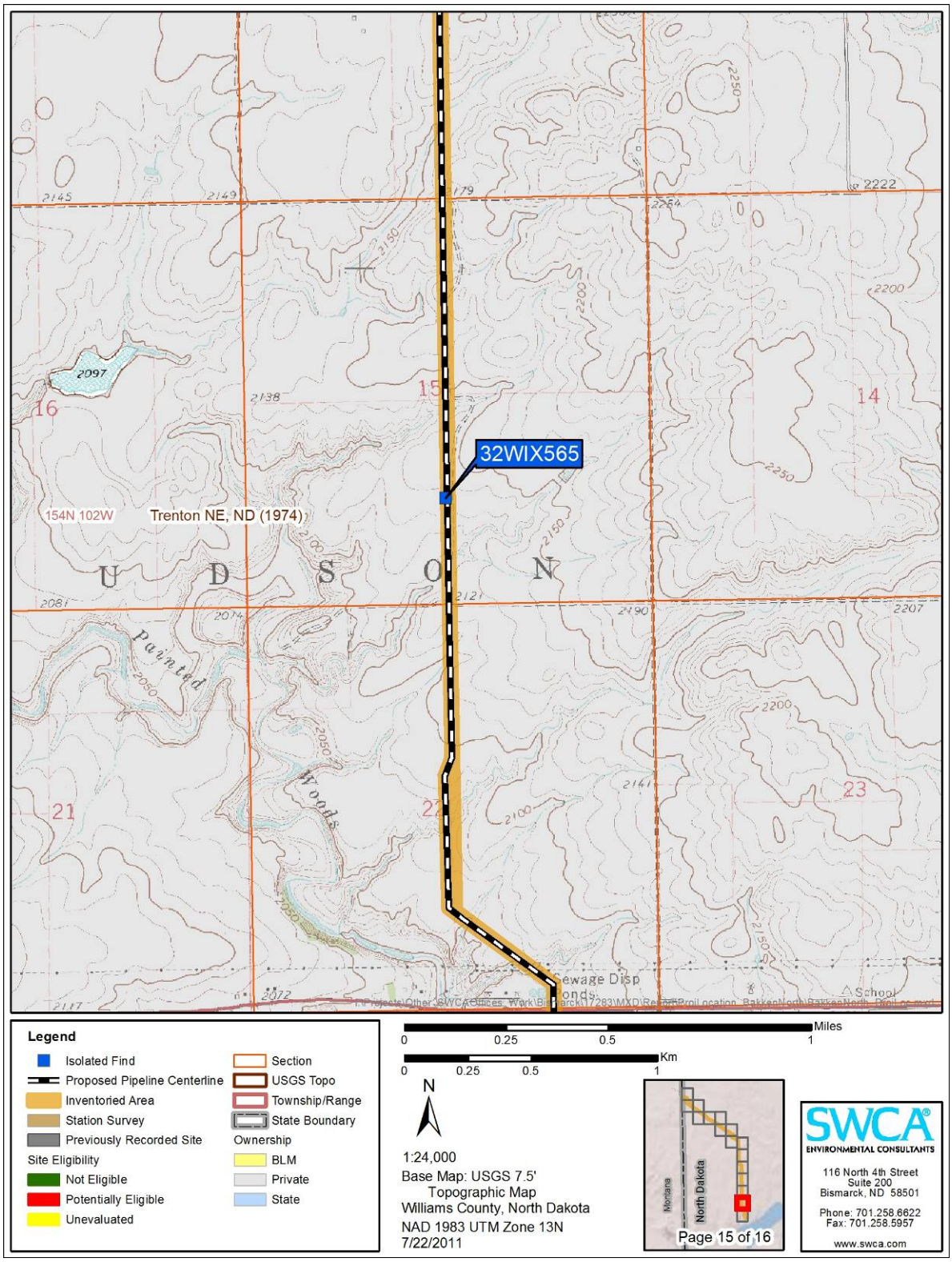

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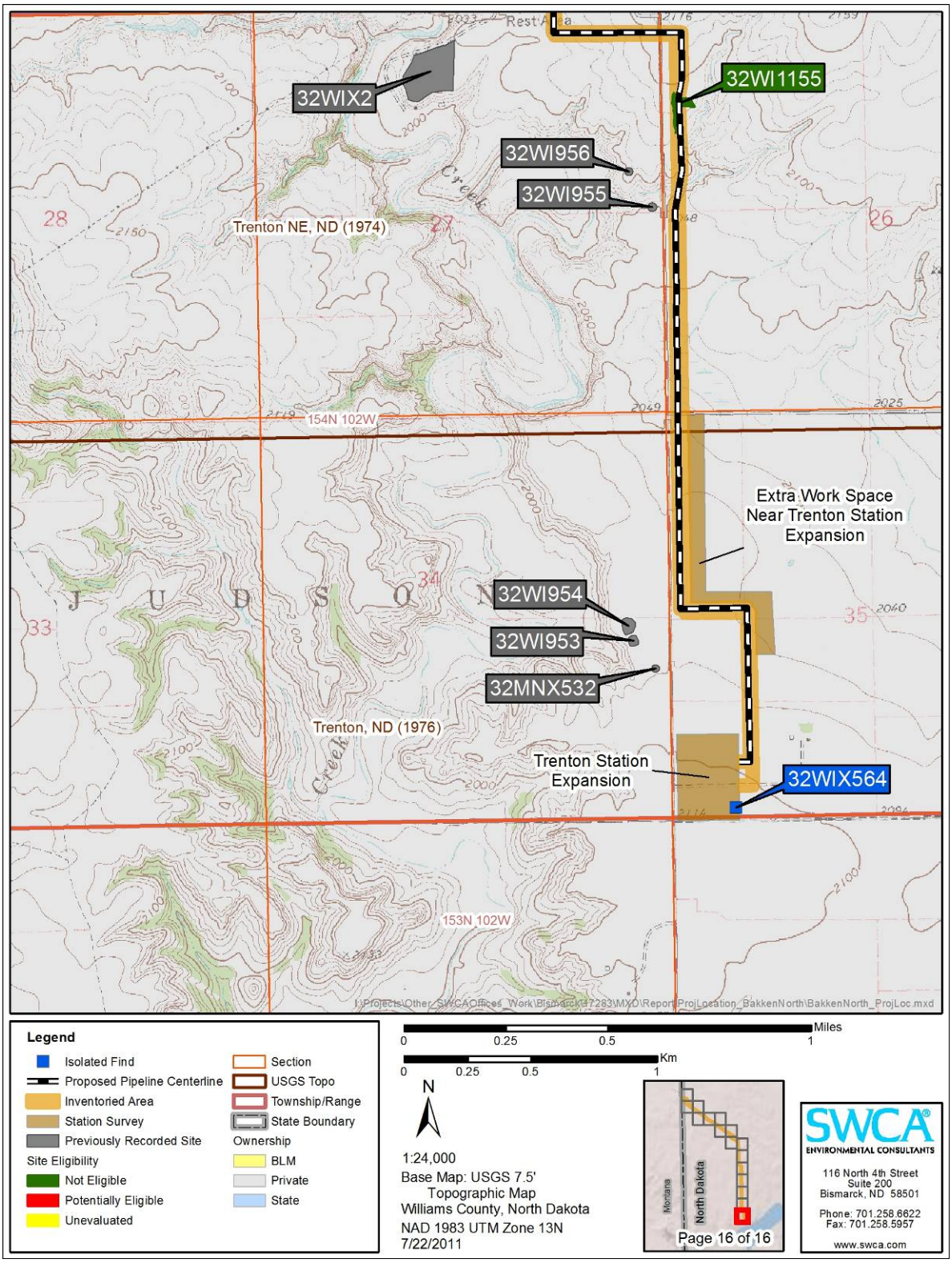

Resource location map 16 of 16.