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July 21, 2020

Banner Associates, Inc.  
2307 W. 57<sup>th</sup> Street, Suite 102  
Sioux Falls, SD 57108

Attn: Mr. Dennis Odens

Subj: Phase I Environmental Site Assessment  
Lewis & Clark Regional Water System, Inc.  
Madison Segments 2, 3, & 4  
Minnehaha & Lake Counties, SD  
GeoTek #20-345

Dear Mr. Odens:

We have completed a Phase I Environmental Site Assessment for the referenced project. We are transmitting one electronic copy and one hard copy of the report. This work was done in accordance with our January 27, 2020 contract.

Please refer to our conclusions and recommendations for the major findings and recommendations we have made.

If you have questions or concerns regarding the information presented in this report, or if we can be of additional service, please contact our office.

GeoTek Engineering & Testing Services, Inc.

Jerald K. Zutz  
Senior Project Manager  
PE/Remediator #5083

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**TABLE OF CONTENTS**

SUMMARY .....	1
INTRODUCTION.....	1
Purpose.....	1
Scope of Services .....	1
Significant Assumptions .....	2
Limitations and Exceptions.....	2
Special Terms and Conditions .....	3
User Reliance .....	3
SITE DESCRIPTION .....	3
Location and Legal Description .....	3
Site and Vicinity General Characteristics .....	4
Description of Improvements.....	4
Current Uses of Adjoining Properties .....	4
USER PROVIDED INFORMATION .....	5
RECORDS REVIEW.....	6
South Dakota Department of Environment and Natural Resources (DENR) .....	8
HISTORICAL RESOURCES REVIEW .....	11
Aerial Photograph Review .....	11
City Directories .....	14
County Atlases/Maps .....	15
Fire Insurance Maps .....	16
National Pipeline Mapping System.....	17
Topographic Maps .....	17
Data Failure.....	19
SITE RECONNAISSANCE .....	19
Methodology and Limiting Conditions .....	19
Hydrogeology.....	20
Soils .....	23
General Site Setting .....	24
Hazardous or Potentially Hazardous Materials.....	25
PCB Review.....	26
Water Supply Well.....	27
Underground/Aboveground Storage Tank Review.....	27
INTERVIEWS .....	29
DATA GAPS .....	31
FINDINGS .....	31
OPINION .....	33
CONCLUSIONS.....	34
DEVIATIONS.....	35
ADDITIONAL SERVICES .....	35
Asbestos Review .....	35
Lead Review .....	36
Wetlands .....	36
STANDARD OF CARE .....	39

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REMARKS .....	39
REFERENCES .....	39
SIGNATURE OF ENVIRONMENTAL PROFESSIONALS .....	41
QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS.....	41

**TABLE 1 - Site Use Time Line**

**FIGURES 1A to 1F - Topographic Map**

- APPENDIX A - Special Contractual Conditions**
- APPENDIX B - Level 1 Contaminant Survey Checklists**
- APPENDIX C - Regulatory Records Documentation**
- APPENDIX D - Historical Research Documentation**
- APPENDIX E - Site Photographs**
- APPENDIX F - Wetland Maps**

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**Phase I Environmental Site Assessment  
Lewis & Clark Regional Water System, Inc.  
Madison Segments 2, 3, & 4  
Minnehaha & Lake Counties, SD  
GeoTek #20-345**

## **SUMMARY**

Our Phase I Environmental Site Assessment has not identified Recognized Environmental Conditions (RECs) or Controlled Recognized Environmental Conditions (CRECs) in association with the subject property. Historical Recognized Environmental Conditions (HREC) identified were three releases reported to SD DENR (2000.053, 2012.110 & 2017.044) that were partially on-site.

## **INTRODUCTION**

### **Purpose**

This Phase I Environmental Site Assessment was conducted during the period of May 1 to July 21, 2020. The purpose of this Phase I Environmental Site Assessment was to evaluate the potential presence of hazardous substances and soil/groundwater contamination due to past/current land use practices at the site, or from nearby off-site operations.

### **Scope of Services**

The scope of services for this assessment was performed in accordance with the American Society for Testing and Materials (ASTM) Standard E1527-13 (plus site observations for asbestos materials and wetlands) and included the following tasks:

1. Review of information on the geology and hydrogeology of the site vicinity. Review of available information, if any, regarding previous sampling and analysis of soil, groundwater or surface water conducted at the site.
2. Review of the subject property, records, and interview of individuals associated with the property regarding the present or past existence of suspect asbestos containing materials, environmental permits or licenses, hazardous or potentially hazardous substances, distressed vegetation, stained soil, unusual grade changes, random dumping or on-site disposal, suspect lead containing materials, suspect polychlorinated biphenyls (PCBs), and underground/aboveground storage tanks.
3. Conduct a site vicinity reconnaissance to identify nearby off-site facilities that could potentially impact the subject property.

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assessor records, recorded land title records, USGS topographic maps, street directories, county atlases, and building department records, to identify, as nearly as possible, past uses of the property.

5. Review of reasonably available regulatory agency information and records. Verbal and/or written communication with federal, state and local environmental regulatory agencies having jurisdiction to determine compliance with regulations concerning the usage, storage, treatment and disposal of hazardous substances.
6. Visually observe property for evidence of wetlands. Interview landowners for historic knowledge of presence of wetlands. If available, review a published wetlands map from USDA or US Fish & Wildlife Service.
7. Preparing a report presenting our observations, pertinent documents, opinions, and recommendations.

**Significant Assumptions**

This report presents the results of our work performed at the referenced site. This work was performed in accordance with the December 20, 2019 Request for Proposal, and the January 27, 2020 contract, signed February 4, 2020 (copies in Appendix A).

**Limitations and Exceptions**

Information contained herein was obtained through a limited work scope by means of interviews, document research, and on-site observations. Conclusions are based on available information. However, this is not to imply that this is all of the information that exists which may be pertinent to the environmental liabilities of the site. The intent of this study was to identify environmental problems that would be evident to an environmental professional and was not intended to represent an exhaustive research of all potential hazards which may exist. Furthermore, certain potential environmental hazards reported in this study may require more comprehensive analysis to fully assess their magnitude and financial impact.

This report is representative of present conditions only. Situations or activities which occur subsequent to this report and which result in adverse environmental impacts are not relevant to this study.

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**Special Terms and Conditions**

The scope of our services did not include collecting or analyzing physical evidence for the presence or lack of contaminants such as asbestos, urea formaldehyde, mold, petroleum, PCBs, radon gas, fertilizers, herbicides, pesticides or other substances unless stated above.

Similarly, an assessment of mineral rights investigation, drinking water testing, indoor air quality, or environmental audits of operations, environmental practices or management was also not included in the scope of work.

With respect to our review of recorded land title records (if provided by Client), we have not provided an opinion as to marketability of title and have not otherwise warranted as to condition of title.

**User Reliance**

No individual, corporation, or interest other than Banner Associates, Inc. and Lewis & Clark Regional Water System, Inc., may rely on this report without prior authorization from GeoTek Engineering & Testing Services, Inc.

**SITE DESCRIPTION**

**Location and Legal Description**

The site consists of mostly agricultural land, vacant land, and rural residential yards in Minnehaha and Lake Counties, South Dakota. Madison Segments 2, 3, & 4 is not within the city limits of nearby towns. Lewis and Clark Regional Water System, Inc. has a proposed pipeline easement for Madison Service Segments 2, 3, & 4.

The total pipeline length for Madison Segments 2, 3, & 4 is approximately 32.1 miles. The proposed total right of way width of both the permanent and temporary construction easement is approximately 60' for most of the pipeline route; some areas are up to about 90' wide due to buried utilities in the typical 60' width area, and some areas smaller (10-20' wide, or being within the typical 33' wide road right of way) due to features such as buildings. Madison Segment 2 consists of approximately 12.1 miles along 469<sup>th</sup> Avenue and 247<sup>th</sup> Street in rural Minnehaha County. Madison Segment 3 consists of approximately 10.1 miles along 247<sup>th</sup> Street and 465<sup>th</sup> Avenue in rural Minnehaha County and rural Lake County. Madison Segment 4 consists of approximately 9.9 miles along 465<sup>th</sup> Avenue, 237<sup>th</sup> Street, 462<sup>nd</sup> Avenue, and SD Highway 34 in rural Lake County.

The Lake County Reservoir is also included in this scope of work. The proposed reservoir site is located at the northeast corner of the intersection of 234<sup>th</sup> Street and 459<sup>th</sup> Avenue in Lake County, and is approximately 300' north-south by 300' east-west, excluding 33' wide section line right of ways. A site map is attached in Appendix A, as well as the Lake County GIS parcel outline (on a recent aerial photo) and Lake County Assessor data page.

There are approximately 128 separate parcels. The approximate legal description and owners of the

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parcels are on lists in Appendix B. Additionally, although not listed in Appendix B, the proposed pipeline easement also crosses many township/county roads, two railroad lines, etc.

**Site and Vicinity General Characteristics**

The site is mostly agricultural land (mostly cropland; some pasture or hay), vacant land, and rural residential land, farmsteads, driveways, and the City of Chester wastewater ponds (NE1/4, Section 14-105-51). The vicinity has similar land use. The proposed pipeline easement also crosses many township roads, county roads, railroad lines, etc.

**Current Use of the Property**

The site is mostly agricultural land (mostly cropland; some pasture or hay), vacant land, and rural residential land, farmsteads, driveways, and city wastewater ponds.

**Description of Improvements**

Improvements on the site are:

- a stock pond
- two sheds
- grain bins
- City of Chester wastewater ponds
- paved highways (Minnehaha County Highways 130, 126, 122, 114, 110, & 104; Lake County 10, 15, & 19)
- several tree shelterbelts
- gravel driveways
- approaches to access fields
- overhead and underground utility lines
- livestock (barbed wire) fencing along many parcel boundaries, and separating some interior areas.

**Current Uses of Adjoining Properties**

The vicinity consists of agricultural land (cropland, pasture, hay land), vacant land, residences, farmsteads, and wastewater lagoons.

A drive-by survey of the immediate site vicinity revealed the following items of apparent significance such as suspect UST locations, potential hazardous waste generators, industrial properties, etc.:

1. Aboveground Storage Tanks (ASTs), drums and similar items were observed at:
  - 25569 469<sup>th</sup> Ave farmstead with one AST
  - SE of 469<sup>th</sup> Ave & 255<sup>th</sup>, one large AST with secondary containment
  - 25483 469<sup>th</sup> farmstead with two motor fuel ASTs
  - 25393 469<sup>th</sup> Ave house with two motor fuel ASTs

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- 46843 247<sup>th</sup> St, farmstead with an un-installed UST, old autos, scrap metal, etc.
  - farmstead on S side 247<sup>th</sup> St, W of 467<sup>th</sup> Ave, with one AST
  - 24629 465<sup>th</sup> Ave farmstead with one AST
  - 465<sup>th</sup> Ave N of 246<sup>th</sup> St, farmstead with grain dryer, drums, and 6 ASTs
  - Tower Management Systems at SW corner of 237<sup>th</sup> St & 465<sup>th</sup> Ave, hazardous material placard on door, one AST, and exhaust ports (likely for a generator(s)).
2. Farm equipment, feed yards, tree stumps or piles of trees, branches & brush, soil piles, rock piles, waste piles, windmills (indicates wells) were observed at many locations.
  3. Several areas where ditch grading or culvert work was recently done or underway
  4. St. Ansgar Cemetery on 466<sup>th</sup> N of 247<sup>th</sup> St
  4. L&CRWS Crooks Pump Station, an emergency electrical generator was observed, but it appeared to use propane fuel

**USER PROVIDED INFORMATION**

The user of this report may conduct certain tasks to assist in identifying possible recognized environmental conditions of the site. We have not been informed of environmental liens, activity or land use limitations, or a value reduction of the subject property due to environmental reasons.

Previous Environmental Site Assessments (ESAs) are not known to exist for the subject property.

On adjacent land, two previous Phase I Environmental Site Assessments were conducted by GeoTek Engineering & Testing Services, Inc. Madison Segment 1 is adjacent to the south (GeoTek #15-816, dated August 12, 2015). Recognized environmental conditions were not identified with regards to Madison Segment 1. Madison Segment 5 is adjacent to the north (GeoTek #15-818, dated August 10, 2015). One recognized environmental condition was identified with regards to Madison Segment 5 (solvent impacts to shallow groundwater, City of Madison water supply well #9 located on the southeast edge of the city). Note the subject property (Madison Segments 2, 3, & 4) is a few miles from the southeast edge of the City of Madison.

Abstracts of title or other title records for the subject property were not available for review.

The reason this Phase I Environmental Site Assessment was performed was to attempt to identify significant environmental risks, if present, for the proposed pipeline easement and installation.



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**RECORDS REVIEW**

A review of US Environmental Protection Agency and South Dakota state agency lists was conducted for the subject property by Envirosite Corporation. The review was conducted in four parts (Madison Segment 2 (in two parts), one for Madison Segment 3, and one for Madison Segment 4). Part of the review is attached as Appendix C (includes definitions of acronyms and descriptions of the lists). The full review is on the attached CD.

**Segment 2-1 Listings**

1. Lewis and Clark Regional Water System, no address, SD, ECHO, FRS
2. Lewis and Clark Water Co., no address, SD, ECHO, FRS
3. DENR #93.103, Nelson Trucking Incorporated-Tank Spill/Transport Event, 2.5 M W & .75 M S of I-29 Baltic Exit, Baltic, LAST-SD Spills, Closed
4. DENR #2001406.000, Clean ATP – Wrage Farm, 24661 468<sup>th</sup> Ave, Dell Rapids, LUST-SD Spills, Closed
5. Buskerud Construction Co., no street address, PO Box 126, Dell Rapids, AST-SD, LAST-SD

**Segment 2-2 Listings**

1. Lewis and Clark Water Co., no address, SD, ECHO, FRS
2. Lewis and Clark Regional Water System, no address, SD, ECHO, FRS
3. DEA – Clandestine Drug Lab, 25245 469<sup>th</sup> Ave, Crooks, ECHO, FRS, RCRA-VSQQ
4. DENR #8888.006 Clandestine Drug Lab Seizure, 25245 469<sup>th</sup> Ave, Crooks, CDL-SD, Spills-SD, Tracking
5. City of Crooks Municipal Gas, 701 South West Ave, Crooks, Pipelines
6. City of Crooks Municipal Gas, no street address, PO Box 785, Crooks, Pipelines
7. Schweigers Inc., SE at I-29 - Renner Exit, Crooks, LUST-SD, Spills-SD

**Segment 3 Listings**

1. Lewis and Clark Regional Water System, no address, SD, ECHO, FRS
2. Lewis and Clark Water Co., no address, SD, ECHO, FRS
3. DENR #2001.097 ATP- Raymond Gaspar Farm, 24345 465<sup>th</sup> Ave, Chester, LUST-SD, Spills-SD, Closed
4. Buskerud Construction Co., no street address, PO Box 126, Dell Rapids, AST-SD, LAST-SD

**Segment 4 Listings**

1. Lewis and Clark Regional Water System, no address, SD, ECHO, FRS
2. Lewis and Clark Water Co., no address, SD, ECHO, FRS
3. DENR #2006.073 Agri Chem Spill – Chester Farm Service, Intersection of 464<sup>th</sup> Ave & 237<sup>th</sup> St, Chester, Spills – SD, Closed
4. DENR 2000.053 Loiseau Truck Damage, Along Roadway Between Wentworth & Madison, Wentworth, Spills – SD, Closed
5. DENR 2017.044 Leaking Saddle Tank – Transport Accident, SE at Hwy 34 and 462<sup>nd</sup> Ave, Wentworth, Brownfields – SD, Spills-SD, No Further Action
6. DENR #2009.132 Transport Fertilizer Spill, 4 miles east of Madison on Hwy 34, Madison,

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Spills-SD, Closed

7. DENR #2002078.000 Clean ATP – Schaefer Property, 6319 Lakeview Dr, Wentworth, LUST-SD, Spills-SD, Closed

Consolidated Listing (all four segments)

As some of the listings were duplicates, below is a consolidated list, broken into categories:

**Site Listings**

**A. Non-Release Listings**

1. Lewis and Clark Regional Water System, no address, SD, ECHO, FRS
2. Lewis and Clark Water Co., no address, SD, ECHO, FRS

**Off-Site Listings**

**A. Non-Release Listings**

1. City of Crooks Municipal Gas, 701 South West Ave, Crooks, Pipelines
2. City of Crooks Municipal Gas, no street address, PO Box 785, Crooks, Pipelines
3. DEA – Clandestine Drug Lab, 25245 469<sup>th</sup> Ave, Crooks, ECHO, FRS, RCRA-VSQG
4. DENR #8888.006 Clandestine Drug Lab Seizure, 25245 469<sup>th</sup> Ave, Crooks, CDL-SD, Spills-SD, Tracking
5. DENR #2001406.000, Clean ATP – Wrage Farm, 24661 468<sup>th</sup> Ave, Dell Rapids, LUST-SD Spills, Closed
6. DENR #2002078.000 Clean ATP – Schaefer Property, 6319 Lakeview Dr, Wentworth, LUST-SD, Spills-SD, Closed

**B. Release Listings**

1. Buskerud Construction Co., no street address, PO Box 126, Dell Rapids, AST-SD, LAST-SD
2. Schweigers Inc., SE at I-29 - Renner Exit, Crooks, LUST-SD, Spills-SD
3. DENR #93.103, Nelson Trucking Incorporated-Tank Spill/Transport Event, 2.5 M W & .75 M S of I-29 Baltic Exit, Baltic, LAST-SD Spills, Closed
4. DENR 2000.053 Loiseau Truck Damage, Along Roadway Between Wentworth & Madison, Wentworth, Spills – SD, Closed
5. DENR #2001.097 ATP- Raymond Gaspar Farm, 24345 465<sup>th</sup> Ave, Chester, LUST-SD, Spills-SD, Closed
6. DENR #2006.073 Agri Chem Spill – Chester Farm Service, Intersection of 464<sup>th</sup> Ave & 237<sup>th</sup> St, Chester, Spills – SD, Closed
7. DENR #2009.132 Transport Fertilizer Spill, 4 miles east of Madison on Hwy 34, Madison, Spills-SD, Closed
8. DENR 2017.044 Leaking Saddle Tank – Transport Accident, SE at Hwy 34 and 462<sup>nd</sup> Ave, Wentworth, Brownfields – SD, Spills-SD, No Further Action

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**South Dakota Department of Environment and Natural Resources (DENR)**

DENR records were reviewed to supplement the above agency database/list review.

A. There were no open or pending investigations involving a spill, leakage, or contamination of soil and water within an approximate 1/2 mile radius of the subject property.

B. Closed, inactive, or no further action status investigations involving a spill, leakage, or contamination of soil and water within an approximate 1/2 mile radius of the subject property were (listed following proposed pipeline route from south to north):

1. 88.282 Wastewater Treatment Ponds, Wastewater Lagoon Site, 469th Avenue, Crooks (approximately 1000' southwest of subject property). A release of approximately 400 gallons of #2 diesel occurred on July 25, 1988 due to vandalism. The spill reportedly occurred on a construction site and was approximately 100' long in a north-south direction by approximately 20' wide in an east-west direction. The spill reportedly occurred on the extreme eastern edge of the new wastewater treatment lagoons for City of Crooks, South Dakota. Soil samples were apparently collected from numerous hand-auger borings. Soil samples were scanned with a photoionization detector (PID) as an indication of petroleum contamination. Soil vapor readings indicated contamination levels of up to approximately 100 ppm in the upper 3" of the contaminated zone. The PID readings decreased to 65 to 85 ppm in the 3-6" depth level. It appeared that no significant contamination went beyond a depth of approximately 24". More than 100 cubic yards of the contaminated soil was removed and reportedly brought to the Runge Landfill. Soil samples collected at the bottom of the excavation (reportedly approximately 24" below grade) had concentrations of 10 to 12 ppm. A May 7, 1992 DENR Memorandum closed the file.
2. 89.080 CERCLIS-Tri-State Mint, 257th Street, 5 acre site W of Crooks (ag land) (approximately 1/4<sup>th</sup> mile east of the subject property). A potential cyanide released of unknown volume was reported on April 10, 1989. The former Tri-State Mint was suspected of storing and dumping material (ammonia, phosphates, silver, cyanide) from their mint and silver recovery process at the referenced location until late 1988. A Field Sampling Plan for Screening Site Inspection was created by an environmental consultant on June 4, 1992. The sampling plan called for up to 6 soil samples, 3 surface water samples, 3 sediment samples, 3 groundwater samples, and 3 quality control samples. The fieldwork was reportedly going to be completed on August 19, 1992. The results of the sampling were not present in the DENR file. A March 15, 1994 DENR Memorandum stated that EPA investigation did not indicate any contamination of concern from the Tri-State Mint and closed the file.
3. 93.103 Nelson Trucking Incorporated Transport Event, 2.5 miles W & 0.75 miles S of I-29, Baltic Exit, Lyons (SW1/4 Section 3-103-50, Parcel #30, adjacent to east of subject property). Approximately 1000 gallons of 9-18-0 fertilizer was released in the farmyard (near machine shed) due to a transport accident on April 29, 1993. Soil in the release area was reportedly excavated following the spill and spread on a field located north of the release. The excavation reportedly reached depths of 4-5 inches. Two soil samples were collected by the South Dakota Department of Agriculture at the base of the excavation. The soil samples were submitted to a chemistry laboratory for nitrate as nitrogen analysis. The nitrogen concentrations were 66 parts per million (ppm) and 55 ppm. A June 3, 1993 South

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Dakota Department of Agriculture memo stated that the spill was adequately remediated and the contaminated soil was properly land applied. A July 1, 1993 DENR letter closed the file.

4. 2012.110 Mix Tank Failure-Colton Farmers Elev, 46430 246<sup>th</sup> Street, Colton (along 246<sup>th</sup> Street from 1/4th mile east of 464<sup>th</sup> Ave to 46576 246<sup>th</sup> St) (**on subject property** or adjacent to east and west). On June 7, 2012, a 1000 gallon AST loaded with 28% liquid fertilizer failed, releasing about 800 gallons along the highway. Sand was applied to the roadway. The sand was later picked up and land applied (in Section 27-104-51). Soil was impacted along the edge of the road, but it was not excavated. After monitoring was conducted, the October 19, 2012 DENR letter required no further action.
5. 2001.097 ATP – Raymond Gaspar Farm, 24345 465<sup>th</sup> Ave, Chester (Near Parcel #314, adjacent to west of subject property). One 300 gallon heating oil UST and one 560 gallon diesel UST were removed on April 10, 2001. About 375 gallons of impacted water was removed from the diesel UST and taken to the Brookings Landfill. Some petroleum contaminated soil was encountered and removed below the heating oil UST. A deeper soil sample did not have detectable petroleum. The June 8, 2001 DENR letter closed the file.
6. 2006.073 Agri Chem Spill – Chester Farm Service, intersection of 464<sup>th</sup> Ave & 237<sup>th</sup> St, Chester (adjacent to subject property). On May 19, 2006, a fertilizer truck was run off the road by another vehicle and tipped over. Released were 2000 gallons 28% fertilizer, 200 gallons ammonium sulfate, and 94 gallons Harness. About 1500 gallons were recovered and applied on the destination field. The rest of the material was absorbed with floor dry, and some wet soil at the edge of the road was excavated. The contaminated material was land applied on the NE1/4, Section 27-106-51 (1/2 mile north of subject property). The remaining nitrogen concentration in soil was elevated. The March 8, 2007 DENR letter closed the file.
7. 2017.044 Leaking Saddle Tank-Transport Accident, SE at SD Hwy 34 and 462<sup>nd</sup> Ave, Wentworth (**on subject property** or adjacent). A release of 45 gallons of diesel fuel from a semi saddle tank occurred on April 12, 2017. Fuel was recovered from the damaged tank, and absorbents were applied to the roadway. The absorbents were collected and taken to the Sioux Falls Landfill. Surface soil (about 12' by 24' ) was impacted by diesel, but excavation was not required due to erosion concerns. Later, the impacted area was seeded and vegetation was growing. The November 1, 2017 DENR letter required no further action.
8. 2000.053 Loiseau Truck Damage, SD Hwy 34 and 462<sup>nd</sup> Ave, Wentworth (**on subject property** or adjacent). On March 29, 2000, up to about 50 gallons of diesel fuel was released when a fuel truck damaged a pipe when crossing nearby railroad tracks. The fuel ran down the road for a distance (1/2 mile east of Wentworth to 1 mile east of Madison). Note that the spill location was “ 1 mile east of Madison”; the spill icon location was placed at the intersection of SD Hwy 34 and 462th Ave. Where the truck stopped, about 6 to 8 cubic yards of impacted soil was excavated and transported to a landfarm by Sinia. No confirmation soil samples were requested or collected for analysis. The July 6, 2001 DENR letter closed the file.
9. 2009.132 Transport Fertilizer Spill, 4 miles east of Madison on Highway 34, Madison (adjacent to subject property). A release of approximately 10 tons of granular fertilizer (MAP 11-52-0) occurred on a half mile stretch of SD Highway 34 (starting at the intersection of SD Hwy 34 and 459<sup>th</sup> Ave and extending 1/2 mile west) on September 17,

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2009. Approximately 10 tons of fertilizer was recovered from the road using a street sweeper from the City of Madison. Less than 100 pounds of product reportedly fell off the shoulder of the road during cleanup operations. An October 9, 2009 DENR letter closed the file.

10. 1990.617 Lake Madison-“Cloudy Water”, Johnson’s Point Slough at Lake Madison, Madison, Closed (approximately ½ mile southwest).

C. Investigations involving an event with no soil and/or water contamination within an approximate ½ mile radius of the subject property were:

1. 92015.000 AT&T Microwave Building (adjacent to northeast of subject property, SW Corner of 237<sup>th</sup> St and 465<sup>th</sup> Ave), Chester. An underground fuel oil storage tank was removed from this location in about 1992. The June 16, 1992 DENR letter required no further investigation or testing.
2. 2001406.000 Clean ATP-Wrage Farm, 24661 468<sup>th</sup> Avenue, Colton (approximately 3/8<sup>th</sup> mile north of subject property). An abandoned 500 gallon gasoline UST was removed in 2001. Soil testing did not indicate a release had occurred.
3. 2001015.000 Clean ATP-Gagnon Property, 1 mile W and ¼ N of Wentworth turnoff on SD Highway 34, Wentworth (approximately 1/4<sup>th</sup> mile north of subject property). An abandoned 500 gallon gasoline UST was removed in 2001. Soil testing did not indicate a release had occurred.
4. 2002078.000 Clean ATP-Schaefer Property, 6319 Lakeview Drive, Wentworth (approximately 1/4<sup>th</sup> mile southwest of subject property). An abandoned 1000 gallon fuel oil UST was removed in 2002. Soil testing did not indicate a release had occurred.
5. 8888.006 Clandestine Drug Lab Seizure, 25245 469<sup>th</sup> Avenue, Lyons (adjacent to east or west), Tracking

D. Investigations in the agency database/list review without specific street addresses were researched in the DENR spills database to provide a better location:

1. 91033.000 Schweigers Inc., SE at I-29-Renner Exit, Crooks, (>3 miles SE of subject property)
2. 98053.000 Buskerud Construction, 24647 475<sup>th</sup> Ave, Dell Rapids (6 miles east of subject property)

**Records Review Summary**

The agency database/list review had these ASTM listings:

- 1 RCRA hazardous waste generator (little to no possible impact to site suspected)
- 6 releases with a closed or no further action status
- 2 releases where the status was not known/listed
- 3 listings where contaminants were not identified.

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Our review of SD DENR spills database had 10 closed or no further action status spills listings, 3 of which were on or adjacent to the subject property (1 fertilizer release and 2 diesel fuel releases along roads), and 5 listings where contaminants were not identified. Of the 3 releases along roads, there is thought to be little remaining impact. The 7 other releases adjacent and nearby are not thought to have impacted or significantly threaten the subject property.

## **HISTORICAL RESOURCES REVIEW**

### **Aerial Photograph Review**

A review was conducted of available historical aerial photographs from Envirosite Corporation. The following pertinent information about the site and vicinity was obtained from the review. Copies of the photos are attached in Appendix D (source and scale also listed). Additional (older) farmsteads beyond those on topographic maps are noted. The scale and clarity of some photos do not allow a detailed review. The review was conducted in four segments:

#### **Segment 2-1 (the north 7 miles of Segment 2)**

1953 - The site appears to be agricultural land (cropland, hay, pasture) with several farmsteads, section line roads, streams/drainages, etc. Skunk Creek and Willow Creek cross the site, trending southerly.

1970 - The site and vicinity appear essentially as previously seen.

1975 - The site and vicinity appear essentially as previously seen.

1976 - The site and vicinity appear essentially as previously seen.

1983 - The site and vicinity appear essentially as previously seen.

1984 - The site and vicinity appear essentially as previously seen.

1991 - The site and vicinity appear essentially as previously seen.

1998 – There is a new building site in Section 28-104-50.

2004 – The farmstead/dairy in Section 10-103-50 has expanded significantly.

2008 - The site and vicinity appear essentially as previously seen.

2010 - The site and vicinity appear essentially as previously seen.

2012 - The site and vicinity appear essentially as previously seen.

2014 - The site and vicinity appear essentially as previously seen.

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2016 - The site and vicinity appear essentially as previously seen.

2018 - The site and vicinity appear essentially as previously seen.

Segment 2-2 (the south 5 miles of Segment 2)

1937 – The site appears to be agricultural land (cropland, hay, pasture) with several farmsteads, section line roads, streams/drainages, etc. There are two northwest-southeast trending railroad lines that cross this segment. There is a farmstead in Section 34-103-50 (not present today).

1953 – The site and vicinity appear essentially as previously seen.

1958 - The site and vicinity appear essentially as previously seen.

1970 - The farmstead in Section 34-103-50 is no longer seen. A high voltage transmission line crosses the site from east to west.

1971 - One of the railroad lines may only be an inactive grade now.

1975 - The site and vicinity appear essentially as previously seen.

1976 - The site and vicinity appear essentially as previously seen.

1979 - The site and vicinity appear essentially as previously seen.

1983 - The site and vicinity appear essentially as previously seen.

1984 - The site and vicinity appear essentially as previously seen.

1991 - The site and vicinity appear essentially as previously seen.

1998 - The site and vicinity appear essentially as previously seen.

2004 - The site and vicinity appear essentially as previously seen.

2008 - The site and vicinity appear essentially as previously seen.

2010 - The site and vicinity appear essentially as previously seen.

2012 - The site and vicinity appear essentially as previously seen.

2014 - The site and vicinity appear essentially as previously seen.

2016 - The site and vicinity appear essentially as previously seen.

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2018 - The site and vicinity appear essentially as previously seen.

Segment 3

1953 – The site appears to be agricultural land (cropland, hay, pasture) with several farmsteads, section line roads, streams/drainages, etc. The cemetery is present in Section 13-104-51. Buffalo and Skunk Creek cross the site. There appears to be gravel pits by Buffalo Creek.

1965 - The site and vicinity appear essentially as previously seen.

1970 - The site and vicinity appear essentially as previously seen.

1975 - The site and vicinity appear essentially as previously seen.

1983 - The site and vicinity appear essentially as previously seen.

1984 - The site and vicinity appear essentially as previously seen.

1991 – There appears to be a building site where there were previously gravel pits by Buffalo Creek.

1998 - The site and vicinity appear essentially as previously seen.

2004 – There are now 2 wastewater treatment lagoons along the route by Chester.

2008 - The site and vicinity appear essentially as previously seen.

2010 - The site and vicinity appear essentially as previously seen.

2012 - The site and vicinity appear essentially as previously seen.

2014 – The farmstead in Section 12-104-51 is no longer seen. A third wastewater treatment lagoon is now present by Chester.

2016 - The site and vicinity appear essentially as previously seen.

2018 - The site and vicinity appear essentially as previously seen.

Segment 4

1953 - The site appears to be agricultural land (cropland, hay, pasture) with several farmsteads, section line roads, streams/drainages, etc. A railroad line crosses the site from north to south.

1965 – There is now development at the radio tower site in Section 35-106-51.

1970 - The site and vicinity appear essentially as previously seen.



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1975 - The site and vicinity appear essentially as previously seen.

1983 - The site and vicinity appear essentially as previously seen.

1984 - The site and vicinity appear essentially as previously seen.

1991 - The site and vicinity appear essentially as previously seen.

1998 - The site and vicinity appear essentially as previously seen.

2004 - The site and vicinity appear essentially as previously seen.

2008 - The site and vicinity appear essentially as previously seen.

2010 - The site and vicinity appear essentially as previously seen.

2012 - The site and vicinity appear essentially as previously seen.

2014 - The site and vicinity appear essentially as previously seen.

2016 - The site and vicinity appear essentially as previously seen.

2018 - The site and vicinity appear essentially as previously seen.

**City Directories**

Polk's City Directories of Sioux Falls (& rural SD area) were reviewed for the site and vicinity at approximate five year intervals (1996, 2002, 2007, 2013, and 2018). Rural street addresses appear to have been first established between 1995 and 2000. Listings in the immediate site vicinity follow (excluding apparent residential listings). There was no coverage for 234<sup>th</sup> Street, 235<sup>th</sup> Street, and 237<sup>th</sup> Street. The pages for covered streets are attached in Appendix D.

**247<sup>th</sup> Street (site is approx. 46500 to 46900)**

46932      2018      Adrian Krogstad Farms

**459<sup>th</sup> Ave (site is approx. #23390)**

No apparent business listings for years and pages provided

**462<sup>nd</sup> Ave (site is approx. 23500 to 23700)**

No apparent business listings for years and pages provided

**465<sup>th</sup> Ave (site is approx. 23700 to 24700)**

No apparent business listings for years and pages provided

**469<sup>th</sup> Ave (site is approx. 24700 to 25700)**

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25045      2013      Colton Sawmill  
25483      2007-2013      Vince Hanson Inc. non-classified establishments

**County Atlases/Maps**

Copies of the Minnehaha County atlas pages are included in Appendix D. Additional (older) farmsteads beyond those on topographic maps are noted.

**Minnehaha County**

1. Standard Atlas of Minnehaha County, South Dakota, 1903, by Geo. A. Ogle & Company

The site is part of four townships (Benton, Lyons, Burk, Taopi). The town of Crooks is not present, but there is a Newhope Post Office in the town area. There is no rail line crossing the site in Sections 33 & 34 (103-50). There is a building site in the SW1/4, Section 34-103-50. There is a school building in Section 9-103-50. There is a building site in the SE1/4, Section 21-104-50. There is a building site in Section 14-104-51. There is a church where Huntimer Cemetery is today (Section 2-104-51).

2. Atlas of Minnehaha County, South Dakota, 1957 by Thomas O. Nelson Company

The town of Crooks is now present. There is a rail line (Great Northern Ry) that crosses the site in Sections 33 & 34 (103-50). There is a railroad right of way (Ohio, Milwaukee, St. Paul & Pacific Ry) in Section 16-103-50. There is no longer a building site in the SE1/4, Section 21-104-50. Dyvig Nursery is in the SE1/4, Section 11-104-51.

3. Atlas of Minnehaha County, South Dakota, 1966 by Thomas O. Nelson Co.

The school building is no longer present in Section 9-103-50. The Dyvig Nursery is no longer present in the SE1/4, Section 11-104-51.

4. Atlas of Minnehaha County, South Dakota, 1975 by Midland Atlas Company, Inc.

There is no longer a railroad right of way in Section 16-103-50. Otherwise, the site and vicinity appear essentially as previously described.

5. Atlas of Minnehaha County, South Dakota, 1997 by Midland Atlas Company

Costello Co. owns land in Section 16-103-50. Otherwise, the site and vicinity appear essentially as previously described.

**Lake County**

1. Map of Lake County, South Dakota, 1899 by E. Frank Peterson

The site is part of three townships (Chester, Wentworth, Lake View). There is a School No.

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4 building (Brant Lake District) in Section 35-105-51. There is a building site by a (now Buffalo) creek in Section 24-105-51. The town of Chester is not present, but there is a Brant Lake Post Office one mile north. There is a building site in Section 11-105-51. There is a School No. 5 (Wentworth District) in Section 26-106-51. There is no rail line crossing the site in Sections 28 & 33 (106-51). The reservoir site is part of a larger parcel owned by R. A. Schmidt. Copy of map at <https://www.loc.gov/resource/g41831.la000856/>

2. Standard Atlas of Lake County, South Dakota, 1911 by Geo. A. Ogle & Co.

The town of Chester is now present. The building site in Section 11-105-51 is no longer present. There is a rail line (Dakota Central RR) that crosses the site in Sections 28 & 33 (106-51) and connects Chester and Wentworth.

3. Atlas of Lake County, South Dakota, 1950 by Thomas O. Nelson Company

The building site in Section 24-105-51 is no longer present. The former school parcel in 26-105-51 is now privately owned. The reservoir site is part of a larger parcel owned by Edward L. Schmidt.

**Fire Insurance Maps**

A review was conducted of available fire insurance maps of nearby towns by Envirosite Corporation. The review is attached in Appendix D. One map (1914 page 10, Sanborn Map Co., City of Madison) was provided. The map does not appear to show the site or nearby property.

We supplemented the Envirosite Corporation fire insurance map review as noted below:

**Chester** - Based on a review of area library holdings and references, Sanborn Map Company fire insurance maps were apparently not made for Chester. A Fire Underwriters Inspection Bureau map of the City of Chester for 1963 was available. The map does not appear to show the site or adjacent land. A copy of the map is attached in Appendix D.

**Colton** - Based on a review of area library holdings and references, Sanborn Map Company fire insurance maps were apparently not made for Colton. A Fire Underwriters Inspection Bureau map of the City of Colton for 1947 was available. The map does not appear to show the site or adjacent land. A photo of the map is attached in Appendix D.

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**Crooks** - Based on a review of area library holdings and references, Sanborn Map Company fire insurance maps were apparently not made for Crooks. A Fire Underwriters Inspection Bureau map of the City of Crooks for 1963 was available. The map does not appear to show the site or adjacent land. A copy of the map is attached in Appendix D.

**Madison** - A review was conducted of available fire insurance maps. Sanborn Map Company maps of nearby Madison were available for the years 1891, 1898, 1904, 1908, 1914, 1921, 1931, and 1949. The maps do not appear to show the site or adjacent land. A copy of the 1931 overview map is attached in Appendix D.

**Wentworth** - Based on a review of area library holdings and references, Sanborn Map Company fire insurance maps were apparently not made for Wentworth. A Fire Underwriters Inspection Bureau map of the City of Wentworth for 1959 was available. The map does not appear to show the site or adjacent land. A copy of the map is attached in Appendix D.

**National Pipeline Mapping System**

This publicly available database of pipelines was searched on May 21, 2020. A gas transmission line crosses the site northeast of Colton in Minnehaha County (along 465<sup>th</sup> Avenue, between 246<sup>th</sup> St & 247<sup>th</sup> St), trending northeast-southwest. The pipeline maps are attached in Appendix D.

**Topographic Maps**

A review was conducted of available historical topographic maps (7.5 minute Quadrangle). The maps are attached in Appendix D (grouped in Segments 2-1, 2-2, 3, and 4). Figures 1A to 1F are the most recent detailed topographic maps. Maps made in the 2000s do not show buildings. In general, the site and vicinity appear as agricultural or vacant land with many farmsteads and rural acreages/residences. The land surface elevation is somewhat rolling. The pipeline route crosses a few major streams. There are section line roads on nearly all section lines, although the roads vary from light to medium to heavy duty. The proposed pipeline easement route is approximately 32.1 long, trending along section lines. The maps are discussed by map name & year below:

**Crooks**

1962 - There is a rail line that crosses the pipeline route in Sections 33 & 34-103-50. There is an old railroad grade that crosses the pipeline route in Sections 15 & 16-103-50.

1971 - This is a photorevised 1962 map. There is now a high voltage transmission line that crosses the pipeline route in Sections 33 & 34-103-50.

2012 - No remarkable items noted.

2015 - No remarkable items noted.

2017 - No remarkable items noted.

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Colton SE

1962 - Willow Creek crosses the pipeline route in Sections 33 & 34-103-50. Skunk Creek crosses the pipeline route in Sections 9 & 16-104-50.

1980 - This is a photorevised 1962 map. No remarkable items noted.

2012 - No remarkable items noted.

2015 - No remarkable items noted.

2017 - No remarkable items noted.

Colton

1968 - A (presumed natural gas) pipeline is shown crossing the route in Sections 13 & 14-104-51. There are two cemeteries near the route, St. Ansgar (Section 13-104-51) and Huntimer (Section 2-104-51).

2012 - No remarkable items noted.

2015 - No remarkable items noted.

2017 - Huntimer Cemetery is now called Saint Joseph Cemetery.

Wentworth

1968 - In Sections 23 & 24-105-51, Buffalo Creek and Skunk Creek cross the pipeline route. The wastewater lagoons east of Chester are not present. There is a radio tower in the NE corner of Section 35-106-51. A rail line crosses the site in Sections 28 & 33-106-51. SD Highway 34 turns north and goes into Wentworth (not west along the pipeline route).

2012 - SD Highway 34 now appears to go along the pipeline route (not to Wentworth).

2015 - No remarkable items noted.

2017 - No remarkable items noted.

Lake Madison

1968 - There is an intermittent water body nearly adjacent to the north of the reservoir site.

2012 - SD Highway 34 now appears to go along the pipeline route

2015 - No remarkable items noted.

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2017 - No remarkable items noted.

**Data Failure**

The all appropriate inquiry standard requires that standard historical sources be consulted to develop a history of the previous uses of the site (at five year intervals) and surrounding area. Standard historical sources include aerial photographs, fire insurance maps, property tax files, recorded land title records, local street directories, building department records, zoning/land use records, and other sources. Standard historical sources that are reasonably ascertainable, publicly available, available at reasonable time and cost, and practically reviewable must be reviewed from the present back to the first developed use (which includes agricultural use or placement of fill dirt) or back to 1940, whichever is earlier. Review of standard historical sources may be excluded if they are not reasonably ascertainable or not likely to be sufficiently useful, accurate or complete.

Data failure occurs when all standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed, and yet the objective of the research has not been met. Data failure is not uncommon in trying to identify previous uses of property back to 1940 or earlier. If data failure occurs, the report shall document the failure, and if any standard historical resources were excluded, give the reasons for exclusion.

Five minor data gaps consisting of a lack of historical information for intervals greater than 5 years were present. Data gaps greater than the required interval ranged from 6 to 17 years. Use prior to and following the data gaps was not significantly different, therefore site use was assumed to be consistent across the gaps. Historical zoning/land use records and building department records were not reviewed. The zoning/land use records were deemed not likely to be useful. Local street directories or other records were not produced or thought to be sufficiently detailed to document uses of the site and surrounding area at five years intervals. Please refer to the time line listed on Table 1 for a summary of historical site use.

**SITE RECONNAISSANCE**

**Methodology and Limiting Conditions**

Observations were made by viewing the subject property from the fence line or right of way of adjacent roads, and traversing select site areas by auto or on foot.

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**Hydrogeology**

**Geology**

Minnehaha County – That part of the site in Minnehaha County is underlain by four different surficial units (Tomhave, 1994):

- Quaternary Minnehaha Till Plain is a heterogeneous mixture of boulders, sand, silt and clay. The clay may be covered by up to several feet of loess (wind-deposited silt). The unit forms a highly dissected topography on uplands.
- Quaternary Alluvium is floodplain deposits of silt and clay with minor amounts of sand gravel. The unit forms a relatively flat surface above normal river level, in valleys.
- Quaternary Outwash, Valley Train is sand and gravel of glaciofluvial origin with minor alluvial overburden. The unit is in the Skunk Creek valley and forms a sloping to relatively flat surface.
- Quaternary Till, End Moraine is a heterogeneous mixture of boulders, sand, silt, and clay. The unit forms a relatively elevated topography with boulder-strewn ridges and some linear features present. It is on uplands in the north part of the county.

There is a poor probability of sand and gravel deposits within 25' of the land surface for the route, except for an approximate 1½ mile stretch along 247<sup>th</sup> Street (in the Skunk Creek valley). There is a poor probability of finding quartzite within 25' of the land surface along the route (Jarrett, 1990).

Below the surficial Quaternary units are other Quaternary deposits, mostly till, with occasional buried outwash (sand and gravel). The Quaternary deposits are from 51' to over 250' thick (Tomhave, 1994).

The bedrock below Quaternary deposits is either the Cretaceous Split Rock Creek Formation (composed predominately of one to five layers of fine to coarse well-sorted quartzose sand, interbedded with thick layers of siltstone, shale and claystone) or the Precambrian Sioux Quartzite (a silica cemented sandstone). The top of the bedrock units ranges from approximately 1350-1500' in elevation (Tomhave, 1994).

Lake County – That part of the site in Lake County is underlain by five different surficial units (Hammond, 1991):

- Quaternary Till, End Moraine is a heterogeneous mixture of boulders, pebbles, sand, silt, and clay. The unit has massive linear accumulations or ridges often with a boulder-strewn or potholed surface.
- Quaternary Outwash is glaciofluvial sand and gravel, commonly silty and cross bedded to stratified. The unit occurs as valley fill and low flat topped terraces along valley walls.

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-Quaternary Alluvium is floodplain deposits of silt and clay. The unit contains some sand and gravel. The unit forms a relatively flat surface above normal river level, in valleys.

-Quaternary Till, Stagnation Moraine is a heterogeneous mixture of boulders, pebbles, sand, silt, and clay. The surface is partially blanketed with up to 2 feet of wind-blown silt and clay. The unit forms a rugged, randomly oriented hummocky topography characterized by poorly-developed drainages and abundant lakes and sloughs.

-Quaternary Lake Sediments, ice walled, is parallel bedded deposits of clay, silt and sand. It is elevated above the surrounding landscape.

There is a poor probability of sand and gravel deposits within 25' of the land surface for most of the route, except for an approximately 1½ mile stretch along 462<sup>nd</sup> Avenue (Skunk Creek area southeast of Chester) where there is a good chance of sand and gravel deposits (Tomhave, 1987).

Below the surficial Quaternary units are other Quaternary deposits, mostly till, with occasional buried outwash (sand and gravel). The bedrock below Quaternary deposits is Cretaceous Pierre Shale, Cretaceous Niobrara Formation (marl) or Precambrian Sioux Quartzite (a silica cemented sandstone). The top of the bedrock ranges from approximately 1300-1500' in elevation (Hammond, 1991).

## **Groundwater**

Groundwater is likely present in the surficial deposits within approximately 10' to 20' of the land surface. The groundwater gradient is often in the direction of the surface topographic gradient, which varies along the route. Many other factors can also affect the groundwater gradient, such as streams, pumping wells, precipitation, seasons, etc. Normally, groundwater within glacial till is not considered an aquifer due to poor quality and quantity. Nevertheless, tile wells are common in glacial till areas without other shallow aquifers.

Minnehaha County - That part of the site in Minnehaha County is likely underlain by the following aquifers (Lindgren, 1992):

Skunk Creek Aquifer - This is a surficial aquifer in outwash deposits in the Skunk Creek valley and approximately 15-49' thick in the site area. The groundwater gradient is generally to the southwest, at about 1550' in elevation.

Split Rock Creek Aquifer - This is a bedrock aquifer in the area northwest of Crooks and northeast of Colton. It is approximately 5-42' thick in the site vicinity. The groundwater gradient is generally to the southeast, at about 1500-1550' in elevation.

Sioux Quartzite Aquifer - This is a bedrock aquifer at an elevation of approximately 1300-1500' in the site vicinity.

Lake County - That part of the site in Lake County is likely underlain by the following glacial aquifers (Hansen, 1986):



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North Skunk Creek Aquifer - This surficial aquifer is in the Skunk Creek valley northeast of Colton for about a 1½ mile stretch, and approximately 54' thick in the site vicinity. The groundwater gradient is southerly.

Howard Aquifer - This buried outwash aquifer is approximately 20-54' thick in the northern part of the site. The groundwater gradient is generally easterly.

The site is likely underlain by the following bedrock aquifers (Hanson, 1986):

Niobrara Aquifer - This aquifer is approximately 50-100' thick in the site vicinity on the northern part of the site. The groundwater gradient is generally to the southwest.

Codell Aquifer - This aquifer has a potentiometric elevation of approximately 1500' above mean sea level and is found in the area of the northern part of the site.

Dakota Aquifer - This aquifer is up to approximately 163' thick and is found in the area of the northern part of the site.

Quartzite Wash Aquifer - This aquifer is present southeast of Chester and is up to about 100' thick in the area. The groundwater gradient is to the southwest.

Water Source Protection Areas

Minnehaha County has a Water Source Protection Area. An approximate 1½ mile part of the site along 247<sup>th</sup> Street (in the Skunk Creek valley) is within the area. Certain activities and uses are regulated within the area.

Lake County has established groundwater protection zones. Zone A indicates groundwater is within an approximate 10 year time of travel to the municipal supply wells. Zone B is within the shallow aquifer boundary and the land area contributes to drainage to Zone A. An approximate 1½ mile stretch of the route along 465<sup>th</sup> Avenue (southeast of Chester) is within the Lake County Groundwater Protection Zone B.

Municipal Water Supplies

The municipal water supply of nearby communities or rural water districts is listed below (DENR, 2018):

-the Big Sioux Community Water System gets their water from 17 wells (29-70' deep) and has a connection to the Minnehaha Rural Water System.

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- the City of Chester purchases their water from the Big Sioux Community Water System and has two wells (35', 41' deep) for emergency use.
- the City of Colton purchases their water from the Minnehaha Rural Water Service, and has two wells (34', 38' deep), apparently for emergency use.
- the City of Crooks purchases their water from the Minnehaha Community Water Corporation (who gets some water from the Lewis & Clark Regional Water System), and has one well (448' deep) for emergency use.
- the City of Madison gets their water from 12 wells (32-257' deep) and the Big Sioux Community Water System.
- the City of Wentworth purchases their water from the Big Sioux Community Water System.
- the Kingbrook III Rural Water System gets their water from seven wells (65-75' deep). Two of the wells are for emergency use. They have a water plant near Chester.
- the Minnehaha Community Water Corporation gets their water from 20 wells (45-97' deep) and from the Lewis & Clark Regional Water System.

**Soils**

For specific information about soils along the proposed pipeline easement refer to the latest county USDA soil survey. The soil types indicate the parent materials, as well as low or poorly drained areas (wetlands). Areas may have significant shallow groundwater that could complicate proposed pipeline installation. A copy of the General Soil Maps of Minnehaha and Lake Counties is included in Appendix D.

The general soil type on the route in Minnehaha County is (Nestrud, 1964):

- Nora-Moody association. It is a medium-textured and moderately fine-textured soil found in loess on uplands.
- Fordville-Estelline association. It a medium-textured soil found over sand and gravel on stream terraces.
- Luton-Dimmick association. It is a fine textured to moderately fine-textured soil found on flood plains.
- Kranzburg-Parnell association. It is a moderately fine textured and fine textured soil that is found in loess and till.
- Moody-Trent association. It is a moderately fine textured soil found in loess on uplands.

The general soil type on the route in Lake County is (Schultz, 1973):

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-Moody-Nora association. It is a nearly level to sloping, well-drained, silty soil that formed in loess. It is found on uplands.

-Dempster association. It is a nearly level to sloping, well-drained, silty soil that formed in alluvium over sand and gravel. It is found on stream terraces and uplands.

-Egan-Wentworth association. It is a gently undulating to rolling, well-drained, silty soil that formed in glacial drift. It is found on uplands.

-Egan-Viborg association. It is a nearly level to gently sloping, well drained and moderately-well drained, silty soil that formed in glacial drift. It is found on uplands.

**General Site Setting**

On May 12, 2020, we performed a reconnaissance visit of the site to make visual observations of existing site conditions and land use practices.

The site is mostly agricultural land (mostly cropland; some pasture or hay/alfalfa), vacant land, rural residential land, farmsteads, etc. There were vehicles, equipment, trailers, rock piles, livestock pens, livestock water tap/tanks, a few signs (street, realtor, zoning action, advertising, etc.), hay, a few sheds, grain bins, an old corn crib, gravel driveways, paved highways, many shelterbelts or areas of trees, and an occasional stock pond (natural or man-made for livestock use), etc.. There were barbed wire fences along many parcel boundaries, especially adjacent to section lines. There were also some overhead and underground utility lines, including markers for underground lines, water valves, telephone pedestals, electric cable boxes, a few street lights, natural gas pipelines, etc.

Observed were:

- 469<sup>th</sup> (west side), north of 257<sup>th</sup>, cage traps & pile of brush in tree belt
- 25628 469<sup>th</sup> Ave (Larson Bicentennial Homestead), firewood, trailers, soil pile
- 469<sup>th</sup> Ave north of 256<sup>th</sup>, west side, farm equipment, hay, feed yard
- 469<sup>th</sup> Ave north of 256<sup>th</sup> St, large overhead electrical lines
- 469<sup>th</sup> Ave north of 256<sup>th</sup>, hay, farm equipment, metal bldg, 7 grain bins, 2 ASTs
- 469<sup>th</sup> Ave north of Willow Creek Street, west side, old farmstead with a tractor, pump, and AST, & hoses for pumping manure (from nearby CAFO, manure being land applied)
- 465<sup>th</sup> Ave north of 244<sup>th</sup> St, Big Sioux Water pump station, generator with fuel tank
- 465<sup>th</sup> Ave north of 243<sup>rd</sup>, 3 (riser) groundwater monitoring wells in west ditch
- 465<sup>th</sup> Ave (west side), north of 241<sup>st</sup> St, City of Chester wastewater treatment ponds (& 12" diameter pipe stub adjacent to east of pond)
- Two major creeks: Buffalo Creek, Skunk Creek,
- Two federal Waterfowl Production Areas, 247<sup>th</sup> St west of 467<sup>th</sup> Ave, and along 465<sup>th</sup> Ave, south of 237<sup>th</sup> St
- Two railroad crossings, BNSF RR, 469<sup>th</sup> north of 256<sup>th</sup>, and 237<sup>th</sup> St west of 463<sup>rd</sup> Ave
- An old railroad grade, 469<sup>th</sup> Ave north of 253<sup>rd</sup> St

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Agricultural drain tile inlets or outlets were observed in these locations:

- 469<sup>th</sup> Ave east side, north of 256<sup>th</sup>
- 465<sup>th</sup> Ave west side, south of 245<sup>th</sup> St
- 465<sup>th</sup> Ave west side, north of 241<sup>st</sup> St
- 465<sup>th</sup> Ave west side, north of 240<sup>th</sup> St
- 465<sup>th</sup> Ave west side, north of 239<sup>th</sup> St
- 465<sup>th</sup> Ave east side, north of 239<sup>th</sup> St
- 465<sup>th</sup> Ave east side, north of 238<sup>th</sup> St
- 237<sup>th</sup> St, 2 on north side, west of 465<sup>th</sup> Ave
- 237<sup>th</sup> St, south side, west of 463<sup>rd</sup> St

Several of the above objects/items, if left on-site, would be considered waste disposal. Likewise, several items (rock piles, pond & soil piles, etc., would be considered unusual grade changes.

Evidence of distressed vegetation, sumps, water wells, and surface stains was not observed. Note that tall grass, brush, and trees somewhat obscured our view of parts of the site.

The subject property is roughly linear shaped. Madison Service Line 2, 3 and 4 are approximately 32.1 miles long by about 60' wide, trending mostly north-south. This is an approximate area of 233 acres. The Lake County Reservoir site is 300' by 300' or about 2.1 acres. Photographs of the site are attached in Appendix E.

**Hazardous or Potentially Hazardous Materials**

Hazardous or potentially hazardous substances observed or reported to exist on-site in quantities exceeding de minimus levels were: mineral oil and perhaps PCBs in electrical transformers, motor fuels in ASTs, etc.

Evidence of uncontrolled releases was not observed. Substances do not appear to be present in quantities subject to the reporting requirements under the EPA SARA Title III Section 302 community right to know for hazardous and toxic chemicals (as administered by SD Department of Environment and Natural Resources). The SD DENR database of SARA Title III facilities did not have listings on or adjacent to the site.

Agricultural or lawn chemicals such as herbicides, pesticides, insecticides, fertilizers, etc., have likely been applied to the site in the past. If used or handled on-site, there is potential for uncontrolled releases to have occurred. We presume there is no concern regarding ag chemical usage at crop/lawn application rates. Evidence of uncontrolled ag chemical releases (i.e. unusual areas devoid of vegetation) was not observed.

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**PCB Review**

Transformer mineral oil is suspected to contain Polychlorinated Biphenyls (PCBs). These transformers were observed on or immediately adjacent to the site:

1. L&CRWS Crooks Pump Station, 25704 469<sup>th</sup> Ave, across 257<sup>th</sup> St to south, five pole-mounted, non-PCB markings.
2. House, 25697 469<sup>th</sup> Ave, 1 pole-mounted, non-PCB markings.
3. Farmstead, 25569 469<sup>th</sup> Ave, 1 pole-mounted
4. House, 25393 469<sup>th</sup> Ave, 1 pole-mounted, non-PCB markings
5. Along 469<sup>th</sup> Ave, south of 253<sup>rd</sup> St, 1 pad-mounted
6. Farmstead, 25080/25082 469<sup>th</sup>, 1-pole-mounted
7. House, 24959 469<sup>th</sup> Ave, 1 pole-mounted
8. House, 24805 469<sup>th</sup> Ave, 2 pole-mounted
9. Along 247<sup>th</sup> St, east of 465<sup>th</sup> Ave, 1 pole-mounted
10. At SE corner of 247<sup>th</sup> St & 465<sup>th</sup> Ave, 1-pad-mounted
11. At farmstead east side of 465<sup>th</sup> Ave north of 246<sup>th</sup>, 1 pad-mounted
12. Along 465<sup>th</sup> Ave, north of 246<sup>th</sup> St, 1 pad-mounted
13. At NW corner of 245<sup>th</sup> St & 465<sup>th</sup> Ave, 1 pole-mounted, and a utility box (on ground that may have transformers or capacitors within)
14. Along 465<sup>th</sup> Ave, south of 244<sup>th</sup> St, 1 pole-mounted
15. Big Sioux Community Water pump station, 465<sup>th</sup> Ave south of 243<sup>rd</sup> St, 1 pad-mounted
16. Along 465<sup>th</sup> Ave, north of 243<sup>rd</sup>, 2 pole-mounted
17. House, 24128 465<sup>th</sup> Ave, 1 pad-mounted
18. Farmstead, 24009 465<sup>th</sup> Ave, 1 pad-mounted
19. Along 465<sup>th</sup>, south of 240<sup>th</sup> St, 1 pad-mounted
20. American Tower Management, SW corner of 465<sup>th</sup> Ave & 237<sup>th</sup> St, 3 pole-mounted.
21. House, 46396 237<sup>th</sup> St, 1 pad-mounted
22. Farmstead, 46253 237<sup>th</sup> St, 1 pole-mounted
23. Along 237<sup>th</sup> St, east of 462<sup>nd</sup> Ave, 1 pole-mounted
24. At SW corner of SD Highway 34 & 462<sup>nd</sup> Ave, 1 pad-mounted
25. At SE corner of SD Highway 34 & 461<sup>st</sup> Ave, 1 pad-mounted
26. At SE corner of SD Highway 34 & 460<sup>th</sup> Ave, 1 pad-mounted
27. At SE corner of SD Highway 34 & 459<sup>th</sup> Ave, 2 pad-mounted

Note that “non-PCB” marked transformers may have 0 parts per million (ppm) PCBs to <50 ppm PCBs. We did not observe evidence of leakage of transformer oils. There were several building sites present along the pipeline route where transformers were not observed (when traveling along adjacent roads), but one or more transformers would be suspected to exist at or near buildings sites.

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**Water Supply Well**

Water supply wells were not observed on-site. Although it is possible a well may exist at or near current or former residences and farmsteads, typical surface features of wells were not observed on-site.

If a water well is later discovered on-site, it would probably be considered abandoned. State well construction standards (ARSD 74:02:04:69) would require that abandoned wells be plugged. Well abandonment may be performed by the property owner or by a licensed well driller. The cost of well plugging would be dependent upon the depth and diameter of the well, and other factors.

**Underground/Aboveground Storage Tank Review**

Evidence of underground storage tanks (USTs), such as fill/vent pipes or dispenser islands, was not observed.

Excluding propane tanks, these aboveground storage tanks (ASTs) were observed on or adjacent to the site:

- 469<sup>th</sup> Ave north of 256 St, 2 ASTs
- 469<sup>th</sup> Ave north of Willow Creek Street, west side, 1 AST
- 465<sup>th</sup> north of 244<sup>th</sup> St, Big Sioux Water pump station, generator with fuel tank

There are several rules for ASTs:

**Federal Rules** - Federal Law under 40 CFR 112 requires owners and operators of facilities that could reasonably be expected to discharge oil in harmful quantities to waters to prepare and implement a Spill Prevention Control and Countermeasure (SPCC) plan. The law is applicable for facilities with oil storage capacities of over 42,000 gallons underground or 1,320 gallons aboveground (when counting containers 55 gallons and larger). UST's registered with the state would not be counted toward the 42,000 gallon limit. Mixtures with oil are counted if a discharge would violate applicable water quality standards, or cause a film, sheen, sludge, or emulsion. The definition of oil includes both liquids and solids, and includes animal fats and vegetable based oils. Depending upon the total above-grade oil storage on a particular parcel, that owner or operator may be subject to the SPCC rules.

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**State Rules** - SD Department of Environment and Natural Resources (DENR) administrative rules regarding USTs (agency notification, spill and overflow protection, corrosion protection, inventory requirements, release detection, soil sampling for closure, etc.) and ASTs (i.e. notification, release detection, release notification plan, overflow control, corrosion protection, and spill catchment basins) may apply to the site. However several USTs and ASTs are exempt from notification and most other rules, including: those storing non-regulated substances, farm or residential USTs of 1100 gallons or less capacity storing motor fuel for noncommercial purposes, USTs used for storing heating oil for consumptive use on the premises were stored, ASTs used for storing heating oil or motor fuels for consumptive use on the premises where stored, portable ASTs, and ASTs above floors inside buildings. Rules for reporting and remediation of releases of substances, if present, could also apply. DENR also reviews plans for (regulated) tank installations. The site was not listed on the DENR regulated tank database.

Should petroleum releases be suspected or identified from current or former tanks/storage, the SD Department of Environment and Natural Resources (DENR) may require assessment and/or clean-up of the site.

The SD Petroleum Release Compensation Fund (PRCF) may reimburse eligible parties for expenses related to assessment and remediation of motor fuels or fuel oil. The PRCF has a \$10,000 deductible, with coverage up to \$1,000,000 for eligible expenses related to releases of motor fuels and fuel oil. Expenses related to hydraulic oil, waste or used oil, and other substances are not eligible for reimbursement. Releases from vehicles may be covered if certain criteria are met. If a release originates off-site, there is also some coverage of expenses for an impacted third party. However, coverage is secured through the responsible party. Pipeline releases are reportedly excluded from PRCF coverage.

Although not expected to exist, if an abandoned petroleum UST(s) is later discovered, it may be removed at no expense to the property owner under a current DENR program. Abandoned petroleum USTs are eligible for the DENR Abandoned Tank Program unless they are at a commercially operated motor fuel station operated on or after April 1, 1988. USTs storing motor fuel, heating oil, motor oil, waste oil, etc., are eligible. DENR hires private contractors and consultants to conduct the work. UST contents are removed. Soil samples are collected at the time of UST removal. Contaminated backfill soils, if present, are removed. Replacement soil is minimally compacted. If there is pavement over the UST, it would not be replaced. The state also pays for "any additional cleanup that is needed". Currently, there is no known ending date for this program.

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**INTERVIEWS**

The objective of interviews is to obtain information indicating possible recognized environmental conditions of the site. An interview of the owner/key site manager, and occupant(s) if different than manager, and at least one state and/or local government official are required. In the case of abandoned properties where there is evidence of unauthorized use or uncontrolled access, interviews of one or more neighboring owners or occupants are required. The site was not an abandoned property.

**Owners**

Level 1 Contaminant Survey Checklists were sent to the owners of the parcels of the subject property on May 22 or 26, 2020. Of the 128 checklists sent, 56 were filled out and returned to us. An example letter sent to the property owners, the returned checklists, and a list of owners are attached in Appendix B.

These letters were returned to us:

- Parcel #22, "NO" written on letter, Mary Dressen Living Trust
- Parcel #26 & 27, Eunice McGee died December 2018, owner now Langrehr Family Trust, would like to discuss with land representatives.
- Parcel #34, no mail receptacle, Michele Haggar
- Parcel #36, no mail receptacle, Josh & Melissa Burggraff
- Parcel #37, "NO" written on letter, Leonard Dressen Living Trust
- Parcel #55, deceased, David Dannen
- Parcel #406, unable to forward, Lidel Family Trust

These telephone calls were received:

- Parcel #321, Rosalee Augustad called and said a well on this parcel (may or may not be on-site) had 28 ppm nitrates, and also had presence of coliform bacteria when tested in the past. It was stated the parcel also had some solid waste (trash) in the past.
- Parcel #431, Karen Nowka called and said she is no longer the owner of the parcel (new owner is Dan Lemke), so she would not be sending the form back.
- Parcel #432, Henry Hauch called and said he doesn't want the pipeline on his land. He won't be sending the form back.

There were these 'positive', 'unknown' or other responses on the returned checklists:

- Parcel #16, 2 unknown responses. Marge Norskog stated there is no Barbara Cole Living Trust. The current owner is Cole Family Legacy Land Trust (address provided).
- Parcel #17, Jeffrey & Linda Oyen. 3 yes responses (discarded batteries or chemicals, drums, spray operation) and 6 unknown responses.
- Parcel #23, Phillips Family Trust, 1 unknown response
- Parcel #25, Minnehaha County Highway Department, 13 unknown responses
- Parcel #32, Nordell Ekle, 1 unknown response
- Parcel 34A, Charles Johnson, 5 unknown responses. He has been away from the area serving in the Navy since 1961. Answers to his knowledge and is not aware of any; referred



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to tenant on land, Kent Johnson.

- Parcel #51, Bonnie Randall-Hanson Living, 12 unknown responses
- Parcel #52, Dorothy Jorgenson, 3 unknown responses
- Parcel #56, Jean Sando & Susan Ross, site includes farmland, house shed and tree grove; tree grove has been present for over 60 years.
- Parcel #57, David & Linda Sandvik, 1 unknown response. It was noted that a shelterbelt, RR grade, and field entrance were located on the parcel, and bypassing or tunneling under them may be appropriate.
- Parcel #58, David & Linda Sandvik, 1 unknown response. It was noted that a shelterbelt, RR grade, and field entrance were located on the parcel, and bypassing or tunneling under them may be appropriate.
- Parcel #59, Glen & Brenda Grinde, 3 unknown responses
- Parcel #60, Glen & Brenda Grinde, 3 unknown responses
- Parcel #61, Glen & Brenda Grinde, 3 unknown responses
- Parcel #62, Robert & Diane Vanderlinde, 2 yes responses (leaking storage tank removed 10-20 years ago, tires burned)
- Parcel #307, David & Kelli Vandervliet, 1 unknown response
- Parcel #309, Floyd & Melissa Snoozy, 5 yes responses (discarded batteries or chemicals, drums, well or water contaminates, hazardous substances or waste materials, spray operation), 2 unknown responses
- Parcel #310, Floyd & Melissa Snoozy, 3 unknown responses
- Parcel #321, Rosalie Augustad, 2 yes responses (nitrates in well or water, hazardous substances or waste materials), 4 unknown responses
- Parcel #323, Kevan & Denise Soderberg, 11 unknown responses (it was noted that they have only owned the property for 2 years)
- Parcel #325, Jeffrey & Carrie Lebrun, it was noted that there is drain tile line on-site, and wastewater treatment across the road

**Local Government Officials**

SD Department of Environment and Natural Resources (DENR) - Mr. Scott Bickler was contacted and he responded on July 16, 2020 regarding potential information on the site. He is a Senior Hydrologist with the DENR Groundwater Quality Program, and has been located in the DENR's Sioux Falls Office since 1989. He is familiar with the site area. Mr. Bickler was not aware of leaks, spills, releases, or hazardous material conditions at or adjacent to the subject property beyond those previously listed in the SD DENR list review in this report.

Minnehaha County Emergency Management – Director Jason Gearman was contacted and he responded on July 14, 2020 regarding potential information on the site. He stated the SD DENR information would be the most accurate data, and did not have comments regarding the Tier 2 database or the pipeline route.

Lake County Emergency Management – Emergency Manager Mr. Kody Keefer was contacted and he responded on July 21, 2020 regarding potential information on the site. He stated there were no major concern for issues in Lake County for the pipeline route.

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Copies of the correspondence are also attached in Appendix B.

### **DATA GAPS**

A data gap is defined as a lack of or inability to obtain the required information for this report despite a good faith effort, such as the inability to perform the site reconnaissance, interviews, etc. A data gap may not always be considered significant, and data failure of standard historical source review may or may not be considered a data gap. This report must identify and comment on significant data gaps that affect the ability to identify recognized environmental conditions, and identify sources of information that were consulted to address the data gaps (if any).

Significant data gaps were not noted for this report. About five minor data gaps consisting of a lack of historical information for intervals greater than 5 years were present. Unspecified use spanned 6 to 17 years and previous use was not significantly changed from following use, suggesting low potential for an alternate site use in the gap.

In our opinion, there were no additional interviews, records, or data to be reviewed that would be considered likely to be useful within the cost and time frame of this work.

### **FINDINGS**

The following summarizes our professional opinions regarding the Phase I Environmental Site Assessment performed on the subject property, based on the information presented in the previous sections of this report.

\* The subject property is roughly linear shaped. Madison Service Line 2, 3 and 4 are approximately 32.1 miles long by about 60' wide, trending mostly north-south. This is an approximate area of 233 acres. The Lake County reservoir site is located at the northeast corner of the intersection of 234<sup>th</sup> Street and 459<sup>th</sup> Avenue in Lake County, and is approximately 300' north-south by 300' east-west, excluding typical 33' wide section line right of ways.

\* The site is mostly agricultural land (mostly cropland; some pasture or hay/alfalfa), vacant land, rural residential land, farmsteads, etc. There were vehicles, equipment, trailers, rock piles, livestock pens, livestock water tap/tanks, a few signs (street, realtor, zoning action, advertising, etc.), hay, a few sheds, grain bins, an old corn crib, gravel driveways, paved highways, many shelterbelts or areas of trees, and an occasional stock pond (natural or man-made for livestock use), etc.. There were barbed wire fences along many parcel boundaries, especially adjacent to section lines. There were also some overhead and underground utility lines, including markers for underground lines, water valves, telephone pedestals, electric cable boxes, a few street lights, natural gas pipelines, etc.

\* Observed were:

- 469<sup>th</sup> Ave (west side), north of 257<sup>th</sup>, cage traps & pile of brush in tree
- 25628 469<sup>th</sup> Ave (Larson Bicentennial Homestead), firewood, trailers, soil pile
- 469<sup>th</sup> Ave north of 256<sup>th</sup>, west side, farm equipment, hay, feed yard

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- 469<sup>th</sup> Ave north of 256<sup>th</sup> St, large overhead electrical lines
- 469<sup>th</sup> Ave north of 256<sup>th</sup>, hay, farm equipment, metal bldg, 7 grain bins, 2 ASTs
- 469<sup>th</sup> Ave north of Willow Creek Street, west side, old farmstead with a tractor, pump, and AST, & hoses for pumping manure (from nearby CAFO, manure being land applied)
- 465<sup>th</sup> Ave north of 244<sup>th</sup> St, Big Sioux Water pump station, generator with fuel tank
- 465<sup>th</sup> Ave north of 243<sup>rd</sup>, 3 (riser) groundwater monitoring wells in west ditch
- 465<sup>th</sup> Ave (west side), north of 241<sup>st</sup> St, City of Chester wastewater treatment ponds (& 12" diameter pipe stub adjacent to east of pond)
- Two major creeks: Buffalo Creek, Skunk Creek,
- Two federal Waterfowl Production Areas, 247<sup>th</sup> St west of 467<sup>th</sup> Ave, and along 465<sup>th</sup> Ave, south of 237<sup>th</sup> St
- Two railroad crossings, BNSF RR, 469<sup>th</sup> Ave north of 256<sup>th</sup>, and 237<sup>th</sup> St west of 463<sup>rd</sup> Ave
- An old railroad grade, 469<sup>th</sup> Ave north of 253<sup>rd</sup> St

\* Agricultural drain tile inlets or outlets were observed in approximately nine locations.

\* Several of the above objects/items, if left on-site, would be considered waste disposal. Likewise, several items (rock piles, pond & soil piles, etc., would be considered unusual grade changes.

\* Evidence of distressed vegetation, sumps, water wells, and surface stains was not observed. Note that tall grass, brush, and trees somewhat obscured our view of parts of the site.

\* Hazardous or potentially hazardous substances observed or reported to exist on-site in quantities exceeding de minimus levels were: mineral oil and perhaps PCBs in electrical transformers, motor fuels in ASTs, etc. Evidence of uncontrolled releases was not observed. Substances do not appear to be present in quantities subject to the reporting requirements under the EPA SARA Title III Section 302 community right to know for hazardous and toxic chemicals (as administered by SD Department of Environment and Natural Resources). The SD DENR database of SARA Title III facilities did not have listings on or adjacent to the site.

\* Transformer mineral oil is suspected to contain Polychlorinated Biphenyls (PCBs). Transformers were observed on or immediately adjacent to the site in at least 27 locations. Note that "non-PCB" marked transformers may have 0 parts per million (ppm) PCBs to <50 ppm PCBs. We did not observe evidence of leakage of transformer oils. There were several building sites present along the pipeline route where transformers were not observed (when traveling along adjacent roads), but one or more transformers would be suspected to exist at or near buildings sites.

\* Water supply wells were not observed on-site. Although it is possible a well may exist at or near current or former residences and farmsteads, typical surface features of wells were not observed (when traveling along adjacent roads).

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\* Evidence of underground storage tanks (USTs), such as fill/vent pipes or dispenser islands, was not observed. Excluding propane tanks, these aboveground storage tanks (ASTs) were observed on or adjacent to the site at these locations:

- 469<sup>th</sup> Ave north of 256 St, 2 ASTs
- 469<sup>th</sup> Ave north of Willow Creek Street, west side, 1 AST
- 465<sup>th</sup> Ave north of 244<sup>th</sup> St, Big Sioux Water pump station, generator with fuel tank

\* Owner questionnaires listed possible environmental concerns (positive or unknown responses). We note that unknown responses may be true for the entire parcel, but the item may or may not be on the proposed pipeline route easement itself.

\* Historical resources reviewed identified a few non-agricultural or non-residential land uses, such as schools, nursery, rail lines, gravel pit, etc.

\* DENR Spills List - Releases are not reported for the subject property. Three records of closed investigations involving contamination and one record of a closed investigations not involving contamination were found within a ½ mile radius of the subject property. The three records involving contamination appear to be adjacent to the site. The site is not thought to be impacted or threatened by identified releases.

\* Other Regulatory Lists (besides DENR spills list) - The subject property was not listed on other regulatory lists. There were several nearby off-site facilities on regulatory listings, including one active CERCLIS listing, one archived CERCLIS listing, and one registered tank facility. The off-site non-spills regulatory list facilities are not considered environmentally significant with respect to the site.

### **OPINION**

The few farmsteads on-site or adjacent/nearby may have several environmental risks. One is ag chemical and fertilizer storage and use. Animal wastes may be generated, stored, and disposed of. There may be current or former disposal pits for household and farm wastes. There may be current or former water supply wells, storage tanks (ASTs/USTs), household septic fields and lines, manure pits, agricultural drainage tiles, etc. Each of these items, if present, could: result in increased nutrients; contaminate soil, groundwater, or surface water; or provide a transport mechanism.

Dumps or landfills were not identified along the proposed pipeline easement. However, there may be some potential for buried wastes at former/current farmstead locations. If encountered, wastes may require special disposal, and may be a release source.

If the potential for releases is of concern, subsurface assessment should be considered. Should releases be identified and reported to DENR, assessment and/or clean-up of the site may be required. If encountered, wastes may require special disposal, and may be a release source.

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Should substance releases be encountered or detected, notification to the US Environmental Protection Agency or the SD Department of Environment and Natural Resources may be necessary. If the substance release is a motor fuel or fuel oil, a responsible party or impacted third party may be eligible for reimbursement of assessment and cleanup costs from the SD Petroleum Release Compensation Fund. The PRCF has a \$10,000 deductible (except for third party liability cases), with coverage up to \$1,000,000 for eligible expenses related to releases of motor fuels and fuel oil. Expenses related to hydraulic oil, motor oil, used oil, and other substances (i.e. cutting oils, solvents, paints) are not eligible for reimbursement. Transmission pipeline releases are reportedly excluded from PRCF coverage. Releases from vehicles may be covered if certain criteria are met. If a release originates off-site, there is also some coverage of expenses for an impacted third party. However, coverage is secured through the responsible party.

Although not suspected, if an abandoned petroleum UST is discovered, it could be removed at no expense to the property owner under a current DENR program. Abandoned petroleum USTs are eligible for the DENR Tank Yank Program unless they are at a commercially operated motor fuel station operated on or after April 1, 1988. USTs storing motor fuel, heating oil, motor oil, waste oil, etc., are eligible. DENR hires private contractors and consultants to conduct the work. UST contents are removed. Soil samples are collected at the time of UST removal. Contaminated backfill soils, if present, are removed. Replacement soil is minimally compacted. If there is pavement over the UST, it would not be replaced. The state also pays for "any additional cleanup that is needed". Currently, there is no known ending date for this program.

If abandoned water supply wells are encountered, they may need to be plugged. The cost of sealing a well with cement grout would be dependent upon the depth and diameter of the well. The minimum cost would be a few hundred dollars, with higher expenses for deep and large diameter wells.

If over one acre of land will be disturbed by earthwork (i.e. pipeline construction or other earthwork), a notice of intent to be covered under the state's general permit for storm water discharges in association with construction activities should be submitted to DENR at least 15 days prior to conducting work. As part of the permit, a pollution prevention plan must be developed and implemented. Likewise, if dewatering of trenches is conducted, the appropriate notice of intent to be covered under the state's general permit should be submitted to DENR.

### **CONCLUSIONS**

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 and 40 CFR Part 313 of the referenced site.

Recognized Environmental Conditions (REC), or Controlled Recognized Environmental Conditions (CREC) were not identified at the subject property. Historical Recognized Environmental Conditions (HREC) identified were three releases reported to SD DENR (2000.053, 2012.110 & 2017.044).

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Possible wastewater seepage from adjacent wastewater lagoons (Chester Wastewater Treatment Ponds) are not considered a REC. ASTM defines "recognized environmental conditions" as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release...". The term includes hazardous substances even under conditions in compliance with laws. Specifically excluded are de minimus conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. While there is potential for release of wastewater to impact the subsurface, it is not known or suspected to be the case, or known to rise to the level of a "release".

**DEVIATIONS**

There is one deviation from American Society for Testing and Materials (ASTM) Standard E1527-13. Chain of title documents were not available or provided for the referenced site.

**ADDITIONAL SERVICES**

**Asbestos Review**

The subject property was reviewed for obvious suspected asbestos containing building materials. There few structures on-site. Structures may have building materials that would be suspected to contain asbestos, materials such as shingles, tarpaper, plaster, drywall, ceiling tile & mastic, floor tile & mastic, sheet flooring & mastic, carpet mastic, pipe insulation, boiler insulation, sheathing, roof membrane, tar, etc.

General information on asbestos follows:

An inspection and sampling of suspect asbestos containing building materials is usually required by EPA (NESHAPs rules in 40 CFR 61) and SD Department of Environment and Natural Resources (DENR) rules prior to construction, demolition, or renovation activities involving the materials. Additionally, a notification form must be submitted to DENR at least 10 working days prior to demolition (including those where no asbestos is present), and prior to disturbing or removing certain quantities of asbestos. Asbestos materials may require special disposal.

Most landfill operators/owners will accept building debris without segregating non-friable (non-dust producing under hand pressure) suspect asbestos containing materials. The landfill accepting the waste may also have requirements regarding packaging, transport, and disposal of the material.

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These factors should be considered when selecting a landfill for the demolition debris. During building demolition, we recommend care be taken to lessen the possibility that the non-friable materials would become friable. Possible precautions include: demolition equipment should not traverse or pulverize areas of floor tile, use water to keep material wet during removal, keeping debris sections relatively intact, and minimizing breakage, etc.

Federal OSHA rules may apply to contractors and employees working with asbestos containing materials. Notification of the existence of suspected and confirmed asbestos building materials is required. Thermal system insulations, spray or trowelled surfacing materials, and asphalt or vinyl flooring must be presumed to contain asbestos in buildings constructed before 1980 unless tested otherwise. For employees such as custodial and maintenance workers, an asbestos awareness course is required in buildings with confirmed or presumed asbestos containing materials.

**Lead Review**

There are few painted surfaces on-site as the known route attempts to avoid structures. If present, paint may contain lead. Most definitions of lead-based paint define it as paint containing 0.5% or more lead. Beginning in 1955, voluntary industry standards were 1% or less lead in residential interior paint. In 1971, a federal law prohibited the use of paint with over 1% lead in federal government residences. In 1973, federal law lowered the allowable amount to 0.5%. In 1977, federal law lowered the allowable amount of lead in residential interior paint to 0.06%. Contractors should comply with OSHA lead exposure rules during work involving potential lead-based paint (29 CFR 1926.62).

**Wetlands**

**Map** - A review was conducted of available National Wetlands Inventory maps (NWI mapper) prepared by the US Department of the Interior, Fish & Wildlife Service along the proposed pipeline easement. The NWI mapper maps are attached in Appendix F.

**Field Observations** - Field observations (i.e. surface water, low elevation, type of vegetation or other) were made for apparent or possible wetlands. Note that tall grass, cattails, trees, and other vegetation may have partially obscured our view, and 2018 and 2019 were record precipitation years.

On the table below are map observations of identified wetlands, and field observation of apparent wetlands (arranged by section-township-range of the proposed pipeline easement, from south to north). Wetlands that would appear to be low road ditches are excluded.

**Section/Topographic Map   NWI Map   Field Observation**

Crooks Quadrangle

3-102-50	0	0
4-102-50	1	4
33-103-50	3	1

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34-103-50	5	1
27-103-50	0	0
28-103-50	0	0
21-103-50	1	2
22-103-50	0	0
15-103-50	2	1
16-103-50	2	2
9-103-50	0	1
10-103-50	0	2
3-103-50	1	0
4-103-50	3	0

Colton SE Quadrangle

3-103-50	1	1
4-103-50	2	2
33-104-50	2	2
34-104-50	2	1
27-104-50	0	0
28-104-50	0	0
21-104-50	4	3
22-104-50	1	2
16-104-50	1	1
17-104-50	2	0
20-104-50	2	1
18-104-50	1	0
19-104-05	1	0

Colton Quadrangle

18-104-50	5	0
19-104-50	3	1
13-104-51	8	5
24-104-51	5	1
14-104-51	1	2
11-104-51	3	3
12-104-51	2	2
1-104-51	1	0
2-104-51	1	1
35-105-51	0	2
36-105-51	0	1
25-105-51	2	2
26-105-51	3	2

Wentworth Quadrangle

25-105-51	0	0
26-105-51	0	0
23-105-51	3	3



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24-105-51	3	3
13-105-51	0	0
14-105-51	3	0
11-105-51	1	2
12-105-51	3	1
1-105-51	4	0
2-105-51	2	0
35-106-51	3	3
36-106-51	1	1
26-106-51	3	2
27-106-51	1	1
34-106-51	2	2
28-106-51	2	3
33-106-51	2	1
29-106-51	1	2
20-106-51	3	4
21-106-51	2	1
17-106-51	1	3
18-106-51	1	1
19-106-51	1	1
Lake Madison Quadrangle		
18-106-51	0	1
19-106-51	0	2
13-106-52	3	1
24-106-52	1	4
12-106-52	<u>1</u>	<u>0</u>
Approximate Total	118	94

Based on US Fish and Wildlife Service maps, there are about 118 wetlands areas along the proposed pipeline easement. Based on field observations, there may be about 94 wetlands areas along the proposed pipeline easement.

**Owner Observations**

Owner observations were solicited with the questionnaires:

Parcel #24, Visser, SW1/4, Section 15-103-50, it was noted there was a drainage channel a short distance north of the road intersection.

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**STANDARD OF CARE**

The conclusions and recommendations contained in this report present our professional opinions. These opinions were arrived in accordance with currently accepted hydrogeological and engineering practices at this time and location. Other than this, no warranty is implied or intended.


**REMARKS**

GeoTek Engineering and Testing Services, Inc. appreciates the opportunity to provide our services on this project. Please contact us if we can be of further assistance or if you have questions.

Respectfully submitted,

  
Jerald K. Zutz  
Senior Project Manager  
PE/Remediator #5083

This report was reviewed by:

  
Daniel R. Hanson  
General Manager  
PE/Remediator #4829

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**SIGNATURE OF ENVIRONMENTAL PROFESSIONALS**

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Jerald K. Zutz  
Senior Project Manager  
SD PE/Remediator #5083

This report was reviewed by:



Daniel R. Hanson  
General Manager  
PE/Remediator #4829

**QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS**

Jerald K. Zutz - Senior Project Engineer/Manager: Jerry is a senior project engineer/manager on assessment and remediation projects. He holds a degree in geologic engineering from South Dakota School of Mines and Technology. Jerry has completed over 750 Phase I Environmental Site Assessments throughout South Dakota, Iowa, Minnesota and Nebraska. Jerry is a licensed asbestos building inspector in South Dakota and Iowa, and has received training as a lead-based paint inspector/risk assessor under the EPA model curriculum. He is a Registered Professional Engineer and a Certified Petroleum Release Remediator in South Dakota with 36 years of experience.

Jerry is the Environmental Professional for this report and completed the site reconnaissance, interviews, historical research, and prepared the report

Daniel R. Hanson - General Manager: Dan is the general manager of GeoTek. Previously, he was a senior project engineer/manager on assessment and remediation projects. He holds a degree in civil engineering from South Dakota State University. He is a Registered Professional Engineer in South Dakota and a Certified Petroleum Release Remediator in South Dakota with 35 years of experience.

Dan supervised the completion of the assessment.

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TABLE 1- SITE USE TIME LINE		
Year	Historical Source	Site Use
1881	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1898	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1899	Lake County Atlas	The site is within 3 townships. The town of Chester is not present. There is no rail line in Sections 28 & 33 (16-51). There are two school buildings along the route.
1903	Minnehaha County Atlas	The site is within 4 townships. The town of Crooks is not present. There are several building sites, including one school along the route.
1904	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1908	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1911	Lake County Atlas	The town of Chester is now present. There is now a rail line crossing the site in Sections 28 & 33 (106-51).
1914	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1921	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1931	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1937	Aerial Photos	The site appears to be agricultural land with farmsteads, roads, streams, 2 rail lines crossing, etc.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1947	Colton FUIB Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1949	Madison Sanborn Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1950	Lake County Atlas	One of the school parcels is now privately owned.
1953	Aerial Photos	The site appears to be agricultural land with farmsteads, roads, streams, 1 rail line, etc. A cemetery is in Section 13-104-51. There appears to be gravel pits by Buffalo Creek
1957	Minnehaha County Atlas	The town of Crooks is now present. There are two rail lines that now cross the site. Dyvig Nursery is along the site route.
1958	Aerial Photos	The site appears essentially as previously seen.
1959	Wentworth FUIB Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.

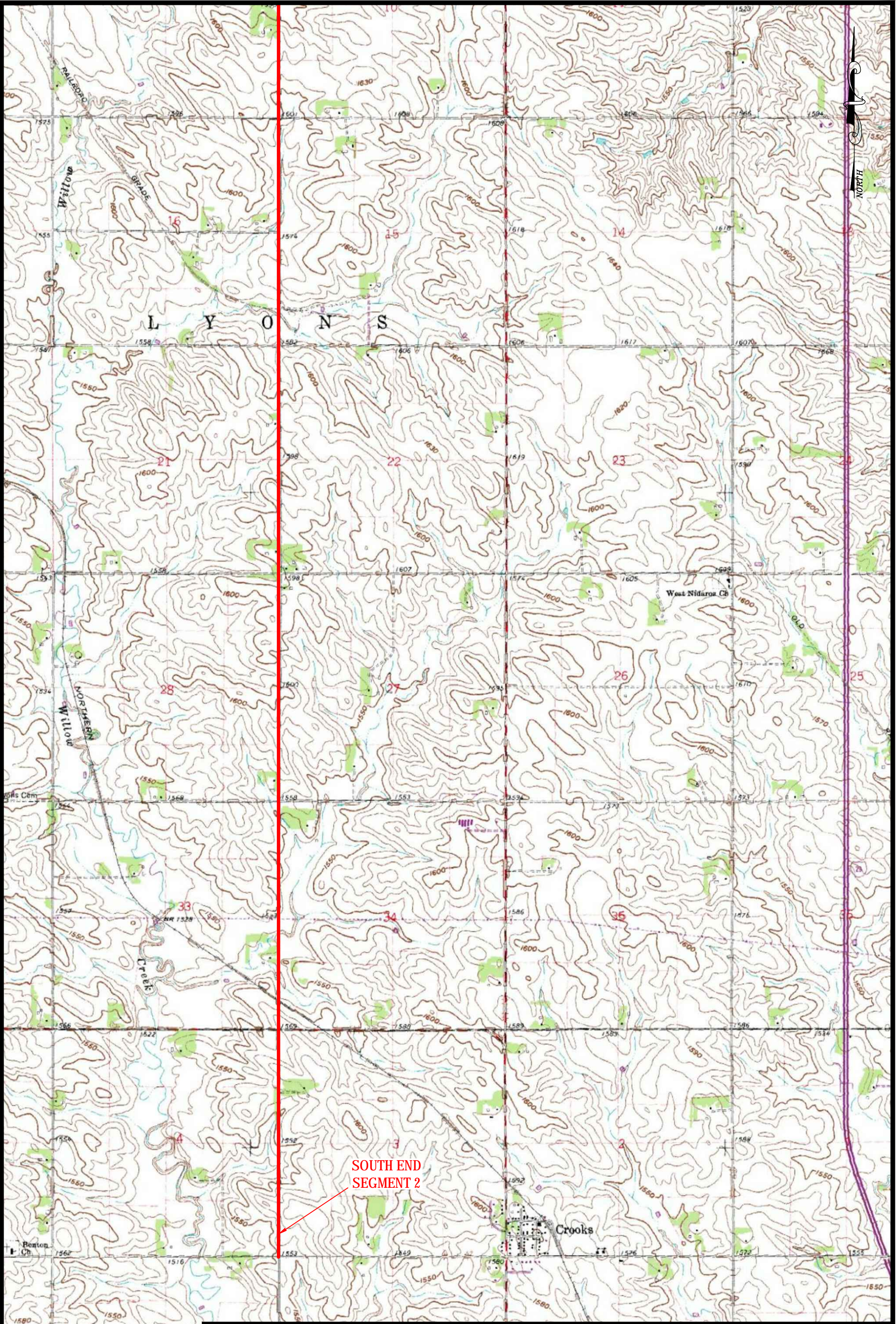
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<b>TABLE 1- SITE USE TIME LINE (continued)</b>		
<b>Year</b>	<b>Historical Source</b>	<b>Site Use</b>
1962	Crooks & Colton SE Topographic Map	One rail line, an old railroad grade, and two creeks (Willow, Skunk) cross the pipeline route.
1963	Chester FUIB Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1963	Crooks FUIB Map	The site is not shown in detail and is presumed to have little to no commercial or industrial use.
1965	Aerial Photos	There is now a radio tower site in Section 35-106-51.
1966	Minnehaha County Atlas	A school building, and Dyvig Nursery are no longer along the route.
1968	Colton, Wentworth, & Lake Madison Topographic Map	A presumed natural gas pipe is shown crossing the route. There are two cemeteries (St. Ansgar, Huntimer) near the route. Two creeks (Buffalo, Skunk) cross the route. The wastewater lagoons are not present east of Chester. There is a radio tower, and a rail line, along the route. SD Highway 34 turns north into Wentworth (not along the pipeline route).
1970	Aerial Photo	A high voltage transmission line now crosses the site.
1971	Aerial Photos	One of the railroad lines may only be an inactive grade now.
1971	Crooks Topographic Map	There is now a high voltage transmission line that crosses the route in Sections 33 & 34 (103-50).
1975	Aerial Photos	The site appears essentially as previously seen.
1975	Minnehaha County Atlas	There is no longer a railroad right of way in Section 16-103-50.
1976	Aerial Photos	The site appears essentially as previously seen.
1979	Aerial Photos	The site appears essentially as previously seen.
1980	Colton SE Topographic Map	No remarkable items noted.
1983	Aerial Photos	The site appears essentially as previously seen.
1984	Aerial Photos	The site appears essentially as previously seen.
1991	Aerial Photos	There appears to be at least one new building site.
1996	City Directory	There were no commercial listings on-site.
1997	Minnehaha County Atlas	Costello Co. owns land in Section 16-103-50.
1998	Aerial Photos	There appears to be at least one new building site.
2002	City Directory	There were no commercial listings on-site.
2004	Aerial Photo	A farmstead/dairy has expanded in Section 10-103-50. There are now 2 wastewater treatment lagoons by Chester.
2007	City Directory	Vince Hanson Inc. non-classified establishments was listed along the route .
2008	Aerial Photo	The site appears essentially as previously seen.
2010	Aerial Photo	The site appears essentially as previously seen.

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TABLE 1- SITE USE TIME LINE (continued)		
Year	Historical Source	Site Use
2012	Aerial Photo	The site appears essentially as previously seen.
2012	Topographic Maps	SD Highway 34 now appears to go along the pipeline route.
2013	City Directory	Vince Hanson Inc. non-classified establishments, and Colton Sawmill, were listed along the route.
2014	Aerial Photo	There is now a third wastewater treatment lagoon by Chester.
2015	Topographic Maps	No remarkable items noted.
2016	Aerial Photo	The site appears essentially as previously seen.
2017	Topographic Maps	Huntimer Cemetery is now called St. Joseph Cemetery.
2018	Aerial Photo	The site appears essentially as previously seen.
2018	City Directory	There were no commercial listings on-site.





**LEGEND**

= PIPE ROUTE

0 2000' 4000'

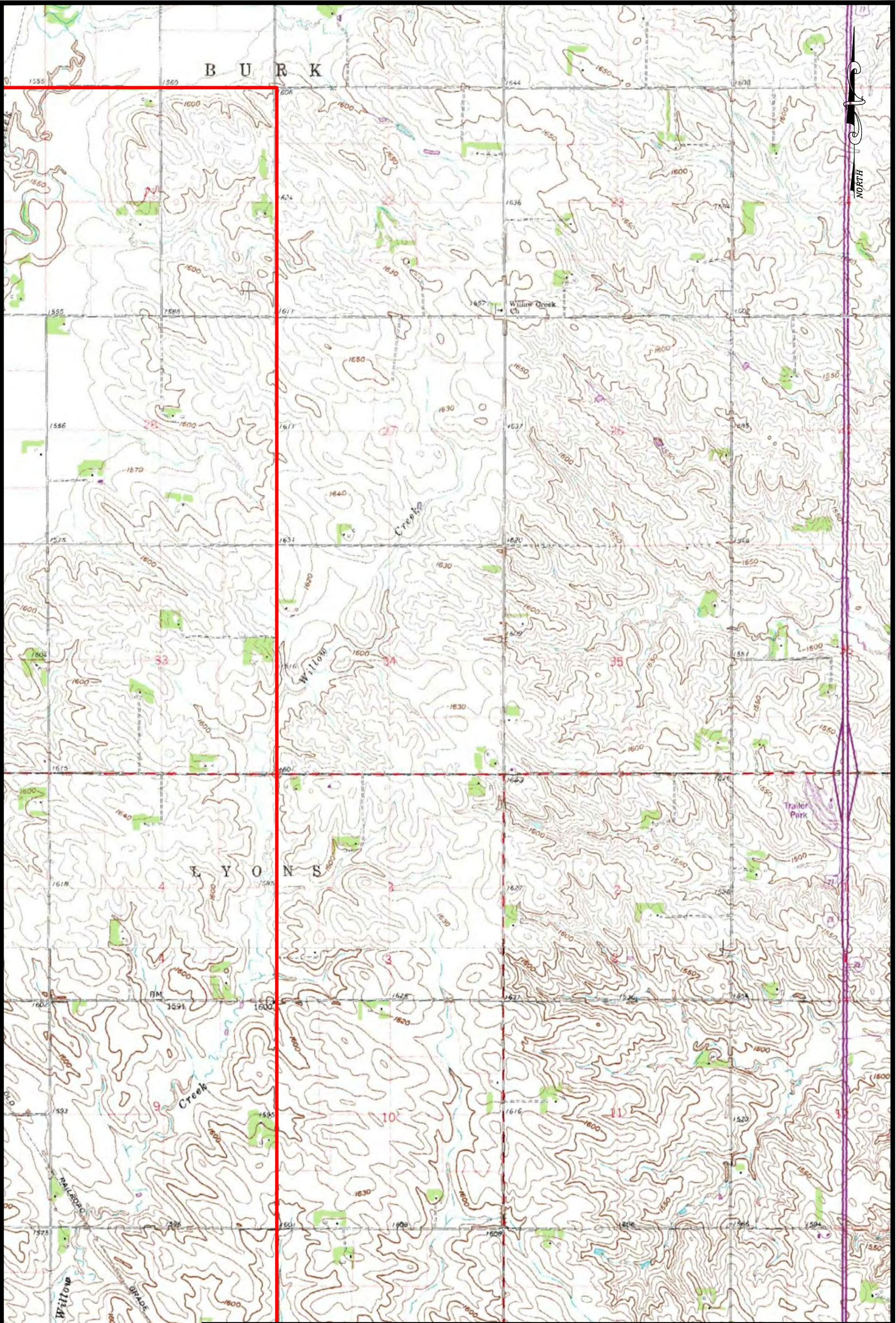
FIGURE 1A  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
LEWIS & CLARK REGIONAL WATER SYSTEM, INC  
MADISON SEGMENTS 2-4  
MINNEHAHA & LAKE COUNTIES, SD  
ACAD/GEOTEK/JERRY/20-345

PROJECT#: 20-345

DRAWN BY: DHP

**GEOTEK ENGINEERING & TESTING SERVICES, INC.**  
909 East 50th Street North  
Sioux Falls, South Dakota 57104  
605-335-5512 Fax 605-335-0773





**LEGEND**

— = PIPE ROUTE

0

2000'

4000'

FIGURE 1B  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
LEWIS & CLARK REGIONAL WATER SYSTEM, INC  
MADISON SEGMENTS 2-4  
MINNEHAHA & LAKE COUNTIES, SD  
ACAD/GEOTEK/JERRY/20-345

PROJECT#: 20-345

DRAWN BY: DHP

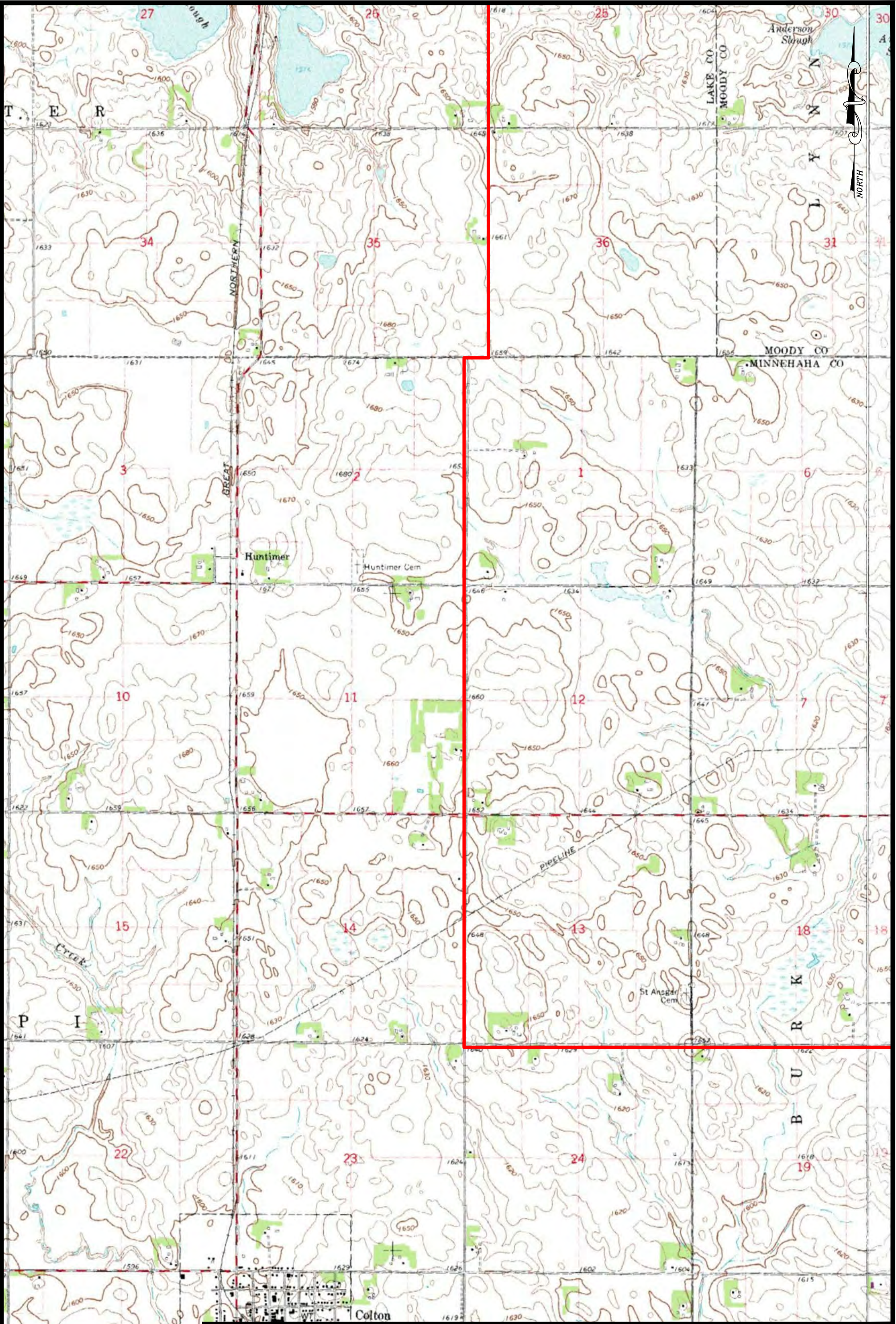


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**LEGEND**

— = PIPE ROUTE

0

2000'

4000'

FIGURE 1D  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
LEWIS & CLARK REGIONAL WATER SYSTEM, INC  
MADISON SEGMENTS 2-4  
MINNEHAHA & LAKE COUNTIES, SD  
ACAD/GEOTEK/JERRY/20-345

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