

Phase I Environmental Site Assessment

Fargo Metro Feasibility Study HTRW

United States Army Corp of Engineers
St. Paul District

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Summary

The purpose of a Phase I Environmental Site Assessment (ESA) is to identify recognized environmental conditions. The term recognized environmental condition (REC) is defined 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 of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Stanley Consultants performed this assessment for the benefit of the United State Army Corp of Engineers (USCOE). This report is intended only for the use of USCOE.

Stanley Consultants performed this Phase I ESA on the properties along the proposed Red River diversion channel located on the outskirts of Fargo, Cass County, North Dakota. Melissa Tiedemann of Stanley Consultants visited the site on July 26-30, 2010 and William Carrig visited the site on November 2, 2010.

The proposed North Dakota diversion channel is expected to be approximately 1,400 feet wide. The current alignment of the diversion begins at the Red River bank about ¼ mile south of 49th Street SE (Pleasant Township, Cass County) and extend north/northwest to about ¼ mile south of 23rd Street SE (Wiser Township, Cass County) at the Red River bank. The approximate distance of this diversion channel is approximately 36 miles. A tie-back levee is along included in the North Dakota alignment. The tie-back levee extends east of the diversion channel into Minnesota. The tie-back level generally runs parallel to 130th Avenue South on the south side of the road. The tie-back levee turns south and then back east until it ends approximately 0.6 miles south of 130th Avenue South on the west side of 28th Street South. The site is described in more detail in Section 5, Site Reconnaissance, and photos of the area are included as Appendix C of this report. See Figure 1-1 for a map of the project area.

The results of this site visit and review of available historical documentation is included in this report revealed the following RECs:

Based on the information summarized in this report, Stanley Consultants recommends a Phase II Environmental Site Assessment at the following sites:

Wayne & Gary Ohnstad, Parcel No. 70000013646010. This parcel was littered with junk vehicles and contained a large storage building that could potentially store petroleum and/or hazardous substances. Access to the interior of this lot or building was not granted by the property owner. While the presence of junk vehicles at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II Environmental Site Assessment scope.

Merle Anders, Parcel No. 44000000128020. This parcel had junk vehicles in the long grass to the rear of the property. One surface sample should be collected near the junk vehicles, especially where staining is observed.

Parcel No.	44000000128020 (See Figure 2-1)
Property Owner	Merle Anders
Media Sample	Soil
Number of Samples	1
Type of Sampling Required	Hand auger
Depth	0-2'
Spacing	N/A
Type of Compounds for Testing	Petroleum Products

Melcolm & Ardis Nygaard, Moorhead, MN, Parcel No. 150091001. This parcel is adjacent to the proposed alignment. This parcel contained numerous junk vehicles and a hobby shop, which appeared to store and use petroleum products and/or hazardous substances. While the presence of petroleum products and/or hazardous substances and junk vehicles at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II Environmental Site Assessment scope.

The following parcels require additional investigation due to their location near railroad tracks. Contaminates commonly found associated with railroad tracks include arsenic, chromates, coal, creosote, and lead. While no signs of surface staining were observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC.

REC No.	2a	2b	2c	2d	3e	2f	2g	2h	2i	2j	2k	2l	2m
Parcel No.	09020011902000 (See Figure 2-2)	59000010866000 (See Figure 2-3)	59000010867000 (See Figure 2-3)	530000009023000 (See Figure 2-4)	530000009023010 (See Figure 2-4)	02300001455000 (See Figure 2-4)	530000009024000 (See Figure 2-7)	67000012709000 (See Figure 2-5)	67000012714020 (See Figure 2-5)	67000012714010 (See Figure 2-5)	15000050 (See Figure 2-6)	150092500 (See Figure 2-6)	150091000 (See Figure 2-6)
Property Owner	Allan M Slingsby Etal	Stuart Johnson	Ervin & Mildred Fitterer	Crown Pointe Properties LLP	SE Cass Water District	SE Cass Water District	Bruce Janet Redington	Kenneth Hatlestad	Kay Compson Et AL	Terry Compson Et Al	Burlington Northern Santa Fe Railroad	Clifford & Barbara Walstad	Lisa Brandt
Media Sample	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Number of Samples	1	2	2	1	1	1	1	1	1	1	1	1	1
Type of Sampling Required	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger
Depth	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet
Spacing	N/A	On either side of the RR tracks	On either side of the RR tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks
Type of Compounds for Testing	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals

Section 1

Introduction

1.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify recognized environmental conditions and/or HTRW materials that may be encountered during construction of the proposed project features along the proposed Red River diversion channel in Cass County, North Dakota. The term recognized environmental condition (REC) is defined 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 of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

1.2 Scope of Services

This ESA was conducted in general accordance with American Society for Testing and Materials (ASTM) E1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process and ER 1165-2-132 Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects. According to ASTM E1527-05, a Phase I Environmental Site Assessment shall have four components, described as follows:

- *Records Review* - The purpose of the records review is to obtain and review available records that will help identify recognized environmental conditions in connection with the property.
- *Site Reconnaissance* - The purpose of the site reconnaissance is to visually and physically observe the property (including buildings) and, to the practical extent, the adjoining

properties for uses and evidence of previous uses that are indicative of recognized environmental conditions.

- *Interviews* - Interviews of the current owners and occupants of the property and interviews of local agency officials to the extent they are reasonably available are performed to help identify recognized environmental conditions in connection with the property.
- *Report* - The purpose of the report is to document the activities performed during the assessment, provide information supporting the analysis opinions and conclusions found in the report and summarize the findings of the assessment.

The following activities, among others, are excluded from the scope of work for a Phase I ESA as described in ASTM E1527-05:

- Testing or sampling of materials (e.g. soil, water, air, or building materials).
- Evaluation for asbestos, radon, lead-based paint, lead in drinking water, and wetlands.

Stanley Consultants performed this Phase I ESA on the properties along the proposed Red River diversion channel located in Cass County, North Dakota. The current proposed diversion is expected to be approximately 1,400 feet wide and begins at the Red River bank about ¼ mile south of 49th Street SE (Pleasant Township, Cass County) and extend north/northwest to about ¼ mile south of 23rd Street SE (Wiser Township, Cass County) at the Red River bank. This is a distance of approximately 36 miles along the proposed route. In addition a tie-back levee is also included in the North Dakota alignment. The tie-back levee generally runs parallel to 130th Avenue South on the south side of the road, then heads south and then back east until it terminates approximately 0.6 miles south of 130th Avenue South on the west side of 28th Street South. This area is shown on Figure 1-1, Site Location Map and is discussed in detail in sections 2 and 5 of this report.

1.3 Significant Assumptions

Stanley Consultants has made no significant assumptions pertaining to the properties being evaluated.

1.4 Limitations and Exceptions

Stanley Consultants obtained information regarding practices, conditions, and other data from the Client point of contact during the performance of the Phase I ESA. Stanley Consultants is relying on the accuracy of this information for the preparation of this report. Stanley Consultants assumes no liability or responsibility for the accuracy, precision, misrepresentation, or withholding of information by the Client and/or property owner/operator or for items not visible, accessible, or present on-site at the time of investigation.

All recommendations and/or advice presented in this document are Stanley Consultants' opinions of probable project conditions. Project conditions are based on the information and data sources that are readily available to us, input by the owner's representative, and other reliable sources, all of which are believed to be accurate. Our recommendations and/or advice are made on the basis of our experience and represent our judgment and opinions. We have no control over new and/or non-public information and changed conditions. Therefore, we do not guarantee that actual conditions will not vary from those presented in this report.

The findings set forth in this Phase I ESA are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed upon services or the time and budgeting restraints imposed by the Client.

The purpose of a Phase I ESA is to review documentation pertaining to environmental concerns and to evaluate current environmental liabilities of the property. Stanley Consultants does not assume responsibility for the elimination of hazards that could possibly cause accidents, injuries, damage, or liabilities. Compliance with the proposed recommendations and/or suggestions as found in this report in no way guarantees elimination of hazards or warrants the property owner/operator's regulatory responsibilities to the appropriate regulatory agency of any conditions, releases, or discharges that are reportable under local, state, or Federal regulations. The Phase I ESA was conducted and prepared in accordance with ASTM E1527-05 and state of North Dakota standards. No attempt was made in determining potential radon hazards, lead based paint hazards, or asbestos hazards on the property.

1.5 Special Terms and Conditions

There are no special terms and/or conditions for this project.

1.6 User Reliance

Stanley Consultants performed this assessment for the benefit of the United State Army Corp of Engineers. This report is intended only for the use of USCOE.

Site Description

2.1 Location and Legal Description

The proposed North Dakota diversion channel is expected to be approximately 1,400 feet wide. The current alignment of the diversion begins at the Red River bank about ¼ mile south of 49th Street SE (Pleasant Township, Cass County) and extend north/northwest to about ¼ mile south of 23rd Street SE (Wiser Township, Cass County) at the Red River bank. The approximate distance of this diversion channel is approximately 36 miles. A tie-back levee is along included in the North Dakota alignment. The tie-back levee extends east of the diversion channel into Minnesota. The tie-back level generally runs parallel to 130th Avenue South on the south side of the road. The tie-back levee turns south and then back east until it ends approximately 0.6 miles south of 130th Avenue South on the west side of 28th Street South. The site is described in more detail in Section 5, Site Reconnaissance, and photos of the area are included as Appendix C of this report. See Figure 1-1 for a map of the project area.

2.2 Site and Vicinity General Characteristics

The site is currently used for agricultural purposes (row crop) and is comprised of several parcels of land owned by several different entities. Several private residences are located within project boundaries, however, no other structures were observed during the site reconnaissance. The diversion channel proposed alignment crosses Interstate 94, Interstate 29, and various railroad tracks.

Additional discussion of site history is included in Section 4, Records Review and Section 5, Site Reconnaissance including summaries of topographic mapping and historical aerial photography.

2.2.1 Topography

Regional topography is generally flat. According to a 1976 topographic map obtained from the United States Geologic Survey on August 9, 2010 (Fargo, North Dakota-Minnesota

quadrangle map), the site elevation generally varies from approximately 875 feet above mean sea level (amsl) near the Red River in the northern portion of the alignment to approximately 905 amsl in the southern portion of the alignment.

2.2.2 Geology and Soils

The major drainage relief in the area is the Red River. The Red River Valley represents the bottom, or floor, of what was a massive, ice-dammed lake known as Glacial Lake Agassiz. The lake began to develop as ice during the last ice age and melted northward from the region approximately 12,000 years ago. The “Red River Valley” is a misleading description of the landscape as the origin of the area is that of a flat plain that was once the floor of an enormous glacial lake. It is not a valley that was formed by a river. Underlying the flat land surface of the Fargo-Moorhead region is a relatively simple stratigraphy which is discussed below.

As a result of the glacial deposition, and retraction of the lake, the soils in the Fargo-Moorhead area, comprised mostly of clay, derived as meltwater rivers dispersed fine-grained sediments into Lake Agassiz. Most of the clays are of the Cretaceous age and formed from churned up shale. The remainder of the materials are gray, slickensided, fat clays of the Brenna/Argusville Formations (approximately 85 ft deep) overlain by 20 feet of tan-buff, laminated silty-clays of the Sherack Formation. Both formations include the occasional cobble and boulder that appear to represent glacial rock debris.

Beneath the clays of the Brenna/Argusville Formations lies 100 to 200 feet of glacial sediments that were deposited primarily during the Wisconsinan ice age. This layer is predominantly comprised of till however, localized zones of outwash sands and gravels can provide small aquifers of low yield.

Finally, at a depth of 200 to 300 feet is a PreCambrian granitic and gneissic basement rock of the Superior Province. Little is known about this formation as few boreholes have ever reached these depths.

2.2.3 Hydrogeology

Groundwater in Cass County is obtainable from sand and gravel deposits associated with the glacial drift and from sand and/or sandstone beds in the Dakota Sandstone. Numerous private residential wells exist throughout the project area. The depth to rock ranges from 160 feet to 290 feet with static water level from 20 feet to 90 feet.

2.3 Current Use of Property

The subject property is currently owned by several private land owners and used for agricultural (row crop) purposes. Most areas proposed for construction are currently cropland.

Due to the size of the property and large number of land owners, Stanley Consultants did not interview individual owners regarding current and historical pesticide average usage in the general site area. Based on the fact that the general site area has been used for agricultural purposes since at least the 1940s, it is possible that various pesticides and herbicides have been

historically used at the site. However, during the site visit, no visual evidence of the misuse of pesticides (e.g. surface staining, sheen, ponding liquids, etc.) was observed.

2.4 Descriptions of Structures, Roads, and Other Improvements on Site

Multiple homes are within the currently Red River diversion alignment. The homes ranged from older farm houses to newly constructed homes. The project area was accessed using several public roads and by driving farm access roads, where accessible. The roads were paved in some areas, but were mostly dirt or gravel roads throughout the project area.

2.5 Current Uses of the Adjoining Properties

All adjoining properties are currently used for agricultural purposes (row crop). Several private residences are also located throughout the project boundaries, the condition and the contents of which varied.

User Provided Information

Individual property owners were contacted and asked the questions set forth in Appendix X3: User Questionnaire of the ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Their answers will be documented in Appendix E of this report when received.

3.1 Title Records

At the time of this report, title records were not available for Stanley Consultants to review.

3.2 Environmental Liens or Activity and Use Limitations

Stanley Consultants searched for environmental liens at the Cass County Recorder's Office for the properties which contained RECs. No environmental liens were found.

3.3 Specialized Knowledge

Property owners were contacted to provide specialized knowledge, if any, regarding their property. No specialized knowledge was revealed. Property owner interview are in Appendix D of this report. The proposed Red River flood diversion channel covers parcels owned by many different landowners. Ulteig Engineers attempted to contact each of these landowners via telephone to present the questions set forth in Appendix X3: User Questionnaire of the ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Not all property owners were available for interview. These questionnaires provided by Ulteig Engineers are provided in Appendix E of this report.

3.4 Commonly Known or Reasonably Ascertainable Information

Property owners were contacted to provide reasonably ascertainable environmental information, if any, regarding their property. Property owner interviews are in Appendix E of this report.

3.5 Valuation Reduction for Environmental Issues

Property owners were contacted for any knowledge of devaluation of their property due to environmental considerations. None acknowledged property devaluation. Property owner interviews are in Appendix E of this report

3.6 Owner, Property Manager, and Occupant Information

Multiple parcels of land with different owners make up the alignment for the Red River Diversion channel in rural Cass County. Due to the size of the project area and large number of land owners, interviews individual owners were performed via telephone by Ulteig Engineers from July 26th to August 11, 2010.

3.7 Reason for Performing Phase I Environmental Site Assessment

A feasibility Study is being prepared to determine flood risk reduction measures along the Red River of the North for the Fargo-Moorhead metro area. This river demarcates the state boundary between North Dakota and Minnesota and separates the two cities of Fargo and Moorhead as well. A majority of the flood risk reduction project is expected to consist of a north/south oriented water diversion channel on the outskirts of the city of Fargo. This Phase I ESA will identify potential areas of concern with respect to contaminated and/or HTRW materials that may be encountered during the construction of the proposed project features.

Records Review

4.1 Standard Environmental Record Sources – Federal, State, and Tribal Records

Summaries of available environmental regulatory agency database information for the site area were collected for Stanley Consultants by Environmental Data Resources (EDR), Inc., a firm that specializes in environmental records review. A records search was conducted using a one-mile radius from the project boundary, which meets or exceeds search radii requirements set forth in the ASTM standard. In addition to the results listed below, the EDR data base search identified a number of unmapped (orphan) sites. Stanley Consultants reviewed the list of unmapped sites and verified that none of the sites with adequate addresses listed were within the project boundaries and it was beyond the scope of this review to accurately locate each of the unmapped sites identified by EDR.

In addition, Stanley Consultants searched the Minnesota Pollution Control Agency (MPCA) On-line spills database on July 19 and August 3, 2010 for incidents on or near the subject property. These records are discussed further throughout this report and included as Appendix H.

The United States Environmental Protection Agency (USEPA) Envirofacts on-line database was also searched on July 22, 2010. The North Dakota Department of Health – Environmental Health Industrial Waste Landfill list and the Underground Storage Tanks (UST) and Leaking Underground Storage Tank (LUST) databases were also reviewed from July 25-30, 2010. There were two UST listings in the site area on any of these databases. These records are discussed further throughout this report and included as Appendix H.

The database search was made of the following federal, state, and tribal database records for sites within a one mile radius of the boundary of the subject site.

4.1.1 Federal

- National Priorities List (NPL)
- Proposed NPL
- Delisted NPL
- NPL Liens
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- CERCLIS - No Further Remedial Action Planned Sites (NFRAP)
- CERCLA Lien Information (LIENS 2)
- Corrective Action Activity (CORRACTS)
- Resource Conservation and Recovery Act Information (RCRA) Treatment Storage and Disposal (RCRA-TSDF)
- RCRA – Large Quantity Generator (RCRA-LQG)
- RCRA – Small Quantity Generator (RCRA-SQG)
- RCRA – Conditionally Exempt Small Quantity Generator (RCRA-CESQG)
- RCRA – Non Generators (RCRA-NonGen)
- Engineering Controls Site List (US ENG CONTROLS)
- Sites with Institutional Controls (US INST CONTROL)
- Emergency Response Notification System (ERNS)
- Hazardous Materials Incident Report System (HMIRS)
- Incident and Accident Data (DOT OPS)
- Clandestine Drug Land (US CDL)
- Listing of Brownfields Sites (US BROWNFIELDS)
- Department of Defense Sites (DOD)
- Formerly Used Defense Sites (FUDS)
- Land Use Control Information System (LUCIS)
- CERCLA Consent Decrees (CONSENT)
- Records of Decision (ROD)
- Uranium Mill Tailings Sites (UMTRA)
- Torres Martinez reservation Illegal Dump Site Locations (DEBRIS REGION 9)
- Open Dump Inventory (ODI)
- Mines Master Index File (MINES)
- Toxic Chemical Release Inventory System (TRIS)
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS)

- FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS)
- Section 7 Tracking Systems (SSTS)
- Integrated Compliance Information System (ICIS)
- PCB Activity Database System (PADS)
- Material Licensing Tracking System (MLTS)
- Radiation Information Database (RADINFO)
- Facility Index System/Facility Registry System (FINDS)
- RCRA Administrative Action Tracking System (RAATS)
- Underground Storage Tank Listing (FEMA UST)
- State Coalition for Remediation of Drycleaners Listing (SCRD DRYCLEANERS)
- Steam-Electric Plan Operation Data (COAL ASH DOE)
- National Clandestine Laboratory Register (US HIST CDL)
- Coal Combustion Residues Surface Impoundments List (COAL ASH EPA)
- PCB Transformer Registration Database (PCB TRANSFORMER)
- Federal Facility Site Information Listing (FEDERAL FACILITY)

4.1.2 State

- Superfund Site Information Listing (MN SHWS)
- Permanent List of Priorities (MN PLP)
- Site Remediation Section Database (MN SRS)
- Delisted permanent List of Priorities (MN DEL PLP)
- Permitted Solid Waste Management Facilities (MN SWF/LF)
- Solid Waste Landfills/Special Use Landfills (ND SWF/LF)
- Closed Landfills Priority List (MN LCP)
- List of Sites (MN LS)
- Leaking Underground Storage Tank Incident Reports (MN LUST)
- Leaking Underground Storage Tank List (ND LUST)
- Registered Underground Storage Tanks (MN UST)
- Leaking Aboveground Storage Tanks (MN LAST)
- Aboveground Storage Tank Sites (MN AST)
- Aboveground Storage Tank Sites (ND AST)
- Bulk Facilities Database (MN BULK)
- Spills Database (MN SPILLS)
- Department of Agriculture Spills (MN AGSPILLS)
- Site Remediation Section Database (MN INST CONTROL)
- Sites currently enrolled in the Voluntary Investigation and Cleanup Program (VIC)

- Registered Drycleaner List (MN DRYCLEANERS)
- Drycleaner Facility Listing (ND DRYCLEANERS)
- Petroleum Brownfields Program List (BROWNFIELDS)
- List of Brownfields Sites (ND BROWNFIELDS)
- Clandestine Drug Labs (MN CDL)
- Generators Associated with Enforcement Logs (MN ENF)
- Clandestine Drug Lab Location Listing (ND CDL)
- Active TSD Facilities (MN HWS Permit)
- Wastewater Facility Listing (ND NPDES)
- Permit Contact List (MN AIRS)
- Permitted Airs Facility Listing (ND AIRS)
- Tier 2 Facility Listing (MN TIER 2)
- Licensing Information System Database Listing (MN MDA LIS)
- Unpermitted Facilities (MN UNPERM LF)
- List of National Pollutant Discharge Elimination System Permitted (NPDES)
- Minor and Title V Sources Listing (AIRS)
- Manufactured Gas Plants

4.1.3 Tribal

- Indian Reservations (INDIAN RESERV)
- Report on the Status of Open Dumps on Indian Lands (INDIAN ODI)
- Leaking Underground Storage Tanks (INDIAN LUST)
- Underground Storage Tanks on Indian Land (INDIAN UST)
- Voluntary Cleanup Priority Listing (INDIAN VCP)

4.2 Results of Search – Federal, State, and Tribal Records

In summary, the regulatory database search yielded the following findings for locations either on or within the surrounding vicinity of the site regarding involvement in federal, state, and tribal environmental programs, as detailed below (See Appendix F for full report):

4.2.1 Federal

- No sites within the project area or search area were listing on the Federal databases.

4.2.2 State

- Two (2) ND UST sites were listed on the database. The sites are both located at the intersection of I-94 and Hwy US 10. Listing on the ND UST database is not indicative of a REC.

4.2.3 Tribal

- No sites were identified on the Tribal databases.

4.3 Additional Environmental Record Sources

4.3.1 Topographic Maps

Topographic maps of the site and adjacent properties were gathered from the United States Geologic Survey website and reviewed by Stanley Consultants. These maps were evaluated for evidence of past use and activities which might be of concern. The maps evaluated to examine the historical use of this property included the Argusville 1976; Fargo 1976; West Fargo North 1984; West Fargo South 1976; and Hickson 1979 7.5-Minute quadrangle maps.

The maps show the site as agricultural with some residences and private buildings throughout the project boundaries. These maps are included in Appendix D.

4.3.2 Sanborn Fire Insurance Maps

A search for reproductions of Sanborn Fire Insurance maps conducted by EDR determined there was no coverage due to the rural setting.

4.3.3 Aerial Photographs

A search for historical aerial photographs was performed by Stanley Consultants at the North Dakota National Conservation Service office in Fargo, ND. Aerial photos were reviewed for the years of 1954 and 1972. These maps are included in Appendix D.

Due to the scale and quality of the aerial photos readily available for review, specific site features could not be accurately ascertained. However, in general, no evidence of surface staining, dumping, industrial land use, etc. that might indicate an REC was observed in the photos.

4.3.4 Historical City Directory

Historical city directories were reviewed at the Fargo Public Library on July 30, 2010. No listings were found for the addresses within the project area.

4.4 Previous Environmental Studies

No previous environmental studies were supplied to Stanley Consultants prior to the release of this document.

4.5 Historical Use Information on the Property

Historical use information on the property was obtained by reviewing USGS historical topographic maps, historical aerial photographs, and interviews with local officials.

4.6 Historical Use Information on Adjoining Properties

Historical use information on adjoining properties was also obtained by reviewing USGS historical topographic maps, historical aerial photographs, and interviews with local officials and current property owners. Historical use of the adjoining properties is much the same as it is today.

Site Reconnaissance

5.1 Methodology and Limiting Conditions

The site reconnaissance involved site visits to the project location on July 27-29, 2010 by Melissa Tiedemann and on November 2, 2010 by William Carrig of Stanley Consultants. Due to the size of the property and large number of land owners, interviews individual owners were performed separately from the site reconnaissance. The majority of the site was tilled cropland, with the occasional farm house or storage structure. The majority of the site was viewed from public thoroughfares. All areas were viewed from the best vantage point possible. Weather conditions on Tuesday were rainy and hot, Wednesday, Thursday and Friday were dry and warm. Site photos are included in Appendix C.

5.2 General Site Setting

The proposed North Dakota diversion channel is expected to be approximately 1,400 feet wide. As currently envisioned the diversion would begin at the Red River bank about ¼ mile south of 49th Street SE (Pleasant Township, Cass County) and extend north/northwest to about ¼ mile south of 23rd Street SE (Wiser Township, Cass County) at the Red River bank. This is a distance of approximately 36 miles along the proposed route.

The majority of the project area is currently used for agricultural purposes and is comprised of several parcels of land owned by several different owners. Several private residences are also located within project boundaries.

5.3 Exterior Observations

The majority of the project area is currently used for agricultural purposes and are in active crop rotation. No evidence of improper pesticide use or soil staining was observed within project boundaries during the site visit. Portions of the project area cross Interstate 29 and Interstate 94 and cross multiple railroad tracks.

Pole-mounted transformers were observed within the general project boundaries near the numerous farm houses located throughout the project area. No evidence of past or potential releases from these units was observed at the time of the site visit and the transformers appeared to be in good working condition. No reported leaked from the transformers were reported to authorities. It was unclear whether these transformers had non-PCB placards due to their height and various locations.

5.4 Interior Observations

Several private residences were located within the project area. If the property owner wasn't available, Stanley Consultants did not inspect the interior of these buildings.

Interviews

Interviews of local officials, adjacent property owners, and the current property owners were attempted.

6.1 Interview with Owner

Due to the size of the property and large number of land owners, Stanley Consultants did not interview individual owners during the site reconnaissance. The property owners were contacted via telephone from July 26 to August 10, 2010. Copies of these interviews are located in Appendix E.

6.2 Interview with Site Manager

Please refer to Section 6.1.

6.3 Interviews with Occupants

Please refer to Section 6.1.

6.4 Interviews with Local Government Officials

Ms. Christine Roob, Environmental Scientist with the North Dakota Department of Health Hazardous Waste Program, was not aware of any issues within the current alignment. She was not aware of the issues with the “Old Fargo Landfill site” which was listed on the EDR database. Ms. Roob suggested to contact Mr. Curt Erickson at the Bismarck Office of the North Dakota department of Health.

Mr. Curt Erikson, Bismarck office of the North Dakota Department of Health, was contacted regarding the “Old Fargo Landfill site”. Mr. Erikson stated the records showed that EPA’s contractor took groundwater and surface water samples from the site. No exceedances were

recorded from the samples taken the site, therefore, EPA determined there was not a significant release to area's groundwater from the landfill.

Mr. John Arens, Fire Inspector, City of Fargo, North Dakota Fire Department was interviewed regarding the proposed alignment of the diversion project. Mr. Arens stated the proposed alignment was outside of the Fargo Fire Department call area. He mentioned it was his experience that the soils in the area were heavy clays and tend to hold contamination on site. Mr. Arens suggested calling the West Fargo Fire Department as they would have jurisdiction in this area.

Mr. Roy Schatschneider, City of West Fargo Fire Chief was interviewed regarding any incidents within the proposed diversion alignment. Chief Schatschneider stated with the exception of a couple small grass fires, no major fires, spills, or other releases had occurred within the project area or the surrounding areas.

These interviews are included in Appendix I.

6.5 Interviews with Others

No others were interviewed for this report.

Findings

The following paragraphs summarize the findings from this Phase I ESA.

7.1 Hazardous Substances

Potentially hazardous substances were observed within some of the areas proposed for construction at the time of the site visit.

7.2 Hazardous Substance Containers and Unidentified Containers

There were no unidentified containers observed within the project area.

7.3 Storage Tanks

7.3.1 Aboveground Storage Tanks (AST)

No aboveground storage tanks were observed in the areas of potential construction. No ASTs were observed during the site reconnaissance.

7.3.2 Underground Storage Tanks (UST)

No evidence of underground storage tanks was observed within the project boundary during the site reconnaissance. Two records of USTs were found in North Dakota's Department of Health Division of Waste Management Underground Storage Tank database or the EDR report. A listing on the database is not indicative of a REC.

7.4 Indications of PCB's

Numerous pole mounted transformers were observed throughout the project boundary during the site visit, but outside of proposed project area. The ages of the observed transformers are unknown and it was unknown if the observed transformers were labeled as to their PCB content, as their labels were unreadable due to their height. However, the units appeared intact, with no visual signs of leaks. No leaks were reported at the fire departments or in the EDR report.

7.5 Indications of Solid Waste Disposal

No evidence of improper solid waste disposal was observed during the site reconnaissance.

7.6 Releases of Hazardous Substances

Abandoned or junk vehicles were observed on residential properties throughout the project area. Another property, adjacent to the diversion channel tie-back alignment, contained a small workshop. Although access was not granted to walk through the shop, floor staining and hazardous materials were viewed from the parking area of the lot. The proposed alignment also crosses multiple railroad tracks, which are commonly associated with arsenic, chromates, coal, creosote, and lead.

7.7 Radon and Asbestos

Evaluation for the presence of radon and asbestos-containing materials is not a part of the ASTM E1527-05 scope of services.

7.8 Groundwater Wells

A search of the North Dakota Geological Survey did not appear to yield any wells located within the project area, however, most of the residences located surrounding the project area are served by private wells.

Section 8

Opinion

Based on the information summarized in this report, Stanley Consultants recommends site investigation at the sites throughout the project area where recognized environmental conditions were observed during the site reconnaissance. More detailed discussion of these individual sites can be found in Section 9.

Section 9

Conclusions

Stanley Consultants performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527 and an environmental compliance evaluation of the proposed alignment of a water diversion channels on the outskirts of Fargo, Cass County, North Dakota. Melissa Tiedemann of Stanley Consultants visited the site on July 26-30, 2010 and William Carrig visited the site on November 2, 2010.

Recognized environmental conditions, as defined by the ASTM E 1527-05 standard were identified in connection with the subject site.

Based on the information summarized in this report, Stanley Consultants recommends a Phase II Environmental Site Assessment at the following sites:

Wayne & Gary Ohnstad, Parcel No. 70000013646010. This parcel was littered with junk vehicles and contained a large storage building that could potentially store petroleum and/or hazardous substances. Access to the interior of this lot or building was not granted by the property owner. While the presence of junk vehicles at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II Environmental Site Assessment scope.

Merle Anders, Parcel No. 44000000128020. This parcel had junk vehicles in the long grass to the rear of the property. One surface sample should be collected near the junk vehicles, especially where staining is observed.

REC No.	
Parcel No.	44000000128020 (See Figure 2-1)
Property Owner	Merle Anders
Media Sample	Soil
Number of Samples	1
Type of Sampling Required	Hand auger
Depth	0-2'
Spacing	N/A
Type of Compounds for Testing	Petroleum Products

Melcolm & Ardis Nygaard, Moorhead, MN, Parcel No. 150091001. This parcel is adjacent to the proposed alignment. This parcel contained numerous junk vehicles and a hobby shop, which appeared to store and use petroleum products and/or hazardous substances. While the presence of petroleum products and/or hazardous substances and junk vehicles at this site may be indicative of RECs, further information, as well as access to the site and site owners/operators is necessary to provide a Phase II Environmental Site Assessment scope.

The following parcels require additional investigation due to their location near railroad tracks. Contaminates commonly found associated with railroad tracks include arsenic, chromates, coal, creosote, and lead. While no signs of surface staining were observed in this area, railroad ties are commonly coated with creosote, which could have impacted the subject site, therefore this qualifies as an REC.

REC No.	2a	2b	2c	2d	3e	2f	2g	2h	2i	2j	2k	2l	2m
Parcel No.	09020011902000 (See Figure 2-2)	59000010866000 (See Figure 2-3)	59000010867000 (See Figure 2-3)	530000009023000 (See Figure 2-4)	530000009023010 (See Figure 2-4)	02300001455000 (See Figure 2-4)	530000009024000 (See Figure 2-7)	67000012709000 (See Figure 2-5)	67000012714020 (See Figure 2-5)	67000012714010 (See Figure 2-5)	15000050 (See Figure 2-6)	150092500 (See Figure 2-6)	150091000 (See Figure 2-6)
Property Owner	Allan M Slingsby Etal	Stuart Johnson	Ervin & Mildred Fitterer	Crown Pointe Properties LLP	SE Cass Water District	SE Cass Water District	Bruce Janet Redington	Kenneth Hatlestad	Kay Compson Et AL	Terry Compson Et Al	Burlington Northern Santa Fe Railroad	Clifford & Barbara Walstad	Lisa Brandt
Media Sample	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Number of Samples	1	2	2	1	1	1	1	1	1	1	1	1	1
Type of Sampling Required	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger	Hand auger
Depth	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet	0-2 feet
Spacing	N/A	On either side of the RR tracks	On either side of the RR tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks	Near tracks
Type of Compounds for Testing	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals	PAHs, RCRA Metals

Deviations

10.1 Data Gaps

Data gaps are defined in ASTM E1527-05 as a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information.

The data gap in this report is access restrictions to areas proposed for development due to the presence of row crops. In addition, Stanley Consultants was not granted access to neighboring structures and was unable to examine some of the structures located within the general site setting due to the unavailability of property owners.

10.2 Data Failures

Data failures are defined in ASTM E1527-05 as a failure to achieve the historical research objectives in the Standard even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful.

The data failure in this report is historical resources were not available at five year intervals for the time period in which the site was developed. The use of the property did not appear to change uses during these intervals. This data failure does not impact the conclusions of this report.

Section 11

Additional Services

No additional services were provided as a part of this Phase I ESA.

References

12.1 Published References

1. ASTM E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, American Society of Testing and Materials, 2005.
2. ER 1165-2-132 USACE Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects, June 26, 1992.
3. The EDR-DataMap® Environmental Atlas, Environmental Data Resources, Inc., July 22, 2010. Inquiry number 02822805.1r.
4. Environmental Data Resources Inc. Certified Sanborn Map Report. Inquiry Number: 2822805.2, July 22, 2010.
5. Geology Under the Fargo-Moorhead Region, North Dakota-Minnesota, North Dakota State University, Department of Geosciences, July 2010.

12.2 Maps and Other References

1. Industrial Waste Landfills. North Dakota Department of Health – Division of Waste Management. www.ndhelath.gov/wm.
2. North Dakota National Resource Conservation Service. Historic Aerial Photos, 1954, 1974. July 29, 2010.
3. Minnesota National Resource Conservation Service. Historic Aerial Photos, 1939 and 1954. July 29, 2010.
4. Minnesota Pollution Control Agency, On-line Spills database, July 19, 2010 and August 3, 2010.
5. United States Environmental Protection Agency, Envirofacts On-line database, July 22-23, 2010.

6. North Dakota Department of Health – Environmental Health, Industrial Waste Landfill list, July 25-30, 2010.
7. North Dakota Department of Health Division of Waste Management Underground Storage Tank Program. UST/LUST Database. July 20-24, 2010.
8. Roy Schatschneider, Fire Chief, City of West Fargo. Interview. July 29, 2010.
9. John Arens, Fire Inspector, City of Fargo, ND. Interview, July 27, 2010.
10. Christine Roob, North Dakota Department of Health Waste Management Division, Fargo Field Office. Interview. July 28, 2010.
11. Curt Erikson, North Dakota Department of Health. July 30, 2010.
12. Miles Schacher, City of Fargo Environmental Health Department. Interview, August 4, 2010.
13. Klausning, Robert L (United States Department of Interior: Geological survey). Hydrology: Geology and Ground Water Resources of Cass County, North Dakota. 1968. Retrieved from http://www.swc.state.nd.us/4dlink9/4dcgi/GetSubContentPDF/PB-193/Cass_Part_3.pdf Accessed on August 4, 2010.
14. North Dakota Geological Survey. Cass County Groundwater Well Locations. Accessed on August 5, 2010.
15. Shineldecker, Chris L. Handbook of Environmental Contaminants: A guide for Site Assessment. 1992.
16. United States Geologic Survey. Historic Topographic Maps. Argusville, 1976; Fargo 1976, West Fargo North 1984; West Fargo South 1976; and Hickson 1979.

Section 13

Signature

The following persons were responsible for the preparation of this report:

Prepared by: _____ Date: _____
Melissa Tiedemann, AICP, Environmental Planner

Reviewed by: _____ Date: _____
Cynthia Quast, P.E., Principal Environmental Engineer

Section 14

Qualifications

Melissa Tiedemann, AICP – An Environmental Planner, Melissa has attended and completed training for the performance of Environmental Site Assessments for Commercial Real Estate as taught by ASTM instructors. Ms. Edsill has a Bachelor of Arts degree in Economics from the University of Northern Iowa, and Masters of Business Administration from Upper Iowa University, is a member of the American Institute of Certified Planners, has more than ten years of experience in various areas including environmental assessments, urban planning and brownfields redevelopment.

Cynthia Quast, P.E., Principal Environmental Engineer. Ms. Quast is a Professional Engineer and has conducted or overseen hundreds of Phase I ESAs in her 28-year career. Ms. Quast has a B.S. in Civil Engineering from the University of Minnesota and a M.S in Civil Engineering from Oklahoma State University.

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