



DRAFT
**Phase I Environmental Site
Assessment**

Former Armory Building
1249 Main Street
St. Johnsbury, VT 05819

Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

Prepared for:

Town of St. Johnsbury
Pomerleau Building
51 Depot Square, Suite 3
St. Johnsbury, VT 05819

Prepared by:

Stantec Consulting Services Inc.
5 Dartmouth Driver, Suite 200
Auburn, NH 03032

Project No.: 185751424

Sign-off Sheet and Signatures of Environmental Professionals

This document entitled *Former Armory Building, 1249 Main Street, St. Johnsbury, Vermont 05819* was prepared by Stantec Consulting Services Inc. ("Stantec") for the Town of St. Johnsbury. Reliance on this document by any third party is strictly prohibited. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

All information, conclusions, and recommendations provided by Stantec in this document regarding the Phase I ESA have been prepared under the supervision of and reviewed by the professionals whose signatures appear below. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR § 312.10(b). We have sufficient education, training, and experience necessary to exercise professional judgement and develop opinions and conclusions regarding conditions indicative of releases or threatened releases on, at, in, or to a property, sufficient to meet the objectives and performance factors in 40 CFR § 312.20(e) and (f).

Prepared by: _____

Joseph Hammer, PMP
Senior Associate

Reviewed by: _____

Approved by: _____



Table of Contents

ABBREVIATIONS I

1.0 SUMMARY..... 1.1

2.0 INTRODUCTION 2.1

2.1 PROPERTY DESCRIPTION 2.2

2.2 SPECIAL TERMS, CONDITIONS, AND ADDITIONAL ASSUMPTIONS..... 2.3

2.3 EXCEPTIONS AND LIMITING CONDITIONS 2.3

2.4 PERSONNEL QUALIFICATIONS 2.4

3.0 USER-PROVIDED INFORMATION 3.1

4.0 RECORDS REVIEW..... 4.1

4.1 PHYSICAL SETTING 4.1

4.1.1 Property Topography and Surface Water Flow..... 4.1

4.1.2 Regional and Property Geology 4.1

4.1.3 Regional and Property Hydrogeology 4.1

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS 4.2

4.2.1 Listings for Property 4.2

4.2.2 Listings for Nearby Sites with Potential to Impact Property..... 4.3

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS..... 4.5

4.3.1 Official State Website 4.5

4.3.2 Health Department..... 4.5

4.3.3 Fire Department..... 4.5

4.3.4 Building and/or Planning Department Records..... 4.6

4.3.5 Assessor Records..... 4.6

4.3.6 Land Records..... 4.6

4.4 HISTORICAL RECORDS REVIEW..... 4.7

4.4.1 Land Title Records/Deeds 4.7

4.4.2 Aerial Photographs 4.7

4.4.3 City Directories..... 4.7

4.4.4 Historical Fire Insurance Maps..... 4.8

4.4.5 Historical Topographic Maps 4.10

5.0 SITE VISIT 5.1

5.1 SITE VISIT METHODOLOGY 5.1

5.2 GENERAL DESCRIPTION..... 5.1

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS 5.1

5.4 INTERIOR OBSERVATIONS..... 5.2

5.5 EXTERIOR OBSERVATIONS..... 5.3

5.6 UNDERGROUND STORAGE TANKS/STRUCTURES..... 5.3

5.7 ABOVEGROUND STORAGE TANKS 5.4

5.8 ADJOINING PROPERTIES..... 5.4

5.8.1 Current Uses of Adjoining Properties..... 5.4

5.8.2 Observed Evidence of Past Uses of Adjoining Properties..... 5.4



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

5.8.3	Pits, Ponds or Lagoons on Adjoining Properties.....	5.5
6.0	INTERVIEWS.....	6.1
7.0	EVALUATION.....	7.1
7.1	FINDINGS AND OPINIONS	7.1
7.2	DATA GAPS.....	7.5
7.3	CONCLUSIONS.....	7.6
8.0	NON-SCOPE CONSIDERATIONS	8.1
9.0	REFERENCES	9.1

LIST OF FIGURES

FIGURE 1	Property Location Map
FIGURE 2	Site Vicinity Map

LIST OF APPENDICES

APPENDIX A	PHOTOGRAPHS OF THE PROPERTY AND VICINITY.....	A.1
APPENDIX B	STANTEC RESUMES	B.1
APPENDIX C	USER PROVIDED RECORDS.....	C.1
APPENDIX D	ENVIRONMENTAL AGENCY DATABASE SEARCH REPORT.....	D.1
APPENDIX E	HISTORICAL RECORDS.....	E.1
APPENDIX F	USER QUESTIONNAIRE.....	F.1



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Abbreviations

AAI	All Appropriate Inquiry
ACM	asbestos-containing material
AST	aboveground storage tank
ASTM	ASTM International
BER	business environmental risk
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CREC	controlled recognized environmental condition
CVPS	Central Vermont Public Service
EDR	Environmental Data Resources, Inc.
EP	environmental professional
EPA	United States Environmental Protection Agency
ESA	environmental site assessment
ESMI	Environmental Soil Management, Inc.
GIS	geographic information system
HREC	historical recognized environmental condition
LAST	leaking aboveground storage tank
LBP	lead-based paint
LUST	leaking underground storage tank
mg/cm ²	milligrams per square centimeter
mg/L	milligrams per liter
ORC	oxygen releasing compound
OSHA	Occupational Safety and Health Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCS	petroleum contaminated soils



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

PID	photoionization detector
PPM	parts per million
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
SJHHC	St. Johnsbury History & Heritage Center
SMAC	Sites Management Activities Completed
SMS	Sites Management Section
SHWS	state hazardous waste site
Stantec	Stantec Consulting Services Inc.
SVE	soil vapor extraction
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
TPH	total petroleum hydrocarbons
UST	underground storage tank
VCP	Voluntary Cleanup Program
VEC	vapor encroachment condition
VSA	Vermont Statutes Annotated
VSS	Vermont Soil Standard
VTDEC	Vermont Department of Environmental Conservation
XRF	x-ray fluorescence



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Summary

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

1.0 SUMMARY

Stantec Consulting Services Inc. (Stantec) has completed a Phase I Environmental Site Assessment (ESA) for the former armory building located at 1249 Main Street in St. Johnsbury, Vermont (the “Property”), on behalf of the Town of St. Johnsbury (the “Client” and “User”). The Phase I ESA was conducted in conformance with the requirements of ASTM International (ASTM) Practice E1527-21 and the United States Environmental Protection Agency (EPA) All Appropriate Inquiries (AAI) Final Rule (Title 40 of the Code of Federal Regulations [40 CFR] § 312). The location of the Property is shown on **Figure 1**, and the layout of the Property and the vicinity are shown on **Figure 2**. Photographs taken during the site visit are provided in **Appendix A**.

The Property consists of 0.44 acres identified as Parcel Number 023-004-074-000 that is developed with a 2-story 23,916-square-foot masonry building with basement constructed in 1916 as an armory. The Property has been owned by the Town of St. Johnsbury since 1975 and used as a community recreational center until approximately 2009. The Property has been vacant since that time. The Property is bounded to the north by St. Andrews Episcopal Church; to the east by Main Street followed by, from north to south, vacant land, a 3-story commercial building occupied by Passumpsic Financial Advisors, and a 3-story converted home occupied on the 1st floor by Fashion Flair Beauty Salon; to the south by an alley followed by a 2-story commercial building occupied by Richard Kozlowski General Dentistry; and to the west by Grace United Methodist Church. The Property is zoned for mixed use.

Based on a review of available historical use information sources, the armory building was constructed around 1916. Prior to construction of the armory, the Property was occupied by residences.

We have performed the Phase I ESA for the Property in conformance with the scope and limitations of ASTM Practice E1527-21. Any exceptions to, or deletions from, this practice are described in **Section 7.2** of this report. This assessment has revealed evidence of the following recognized environmental conditions (RECs) and historical RECs (HRECs) in connection with the Property:

1. A total of five underground storage tanks (USTs) located potentially upgradient of the Property were identified on Sanborn fire insurance maps dated 1943, 1958, and 1964. Two of the tanks were shown to be located 200-250 feet west of the Property in front of the current 84 Central Street building. No records of these tanks being removed was available for review. Lacking this information and given the age of the tanks, their upgradient location, and their proximity, these tanks are considered to be a REC in connection with the Property.
2. The remaining three tanks shown on the Sanborn maps were located at the Goss site at 320 Summer Street. These tanks were removed in 1996 and evidence of a release was found beneath one tank and an associated fuel pump island. A Notice of Land Record was filed with the Town of St. Johnsbury on May 16, 2017 for residual contamination remaining in the former underground storage tank (UST) area. In a letter dated December 12, 2017 from the Vermont Department of



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Summary

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Environmental Conservation (VTDEC) Sites Management Section (SMS), the site was issued a Sites Management Activity Complete (SMAC) designation. Being located approximately 300 feet upgradient of the Property, this closed UST release is considered to be an HREC in connection with the Property.

3. The easterly-adjoining Grace Methodist Church site had a 1,000-gallon heating oil UST that was filled with fuel in 2006 and a day later the UST was empty. It was reported the UST had released approximately 900 to 1,400 gallons of heating oil in total. The UST was subsequently removed, and petroleum contaminated soil (PCS) was observed beneath the UST at 8 feet below ground surface (bgs) to the bottom of the excavation at 13 feet bgs, where the greatest photoionization detector (PID) readings were observed. Groundwater was not encountered in the excavation. Follow the completion of a site investigation and installation and operation of a soil vapor extraction (SVE) system, in a letter dated August 19, 2008, from VTDEC SMS, the site was assigned a SMAC designation. Being an adjoining upgradient site, this closed UST release is considered to be an HREC in connection with the Property.
4. As a documented petroleum spill at the Property that was remediated to the satisfaction of the VTDEC, the leaking underground storage tank (LUST) listing associated with the Property's former 1000-gallon heating oil UST is considered to be an HREC in connection with the Property.

Additional investigation is recommended to assess the identified RECs for the Property.

Due to their small volume, the two minor hazardous material releases at the Property that occurred in 2002 and 2020 and were identified in Fire Department records are considered to be a *de minimis* condition. No controlled recognized environmental conditions (CRECs) or significant data gaps were identified in connection with the Property.

While not considered to be issues requiring investigation per the ASTM Phase I ESA standard, the identified hazardous materials identified in the Property building (asbestos containing materials [ACMs], lead based paint, lead in dust, polychlorinated biphenyls [PCBs], regulated materials, and mold) are considered to be business environmental risks (BERs) which should be addressed as part of any planned renovation of the building. Also, since lead and PCBs in building materials can also impact shallow exterior soils through the deposition of particles containing lead and PCBs, investigation of these contaminants in shallow site soils should be completed.

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Introduction

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

2.0 INTRODUCTION

The objective of this Phase I ESA was to perform AAI into the past ownership and uses of the Property consistent with good commercial or customary practice as outlined by ASTM in *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, Designation E1527-21. AAI is the process for evaluating a property's environmental condition for the purpose of qualifying for landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), following final rule of 40 CFR § 312. The purpose of this Phase I ESA was to identify, to the extent feasible, adverse environmental conditions of the Property.

ASTM E1527-21 indicates that the purpose of the Phase I ESA is to identify RECs, including CRECs and HRECs, that may exist at a property. ASTM defines a REC as:

1. the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment;
2. the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or
3. the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.

ASTM defines a CREC as a REC affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (e.g., activity and use limitations or other property use limitations).

ASTM defines an HREC as a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls.

ASTM defines a *de minimis* condition a condition related to a release that generally does 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 governmental agencies.

ASTM also considers the potential for a business environmental risk (BER), defined as a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of commercial real estate, not necessarily related to those environmental issues required to be investigated by ASTM 1527-21. Consideration of BER issues may involve addressing one or more ASTM non-scope considerations that may be present at a property but do not present potential CERCLA liability, such as asbestos-containing building materials and lead based paint that are unrelated to releases into the environment.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Introduction

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

The scope of work conducted during this Phase I ESA consisted of a visual reconnaissance of the Property, interviews with key individuals, and review of reasonably ascertainable documents. The scope of work did not include an assessment for environmental regulatory compliance of any facility ever operated at the Property (past or present), or sampling and analyzing of environmental media. Stantec was not contracted to perform an independent evaluation of the purchase or lease price of the Property and its relationship to current fair market value. The conclusions presented in this Phase I ESA report are professional opinions based on data described herein. The opinions are subject to the limitations described in **Section 2.3**.

ASTM E1527-21 notes that the availability of record information varies from source to source. The User or environmental professional (EP) is not obligated to identify, obtain, or review every possible source that might exist with respect to a property. Instead, ASTM identifies record information that is reasonably ascertainable from standard sources. ASTM defines “reasonably ascertainable” as information that is:

1. publicly available;
2. obtainable from its source within reasonable time and cost constraints; and
3. practicably reviewable.

This Phase I ESA has been performed to comply with the requirements of Section 4.6 of ASTM E1527-21 and as such is presumed to be valid for its use by the intended User within the 180-day period as prescribed by the ASTM standard. Also, pursuant to Section 4.8 and the User’s Responsibilities set forth in Section 6 of ASTM E1527-21, a Phase I ESA meeting or exceeding the requirements of this practice and for which the information was collected or updated within one year prior to the date of acquisition of the Property, or the date of the intended transaction, may be used provided that the following components of the inquiries were conducted or updated within 180 days of the date of purchase or the date of the intended transaction:

1. interviews with owners, operators, and occupants;
2. searches for recorded environmental cleanup liens;
3. reviews of federal, tribal, state, and local government records;
4. visual inspections of the Property and of adjoining properties; and
5. the declaration by the EP responsible for the assessment or update.

2.1 PROPERTY DESCRIPTION

According to Town of St. Johnsbury tax assessment information, the Property encompasses 0.44 acres, is identified as Parcel Number 234074, and is developed with a 2-story masonry building constructed in 1916 as an armory with 14,294-square-feet of finished space (on the 1st and 2nd floors) with a 2,100 square foot basement. The Property has been owned by the Town of St. Johnsbury since 1975 and used as a community recreational center until approximately 2009. The Property has been vacant since that time.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Introduction

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

The Property is bounded to the north by St. Andrews Episcopal Church; to the east by Main Street followed by, from north to south, vacant land, a 3-story commercial building occupied by Passumpsic Financial Advisors, and a 3-story converted home occupied on the 1st floor by Fashion Flair Beauty Salon; to the south by an alley followed by a 2-story commercial building occupied by Kozlowski & Daughter General Dentistry; and to the west by Grace United Methodist Church. The Property is zoned for mixed use.

2.2 SPECIAL TERMS, CONDITIONS, AND ADDITIONAL ASSUMPTIONS

It is assumed that the purpose of this Phase I ESA is to facilitate reuse or repurpose of the Property. The possible contaminants of concern considered in this assessment include those hazardous compounds listed under CERCLA and petroleum products. There were no special terms, conditions, or significant assumptions associated with the Phase I ESA.

2.3 EXCEPTIONS AND LIMITING CONDITIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided and given the schedule and budget constraints established by the client. No other representations, warranties, or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential and actual liabilities and conditions associated with the Property.

This report provides an evaluation of selected environmental conditions associated with the Property that were assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available, and the results of the work. They are not a certification of the Property's environmental condition.

Stantec did not obtain historical records that document the full Property history in continuous 5-year increments. Although this represents a data gap, it is not considered significant such that it impacted the EPs ability to identify RECs unless stated as such. Based on the information obtained during the course of this ESA and general knowledge of development at and near the Property, the absence of this information did not affect the ability of the EPs to identify RECs, CRECs, HRECs, or *de minimis* conditions.

This report has been prepared for the exclusive use of the Client and User identified herein and any use of or reliance on this report by any third party is prohibited, except as may be consented to in writing by



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Introduction

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Stantec or as required by law. The provision of any such consent is at Stantec's sole and unfettered discretion and will only be authorized pursuant to the conditions of Stantec's standard form reliance letter. Stantec assumes no responsibility for losses, damages, liabilities, or claims, howsoever arising, from third party use of this report. Project specific limiting conditions are provided in **Section 2.2**. The conclusions are based on the conditions encountered at the Property by Stantec at the time the work was conducted.

As the purpose of this report is to identify conditions on the Property that may pose an environmental risk, the identification of non-environmental risks to structures or people on the Property is beyond the scope of this assessment. The findings, observations, and conclusions expressed by Stantec in this report are not an opinion concerning the compliance of any past or present owner or operator of the Property which is the subject of this report with any federal, state, provincial, or local law or regulation.

This report presents professional opinions and findings of a scientific and technical nature. It does not and shall not be construed to offer a legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations, or policies of federal, state, or local governmental agencies. It is recommended that issues raised by the report should be reviewed for the Client by its legal counsel.

Stantec specifically disclaims any responsibility to update the conclusions in this report if new or different information later becomes available or if the conditions or activities on the Property subsequently change.

2.4 PERSONNEL QUALIFICATIONS

This Phase I ESA was conducted by, or under the supervision of, an individual that meets the ASTM definition of an EP. The credentials of the EP and other key Stantec personnel involved in conducting this Phase I ESA are provided in **Appendix B**.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

3.0 USER-PROVIDED INFORMATION

ASTM E1527-21 describes responsibilities of the User to complete certain tasks in connection with the performance of AAI into the Property. ASTM requires that the EP request information from the User on the results of those tasks because that information can assist in the identification of RECs, CRECs, HRECs, or *de minimis* conditions in connection with the Property. Towards that end, Stantec requested that the User provide information via a User Questionnaire, which is provided as **Appendix C** and summarized below.

Description of Information	Description and/or Key Findings
User Questionnaire	The User Questionnaire was completed by Chad Whitehead, the St. Johnsbury Town Manager on January 3, 2022. Mr. Whitehead is not aware of any current or historical chemical use, spills/releases, or environmental cleanups for the Property.
Environmental Liens or Activity Use Limitations	Mr. Whitehead is not aware of any environmental liens or activity use limitations for the Property.
Previous Environmental Reports	Mr. Whitehead is not aware of any environmental spills or cleanups other than a 2010 fuel oil UST release which had been remediated to the satisfaction of the VTDEC (see following section on 2012 Johnson Company Phase I report). However, the Town did provide Stantec with copies of two prior environmental reports, the 2012 Johnson Company Phase I Environmental Site Assessment Report and a Draft 2021 Targeted Brownfields Assessment by KGSNE, LLC.
Purpose of the Phase I ESA	The purpose of the Phase I ESA is to assess for potential environmental concerns that may exist on the Property prior to its redevelopment by the Town.

As noted above, the Town provided copies of two existing environmental reports for the Property including a 2012 Phase I ESA Report by The Johnson Company and a Draft 2021 Targeted Brownfields Assessment Report prepared by KGSNE, LLC. These reports are summarized below.

Phase I Environmental Site Assessment Report, May 23, 2012. The Johnson Company.

The Johnson Company was retained by the VTDEC to complete a Phase I ESA of the Property in accordance with ASTM E 1527-05. As reported in their 2012 Phase I ESA Report (Johnson Company, 2012), the following RECs and additional findings were identified as a result of their:



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

RECS:

1. *Three pits/floor drain structures were identified, including the following: a) a pit observed in the northeast corner of the Armory building basement covered with a ¼ inch thick, removable, steel plate. There is a 6-inch diameter iron pipe across the bottom of the pit with a vertical 'tee' section protruding upward in the middle of the pit. Standing water was observed in the vertical portion of "tee"; however, no sheens or odor were associated with this water; b) a filled-in structure (approximately 7 feet long by 1 foot wide) was observed in the floor of the basement, next to the vehicle access ramp located in the southwest portion of the Armory building basement. This structure has the appearance of a trench/floor drain that has been decommissioned. Jim Rust (Town of St Johnsbury) indicated to The Johnson Company that in years past when the building operated as the Armory, vehicles were stored in the basement of the Armory building, and floor drains were installed to convey surface water flow entering via the vehicle access ramp southwest corner of the building; and c) a grated opening observed approximately 8-10 feet north of the aforementioned filled-in structure (in the west-central portion of the Armory building basement) which has an iron pipe (approximately 4-inches in diameter) in the base of the pit under the grated opening. Although not confirmed, the pipe may convey water from the pit toward a sump pump located approximately 5-10 feet to the north. The discharge pipe routed from the sump pump may be connected to the sewer line, although this is not confirmed.*

Recommendation: The pit/floor drain structures should be further inspected for the presence of contamination and to better ascertain what they are connected to. According to Mr. Jim Rust, Town of St. Johnsbury, it was his understanding that the 6-inch iron pipe observed in the pit in the northeast corner is connected to pipe that conveys water from roof drains, however this was not confirmed. Attempts should be made to further ascertain the history of the filled-in structure in order to determine if this was indeed a former floor drain. This would entail review of additional building plans (if available), review of Town sewer lines records in the immediate vicinity of the Armory building (if available) and, attempt to identify and contact personnel with knowledge of the filling process regarding more specific information as to when the structure was filled, and what its purpose was. The follow-up review should be augmented with a dye-test to determine connectivity between the various water collection structures and ultimately an outlet point (if possible). Soil or sediment present or discovered (during additional investigation) in the pit/floor drain structures should be sampled and submitted for laboratory analysis for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH).

2. *A pile of discarded paint cans and buckets (1 – 5 gallon nominal volume) was observed stacked under the roof of the access ramp located in the southwest corner of the Armory building. Although leaks, spills or other visual indications of release(s) from this pile of containers were not observed, there is possibility of surface water and groundwater impacts should some or all of the containers contain residual potentially hazardous materials that could create an inadvertent spill or leak from this debris.*



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

Recommendation: The pile of containerized potentially hazardous debris should be inventoried by a qualified environmental contractor to quantify and better characterize the contents to determine appropriate management alternatives. Once debris is adequately characterized, the containers and their contents should be disposed of in accordance with State and Federal regulations.

- 3. A pole-mounted transformer was observed in the northwest corner of the Site. A call to Central Vermont Public Service (CVPS), the electric service provider, indicated this unit was installed in 1973. CVPS did not have any information as to whether the oil in this unit contained PCBs. Although there were no visual indications that the transformer has leaked, the age of the transformer suggests the oil within it may contain PCBs.*

Recommendation: CVPS should be contacted about replacing the transformer or replacing the oil within the transformer with PCB-free oil.

- 4. Aged electrical components (electrical panel, capacitors, switches) were observed in the boiler room, in the basement of the Armory building. Additional, older-appearing, electrical components were observed in several rooms in the Armory building. PCB-containing fluorescent light ballasts may be present at the Site. Due to the age of the building, there is a potential for PCB-containing construction material to be present in the building as a component of window caulking, sealants, paints, floor adhesive/mastic.*

Recommendation: A qualified hazardous waste inspector with expertise specific to PCB-containing electric equipment and construction material should sample this equipment and materials for PCBs. Particular attention must be made as to whether any of the components are leaking, or if any of the aforementioned building material have been disturbed creating a likelihood for release(s) of PCBs to underlying concrete or soil, if outside.

- 5. There is potential for heavy metals contamination, particularly lead, associated with use of the basement as a firing range. Powder generated from bullets and from shell casings at the firing range presents risk of metals contamination.*

Recommendation: More research to determine the location of the firing range in the Armory basement in the form of reviewing plans and blueprints if available; and identification and interview(s) with personnel who may have knowledge about the firing range operations. This research should be followed up with a preliminary lead inspection which may include collecting bulk concrete samples, collecting samples of any residual powder or sediment, and then screening using an XRF meter or similar type instrument. This sample screening effort could be combined with a lead-paint inspection (see RECs beyond the Scope of ASTM 1527-05, below).



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

HISTORICAL REC (HREC):

1. According to a July 21, 2010 Horizons Engineering (Littleton, New Hampshire) UST closure report, petroleum contaminated soils (PCS) were identified in June 2010 during the permanent closure and removal of a 1,000 gallon capacity gasoline and 6,000 gallon capacity fuel oil UST. Both USTs were observed to be in poor condition at the time of removal. No subsurface impact to underlying soil was observed with the gasoline UST and pump island; however, elevated photoionization detector (PID) readings registering between 12 and 50 parts per million (ppm) were noted in the soils adjacent to the piping area, the fill pipe area, and the west end of the fuel oil UST (Horizons Engineering, 2010). A total of 22 tons of PCS were removed. According to the Horizons report, following removal of the PCS, no registered PID readings were identified in excess of 10 ppm within the area of excavation. The PCS were transported off site for treatment and disposal to Environmental Soil Management, Inc. (ESMI) in Loudon New Hampshire and a cleanup confirmation soil sample was collected from the base of the excavation at the west end of the UST by Horizon Engineering and submitted for laboratory analysis for TPH and VOCs using EPA Methods 8100, and 8260, respectively. The confirmatory soil sampling results revealed no detectable concentrations of VOCs or TPH above method detection limits in the soil. A Sites Management Activity Complete (SMAC) designation was issued, and the Site was removed from the SMS active hazardous waste site list.

Recommendation: No further action is recommended with respect to the former USTs. Following their discovery during the UST closure, the PCS were identified and managed per State and Federal guidelines which resulted in a SMAC designation being assigned to the Site on September 7, 2010.

RECs beyond the Scope of ASTM 1527-05 and AAI

1. Given the age of the building, lead based paint may coat surfaces of interior and exterior walls at the Site. Also, lead impacted paint chips may also be associated with the Site.

Recommendation: A lead paint inspection should be conducted by a certified lead paint inspector and a report should be generated outlining the findings.

2. Asbestos-containing materials (ACM) were documented with the Armory building by an ACM investigation performed by Crothers Environmental Group in October 2008 (Crothers, 2008). Of the 48 samples analyzed, six reported positive detections for ACM (2% or more Chrysotile Asbestos). The positive samples were all from plaster wall surfacing material located throughout the building interior. The report also identified the presence of 'Presumed' ACM consisting of non-fiberglass pipe and fitting insulation located in the basement and first floor; and, internal boiler gaskets, refractory and packing materials located in the basement boiler room (Crothers, 2008). A copy of the ACM sampling report was included as Appendix 5 in the Johnson Company report.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

Recommendation: Although a previous ACM inspection has been performed (see Appendix 5), a follow-up inspection should be conducted in anticipation of soliciting formal ACM abatement quotes from licensed contractors. This follow-up inspection will confirm completeness of the previous inspection and identify any potential data gaps.

3. *Based on information provided in the Environmental Questionnaire (Appendix 3) the Armory building has a mold problem due to constant moisture generated from leaking fire sprinkler lines. According to Peggy Phelps of the St. Johnsbury History & Heritage Center or SJHHC) a mold abatement project was in process to clean up the mold. A follow up call to the Town of St Johnsbury indicated that the project had been placed on hold due to increasing expenditures and no clear end in sight.*

Recommendation: Follow up inspection/testing by a certified contractor should be performed to better delineate the extent of mold damage. Following an initial inspection and receipt of results of the testing, a detailed cleanup plan should be presented along with estimated costs for completion.

Environmental Survey, March 28, 2013. Cardno ATC.

Cardno ATC was retained by the Northeastern Vermont Development Association to conduct an assessment of asbestos, polychlorinated biphenyls (PCBs), lead based paint (LBP), lead in dust, indoor air quality (IAQ), drain sediment quality, and floor drain discharge locations for the former Saint Johnsbury Armory building (Cardno ATC, 2013). Based on the findings of Cardno ATC's investigation, the following findings were presented.

Asbestos - The following building materials were identified as ACM from this survey:

- Air cell pipe insulation (Homogenous Material No. 24 [H 24]);
- Mudded joint packings (H42); and
- Plaster walls and ceilings (H11) (previously identified as ACM by a Crothers Environmental Group survey of the building in 2008).

The following materials were not sampled (due to inaccessibility) and should be assumed to be ACM:

- Door Insulation (H15);
- Fire Brick (H26);
- Vibration Cloth (H34);
- Boiler Door Insulation (H37); and
- Boiler Internal Materials (H43).

The following materials were found to contain trace amounts (<1%) of asbestos:

- Exterior Window Caulking (H4); and
- Exterior Tar Brick Caulking (H5).

Cardno ATC recommended the following regarding the findings of their ACM survey:



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

- Prior to any renovations/demolition to the building, any asbestos containing materials that may be disturbed must be removed or abated as required (per State and Federal regulations).
- Suspect ACM may be enclosed or concealed in areas Cardno ATC did not access during this survey. If suspect materials that are not included in this survey are discovered during renovation/demolition activities, they shall be tested prior to disturbance.
- Materials containing “trace” amounts of asbestos (<1%) are not considered Asbestos Containing Materials (ACM) by the US EPA and many state agencies. However, certain sections of OSHA standard 29 CFR 1926.1101 apply when such materials are subject to disturbance. Refer to “OSHA Standard Interpretation and Compliance Letter” dated 8/13/1999, subject: “Requirements for demolition operations involving material containing <1% asbestos”.
- Asbestos abatement activities must be performed by a Vermont certified abatement contractor following all applicable State and Federal regulations. Abatement activities should be designed by a Vermont certified asbestos project designer and overseen by a Vermont certified asbestos project monitor.

PCBs in Building Materials - The gray floor paint in the basement level (H16) was the only material identified during this survey as containing levels of PCBs in excess of 50 ppm. The PCB content of the gray paint was determined to contain levels of PCBs up to 5,700 ppm.

Cardno ATC recommended the following regarding the findings of their PCBs in Building Materials survey:

- Additional PCB sampling should be conducted to determine to what extent, if any, of the PCBs from the flooring paint have leached into the concrete floor substrate. Required removal of PCB materials (such as the flooring paint) must be conducted pursuant to the Toxic Substances Control Act (TSCA) and may require an EPA approved work plan.

Lead Based Paint - Lead based paint is defined as paint or other surface coatings that contain lead equal to or greater than 1.0 mg/cm² (by XRF). Cardno ATC used a lead paint analyzer (XRF) to analyze representative painted components and surfaces for lead content. Components found to contain greater than 1.0 mg/cm² lead included exterior windows (all components), exterior side porch, window wells (throughout building), wall and door (Room 21), floor (throughout basement), walls and ceiling (Room 23), walls (Rooms 24 and 25), and stair riser (Room 25).

Cardno ATC recommended the following regarding the findings of their Lead Based Paint survey:

- If Demolition/Renovation activities are planned that would disturb finish coatings, then appropriate work practices should be employed to satisfy the Lead in Construction OSHA Standard (1926.62), including but not limited to representative air monitoring to determine actual employee exposures.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

- Copies of this report should be provided to the general contractor and demolition contractor to assist with compliance to VOSHA Lead in Construction Standard.
- Any abatement of lead hazards must be completed by a Vermont licensed lead abatement firm, pursuant to the Vermont Regulations for Lead Control.
- Subsequent to renovation/demolition activities a lead-specific final cleaning should be conducted in all areas and lead in dust sampling should be completed prior to building occupancy.

Lead in Dust - Cardno ATC collected lead in dust samples from representative locations throughout the building. Lead in dust sampling was conducted to determine existing lead-in-dust levels and to determine potential impacts related to the reported use of the basement as an indoor firing range. Based on information from the St. Johnsbury Police Department regarding the possible former use of the armory building and the location of the former firing range, the building had not included an indoor firing range since at the latest 1992 and the likely location of the range was in the basement in the vicinity of rooms 26, 27, and 28. Based on this finding, lead in dust samples numbers 13-20 were collected within rooms 26 – 28 (as well as other areas of the building).

Lead in dust was measured at levels above the applicable Vermont Clearance Levels throughout the building including in the basement, the first floor, and the second floor. Cardno ATC recommended the following regarding the findings of their Lead in Dust survey:

- Copies of this report should be provided to the general contractor and demolition contractor to assist with compliance to VOSHA Lead in Construction Standard.
- Subsequent to renovation/demolition activities a lead-specific final cleaning should be conducted in all areas and lead in dust sampling should be completed prior to building occupancy.

Indoor Air Quality - Cardno ATC conducted air sampling for culturable fungi and total fungal structures e.g. mold) in four indoor and one outdoor location for comparison. Cardno ATC collected both airborne culturable mold samples and bulk (swab) samples in areas of apparent mold growth.

The results of the indoor culturable mold samples identified predominantly *Aspergillus*, which were different than the predominant species noted outdoors (*Penicillium*). These predominant species are common types of fungi. The total concentration outdoors was lower than the indoor concentrations, but the indoor levels were not considered significantly elevated. Due to ambient temperatures being at or below freezing (which would serve to reduce the total cultural spore concentrations and types found outside) Cardno ATC stated that it is not unusual for indoor levels to exceed outdoor levels under these conditions and that, in their experience, the culturable levels identified did not represent a significant concern.

The predominant airborne fungal types found outdoors were similar to the indoor predominant types (*Aspergillus*/*Penicillium*) and except for the basement sample the totals were similar as well. The



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

basement (Room 25) level, however, did indicate a possible amplification of *Aspergillus*/*Penicillium* fungal types.

Only limited areas of apparent visual fungal growth were noted by Cardno ATC during their assessment. Swab samples (samples S-01, S-02 and S-03) were collected from areas of apparent growth. Analysis of swab samples for fungal spores and structures indicated the presence of common fungal structures on only two of the three swab samples.

Cardno ATC recommended the following regarding the findings of their Indoor Air Quality survey:

- If significant fungal growth is identified during renovation/demolition activities, removal of the growth should be conducted pursuant to the EPA document Mold Remediation in Schools and Commercial Buildings (EPA 402-K-01-001).
- Subsequent to renovation/demolition activities a final HEPA cleaning should be conducted in the basement area.
- Any sources of water infiltration should be corrected. Continued water infiltration (such as roof leaks) would likely cause additional IAQ related problems. If renovations are not planned for the near-future, additional mold sampling may be warranted.

Sediment Sampling and Dye Test - Cardno ATC conducted an investigation consisting of sediment testing and dye testing related to the floor drain system in the basement. The investigation included a visual inspection of the drain system, interviewing individuals with knowledge of the building's historical use, sampling of sediment in the floor drain itself, and performing a dye tracing test to determine the discharge location of the drain system.

The floor drain system in the basement consists of an exterior catch basin adjacent to the southwest entrance, an abandoned trench drain in the southwest corner, a floor drain to the north of the trench drain, a sump pump adjacent to the floor drain and a clean-out pit in the northeast corner of the basement. Based on data obtained, Cardno ATC determined that wastewater entering the floor drain in room 28 flows north into the sump at the north end of Room 28. A sump pump lifts that water into the building main wastewater line in Room 29. From Room 29, the main wastewater line runs east along the north wall of the basement, until it reaches a cleanout/trap in a pit in the northeast corner of Room 21. From there it continues generally east to the city sewer under Main Street.

Cardno ATC collected sediment samples from the floor drain in Room 28 for analysis of the following analytes: diesel range organics (S-01) via EPA SW-846 Method 8015B – DRO., mercury (S-03) via EPA SW-846 Method 7471B, metals (S-05) via EPA SW-846 Method 6010 C and volatile organic compounds (S-07) via EPA SW-846 Method 8260B. The results of the sediment sampling were compared to the Soil Screening Values (SSVs) for industrial and commercial properties as listed in the Vermont Department of Environmental Conservation's "Investigation and Remediation of Contaminated Properties Procedures".



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

Sediment concentrations of arsenic (S-05) and bromomethane (S-07) exceeded the SSVs. Lead was not detected its applicable SSV.

Cardno ATC conducted a dye test to confirm the discharge point of the building wastewater system. The St. Johnsbury Department of Public Works provided access to a sewer junction (manhole) downstream of the armory. Dyed water was released into the cleanout in the northeast corner of Room 21. Approximately six minutes later, dye was observed flowing through the downstream manhole, located east of the site in a parking lot off of Route 2. The results of this investigation indicated the likelihood that any pollutant captured by the floor drain system in Room 28 would have been discharged to the city wastewater system and it would be unlikely that a significant impact to the subsurface has occurred on site.

Cardno ATC recommended the following regarding the findings of their Sediment Sampling and Dye Test:

- Results of the investigation indicate elevated levels of some pollutants in the floor drain sediment. Any sediment (likely less than on 55-gallon drum) associated with the floor drain system should be excavated and disposed of according to all applicable state and federal regulations.

Draft Targeted Brownfields Assessment Report, March 9, 2021. KGSNE, LLC.

KGSNE, LLC was retained by the EPA to complete a Targeted Brownfields Assessment of the Property to identify hazardous building materials in the site building (KGSNE, 2021). Following is a summary of findings, conclusions, and recommendations as presented in their summary report.

Asbestos-Containing Materials (ACM)

Materials identified as ACM include plaster walls and ceilings, AirCell pipe insulation, and mudded joint fittings. Asbestos abatement must be conducted by a certified asbestos abatement contractor in accordance with the Vermont Department of Health Vermont Statutes Annotated (VSA) Title 18, Chapter 26, Vermont Regulations for Asbestos Control, and applicable Federal and local regulations and protocols. A Vermont-certified Asbestos Project Monitor must provide abatement oversight, background/ambient air sampling, a final visual inspection, and final clearance air sampling during and at the completion of abatement activities.

Lead-Based Paint (LBP)

Building components returning results greater than 1.0 milligrams per square centimeter (mg/cm²) include all window components, stair risers, concrete floor paint, brick walls and ceilings, metal doors and ceilings, plaster walls, wood columns, and wood porch trim.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

LBP demolition/renovation is required to be performed by a contractor in compliance with the Occupational Health and Safety Administration (OSHA) Rules for Occupational Health and Environmental Controls for Lead 29 CFR 1926.62, including implementation of a written worker protection program, personal air monitoring, and respiratory protection program. Although EPA has established a 1.0 mg/cm² (0.5% by dry weight) threshold value for dangerous levels of lead, OSHA has not. The OSHA Lead Standard has no set limit for LBP concentrations below which the standards do not apply (i.e., OSHA considers any paint with detectable lead concentrations to be LBP).

If contractors are working with any levels of LBP, they must comply with exposure assessment criteria, worker protection, and other regulatory requirements until air sampling or historical data proves otherwise, regardless of concentration. LBP abatement may be required prior to working with, dismantling, or otherwise handling materials coated with LBP. A phased demolition plan could be implemented based on project specifications to save costs and possibly eliminate LBP abatement requirements.

During demolition, representative samples of LBP waste generated should be collected for toxicity characteristic leaching procedure (TCLP) lead analysis in accordance with 40 CFR Part 261 prior to material disposal. Under the Resource Conservation and Recovery Act (RCRA), the “acceptable” level of lead (i.e., not hazardous waste) in demolition debris is 5 milligrams per liter (mg/L) by the TCLP. If demolition debris exceeds 5 mg/L of lead by TCLP analysis, it must be disposed of as hazardous waste. Sampling and TCLP analysis of materials with low to mid-range XRF results may be used to establish lower limits under which materials can be disposed of as non-hazardous waste. If metal building components are to be recycled, lead abatement may not be necessary. Cleanup protocols for LBP vary based on intended building reuse (i.e., residential vs industrial).

Polychlorinated Biphenyls (PCBs)

KGSNE identified PCB concentrations above the Toxic Substances Control Act (TSCA) cleanup standard of 1.0 ppm in samples collected from gym floor paper, hardwood subfloor paper, light pink paint, light blue paint, grey door caulking, white window caulking, white wall paint, and blue floor paint.

Federal TSCA regulations establish remediation and disposal requirements for hazardous wastes with total PCB concentrations greater than 50 ppm. TSCA hazardous wastes are either classified as PCB bulk product waste or PCB remediation waste, and generally PCB-containing building materials are considered as a bulk product waste. EPA defines PCB bulk product waste as waste derived from products manufactured to contain PCBs in a non-liquid state at 50 ppm or greater (e.g., caulk, paint, mastics, and sealants). Grey floor paint was detected at a concentration of 5,700 ppm, which exceeds the 50-ppm limit. This material will require EPA notification, and removal and disposal will need to be performed in general accordance with TSCA regulated waste.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

In 2013, EPA clarified the meaning of TSCA “Excluded PCB Products” to deemphasize the regulation of commercial products containing low concentrations of PCBs. Excluded products include materials legally installed before October 1, 1984, products legally manufactured and used pursuant to authority granted by EPA, and materials where the resulting PCBs concentration is not the result of diffusion, leaks, or spills of PCBs in concentrations over 50 ppm. However, the burden of demonstrating that a regulatory exclusion applies rests with the party seeking that exclusion. The disposal contractor should perform additional investigations to determine if materials with PCB concentrations greater than 1 ppm, but less than 50 ppm are a TSCA Excluded PCB Product as defined in 40 CFR Part 761.3 and are therefore unregulated.

If the material is deemed an excluded product and unregulated, removal may not be required. If PCB - containing components are to be removed, proper handling of PCB-containing materials by appropriately trained workers is still required and waste must be disposed of at a facility permitted to accept PCB-containing materials at the concentrations present. These materials should be evaluated by the demolition/disposal contractor and the receiving facility to identify any disposal limitations prior to material removal.

If the PCB-containing material is not an excluded product, it is regulated under TSCA and special handling, disposal, and regulatory compliance are required. Surrounding substrates such as brick, cement block, and cement may also be subject to special handling and disposal if PCBs have leached into these building components at concentrations greater than 1 ppm and remediation of adjacent materials such as soil may also be necessary if PCB-containing materials have degraded and cross-contaminated the surroundings. Additional testing should be performed on substrates to which the PCB-containing material was adhered and on surrounding material to delineate PCB leaching and cross contamination if a product is not excluded from TSCA regulations.

Hazardous Materials Inventory

Regulated materials and universal wastes encountered during the survey include fluorescent light tubes, fluorescent light ballasts, lead acid batteries, fire extinguishers, refrigerator/freezer, and a microwave.

Hazardous materials that may require special handling and disposal should be removed from the building prior to renovation/demolition. Materials handling, transport, and recycling or disposal should be in accordance with applicable Federal, State, and local laws and regulations. Hazardous materials removal contractors should consult labels on each fluorescent light ballast during removal to confirm if ballasts contain hazardous waste. Fluorescent light ballasts labeled as non-PCB containing may contain diethylhexyl phthalate (DEHP). DEHP was the primary substitute to replace PCBs for small capacitors in fluorescent lighting ballasts and is a toxic substance and a suspected carcinogen. Superfund liability exists for landfilling of DEHP-containing ballasts; therefore, the disposal contractor should avoid disposing of DEHP containing ballasts in the general waste stream. Non-PCB ballasts should be disposed of via metals recycling and incineration.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

User-Provided Information
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

Mold

Mold samples were found to contain significantly elevated concentrations of mold in the air, as well as heavy to moderate mold growth on surfaces. All mold types may cause health symptoms. Generally, mold health hazards increase as mold spore counts increase. Fruiting structures (active mold) also increase mold health hazards; therefore, high spore counts, fruiting structures, and toxigenic molds should be considered the most hazardous. Indoor fungal growth is undesirable, and measures should be taken to eliminate mold.

Mold is very common in buildings and homes and will grow where there is moisture. Although mold is ubiquitous, the Center for Disease Control recommends that molds be removed from buildings. Toxigenic mold should be eliminated; however, mold cannot be eliminated or controlled until the moisture source is eliminated. Personnel working in mold infested areas should don worker protection such as respirators and Tyvek suits until air sampling or mold sampling data proves mold is no longer a hazard or until mold is removed.

Building demolition will not likely require mold abatement; however, building renovation will require mold removal. If possible, moldy building components should be cleaned or removed during renovation; however, widespread mold growth identified on materials throughout the building may be too intrusive for cleaning and would require material removal to eliminate mold hazards.

Based on building conditions, KGSNE does not recommend reuse of non-structural building components contaminated with mold, as the removal of organic based building materials is the best method to eliminate mold. Surfaces that are metal, concrete, and plaster can be cleaned with an agent to remove the mold, depending on the physical condition of the building material. Conditions such as water leaks, condensation, and flooding must be corrected to prevent mold regrowth.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

4.0 RECORDS REVIEW

The objective of consulting historical sources of information is to develop the history of the Property and surrounding area and evaluate if past uses may have resulted in RECs. Physical setting records are evaluated to determine if the physical setting may have contributed to adverse environmental conditions in connection with the Property. During the review of historical records, Stantec attempted to identify uses of the Property from the present to the first developed use of the Property. Stantec's research included the reasonably ascertainable and useful records described in this section.

4.1 PHYSICAL SETTING

A summary of the physical setting of the Property in the following subsections is based in part on the EDR Radius Map™ Report with Geotcheck® (the "EDR Report") obtained from Environmental Data Resources, Inc. (EDR, 2021), a third-party environmental/regulatory agency database search firm. The EDR Report is provided as **Appendix D**.

4.1.1 Property Topography and Surface Water Flow

The Property is generally flat at an average elevation of approximately 700 feet above mean sea level. The general topographic gradient of the area comprising the Property using United States Geological Survey surface elevation data is to the east-northeast towards the Passumpsic River, approximately 0.4 miles from the Property.

4.1.2 Regional and Property Geology

Surficial geology is mapped as lake sand characterized by well sorted sand, no pebbles or boulders, and littoral sediment, predominantly sand (<http://anrmaps.vermont.gov/websites/anra5/>). Based on a 2006 Initial Site Investigation & Emergency Corrective Action Report for the west adjacent site (Grace United Methodist Church; further discussed in **Section 4.2.2**), soils encountered in five soil borings installed on the site generally consisted of medium to coarse sand with intermittent layers of silt to 30 feet bgs (VTDEC, 2021a). It is reasonable to expect similar conditions at the Property.

4.1.3 Regional and Property Hydrogeology

The shallow water table is often a subdued expression of surface topography. Shallow groundwater generally flows from areas of groundwater recharge, such as hills and broad uplands, to areas of groundwater discharge, such as wetlands, rivers, and lakes. As such, the inferred shallow groundwater flow direction is likely to the east towards the Passumpsic River. This is further substantiated by environmental investigation reports for the neighboring Goss Leasing Corporation Property (84 Central Street) located approximately 150-350 feet to the west. The water table was encountered at depths of



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

approximately 10 to 20 feet bgs and the direction of shallow groundwater flow was easterly. Man-made features such as wells, roads, filled areas, buried utility lines and sewers, and stormwater drainage systems may alter the natural shallow groundwater flow direction.

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report, the EDR Report, was obtained from EDR on November 16, 2021. Stantec evaluated the information listed in the EDR Report relative to potential impacts to the Property based in part on the physical setting. As part of this process, inferences have been made regarding the likely groundwater flow direction at or near the Property. As described in **Section 4.1.3**, the inferred shallow groundwater flow direction is to the east. Observations about the Property and surrounding sites made during the site visit are provided in more detail in **Section 5**.

4.2.1 Listings for Property

The Property was identified on the following databases in the EDR Report:

- UST (underground storage tank) database for the removal of two USTs in 2010, a 1,000-gallon gasoline UST (and associated pump island) and a 6,000-gallon heating oil UST. The USTs were installed in 1971 and appeared to be in poor condition upon their removal. According to a 2012 Phase I ESA prepared by The Johnson Company on behalf of the VTDEC SMS (The Johnson Company, May 2012), the tanks were located in the paved parking area at the northeast corner of the Armory building.
- LUST database for contamination discovered during removal of the aforementioned heating oil UST. (No contamination was observed for the gasoline UST and associated pump island.) Approximately 20 tons of PCS was excavated from the area of the heating oil UST for offsite disposal. Groundwater was not encountered in the excavation. The results of confirmation soil sample for TPH and VOC analysis were below detection limits and no PID readings (above 10 ppm) were observed in soil from the excavation. In a letter dated September 7, 2010, from the VTDEC SMS to the Town of St. Johnsbury, the Property was assigned a SMAC designation (VTDEC, 2021b). As a documented petroleum spill at the Property that was remediated to the satisfaction of the VTDEC, this LUST listing is considered to be an HREC in connection with the Property.
- BROWNFIELDS database for the Property's association with three EPA grants: a targeted brownfields assessment grant awarded to the State of Vermont in 2004, a coalition assessment grant awarded to the Northeastern Vermont Development Association in 2007 (Cooperative Agreement #BF97171001), and a Section 128(a) grant awarded to VTDEC in 2011 (Cooperative Agreement #RP96148401).



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

- SHWS (state hazardous waste site) database for the suspected presence of lead and PCBs at the Property, as identified in a 2012 Phase I ESA prepared by The Johnson Company on behalf of the VTDEC SMS, based on the historical use of the basement as a firing range and the presence of aged electrical components, respectively (VTDEC, 2021b). The suspected presence of lead and PCBs is considered to be a REC in connection with the Property.
- SPILLS database for a release of approximately 1 gallon of gasoline from a motorcycle in the parking lot in 2020. The St. Johnsbury Fire Department responded and cleaned up the spill. Due to its small volume and reported remediation, this spill is considered to be a *de minimis* condition.

4.2.2 Listings for Nearby Sites with Potential to Impact Property

Stantec assessed data presented in the EDR Report to evaluate the potential for conditions on adjacent and nearby sites to represent a REC, CREC, or HREC in connection with the Property. The evaluation included consideration of the potential for contamination by hazardous substances or petroleum products to migrate to the Property from a nearby site, including by vapor migration or encroachment (i.e., potential for a VEC). Based on this evaluation, the sites listed in the table below were identified as the most likely potential sources of impact to the Property. Note that their distances and directions from the Property listed in the EDR Report were verified and at times corrected using Google Earth Pro.

Listed Facility Name and Address	Relevant Database Listing	Distance and Direction from Property
Main Street Fire Site, 1244, 1252, and 1262 Main Street	SHWS, BROWNFIELDS	Adjacent east across Main Street (inferred downgradient)
<p>This site became vacant after a fire in 2009 destroyed three multi-story commercial buildings. Phase I and II ESAs for the site were performed by Stantec in 2019-2020. Eight borings were drilled for the collection of soil and groundwater samples to investigate multiple RECs identified for the Property. Lead in one near-surface soil sample (0–1.5 feet bgs) and polynuclear aromatic hydrocarbons (PAHs) in multiple near-surface soil samples and one soil sample at depth (8–10 feet bgs) were detected at concentrations that exceed the Residential Vermont Soil Standard (VSS) and the Urban Background VSS, respectively. Groundwater was not encountered in the borings to the maximum depth explored of 55 feet bgs. The impacts to soil were surmised to be the result of the fire and/or fill material (VTDEC, 2021c). Based on this information and the inferred downgradient location, this site is <u>not</u> considered to be a REC for the Property.</p>		



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Listed Facility Name and Address	Relevant Database Listing	Distance and Direction from Property
Grace United Methodist Church, 36 Central Street	UST, LUST	Adjacent west (inferred upgradient)
<p>This site had a 1,000-gallon heating oil UST that was filled by a vendor in 2006 and a day later the UST was empty. In the aforementioned 2006 Initial Site Investigation & Emergency Corrective Action Report for the site, it was reported the UST had released approximately 900 to 1,400 gallons of heating oil in total. The UST was subsequently removed, and petroleum contaminated soil was observed beneath the UST at 8 feet bgs to the bottom of the excavation at 13 feet bgs, where the greatest PID readings were observed. Groundwater was not encountered in the excavation. Five soil borings, four of which were completed as monitoring wells, were advanced to assess the extent of the contamination and design an SVE system. Groundwater was measured in the monitoring wells at 24–25 feet bgs and TPH was only detected in the well installed within the UST excavation at 0.55 milligrams per liter, less than the Vermont Groundwater Enforcement Standard; petroleum-derived VOCs were non-detect. Influent versus effluent PID readings from the SVE system installed at the former UST area demonstrated high treatment efficiency. In a letter dated August 19, 2008, from VTDEC SMS, the site was assigned a SMAC designation (VTDEC, 2021a). Being an adjoining upgradient site, this closed UST release is considered to be an HREC in connection with the Property.</p>		
Goss Co. Inc. (Goss Tire), 84 Central Street	LUST, VAPOR	240 feet west-northwest (inferred upgradient)
<p>This site was an approximately 1-acre property occupied by an approximately 160- by 220-foot building that included a former gas station, garage, auto repair facility. The LUST listing is associated with three 1,000-gallon gasoline USTs removed in 1996 from their location along Summer Street, but which reportedly had been out of service for 20-30 years prior to their removal. Evidence of contamination was observed from at least one of the USTs and groundwater was impacted; however, the impacts were largely confined to the immediate vicinity of the USTs and did not migrate offsite. The contamination was treated chemically using oxygen releasing compound (ORC). A Notice of Land Record was filed with the Town of St. Johnsbury on May 16, 2017 for residual contamination remaining in the former UST area. In a letter dated December 12, 2017 from VTDEC SMS, the site was assigned a SMAC designation (VTDEC, 2021d). Being located approximately 300 feet upgradient of the Property, this closed UST release is considered to be an HREC in connection with the Property. It should be noted that the three USTs removed in 1996 appear to be associated with 3 of 5 UST locations at which gasoline tanks are shown associated with this site on historic Sanborn maps dated 1943 through 1964. No closure information was available for the additional two USTs shown along Central Street on the Sanborn maps 200-250 feet west of the Property. Lacking this information and given the age of the tanks, their upgradient location, and their proximity, these two tanks are considered to be a REC in connection with the Property.</p>		
The New Method Laundry, 10 Central Street	DRYCLEANERS	300 feet southwest (inferred upgradient / cross-gradient)
<p>This site is not mapped correctly in the EDR Report (or by using Google Earth Pro); based on the 1912–1927 Sanborn maps that are the basis for this database listing, its location was southwest of the St. Johnsbury House (senior living apartments) within the current parking lot. Per the 1943 Sanborn map, the site was repurposed as a community canning center, and by 1964, the building was replaced with the current parking lot. The labels on the Sanborn maps indicate it was a steam laundry with a coal-fired engine. There is no indication of storage tanks and since chlorinated solvents were not introduced to the industry until the 1930s, this site is <u>not</u> considered to be a REC for the Property.</p>		



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Based on proximity, type of database listings, and/or the topographic gradient/inferred groundwater flow direction, the remaining sites listed in the EDR Report, including orphan sites (those with insufficient address information), do not constitute a REC for the Property.

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS

Stantec checked the following sources to obtain information pertaining to the use of the Property and/or indications of RECs in connection with the Property.

4.3.1 Official State Website

Agency Name Contact Information	Finding
http://anmaps.vermont.gov/websites/anra5/	The Vermont Environmental Research Tool located on the Official State Website was used to search for information regarding soils and bedrock at the Property, the presence of public and private supply wells within a mile of the Property, and the presence of hazardous waste sites near the Property. No records were found for the Property.

4.3.2 Health Department

Agency Name Contact Information	Finding
Town of St. Johnsbury Office of Local Health 107 Eastern Avenue, Suite 9 St. Johnsbury, VT 05819 802-743-5151	The local health department does not maintain records that are searchable by address or parcel number.

4.3.3 Fire Department

Agency Name Contact Information	Finding
St. Johnsbury Fire Department 1187 Main Street, Suite 3 St. Johnsbury, VT 05819 802-748-8925	Stantec spoke with Bradley Reed, the Assistant Chief of the St. Johnsbury Fire Department on January 6, 2022 to request any environmental information on the Property maintained by the Fire Department. According to Assistant Chief Reed he found nothing indicating any in-ground fuel tanks or significant hazardous materials releases at the Property. Since the Fire Department's electronic incident record keeping began in 1998, he was able to track down two minor hazardous materials responses to the address. The first



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Agency Name Contact Information	Finding
	was on 7/29/2020 for a motorcycle leaking gas. The report stated approximately one gallon of gas leaked. The second was a car leaking gas on 6/17/2002. There was nothing further found about that response. Due to their small volume, these releases are considered to be a <i>de minimis</i> condition

4.3.4 Building and/or Planning Department Records

Agency Name Contact Information	Finding
Stacey Jewell Town of St. Johnsbury Town Clerk and Treasurer 51 Depot Square, Suite 3 St. Johnsbury, VT 05819 802-748-4331	Stantec spoke with Stacey Jewell, the Town of St. Johnsbury Town Clerk on January 6, 2022. Ms. Jewell referred Stantec to Joe Kasprzak, the Town of St. Johnsbury Assistant Town Manager, for environmental information regarding the Property available from the Town.

4.3.5 Assessor Records

Agency Name Contact Information	Finding
Town of St. Johnsbury On-line Assessment Records http://webpro.patriotproperties.com/stjohnsburyvt/Summary.asp?AccountNumber=2413	On-line Town assessment records available on the Patriot Properties website were reviewed for the Property. A copy of the assessor's card is included in Appendix E . According to the assessor's information, the Property parcel identification number is 234074, lot size is 0.44 acres, and the armory building was constructed around 1916. The Property owner is listed as the Town of St. Johnsbury.

4.3.6 Land Records

Agency Name Contact Information	Finding
Town of St. Johnsbury On-line Land Records Welcome to 20/20 Perfect Vision Land Records I2 (uslandrecords.com)	Stantec attempted to review on-line land records available on the Town of St. Johnsbury website for the Property. No records for the Property were discovered on this website.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

4.4 HISTORICAL RECORDS REVIEW

4.4.1 Land Title Records/Deeds

The Client provided a copy of a quitclaim deed that conveyed the Property from the State of Vermont to the Town of St. Johnsbury on January 21, 1975. The deed shows that the State acquired the Property in 1916. Except for the User Questionnaire (see **Section 3.0**), land title records, environmental liens, and activity and use limitation documentation was not provided by the User. The results of Stantec's review of public records are provided in **Section 4.3**.

4.4.2 Aerial Photographs

Stantec reviewed historical aerial photographs provided by EDR for the years 1960, 1976, 1979, 1986, 1992, 1998, 2006, 2009, 2012, and 2016, which are included in **Appendix E** (EDR 2021b). The general type of activity on a property and land use changes can often be discerned from the type and layout of structures visible in the photographs. However, specific elements of a facility's operation usually cannot be discerned from aerial photographs alone. The following table summarizes Stantec's observations of the reviewed historical aerial photographs:

Year(s)	Key Observations
1960–1986	<u>Property</u> : The Property is developed with the current building. <u>Adjoining Sites</u> : The adjoining sites are developed as they are today, except the east adjacent site (beyond Main Street - referred to as the Main Street Fire site discussed in Section 4.2.2) is developed with three commercial buildings.
1992	The photograph is blurred and there is no discernable difference from prior photographs.
1998-2016	<u>Property</u> : No material changes are apparent. <u>Adjoining Sites</u> : No material changes are apparent except the buildings on the east adjacent Main Street Fire site were removed in the 2009 photograph.

4.4.3 City Directories

Stantec reviewed reverse city directories provided by EDR for the years 1962, 1966, 1992, 1995, 2000, 2005, 2010, 2014, and 2017, which are included in **Appendix E** (EDR 2021d). The Property and adjoining sites on Main Street are not identified in the records before 2005 and 2000, respectively. In the 2005, the occupant of the Property is unknown, and from 2010 through 2017, the occupant is the Community Justice Center. The only listings for adjacent or neighboring properties of potential environmental significant identified in the records are listings for a gas and oil company, CH Goss, at 17–19 Central Street in the 1962 and 1966 city directories. As discussed in **Section 4.2.2**, the closed 1996 LUST listing for this site is considered to be an HREC for the Property.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

4.4.4 Historical Fire Insurance Maps

Stantec reviewed historical fire insurance maps provided by EDR for the years 1884, 1889, 1895, 1900, 1905, 1912, 1919, 1927, 1943, 1958, and 1964, which are included in **Appendix E** (EDR 2021b). The following table summarizes the key observations of the reviewed historical fire insurance maps:

Year	Key Observations
1884–1900	<p><u>Property</u>: The Property is developed with three structures: a dwelling in the northeast corner, a building occupied by a dwelling, tailor, and/or meat and liquor store in the southeast corner, and another dwelling with a livery stable in the southwest corner.</p> <p><u>Adjoining Sites</u>: No land uses of environmental significance.</p>  <p>1895 map</p>



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

1905 -1912	<p><u>Property</u>: The dwelling in the northeast corner was split into two dwellings and the liquor store in the southeast corner was replaced with a music store.</p> <p><u>Adjoining Sites</u>: No land uses of environmental significance.</p> 
------------	--



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Records Review

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

1919–1964	<p><u>Property</u>: The structures on the Property have been replaced with the current building, labeled as Company D 1st Infantry Vermont National Guard Armory with steam heating and electric lights. Per the UST database listing for the Property discussed in Section 4.2.1, the heating fuel for the building was converted from steam to oil in 1971.</p> <p><u>Adjoining Sites</u>: A total of 5 USTs located in upgradient areas from the Property were noted on Sanborn maps from 1943-1964. These tanks are discussed further in Section 4.2.2. A previously indicated three of the five identified tanks associated with the Goss LUST release are considered to be an HREC in connection with the Property, while the other two tanks along Central Street are considered to be a REC in connection with the Property.</p> <p>Two additional tanks were identified at the end of Turner Court about 300 feet south (sidegradient) of the Property on the 1943-1964 Sanborn maps. Additional tanks were identified near the Community Canning Center about 450 feet southwest (sidegradient) of the Property on the 1943 Sanborn map and about 150 feet east (downgradient) of the Property on the 1943 and 1958 Sanborn maps. Being sidegradient or downgradient of the Property, these tanks do not appear to represent RECs in connection with the Property.</p> 
-----------	---

4.4.5 Historical Topographic Maps

Stantec reviewed historical topographic maps provided by EDR for the years 1938, 1943, 1949, 1983, and 2012, which are included in **Appendix E** (EDR 2021c). Only city blocks, major roads/railways, and/or black boxes symbolizing structures are shown on the maps.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Site Visit

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

5.0 SITE VISIT

A site visit of the Property and its vicinity was conducted by Stantec (David Allwine) on November 9, 2021. Stantec was unaccompanied during the site visit. Photographs of the Property and site vicinity taken during the site visit are provided in **Appendix A**.

5.1 SITE VISIT METHODOLOGY

The site reconnaissance focused on observation of current conditions and observable indications of past uses and conditions of the Property that may indicate the presence of RECs. The site visit was conducted on foot and there were no weather-related access restrictions encountered during the site visit.

5.2 GENERAL DESCRIPTION

Property and Area Description:	The Property consists of a 2-story vacant building with basement in the downtown area of St. Johnsbury. The surrounding area is a mix of commercial properties, vacant land, paved parking areas, and institutional uses (churches, fire department).
Property Operations:	None. Building is vacant.
Structures, Roads, Other Improvements:	Improvements include a 2-story vacant masonry building with basement, with paved parking areas on the building's north and south sides.
Property Size (acres):	0.44 acres
Estimated % of Property Covered by Buildings and/or Pavement:	98%
Observed Current Property Use/Operations:	The Property building is vacant.
Observed Evidence of Past Property Use(s):	The reported past uses of the Property were as an armory, municipal police department and community center, and the Red Cross. Possible evidence of its use as a community center was present in the form of art and crafts supplies observed in the gymnasium and clothing/costumes observed on the second floor.
Sewage Disposal Method:	Municipal.
Potable Water Source:	Not currently serviced, but municipal water is available in the area.
Electric Utility:	Not currently serviced, but electrical utilities are available in the area.

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

The following table summarizes Stantec's observations during the site visit.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Site Visit

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14):	1-gallon or smaller cans or containers of spray paints, spackling, insect spray, miscellaneous cleaning supplies located in cabinets on first floor (Appendix A , Photos 17 and 20). 5-gallon or less containers of paint, dust mop dressing in second floor clothes storage closet (Appendix A , Photo 31). Bucket of mortar and lead-acid car battery in basement (Appendix A , Photo 47).
Drums (≥ 5 gallons):	None observed
Strong, Pungent, or Noxious Odors:	None noted
Pools of Liquid:	None observed
Unidentified Substance Containers:	None observed
Polychlorinated biphenyl (PCB)-Containing Equipment:	Multiple fluorescent light fixtures were observed in the building. Light fixture ballasts may contain PCBs. Building materials such as paint and caulk may also contain PCBs. Prior PCB testing was conducted at the Property (see Section 3.0 and Cardno ATC, 2013).
Other Observed Evidence of Hazardous Substances or Petroleum Products:	None observed

5.4 INTERIOR OBSERVATIONS

Interior observations made during the Property reconnaissance are summarized below:

Observations	Description
Heating/Cooling Method:	Stantec observed a boiler in the basement (Appendix A , Photo 36), but it appeared to be inoperative and unusable. As a result, the building appeared to be unheated.
Surface Stains or Corrosion:	No significant surface stains or corrosion related to spills of oil or hazardous materials was noted during the inspection.
Floor Drains and Sumps:	Multiple floor drains and sumps were observed. These included a 2-inch diameter floor drain in the basement boiler room (Appendix A , Photo 37), a 3x3x3-foot sump covered by a steel plate in the northeast corner of the basement (Appendix A , Photo 40), a circular sump with a sump pump installed in the northern section of the basement (Appendix A , Photo 49), and a square floor drain with a heavy metal grate in the northern section of the basement (Appendix A , Photo 48). The discharge locations of the drains were not apparent, but prior dye testing by Cardno ATC indicated the basement drains discharge to the municipal sewer system (see Section 3.0 and Cardno, 2013). No stains or odors were noted to be associated with any of the drains.
Other Interior Observations:	The building interior was in poor shape with deteriorating wall and ceiling plaster, damaged floors in places, and miscellaneous debris throughout the building. Given the age of the structure, building materials may contain asbestos-containing materials. Prior ACM



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Site Visit

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Observations	Description
	testing was conducted by Cardno ATC (see Section 3.0 and Cardno ATC, 2013).

5.5 EXTERIOR OBSERVATIONS

Stantec made the following observations during the site visit of exterior areas of the Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
On-site Pits, Ponds, or Lagoons:	None observed
Stained Soil or Pavement:	None observed
Stressed Vegetation:	None observed
Waste Streams and Waste Collection Areas:	None observed
Solid Waste Disposal:	None observed
Potential Areas of Fill Placement:	A pavement patch in the parking lot was noted near the northeast corner of the Armory building in the location of the former Property USTs removed in 2010 (see Appendix A , Photograph 8). It is likely that fill was placed in the UST excavation as part of the closure process. The closure report by Horizons Engineering did not indicate the source of any fill brought to the Property, but since the closure was overseen by a consulting company, the likelihood that contaminated fill was used for the tank closure is considered to be low.
Wastewater:	None observed
Stormwater:	None observed
Wells:	None observed
Septic Systems:	None observed
Other Exterior Observations:	None observed

5.6 UNDERGROUND STORAGE TANKS/STRUCTURES

Existing USTs:	A four-inch cast iron goose-neck vent of unknown purpose was observed adjacent to the northeast corner of the Armory building (see Photograph 9). Whether this vent was related to the former Property USTs removed in 2010 is not known. No information related to the current presence of any USTs at the Property was reviewed as part of this assessment. No other visible evidence (fill pipes, vent pipes, dispensers, surface patches) of USTs was observed on the Property. A four-inch steel exhaust stack viewed exiting the building's south side (see Appendix A , Photograph 16) did not appear to be related to a tank but more likely could be the former exhaust stack for the building boiler.
Former USTs:	A pavement patch in the parking lot was noted near the northeast corner of the Armory building in the location of the former Property USTs removed in 2010 (see Appendix A , Photograph 8). As mentioned above



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Site Visit

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

	a four-inch cast iron goose-neck vent of unknown purpose was observed adjacent to this part of the building as well. Whether this vent was related to the former removed USTs is not known. No other visible evidence (fill pipes, vent pipes, dispensers, surface patches), reports, or other evidence of the former presence of USTs was discovered during this Phase I ESA. See Sections 3.0 and 4.2.1 for more information about the former Property USTs.
Other Underground Structures:	No other underground structures were evident on the Property.

5.7 ABOVEGROUND STORAGE TANKS

Existing ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), which would indicate the presence of ASTs, was discovered during the site reconnaissance.
Former ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), reports, or other evidence of the former presence of ASTs was discovered during this Phase I ESA.

5.8 ADJOINING PROPERTIES

5.8.1 Current Uses of Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about use and activities on adjoining sites:

NORTH	St. Andrews Episcopal Church (1265 Main Street)
EAST (across Main Street)	Vacant lots (1244, 1252, 1262 Main Street, "Main Street Fire site" – former commercial property that burned), Passumpsic Financial Advisors (1236 Main Street.), Fashion Flair Beauty Salon (1 st floor of 1230 Main Street)
WEST	Grace United Methodist Church (36 Central Street)
SOUTH	Kozlowski & Daughter General Dentistry (1229 Main Street)

5.8.2 Observed Evidence of Past Uses of Adjoining Properties

Observations of adjoining sites providing indications of past use and activities, if any, are described below.

NORTH	None observed
EAST	None observed
WEST	None observed
SOUTH	None observed



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Site Visit

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

5.8.3 Pits, Ponds or Lagoons on Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about the presence of pits, ponds and lagoons on adjoining sites:

NORTH	None observed
EAST	None observed
WEST	None observed
SOUTH	None observed



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Interviews

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

6.0 INTERVIEWS

Stantec was provided an Owner Questionnaire by Chad Whitehead, Town Manager of the Town of St. Johnsbury, the Property Owner. Information provided by Mr. Whitehead is discussed in Section 3.0. The User Questionnaire is provided as **Appendix C**.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Evaluation
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

7.0 EVALUATION

This section provides a summary of our findings, opinions, and conclusions.

7.1 FINDINGS AND OPINIONS

Information gathered from interviews, reviews of existing data, and the site visit was evaluated to determine if RECs are present in connection with the Property. Based on this information, Stantec made the following findings and developed the following opinions.

1	<p><u>Finding:</u> Multiple floor drains and sumps were observed in the building's basement. These included a 2-inch diameter floor drain in the basement boiler room, a 3x3x3-foot sump covered by a steel plate in the northeast corner of the basement, a circular sump with a sump pump installed in the northern section of the basement, and a square floor drain with a heavy metal grate in the northern section of the basement. The discharge locations of the drains were not apparent. No stains or odors were noted to be associated with any of the drains. According to a 2012 Phase I ESA conducted by The Johnson Company, a filled-in structure (approximately 7 feet long by 1 foot wide) is located in the floor of the basement next to the vehicle access ramp located in the southwest portion of the Armory building basement. This structure has the appearance of a trench/floor drain that has been decommissioned. According to USEPA (2000) ¹: <i>"Floor drains in industrial and commercial settings can cause significant contamination if used improperly. While many industries have begun investing in cleaner technologies, floor drains remain an easy method of disposing of wash water that may contain small concentrations of hazardous or toxic chemicals. Floor drains may be plumbed to a municipal sewer line, or they may just lead to a subsurface disposal point."</i></p>
	<p><u>Opinion:</u> The discharge locations of the drains were not apparent, but prior dye testing by Cardno ATC indicated the basement drains discharge to the municipal sewer system (see Section 3.0 and Cardno, 2013). Therefore, the drains are not considered to be a REC in connection with the Property.</p>
2	<p><u>Finding:</u> There is potential for heavy metals contamination, particularly lead, associated with use of the basement as a firing range. Powder generated from bullets and from shell casings at the firing range presents a risk of metals contamination, particularly lead, from deposition of lead as dust on building material surfaces.</p>
	<p><u>Opinion:</u> Due to the potential for impacts from the use of the basement as a firing range, this former use is considered to be a BER in connection with the Property. Sediment testing in selected drains by Cardno ATC did not result in the detection of significant concentrations of lead in the sediment. For this reason, and since the drains were determined to be connected to the municipal sewer system, possible discharge of lead to the environment is not likely.</p>
3	<p><u>Finding:</u> Two USTs, a 1,000-gallon gasoline UST (and associated pump island) and a 6,000-gallon heating oil UST, were formerly located at the Property. They were removed in 2010 and appeared to be in poor condition upon their removal. The tanks were located in the paved parking area at the northeast corner of the</p>

¹ <https://archive.epa.gov/region9/water/archive/web/pdf/industrialdrainagewells.pdf>



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Evaluation

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

	<p>Armory building. During their removal, approximately 20 tons of petroleum contaminated soil was excavated from the area of the heating oil UST for offsite disposal. The source of the fill used to backfill the excavation was not provided in the Horizon tank closure letter (Horizon, 2010). Groundwater was not encountered in the excavation. The results of confirmation soil sample for TPH and VOC analysis were below laboratory detection limits and no elevated PID readings (above 10 ppm) were observed in soil from the excavation. Based on the findings of the tank removal assessment, the VTDEC SMS issued a SMAC (closure) designation to the release.</p>
	<p><u>Opinion:</u> As a documented petroleum spill at the Property that was remediated to the satisfaction of the VTDEC, this LUST listing is considered to be an HREC in connection with the Property. Since the closure was overseen by a consulting company, the likelihood that contaminated fill was used as backfill for the tank closure is considered to be low.</p>
4	<p><u>Finding:</u> Based on the result of an Environmental Survey conducted by Cardno ATC for the Property in 2013, materials identified within the building as ACM included air cell pipe insulation, mudded joint packings, and plaster walls and ceilings (previously identified as ACM by a Crothers Environmental Group survey of the building in 2008). Materials not sampled due to inaccessibility which should be assumed to be ACM included door insulation, fire brick, vibration cloth, boiler door insulation, and boiler internal materials. Materials found to contain trace amounts (<1%) of asbestos included exterior window caulking and exterior tar brick caulking. The gray floor paint in the basement level (H16) was the only material identified during this survey as containing levels of PCBs in excess of 50 ppm. Components found to contain greater than 1.0 mg/cm² lead included exterior windows (all components), exterior side porch, window wells (throughout building), wall and door (Room 21), floor (throughout basement), walls and ceiling (Room 23), walls (Rooms 24 and 25), and stair riser (Room 25). Lead in dust was measured at levels above the applicable Vermont Clearance Levels throughout the building including in the basement, the first floor, and the second floor. The results of the indoor culturable mold samples identified predominantly Aspergillus, which were different than the predominant species noted outdoors (Penicillium). The predominant airborne fungal types found outdoors were similar to the indoor predominant types (Aspergillus/Penicillium) and except for the basement sample the totals were similar as well. Only limited areas of apparent visual fungal growth were noted by Cardno ATC during their assessment. The results of the sediment sampling of the floor drain in basement Room 28 indicated the presence of arsenic and bromomethane that exceeded the SSVs. Lead was not detected above its applicable SSV. Cardno ATC also determined through dye testing that the basement drains were connected to the municipal sewer system.</p>
	<p><u>Opinion:</u> While not considered to be conditions requiring investigation per the ASTM Phase I ESA standard, the presence of these building materials and equipment are considered represent business environmental risks (BERs) relevant to reuse of the building, and conditions which will need to be addressed as part of any planned renovation of the building. Also, since lead in paint and PCBs in building materials can also impact shallow exterior soils, investigation of these contaminants in shallow site soils should be completed.</p>
5	<p><u>Finding:</u> Based on the findings of a Targeted Brownfields Assessment conducted by KGSNE LLC for the Property in 2021, materials identified within the building as ACM included plaster walls and ceilings, AirCell pipe insulation, and mudded joint fittings. In addition, the assessment identified building components containing lead-based paint greater than 1.0 mg/cm² (all window components, stair risers, concrete floor paint, brick walls and ceilings, metal doors and ceilings, plaster walls, wood columns, and wood porch trim); PCB concentrations above the TSCA cleanup standard of 1.0 ppm in samples collected from gym floor paper, hardwood subfloor paper, light pink paint, light blue paint, grey door caulking, white window caulking,</p>



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Evaluation

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

	<p>white wall paint, and blue floor paint; regulated materials and universal wastes including fluorescent light tubes, fluorescent light ballasts, lead acid batteries, fire extinguishers, refrigerator/freezer, and a microwave; and mold samples containing significantly elevated concentrations of mold in the air, as well as heavy to moderate mold growth on surfaces.</p>
	<p><u>Opinion:</u> While not considered to be conditions requiring investigation per the ASTM Phase I ESA standard, the presence of these building materials and equipment are considered represent business environmental risks (BERs) relevant to reuse of the building, and conditions which will need to be addressed as part of any planned renovation of the building. Also, since lead and PCBs in building materials can also impact shallow exterior soils, investigation of these contaminants in shallow site soils should be completed.</p>
6	<p><u>Finding:</u> Fire Department records for the Property document two minor hazardous materials responses to the Property address. The first was on 7/29/2020 for a motorcycle leaking gasoline. The report stated approximately one gallon of gasoline leaked. The second was a car leaking gasoline on 6/17/2002. There was nothing further found about that response.</p>
	<p><u>Opinion:</u> Due to their small volume, these releases are considered to be <i>de minimis</i> conditions.</p>
7	<p><u>Finding:</u> The Grace United Methodist Church at 36 Central Street, had a 1,000-gallon heating oil UST that was filled by a vendor in 2006. A day later the UST was empty. In a 2006 Initial Site Investigation & Emergency Corrective Action Report for the site, it was reported the UST had released approximately 900 to 1,400 gallons of heating oil in total. The UST was subsequently removed, and petroleum contaminated soil was observed beneath the UST at 8 feet bgs to the bottom of the excavation at 13 feet bgs, where the greatest PID readings were observed. Groundwater was not encountered in the excavation. Five soil borings, four of which were completed as monitoring wells, were advanced to assess the extent of the contamination and to assist with the design an SVE system. Groundwater was measured in the monitoring wells at 24–25 feet bgs and TPH was only detected in the well installed within the UST excavation at 0.55 milligrams per liter, less than the Vermont Groundwater Enforcement Standard. Petroleum-derived VOCs were non-detect. Influent versus effluent PID readings from the SVE system installed at the former UST area demonstrated high treatment efficiency. In a letter dated August 19, 2008, from VTDEC SMS, the site was assigned a SMAC (closure) designation.</p>
	<p><u>Opinion:</u> Being an adjoining upgradient site, this closed UST release is considered to be an HREC in connection with the Property.</p>
8	<p><u>Finding:</u> The vacant lots at 1244, 1252, and 1262 Main Street to the east of the Property across Main Street became vacant after a fire in 2009 that destroyed three multi-story commercial buildings. Phase I and II ESAs for the site were performed by Stantec in 2019-2020. Eight borings were drilled for the collection of soil and groundwater samples to investigate multiple RECs identified for the Property. Lead in one near-surface soil sample (0–1.5 feet bgs) and PAHs in multiple near-surface soil samples and one soil sample at depth (8–10 feet bgs) were detected at concentrations that exceed the Residential Vermont Soil Standard (VSS) and the Urban Background VSS, respectively. Groundwater was not encountered in the borings to the maximum depth explored of 55 feet below ground surface (bgs). The impacts to soil were surmised to be the result of the fire and/or fill material.</p>
	<p><u>Opinion:</u> Based on this information and its inferred downgradient location, this site is <u>not</u> considered to be a REC for the Property.</p>



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Evaluation

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Evaluation

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

9	<p><u>Finding:</u> A total of five underground storage tanks (USTs) located potentially upgradient of the Property were identified on Sanborn fire insurance maps dated 1943, 1958, and 1964. Three of these tanks were located at the Goss site at 320 Summer Street. These tanks were removed in 1996 and evidence of a release was found beneath one tank and an associated fuel pump island. A Notice of Land Record was filed with the Town of St. Johnsbury on May 16, 2017 for residual contamination remaining in the former UST area. In a letter dated December 12, 2017 from the VTDEC SMS, the site was issued a SMAC designation.</p>
	<p><u>Opinion:</u> Being located approximately 300 feet upgradient of the Property, this closed UST release is considered to be an HREC in connection with the Property.</p>
10	<p><u>Finding:</u> The remaining two tanks depicted on the Sanborn maps were shown to be located 200-250 feet west of the Property in front of the current 84 Central Street building. No records of these tanks being removed was available for review.</p>
	<p><u>Opinion:</u> Lacking information regarding their closure/removal and given the age of the tanks, their upgradient location, and their proximity, these tanks are considered to be a REC in connection with the Property.</p>
11	<p><u>Finding:</u> A pavement patch and possible tank vent were observed near the northeast corner of the Armory building in the former location of the Property USTs removed in 2010.</p>
	<p><u>Opinion:</u> Lacking any information related to the presence of current tanks at the Property, these tank-related observations appear to be related to the former gasoline and fuel oil tanks and do not represent a REC in connection with the Property.</p>
12	<p><u>Finding:</u> A four-inch steel exhaust pipe was viewed exiting the building's south side.</p>
	<p><u>Opinion:</u> Lacking any information related to the presence of current underground or aboveground tanks at the Property (particularly any interior tanks), this pipe more likely acted as the building boiler's exhaust than as a vent for an interior tank. Therefore, this pipe does not appear to represent a REC in connection with the Property.</p>

7.2 DATA GAPS

The AAI final rule (40 CFR 312) and ASTM E1527-13 identify a “data gap” as the lack or inability to obtain information required by the standards and practices of the rule despite good faith efforts by the EP or the User. Any data gaps resulting from the Phase I ESA described in this report are listed and discussed below.

Gap	Discussion
Weather-Related Restrictions to Site Visit:	None
Facility Access Restrictions to Site Visit:	None
Other Site Visit Restrictions:	None



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Evaluation

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

Gap	Discussion
Data Gaps from Environmental Records Review:	None
Data Gaps from Historical Records Review:	Stantec did not obtain historical records that document the Property history in continuous 5-year or shorter intervals back to its first developed use. This did not significantly restrict the EP's ability to document the historical uses of the Property.
Data Gaps from Interviews:	None
Other Data Gaps:	None

7.3 CONCLUSIONS

We have performed the Phase I ESA in conformance with the scope and limitations of ASTM E 1527-13. Any exceptions to, or deletions from, this practice are described in **Section 7.2** of this report. This assessment has revealed the following evidence of RECs, HRECs, BERs, and *de minimis* conditions in connection with the Property:

1. A total of five underground storage tanks (USTs) located potentially upgradient of the Property were identified on Sanborn fire insurance maps dated 1943, 1958, and 1964. Two of the tanks were shown to be located 200-250 feet west of the Property in front of the current 84 Central Street building. No records of these tanks being removed was available for review. Lacking this information and given the age of the tanks, their upgradient location, and their proximity, these tanks are considered to be a REC in connection with the Property.
2. The remaining three tanks shown on the Sanborn maps were located at the Goss site at 320 Summer Street. These tanks were removed in 1996 and evidence of a release was found beneath one tank and an associated fuel pump island. A Notice of Land Record was filed with the Town of St. Johnsbury on May 16, 2017 for residual contamination remaining in the former UST area. In a letter dated December 12, 2017 from the VTDEC SMS, the site was issued a SMAC designation. Being located approximately 300 feet upgradient of the Property, this closed UST release is considered to be an HREC in connection with the Property.
3. The westerly-adjointing Grace Methodist Church site had a 1,000-gallon heating oil UST that was filled with fuel in 2006 and a day later the UST was empty. It was reported the UST had released approximately 900 to 1,400 gallons of heating oil in total. The UST was subsequently removed, and PCS was observed beneath the UST at 8 feet bgs to the bottom of the excavation at 13 feet bgs, where the greatest PID readings were observed. Groundwater was not encountered in the excavation. Follow the completion of a site investigation and installation and operation of an SVE system, in a letter dated August 19, 2008, from VTDEC SMS, the site was assigned a SMAC designation. Being an adjoining upgradient site, this closed UST release is considered to be an HREC in connection with the Property.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

Evaluation

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

4. As a documented petroleum spill at the Property that was remediated to the satisfaction of the VTDEC, the LUST listing associated with the Property's former 1000-gallon heating oil UST is considered to be an HREC in connection with the Property.

Additional assessment is recommended to investigate the identified RECs for the Property.

Due to their small volume, the two minor hazardous material releases at the Property that occurred in 2002 and 2020 and were identified in Fire Department records are considered to be a *de minimis* condition. No controlled recognized environmental conditions (CRECs) or significant data gaps were identified in connection with the Property.

While not considered to be issues requiring investigation per the ASTM Phase I ESA standard, the identified hazardous materials identified in the Property building (asbestos containing materials [ACMs], lead based paint, polychlorinated biphenyls [PCBs], regulated materials, and mold) are considered to be business environmental risks (BERs) which should be addressed as part of any planned renovation of the building. Also, since lead and PCBs in building materials can also impact shallow exterior soils through the deposition of particles containing lead and PCBs, investigation of these contaminants in shallow site soils should be completed.



**DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT**

Non-Scope Considerations
Report Date: January 20, 2022
ASTM Expiry Date: May 15, 2022

8.0 NON-SCOPE CONSIDERATIONS

Except for the identified BERs, the scope of work completed was limited solely to those items in the ASTM E1527-13 standard. No ASTM E1527-13 defined “Non-Scope Considerations” were performed as part of this Phase I ESA.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

References

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

9.0 REFERENCES

- ASTM. (2015). Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions, Designation E 2600-15.
- ASTM. (2021). Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation: E 1527-21.
- Cardno ATC (2013). Environmental Survey, Former Saint Johnsbury Armory, 1249 Main Street, Saint Johnsbury, Vermont. Cardno ATC. March 28, 2013.
- EDR (2021a). EDR Radius Map™ Report with Geocheck®. Former Armory Building, 1249 Main Street, Saint Johnsbury, VT 05819. Inquiry Number: 6751343.2s. November 16, 2021.
- EDR (2021b). EDR Aerial Photo Decade Package. Former Armory Building, 1249 Main Street, Saint Johnsbury, VT 05819. Inquiry Number: 6430390.8. April 1, 2021.
- EDR (2021c). EDR Historical Topo Map Report. Former Armory Building, 1249 Main Street, Saint Johnsbury, VT 05819. Inquiry Number: 6430390.4. March 31, 2021.
- EDR (2021d). EDR-City Directory Image Report. Former Armory Building, 1249 Main Street, Saint Johnsbury, VT 05819. Inquiry Number: 6430390.3. March 31, 2021.
- EDR (2021b). EDR Certified Sanborn® Map Report. Former Armory Building, 1249 Main Street, Saint Johnsbury, VT 05819. Inquiry Number: 6430390.8. April 1, 2021.
- Horizons (2013). Letter to Agency of Natural Resources, Department of Environmental Conservation regarding Closure of Underground Storage Tanks at the St. Johnsbury Recreation Department, 1249 Main Street, St. Johnsbury, VT 05819. July 21, 2010.
- Johnson Company (2012). Phase I Environmental Site Assessment - Former Saint Johnsbury Armory, VT DEC Site #2010-4075 (SMAC September 7, 2010), 1249 Main Street, Saint Johnsbury, Vermont. The Johnson Company. May 2012.
- KGSNE (2021). Draft Targeted Brownfields Assessment Report, Former St. Johnsbury Armory, St. Johnsbury, Vermont. KGSNE, LLC. March 9, 2021.
- VTDEC. (2021a). *Hazardous Site List - Grace Unity Methodist Church - #20063478*. Retrieved from <https://anrweb.vt.gov/DEC/ERT/Hazsites.aspx?site=20063478>.
- VTDEC. (2021b). *Hazardous Site List - St J Recreation Dept - #20104075*. Retrieved from Site #20104075: <https://anrweb.vt.gov/DEC/ERT/Hazsites.aspx?site=20104075>.



DRAFT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER ARMORY BUILDING, ST. JOHNSBURY, VERMONT

References

Report Date: January 20, 2022

ASTM Expiry Date: May 15, 2022

VTDEC. (2021c). *Hazardous Site List - Main Street Fire Site - #20194849*. Retrieved from Site #20194849: <https://anrweb.vt.gov/DEC/ERT/Hazsites.aspx?site=20194849>.

VTDEC. (2021d). *Hazardous Site List - Goss Co Inc - #962030*. Retrieved from <https://anrweb.vt.gov/DEC/ERT/Hazsites.aspx?site=962030>.



FIGURES



APPENDICES



Appendix A PHOTOGRAPHS OF THE PROPERTY AND VICINITY



Appendix B STANTEC RESUMES



Appendix C USER PROVIDED RECORDS



Appendix D ENVIRONMENTAL AGENCY DATABASE SEARCH REPORT



Appendix E HISTORICAL RECORDS



Appendix F OWNER QUESTIONNAIRE

