



# Phase 1 Environmental Site Assessment Protocol

Adopted by the Minister of Environment

Pursuant to the Contaminated Sites Regulations

Adopted by the Minister of Environment,  
Hon. Sterling Belliveau, on July 3, 2013, effective as of July 6, 2013

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# TABLE OF CONTENTS

TABLE OF CONTENTS.....	i
1 OBJECTIVES .....	1
2 DEFINITIONS .....	1
3 MATERIALS EXEMPT FROM REPORTING .....	2
4 COMPONENTS OF A PHASE 1 ENVIRONMENTAL SITE ASSESSMENT .....	2
4.1 Records Review .....	2
4.1.1 Neighbouring Properties.....	4
4.1.2 Sources of Information .....	4
4.2 Site Visit.....	4
4.3 Interviews.....	5
4.3.1 Requirements and Reporting of Interviews.....	5
4.4 Evaluation and Reporting of Findings .....	6
4.4.1 Findings of Records Review, Site Visit, and Interviews .....	6
4.4.2 Limitations.....	6
APPENDICES .....	7
Checklist CHK-300 Phase 1 Environmental Site Assessment Checklist .....	7



## 1 OBJECTIVES

The *Phase 1 Environmental Site Assessment Protocol* describes the Phase 1 Environmental Site Assessment (ESA) requirements referred to in Section 15(1) (a) of the *Contaminated Sites Regulations*. This *Phase 1 Environmental Site Assessment Protocol* must also be followed as part of the limited remediation option pursuant to the *Contaminated Sites Regulations* where a record of site condition is being sought for an entire property (L3 Limited Remediation).

The objectives of this protocol are to identify requirements for:

- a) Conducting a Phase 1 Environmental Site Assessment (ESA) as part of the full property remediation option under the *Contaminated Sites Regulations*.
- b) Collection of information about a property's present and historical land use for the purpose of identifying evidence of actual or potential contamination of soil, groundwater, surface water, or sediment at the site.
- c) Reporting of the results from a Phase 1 ESA, including a summary checklist submission, CHK-300: Phase 1 ESA Report Checklist.

A Phase 1 ESA pursuant to the *Contaminated Sites Regulations* must evaluate the full property for all potential sources or substances that have, or may have caused, contamination of soil, groundwater, sediment, or surface water.

The *Phase 1 Environmental Site Assessment Protocol* is intended for use by a site professional, the qualifications for which are as defined in Section 5 of the *Contaminated Sites Regulations*.

## 2 DEFINITIONS

**Atlantic RBCA:** means the current versions of Atlantic Risk Based Corrective Action guidance documents including the Petroleum Hydrocarbon Impacted Sites User Guidance and software modelling tool, Guidance for Soil Vapour and Indoor Air Monitoring Assessments from Atlantic RBCA and Guidelines for Laboratories as published by the Atlantic Partnership in RBCA Implementation committee.

**Available Records:** means records or information that are provided directly by a person responsible, an owner of a property subject to a Phase 1 ESA, or information that is otherwise readily obtainable from public institutions or government agencies.

**First Developed Use:** means, with regards to a property undergoing a Phase 1 ESA, the point at which a property was first used for human activity with potential to contaminate.

### 3 MATERIALS EXEMPT FROM REPORTING

The *Contaminated Sites Regulations* do not apply to, and a Phase 1 ESA does not require reporting of, the following materials or substances of concern:

- a) asbestos-containing materials
- b) urea foam formaldehyde insulation (UFFI)
- c) radon
- d) mould
- e) any other substances specifically related to, or found in, construction or building materials that are not present in soil, sediment, groundwater, or surface water

The above materials are to be managed in accordance with applicable regulations and appropriate standards.

### 4 COMPONENTS OF A PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

A Phase 1 ESA conducted under the *Contaminated Sites Regulations* must be comprised of a records review, site visit, and interviews as described in the following sections.

#### 4.1 Records Review

All available records related to known or possible contamination of the property must be obtained, reviewed, and reported from the first known developed use to the conclusion of the Phase 1 ESA. These include the following

- a) previous owners or operators of the property, including:
  - (i) where available, records of owner names and dates of ownership for the property based on a search of the property that commences with the date of the first known developed use of the property
  - (ii) any operators, leases, or tenants of the property owner, and a description of any operations or use of the property
- b) aerial photographs, that as a whole:
  - (i) illustrate as much as possible the period from the study area's first developed use to the time of the Phase 1 ESA, including the subject property and immediately adjacent properties
  - (ii) identify the buildings and structures that were present throughout this period, including the subject property and immediately adjacent properties
  - (iii) identify potentially contaminating activities throughout this period, including the subject property and immediately adjacent properties

- c) site and building plans of past and existing property use, including fire insurance records, municipal land use plans, and any other information that may be available from historically archived sources
- d) maps and reports that provide regional information concerning geological conditions pertaining to the type of soil and bedrock in the area where the property is located
- e) topographic maps
- f) environmental site assessment reports or previously completed Phase 1 ESA reports
- g) contaminated site remediation reports, including remedial action plans
- h) reports prepared in response to an order or directive of an inspector, administrator or the Minister
- i) environmental records obtained from government sources, including municipal, provincial or federal authorities, and regulatory agencies
- j) drilled well reports
- k) any other reports, including releases and spills relating to the presence of a contaminant on, in or under the property, or the existence of an area of potential environmental concern that may or has caused contamination of the property
- l) subsurface utility locations
- m) hydraulic lift locations
- n) any inventories of chemicals, chemical usage, and chemical storage areas that have or may have caused contamination, including material safety data sheets
- o) any records of above ground storage tanks and underground storage tanks
- p) any details of oil/water separators at the property, including for each separator the location, installation date, source of incoming liquid, and effluent discharge location
- q) all vehicle and equipment maintenance areas, including the locations of maintenance, fluid storage, and waste storage areas
- r) details of all spills, including the dates, locations, materials involved, and volumes of material spilled
- s) details of liquid discharge points, such as water and French drains, including locations
- t) any process or property use related documents that may relate to potential or actual contamination, including waste management records, environmental monitoring data and environmental management system records

### 4.1.1 Neighbouring Properties

Available records must be obtained, reviewed, and reported for properties immediately adjacent to the subject property. The following are minimum review requirements:

- a) aerial photographs
- b) publically available municipal land use records and fire insurance plans
- c) current and past ownership information related to property use
- d) environmental records, including drilled water supply (well records), obtained from government sources, including municipal, provincial or federal, and regulatory agencies

### 4.1.2 Sources of Information

All sources of information obtained and reviewed as part of the records review component must be documented and included in the Phase 1 ESA report, including sources checked that provided no relevant information.

## 4.2 Site Visit

A site visit must be conducted as part of a Phase 1 ESA to assess, document, collect, and report on the following, as a minimum:

- a) photographs of the property and surrounding properties in all directions, including a written description of the photographs, with reference to any relevant interior or exterior structures or infrastructure on the property that may relate to potential or actual contamination of the site
- b) confirmation of property land use and immediate surrounding land use, structures present on the property and their general location, and relevant site features, including a description of any drinking water supplies, watercourses present on site, and surface water drainage from the property, including storm water drainage
- c) observation and notation of topographic conditions on and off the property, including the site gradient, direction, and the type of vegetation or ground cover on the property
- d) confirmation of water supply location and condition
- e) confirmation of the location and condition of structures used for any previous environmental activity, including monitoring wells, remediation wells, in-situ treatment zones, and vapour extraction systems

- f) confirmation of the location and condition of any previous remediation excavations and soil removal
- g) presence of any open subsurface features such as lagoons, pits, trenches, and excavations
- h) if known, details of all storage tanks and containers, above and below ground at the property, including the material and method of construction of each, age, contents and volume, and whether the tank or container is in use or not
- i) confirmation and approximate location of underground utility and service corridors, including sumps and floor drains, sewer, water, electrical or gas lines, and telephone/fibre optic infrastructure located on, in, or under the property
- j) for those parts of the property not covered by buildings or other structures, observations must be carried out to identify, locate and document:
  - (i) areas of stained soil, vegetation, or pavement
  - (ii) stressed vegetation
  - (iii) areas where fill and debris materials appear to have been placed or graded
  - (iv) potentially contaminating activity
  - (v) details of any unidentified substances found at the property, including container type, volume, and physical state (solids or liquids)
  - (vi) hazardous materials present on the property
  - (vii) presence of odours detected during the site visit that may be related to the property and potential for contamination
- k) any limitations related to visual observations, including obstructions related to buildings, site features, safety issues impeding access, and weather-related conditions affecting visibility and ground cover at the time of the site visit
- l) confirmation of other significant information arising from the review of available records

### 4.3 Interviews

A Phase 1 ESA pursuant to the *Contaminated Sites Regulation* must include the conducting of interviews to augment or assist with the records review or site visit(s), and to identify details of potential or known contaminating activities or potential contaminant pathways in, on, or under the property.

#### 4.3.1 Requirements and Reporting of Interviews

The following are minimum requirements to be completed, recorded, and reported as part of a Phase 1 ESA:

- a) a list of all persons identified to be interviewed and their current status or connection with the property in question



- b) a list of those persons identified but not interviewed, with reasons why they were not interviewed

## 4.4 Evaluation and Reporting of Findings

### 4.4.1 Findings of Records Review, Site Visit, and Interviews

Information obtained from the records review, site visit, and interviews must be summarized in a final report, which provides:

- a) all relevant findings consistent with the requirements of the Phase 1 ESA in a clear and organized manner that identifies the potential or actual contamination of the property, supported by the rationale
- b) the potential or actual chemicals of concern and affected media identified at the property
- c) conclusions related to information obtained from the records review, site visit, and interviews in accordance with the following:
  - (i) distinguishing factual information from professional opinion
  - (ii) identification of the potential or actual contamination of the property, supported by the rationale
  - (iii) identification of the potential or actual chemicals of concern and affected media at the property
- d) a completed CHK-300, Phase 1 Environmental Site Assessment checklist, which is included in the protocol appendix.

### 4.4.2 Limitations

Reports must state any limitations to carrying out and fulfilling the requirements of performing a Phase 1 ESA in accordance with this protocol. Items that must be included are:

- a) a description of the limitation related to the requirement
- b) the rationale for not fulfilling the requirement
- c) the significance of the limitation related to the findings

## APPENDICES

Checklist CHK-300

Phase 1 Environmental Site Assessment Checklist