



Ministry of
Environment and
Climate Change Strategy

PROTOCOL 12 **FOR CONTAMINATED SITES**

Site Risk Classification, Reclassification and Reporting

Version 3.0

Prepared pursuant to Section 64 of the
Environmental Management Act

Approved:

Kevin Butterworth
Director of Waste Management

February 1, 2021
Date

Effective date: February 1, 2021

1.0 Definitions

Terms defined in the *Environmental Management Act* (EMA) and Contaminated Sites Regulation (CSR) apply to this protocol in addition to the following:

“affected parcel” means a parcel at which substances are present due to the migration of those substances from one or more neighbouring areas.

“affected site” means a site at which substances are present due to the migration of those substances from one or more neighbouring areas.

“aquatic habitat” means habitat defined in a protocol approved by the director or as used by aquatic life.

“aquatic life” means any living component of the freshwater, estuarine or marine aquatic ecosystem, including phytoplankton, zooplankton, benthos, macrophytes and fish.

“complete exposure pathway” means an exposure pathway for which all of the following five elements are present:

- (a) a source of contamination;
- (b) an environmental medium and transport mechanism for the contamination, such as movement through groundwater;
- (c) a point of exposure for the contamination, such as a private well;
- (d) a route of exposure to a receptor, such as drinking, and
- (e) the presence of a receptor to be exposed.

“contaminant migration” means the spreading of a contaminant within or between soil, sediment, water or vapour.

“contaminated sites service application” means an application for a service to be provided by the ministry typically listed in Schedule 3, Tables 2 and 3, of the CSR.

“detailed site condition report” [DSCR] is a report that summarizes available current and historic information relevant to the site and which should include, as applicable:

- (a) the environmental setting of the site, including information on site geology, hydrogeology, and surface waters;
- (b) baseline reference data for environmental media at the site (soil, sediment, water, and vapour); and
- (c) information on any contamination on the site and any historical land uses associated with contamination.

“Determination of Contaminated Site” means a determination by a director under section 44 of EMA whether a site is a contaminated site.

“exposure pathway” means the pathway through an environmental medium by which a contaminant is conveyed to a receptor.

“Exposure Pathway Questionnaire” [EPQ] means the questionnaire which is part of a site risk classification report and which is used to evaluate exposure pathways in conjunction with the risk classification of a site.

“exposure zone” means the zone in which a receptor can come into direct contact with contaminants in the absence of measures to prevent exposure.

“high risk site” means a site determined to be a high risk site under this director’s Protocol 12.

“high risk site condition” means the criteria defined in Section 4.0 of this director’s Protocol 12.

“high water mark” means:

- (a) for freshwater; the visible high water mark of a stream where the presence and action of the water is so common and usual, and typically enduring, as to mark on the soil of the bed of the stream a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself, and includes the active floodplain associated with a site;
- (b) for marine water: the high water mark as defined by the most elevated High Water Mean Tide by Fisheries and Oceans Canada and as mapped on Canadian Hydrographic Services navigational charts; and
- (c) for estuarine water: the high water mark is whichever of the freshwater or marine water high water mark is further inland.

“independent remediation” [IR] means remediation procedures carried out in accordance with section 54 of EMA and the CSR.

“migration” includes the movement of

- (a) environmental media, and
- (b) substances contained in, or emanating from, environmental media

due to the influence of natural forces but does not include the relocation of environmental media or substances by a person.

“migrating NAPL” means a nonaqueous phase liquid that is spreading or expanding laterally or vertically.

“mobile NAPL” means nonaqueous phase liquid that can move in geologic media and that meets the requirements defined in director’s Protocol 16.

“nonaqueous phase liquid” [NAPL] means a liquid that exists as a separate, immiscible phase when in contact with water.

“non-high risk site” means a site which (a) does not meet the criteria defined in Section 4.0 of this director’s Protocol for high risk conditions, or (b) was previously classified as a high risk site where all high risk conditions are no longer present.

“Notification of Initiation of Independent Remediation” means a notification to a director on the initiation of independent remediation in accordance with section 54 (2) (a) of the Act.

“Notification of Likely or Actual Migration” [NOM] means a notification under sections 57 and 60.1 of the CSR to a director and to the owner of neighbouring parcels which have been or likely have been contaminated by the migration of substances from a source parcel to the neighbouring parcels.

“parcel” means an area of land the subject of:

- a) a fee simple interest;
- b) a lease or similar form of tenure respecting real property;
- c) a licence of occupation under the *Land Act*;
- d) rights granted to occupy land under the *Forest Act* and Forest Practices Code;
- e) an interest in real property which deals with subsurface rights including a tenure under the *Geothermal Resources Act*, the *Mineral Tenure Act*, and the *Petroleum and Natural Gas Act*;
- f) a description by metes and bounds.

“potential terrestrial habitat” means land that satisfies any of the following conditions:

- (a) urban park or wildlands land use classification applies;
- (b) contains over 50 m² (where residential land use applies at the site) or over 1,000 m² (where commercial or industrial land use applies at the site) of contiguous undeveloped land; or
- (c) lies within 300 m (where residential, commercial or industrial land use applies at the site) of sensitive habitat.

“qualified professional” [QP] means a person who (a) is registered in British Columbia with a professional association, acts under that professional association's code of ethics, and is subject to disciplinary action by that professional association, and (b) through suitable education, experience, accreditation and knowledge may be reasonably relied on to provide advice within their area of expertise.

“receptor” means a living organism that may be exposed to a substance.

“risk-managed high risk site” [RMHR] means a high risk site where high risk conditions are addressed through risk management.

“sensitive habitat” includes:

- (a) national, provincial, regional and municipal parks;

- (b) sensitive ecosystems identified by Federal, Provincial Sensitive Ecosystem Inventories, or local governments;
- (c) habitat supporting red and blue listed species identified via BC Species and Ecosystem Explorer;
- (d) habitat used for sensitive sediment use as defined in the Regulation; and
- (e) riparian assessment areas as defined in the Riparian Areas Protection Regulation.

“Site ID” means a unique identification number assigned by the ministry to a site listed in the site registry.

“site risk classification” means the categorization of a site based on the risks it poses to human health and the environment pursuant to this director’s Protocol 12.

“Site Risk Classification Report” [SRCR] means a report providing information about the risk classification of a site, the form and content of which are specified in this director’s Protocol 12.

“soil surface” means the upper surface of the soil layer below open air or constructed surface covers other than buildings.

“source parcel” means a parcel which has or has had substances which migrated to one or more neighbouring areas.

“undeveloped land” means any bare or vegetated soil, excluding

- (a) gravelled walkways,
- (b) roadways or highways and associated roadside or highway margins,
- (c) parking areas,
- (d) soil contained and isolated in planters and similar structures, and
- (e) storage areas at active commercial and industrial operations.

“upper cap concentration” [UCC] means a concentration established by the director for a substance with a numerical standard in the CSR and which, when present in the exposure zone of soil, water, sediment or vapour, poses a high risk to environmental or human health.

2.0 Introduction

This protocol:

1. establishes substantive and procedural requirements for persons planning, conducting or reporting on the remediation of a contaminated site; and
2. for classifying sites as high risk sites based on an evaluation of risk to human health and the environment.

Sites that are high risk require high standards of care and responsiveness in investigation and remediation and warrant involvement of the ministry to ensure that appropriate and timely action takes place.

Risk classifications under this protocol apply to toxicological risks associated with substances listed in the CSR. Risks of flammability, explosivity, corrosivity or other safety hazards are not addressed in this protocol.

This protocol should not be confused with the process of conducting detailed risk assessment under the CSR and associated protocols and guidance. The performance of detailed risk assessment for determining site-specific risk levels and developing risk-based remediation strategies is an acceptable approach for all sites where immediate risks to human health and the environment have been controlled.

This protocol does not apply to oil and gas sites administered by the Oil and Gas Commission classified as “not a priority site” under the current version of the Oil and Gas Commission’s document “Upstream Oil and Gas Site Classification Tool”.

3.0 Site information needs

The conditions in this protocol for site risk classification require simple, objective measurements for characterizing primary contributors to environmental and human health risk (i.e. contaminant toxicity, exposure pathways and receptors). They are intended to enable sites to be classified based on limited and easy to obtain site data.

The level of information necessary to determine the site risk classification will vary on a site by site basis depending on the nature and extent of contamination, site geology and hydrogeology and site proximity to receptors. In general, information needed for site risk classification may be obtained at any stage of the investigation and remediation process. When required, further detailed site information should be obtained at the earliest opportunity to enable a site risk classification to be determined.

Site risk classifications determined under this protocol must be supported by appropriate, satisfactory site information obtained in accordance with ministry procedures, protocols, guidance and standard professional practice.

4.0 Site risk classification

4.1 High risk site conditions

A site exhibits high risk site conditions under this protocol if:

1. Condition 1: mobile NAPL is present; or
2. Condition 2: exposure to specified concentrations of contaminants is likely.

The potential for either of these conditions to occur must be satisfactorily evaluated in the site

risk classification process.

A flowchart showing the high risk site condition evaluation process is presented in Figure 1.

4.1.1 Condition 1. Mobile NAPL is present

Mobile and migrating NAPL are defined and discussed in detail in the ministry's Protocol 16, "[Determining the Presence and Mobility of Nonaqueous Phase Liquids and Odorous Substances](#)". If mobile NAPL is present at a site, the site is classified as high risk until it can be demonstrated that the NAPL source is not migrating.

4.1.2 Condition 2. Exposure to specified concentrations of contaminants is likely.

A site is classified as high risk because of exposure to specified concentrations of contaminants if:

- a) UCCs are exceeded in soil, water, sediment and/or vapour, and
- b) one or more complete exposure pathway(s) are present.

UCCs must be exceeded

The ministry's UCCs are established in Protocol 11, "Upper Cap Concentrations of Substances". UCCs are evaluated in relation to their presence in the exposure zone in the exposure pathway evaluation section of this protocol.

Where notifications to the director are triggered under the reporting procedures of this protocol and detailed investigations have not yet been completed, the presence or absence of UCCs (if known) must be indicated. If UCCs are exceeded, exposure pathways must be evaluated.

Complete exposure pathways must be present

If UCCs are exceeded at a site a simple pathway assessment for each of the eight exposure pathways must be carried out. The eight exposure pathways are:

Human health

- Soil exposure
- Vapour exposure
- Water exposure

Environmental health

- Soil exposure – terrestrial life
- Water exposure – aquatic life
- Sediment exposure – aquatic life
- Water exposure – livestock watering
- Water exposure – irrigation of crops

Figure 1 shows the eight exposure pathways and associated exposure risk criteria. The exposure risk criteria are also provided in the Exposure Pathway Questionnaire (EPQ) (and are further explained in questionnaire notes) which is provided in Appendix 1 Part 2.

Each exposure pathway consists of a series of risk criteria that are evaluated in a step-wise fashion. The risk criteria vary by exposure pathway, but generally relate to contaminant concentrations, contaminant extent, and proximity to the exposure zone. All exposure pathways for which UCCs have been identified must be evaluated.

4.2 High risk site classification

Sites at which one or more high risk site conditions are present are *high risk sites*. Site risk classifications are based on current land, water, vapour and sediment use, except where there is an active application for a change in use or where a change in use is proceeding in the absence of an application. Risk classifications for sites in the application process or proceeding towards a change in use must be based on the proposed use.

5.0 Reporting requirements

5.1 Notification triggers and timing for submission of site risk classification information

A Site Risk Classification Report (see Appendix 1, Part 1) and additional information must be provided to a director if any of the notification triggers shown in Column II of Table 1 occur. The time by which notice must be provided is shown in Column III for each notification trigger.

5.2 Reporting format

Reporting for non-high risk sites must include a satisfactorily completed Site Risk Classification Report and, where exposure pathways were evaluated to reach a site risk classification, a satisfactorily completed EPQ (see Appendix 1, Part 2). For sites classified as high risk, in addition to the information required above for a non-high risk site, the following information must be submitted:

- Contaminated Sites Service Application form,
- Detailed site condition report (DSCD),
- Summary of remedial methods, and
- Schedule for remediation (for high risk conditions only).

The director may also require submission of interim reports for high risk sites. The form and schedule for interim reporting will be determined by the director based on individual site conditions and circumstances.

Tables 2 and 3 present the site risk classification information that must be submitted for each notification trigger.

5.3 Reporting exemptions

5.3.1 *Duplicate site risk classification information — simultaneous triggers exemption*

If two or more notification triggers apply at the same time, the submission of duplicate information specified in Table 2 is not required. Only one of each item specified must be submitted.

Table 1. Notification triggers and timing for submission of site risk classification information

Column I	Column II	Column III	Column IV
Item	Notification Trigger	Timing for Submission of Site Risk Classification Information	Persons with the Duty to Submit Site Risk Classification Information
1	Submission of a Notification of Initiation of Independent Remediation to a director ¹	At the time the Notification of Initiation of Independent Remediation initiation is submitted	The person with the duty to submit the associated Notification of Initiation of Independent Remediation
2	Submission of a site investigation report ordered by a director or required by section 6.2(2)(b) of the CSR ¹	At the time the site investigation report is submitted	The person ordered by a director or required by the CSR or to submit the associated site investigation report
3	Investigations required under section 6.3 of the CSR (for decommissioning of a site or ceasing operations)	One year from the time the site disclosure statement is submitted	The person with the duty to submit the associated site disclosure statement
4	Submission of a Notification of Likely or Actual Migration to a director ¹	At the time the Notification of Likely or Actual Migration is submitted	The person with the duty to submit the associated Notification of Likely or Actual Migration
5	Application to a director for a contaminated sites service in Table 2 or 3 of Schedule 3 of the CSR ²	At the time the application for a contaminated sites service is submitted	The applicant for the associated contaminated sites service
6	Imposition by a director of the requirement for a Site Risk Classification Report submission	At the time the director has specified for the submission	The person on whom the director imposes the requirement for the Site Risk Classification Report
7	Potential or actual high risk conditions at a neighbouring parcel are indicated in the Site Risk Classification Report submitted to a director for a parcel under any of the preceding triggers ^{1, 3}	At the time the Site Risk Classification Report is submitted for the source site	The person who has the duty to submit a Site Risk Classification Report under any of triggers 1 – 6

Notes

1. This notification trigger does not apply to oil and gas sites administered by the Oil and Gas Commission classified as “non-priority site” under the Oil and Gas Commission’s document “Upstream Oil and Gas Site Classification Tool”.
2. This notification trigger applies to service applications for Approved Professional review (item 5 (a)) and service applications for ministry review (item 5 (b)) of Table 2.
3. This notification trigger could apply, depending on the circumstances, to any of the preceding six notification triggers. If the migration or likely migration of substances from a source site results in actual or potential high risk conditions being identified in a Site Risk Classification Report received for the source site or an affected site, a separate Site Risk Classification Report and, where exposure pathways were evaluated in reaching a site risk classification, an EPQ, must be submitted to the director for each neighbouring site which would be, or would likely be classified as high risk. The timing of submissions for the neighbouring sites is the same as those for the applicable notification triggers 1 through 7

Table 2. Reporting requirements for sites by notification trigger

Column I	Column II	Column III	Column IV
Item	Notification Trigger ^{1, 2, 3, 4}	Non-high Risk Site Reporting Requirements	High Risk Site Reporting Requirements
1	Submission of a Notification of Initiation of Independent Remediation to a director	Site Risk Classification Report EPQ	Refer to Table 3
2	Submission of a site investigation report ordered by a director or required by section 6.2(2)(b) of the CSR ⁹		Contaminated Sites Services Application form Site Risk Classification Report EPQ DSCR Summary of remedial methods Schedule for remediation Interim reporting as required by a director
3	Investigations required under section 6.3 of the CSR (for decommissioning of a site or ceasing operations) ⁹		
4	Submission of a Notification of Likely or Actual Migration to a director ^{5, 6, 9}		
5(a)	Application to a director for a contaminated sites service in Table 2 or 3 of Schedule 3 of the CSR – under Protocol 6 ^{7, 9}		Not applicable
5(b)	Application to a director for a contaminated sites service in Table 2 or 3 of Schedule 3 of the CSR – ministry review ^{7, 9}		Contaminated Sites Services Application form Site Risk Classification Report EPQ DSCR Summary of remedial methods Schedule for remediation Interim reporting as required by a director
6	Imposition of the requirement for a Site Risk Classification Report submission by a director ⁹		
7	Potential or actual high risk conditions at a neighbouring site are indicated in the Site Risk Classification Report submitted to a director for a site under any of the preceding triggers ^{8, 9}		Contaminated Sites Services Application form Site Risk Classification Report EPQ DSCR Summary of remedial methods Schedule for remediation Interim reporting as required by a director

Notes (Please note that footnotes 1 to 4 apply to all line items):

1. Satisfactorily completed Site Risk Classification Reports and additional information other than interim reports must be provided at the time of submission for the notification triggers listed in Column II.
2. Reports for notification triggers required elsewhere in the contaminated sites legal regime (e.g., Summary of Site Condition with contaminated sites service applications required under section 7.1 of the CSR) are not included in this table.
3. Satisfactorily completed EPQs must be submitted only if substances exceeding UCC are present.

4. Where a summary of remedial methods or a schedule for remediation is required in this table, the requirement only refers to the remediation of high risk conditions at the site.
5. Reporting requirements refer to those for the source site.
6. DSCR should include all available information relevant to the site, including historical and current tables and figures for all investigated media.
7. Service applications refer to contaminated sites service applications listed in Table 2 and 3 of Schedule 3 of the CSR. Service applications eligible for review by Approved Professionals are as specified in Protocol 6, "Eligibility of Applications for Review by Approved Professionals". All other service applications are subject to review by the ministry.
8. If the migration or likely migration of substances from a source site results in actual or potential high risk conditions being identified in a Site Risk Classification Report submitted for a site, separate site risk classification information must be submitted to the director as specified under Columns III or IV, Item 7 in Table 2, for each neighbouring site associated with that substance migration which would be, or would likely be classified as high risk.
9. Refer to Section 6 for reporting requirements at completion of remediation of high risk conditions.

Table 3. Reporting requirements for high risk sites undergoing independent remediation

Column I	Column II	Column III
Type of Requirement^{1, 2, 3}	Reporting requirements for remediation of high risk conditions within 90 days	Reporting requirements for remediation of high risk conditions taking more than 90 days
Reporting at initiation of independent remediation ^{3,4,5,6}	Confirmation that remediation of high risk conditions will occur within 90 days Site Risk Classification Report EPQ	Contaminated Sites Services Application Site Risk Classification Report EPQ DSCR Summary of remedial methods Schedule for remediation
Interim reporting	Not required	Interim reports as required by a director
Reporting at completion of remediation of high risk conditions ^{5,6}	Contaminated Sites Services Application Site Risk Classification Report confirming that site is no longer high risk signed by an Approved Professional EPQ Confirmation of Remediation Report signed by an Approved Professional	Contaminated Sites Services Application Site Risk Classification Report confirming that site is no longer high risk signed by an Approved Professional EPQ Summary of Site Condition signed by an Approved Professional, Confirmation of Remediation Report signed by an Approved Professional

Notes

1. Reports for notification triggers required elsewhere in the contaminated sites legal regime (e.g., Notifications of Likely or Actual Migration) are not included in this table.
2. The director may set conditions and timelines differing from those set out above as appropriate and warranted by site conditions and circumstances.
3. Summary of remedial methods and Schedule for remediation refer to the documentation of actions and timelines to address all site conditions leading to the reclassification of a high risk site.
4. EPQs are required only if UCC of substances are present at the site.
5. If high risk conditions cannot be remediated within 90 days of initiation of independent remediation, despite having indicated that intent in Section VIII of the Site Risk Classification Report, on or before the 90th day, the director must be provided with a revised Site Risk Classification Report, updated schedule for remediation and all other reporting requirements specified in Column III
6. DSCR and Confirmation of Remediation Report should include all available information relevant to the site, including historical, and current, tables and figures for all investigated media.

5.3.2 Duplicate site risk classification information — previous submissions exemption

If site risk classification information required under Table 2 has been submitted to the ministry within the past 5 years and a subsequent notification requirement is triggered, information already provided in the original submission need not be submitted again. However, if new site information is available that differs from the original submission, that new information must be provided. This exemption does not apply if the original information was submitted more than 5 years before the current notification was triggered.

5.3.3 Soil quantity exemption

A person undertaking independent remediation is not required to submit the site risk classification information specified in Table 2 if the quantity of soil to be remediated does not exceed volume prescribed in the CSR s. 41(3)(g) during the entire course of remediation at the site.

5.3.4 Application for a Determination that a site is not contaminated exemption

A person who applies for a Determination of Contaminated Site that the site is not contaminated is not required to submit the site risk classification information specified in Table 2.

5.3.5 Residential heating oil storage tank exemption

A person is not required to submit the site risk classification information specified in Table 2 if they are undertaking independent remediation at a site and meet all the criteria below:

- (a) the person has no duty to submit a Notification of Likely or Actual Migration associated with the independent remediation of contamination at the site under subsection 57(1) of the CSR;
- (b) contamination is limited solely to petroleum hydrocarbons in residential heating oil;
- (c) the site is not high risk site;
- (d) the land use at the site is residential; and
- (e) a heating oil storage tank with a volume less than or equal to 2,500 litres has been or will be removed.

5.3.6 Spill reporting exemption

Section 57(2) of the CSR provides an exemption from the duty to submit a Notification of Initiation of Independent Remediation arising from an emergency response to a spill. As such, a person is not required to submit site risk classification information if they are undertaking independent remediation of a spill and that spill is reported under the Spill Reporting Regulation (SRR). In addition, a person is not required to submit site risk classification information specified in Item 1 of Table 2 if they are undertaking independent remediation of a

spill that is not reportable under the SRR. A Site Risk Classification Report for a spill may nevertheless be required under the other triggers provided in Tables 1 and 2.

5.4 Reporting for contaminant migration

If the migration or likely migration of substances from a source site results in actual or likely high risk conditions being identified in a Site Risk Classification Report submitted for a site, separate site risk classification information must be submitted to the director as specified under Columns III or IV, Item 7 in Table 2, for each affected site associated with that substance migration which would be, or would likely be, classified as high risk.

Where insufficient information is available to provide a site risk classification for an affected site, the director may impose the requirement for a Site Risk Classification Report, which may require additional site investigations.

5.5 Reporting for high risk sites undergoing independent remediation

The reporting requirements for high risk sites undergoing independent remediation are provided in Table 3. Notifications of Initiation of Independent Remediation where remediation will be completed in less than 90 days must indicate in the Site Risk Classification Report that all high risk conditions will be remediated within 90 days of initiating independent remediation.

Independent remediation is an option for sites classified as high risk under any of the notification triggers. Unless otherwise specified by a director under section 54(3)(d) of EMA, sites undergoing independent remediation are eligible for relief from some reporting requirements, as set out in Tables 2 and 3, where high risk conditions are remediated within 90 days of initiating independent remediation.

If high risk conditions are encountered and not remediated within 90 days, despite having indicated that intent in Section VIII of the Site Risk Classification Report, the director must be provided a revised Site Risk Classification Report and an updated completion schedule on or before the 90th day. This applies to any site undergoing independent remediation including sites where a site investigation was ordered by a director or required by sections 6.2(2)(b) and/or 6.3 (for decommissioning of a site or ceasing operations) of the CSR, or a Notification of Likely or Actual Migration, or Site Risk Classification Report was submitted to the director before or at the time independent remediation began.

If at any time during independent remediation activities at a site, a new high risk condition is identified, all information required at the Initiation of Independent Remediation under Column III of Table 3 must be provided to a director within 30 days of the new condition being identified. This requirement does not apply to sites under independent remediation being remediated in less than 90 days of initiating independent remediation.

5.6 Reporting for part site remediation

Where a Notification of Initiation of Independent Remediation has been submitted for part of a site, the attached Site Risk Classification Report must be completed for the part of the site under remediation. All parts of the site where high risk conditions are known to be present must be identified in Section X of that Site Risk Classification Report along with metes and bounds of that part of the site and a general schedule for remediating all high risk parts of the site.

6.0 Site risk reclassification

A reclassification decision refers to a change in a site's risk classification under this protocol. A person may apply to the director to have a site reclassified from a high risk site to either a non-high risk site or to a risk managed high risk site. A site where high risk conditions are remediated (whether or not it continues to be contaminated) without risk management would be reclassified as a non-high risk site. A site where high risk conditions are risk managed would continue to be contaminated and would be reclassified as a risk managed high risk site.

Applications to the director for a reclassification decision may occur at any time after high risk conditions have been remediated. It is not necessary to wait until the remediation of all the contamination at the site is completed.

Reporting requirements for obtaining a reclassification decision are as follows:

- A Site Risk Classification Report confirming that high risk conditions have been remediated;
- A Confirmation of Remediation of High Risk Conditions Report;
- A Performance Verification Report should the site be classified as a risk managed high risk site;
- A Summary of Site Condition; and
- Approved Professional signoff of the above reports.

The director may, depending on site circumstances, require additional information to be provided in order to reach a decision on reclassification.

For a site where remediation is being carried out in parts, the responsible person may obtain a reclassification for parts of their site where high risk conditions have been remediated. However, they will not be eligible for a reclassification of the entire site until all site contamination has been properly investigated and classified and all high risk site conditions have been remediated to satisfy the requirements of this protocol.

Revision history

Approved Date	Effective Date	Document Version	Notes
December 4, 2009	June 1, 2010	1.0	
March 12, 2013	April 1, 2013	2.0	
February 1, 2021	February 1, 2021	3.0	Summary of changes: <ul style="list-style-type: none">• Revised reporting requirements for high risk sites• Modified triggers to align with the CSR Stage 13 amendments

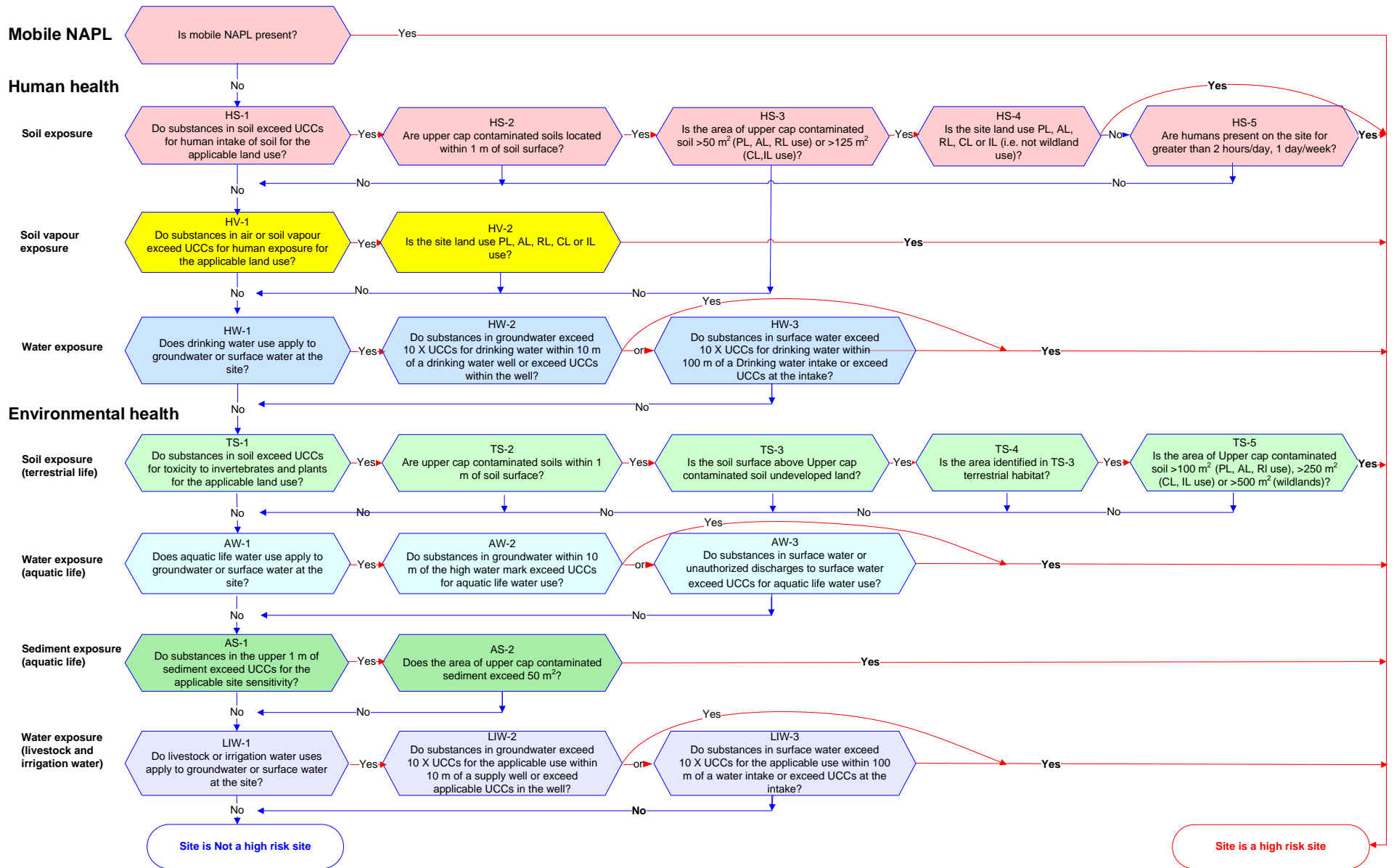


Figure 1. High risk site condition evaluation (see Exposure Pathway Questionnaire for detailed notes)

Appendix 1 Part 1

Site Risk Classification Report



Ministry of
Environment and
Climate Change Strategy

SITE RISK CLASSIFICATION REPORT

Land Remediation Section
PO Box 9342 Stn Prov Govt
Victoria B.C. V8W 9M1
Telephone: (250) 387-4441
E-mail: SiteClassification@gov.bc.ca

Submission of this report is required by Protocol 12, "Site Risk Classification, Reclassification, and Reporting" under the *Environmental Management Act*.

Part 1. Land, owner/operator and agent information

Section I Land Description

Site ID Number (if known)

PID

or

PIN

Is the land part of a site?

yes

no

If the answer is "yes" please provide metes and bounds:

Legal Description

Latitude

Degrees

Minutes

Seconds

Longitude

Degrees

Minutes

Seconds

Site Civic Address OR Location (i.e., nearest roadway) Street

City

Postal Code

Section II Property Owner and/or Operator (if applicable)

Name

Address

Street

City

Province/State

Country

Postal /Zip Code

Phone

Fax/Email

Section III Environmental Consultant / Contractor / Agent Contact (if applicable)

Name	
Address	Street
	City
	Country
	Province/State
	Postal /Zip Code
Phone	Fax/Email

Part 2. Site risk classification notification triggers

Section IV Applicable triggers

Check the applicable triggers for the submission of this Site Risk Classification Report to the director:

- Notification of Initiation of Independent Remediation
- Submission of a site investigation report ordered by a director or required by section 6.2(2)(b) of the CSR
- Investigations required under section 6.3 of the CSR (for decommissioning of a site or ceasing operations)
- Notification of Likely or Actual Migration
- Ministry service application with the recommendation of an Approved Professional
- Ministry service application without the recommendation of an Approved Professional
- Site Risk Classification Report for a neighbouring site under section 5.4 of Protocol 12
- Site Risk Classification Report otherwise required by a director

Part 3. Site investigation status

Section V Source and affected parcel investigation status

A. Adequacy of completed site investigations

Is site information appropriate and satisfactory to determine a site risk classification? yes no*

If no, indicate the scheduled completion date of investigations needed to complete classification below.

B. Source parcel investigation status

Scheduled Completion Date

- | | | | |
|---|------------------------------|-----------------------------|-------|
| 1. Stage I preliminary site investigation completed? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |
| 2. Stage II preliminary site investigation completed? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |
| 3. Detailed site investigations completed? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |
| 4. Migration of contamination identified? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |

C. Affected parcel investigation status

- | | | | |
|---|------------------------------|-----------------------------|-------|
| 1. Stage I preliminary site investigation completed? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |
| 2. Stage II preliminary site investigation completed? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |
| 3. Detailed site investigations completed? | <input type="checkbox"/> yes | <input type="checkbox"/> no | _____ |

* If site information is insufficient to determine the site risk classification, indicate the date by which a completed Site Risk Classification Report will be submitted:

Section VI High risk conditions details

1. Is mobile NAPL present at the parcel? yes no

If yes, describe the mobile NAPL substances and their general location.

2. Are upper cap concentrations exceeded? yes no

If yes, what substances exceed upper cap concentrations, in what media? Attach Exposure Pathway Questionnaire

3. Exposure pathways – are the risk criteria for any exposure pathway exceeded? yes no n/a

If yes, which exposure pathways indicate high risk?

Section VII Site risk classification

high risk risk-managed high risk not high risk pending

Note that for parcels for which there is insufficient information to determine the site risk classification, additional information must be provided in Part 3 of this report on the scheduled dates for completion of site investigations and resubmission of a completed Site Risk Classification Report.

Part 4. Independent remediation status

Section VIII Independent remediation

Has independent remediation been initiated at the site? yes no

Will the independent remediation of high risk conditions be completed within 90 days? yes no n/a

If independent remediation of high risk site conditions is being carried out and is not completed within 90 days of the initiation of independent remediation the director must be provided a revised Site Risk Classification Report and an updated completion of remediation schedule on or before the 90th day of independent remediation.

Part 5. Affected parcel conditions

Section IX Affected parcel high risk conditions details

1. Is mobile NAPL present or likely present at an affected parcel? yes likely no

If yes or likely, describe the mobile NAPL substances and their general location.

2. Are upper cap concentrations exceeded or likely exceeded? yes likely no

If yes or likely, what substances exceed or are likely to exceed upper cap concentrations, and in what media? Attach Exposure Pathway Questionnaire.

3. Are high risk exposure pathways present or likely present? yes likely no

If yes or likely, list the exposure pathways which impact or are likely to impact affected parcel receptors.

4. Are any affected parcels classified as high risk or likely classified as high risk? yes no

If yes, list the following for each affected parcel and attach a separate Site Risk Classification Report for each affected parcel that is high risk or likely high risk.

Site ID (if known)	Affected parcel owner	Civic Address
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Part 6. Additional Information**Section X Additional information**

Part 7. Signatures**Section XI Qualified Professional signatures**

I declare that I am a qualified professional with the required knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

As a qualified professional, I confirm the:

- investigations referred to above have been conducted in accordance with EMA, the CSR, director approved protocols, procedures, guidance and standard professional practice; and
- information in this form and provided on the Exposure Pathway Questionnaire, if attached, is true based on my knowledge as of the date completed.

 Print Name

 Date completed (yy-mm-dd)

Appendix 1 Part 2

Exposure Pathway Questionnaire

Exposure Pathway Questionnaire

		Yes	No
Human Health Exposure ^{2,3}			
Soil Exposure			
HS-1	Do substances in soil exceed UCC for human intake of soil for the applicable land use?	<input type="checkbox"/>	<input type="checkbox"/>
HS-2	Are UC contaminated soils located within 1 m of the soil surface? ⁴	<input type="checkbox"/>	<input type="checkbox"/>
HS-3	Does the area of UC contaminated soil exceed 50 m ² on urban park, agricultural or residential lands or 125 m ² on commercial or industrial lands? ⁴	<input type="checkbox"/>	<input type="checkbox"/>
HS-4	Is the site land use urban park, agricultural, residential, commercial or industrial (i.e. not wildlands)?	<input type="checkbox"/>	<input type="checkbox"/>
HS-5	If the site land use is wildlands, are humans present on the site for greater than 2 hours/day, 1 day/week? ⁵	<input type="checkbox"/>	<input type="checkbox"/>
Vapour Exposure			
HV-1	Do substances in air or soil vapour exceed UCCs for human inhalation for the applicable land use?	<input type="checkbox"/>	<input type="checkbox"/>
HV-2	Is the site land use urban park, agricultural, residential, commercial or industrial?	<input type="checkbox"/>	<input type="checkbox"/>
Water Exposure			
HW-1	Does current drinking water use apply to groundwater or surface water at the site?	<input type="checkbox"/>	<input type="checkbox"/>
HW-2	Do substances in groundwater exceed 10 times UCCs for drinking water within 10 m of a drinking water well or exceed UCCs within the well? ⁶	<input type="checkbox"/>	<input type="checkbox"/>
HW-3	Do substances in surface water exceed 10 times UCCs for drinking water within 100 m upstream of a drinking water intake or exceed UCCs at the intake? ⁶	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Health Exposure ^{2,3}			
Terrestrial Soil Exposure			
TS-1	Do substances in soil exceed UCCs for toxicity to invertebrates and plants for the applicable land use?	<input type="checkbox"/>	<input type="checkbox"/>
TS-2	Are UC contaminated soils within 1 m of the soil surface? ⁴	<input type="checkbox"/>	<input type="checkbox"/>
TS-3	Is the soil surface above UC contaminated soil undeveloped land?	<input type="checkbox"/>	<input type="checkbox"/>
TS-4	Is the area identified in TS-3 potential terrestrial habitat?	<input type="checkbox"/>	<input type="checkbox"/>
TS-5	Does the area of UC contaminated soil exceed 100 m ² on urban park, agricultural or residential lands or 250 m ² on commercial or industrial lands or 500 m ² on wildlands? ^{4,9}	<input type="checkbox"/>	<input type="checkbox"/>
Aquatic Life Water Exposure			
AW-1	Does aquatic life water use apply to groundwater or surface water at the site?	<input type="checkbox"/>	<input type="checkbox"/>
AW-2	Do substances in groundwater exceed UCCs for aquatic life water use within 10 m of the high water mark of an aquatic habitat? ^{6,7}	<input type="checkbox"/>	<input type="checkbox"/>
AW-3	Do substances in surface water or unauthorized discharges to surface water exceed UCCs for aquatic life water use? ⁸	<input type="checkbox"/>	<input type="checkbox"/>
Aquatic Life Sediment Exposure			
AS-1	Do substances in the upper 1 m of sediment exceed the UCCs for the applicable site sensitivity?	<input type="checkbox"/>	<input type="checkbox"/>
AS-2	Does the area of UC contaminated sediment exceed 50 m ² ? ⁴	<input type="checkbox"/>	<input type="checkbox"/>
Livestock and Irrigation Water Exposure			
LIW-1	Do current livestock or irrigation water uses apply to groundwater or surface water at the site?	<input type="checkbox"/>	<input type="checkbox"/>
LIW-2	Do substances in groundwater exceed 10 times applicable UCCs within 10 m of a water supply well or exceed applicable UCCs in the well? ^{5,6}	<input type="checkbox"/>	<input type="checkbox"/>
LIW-3	Do substances in surface water exceed 10 times applicable UCCs within 100 m upstream of a drinking water intake or exceed applicable UCCs at the intake?	<input type="checkbox"/>	<input type="checkbox"/>

Exposure Pathway Questionnaire Notes

1. Pathways leading to classification of high risk (where yes answer is given for sequential risk criteria, except where indicated otherwise):
 - $HS-1 \Rightarrow HS-2 \Rightarrow HS-3 \Rightarrow HS-4 = HR$
 - $HS-1 \Rightarrow HS-2 \Rightarrow HS-3 \Rightarrow HS-4 \text{ (No)} \Rightarrow HS-5 = HR$
 - $HV-1 \Rightarrow HV-2 = HR$
 - $HW-1 \Rightarrow HW-2 = HR$
 - $HW-1 \Rightarrow HW-3 = HR$
 - $TS-1 \Rightarrow TS-2 \Rightarrow TS-3 \Rightarrow TS-4 \Rightarrow TS-5 = HR$
 - $AW-1 \Rightarrow AW-2 = HR$
 - $AW-1 \Rightarrow AW-3 = HR$
 - $AS-1 \Rightarrow AS-2 = HR$
 - $LIW-1 \Rightarrow LIW-2 = HR$
 - $LIW-1 \Rightarrow LIW-3 = HR$
2. Environmental site investigations must be carried out in accordance with ministry protocols, procedures and guidance and standard professional practice.
3. The assessment of exposure pathways pertains to contamination arising from the parcel or parcels under investigation. Where contamination originating from the parcel under investigation has migrated off of the parcel the evaluation of exposure pathways pertains to contamination originating from the site under investigation. Co-contamination of affected lands that preclude the evaluation of exposure pathways associated with the source parcel must be identified in supporting technical reports.
4. Where concentrations occur above UCCs, cross-sections and contour maps are required to support conclusions that upper cap contamination is located at depths greater than 1 m below soil surface and to support conclusions of the areal extent of UC contamination. "Areal extent" refers to the total combined areal extent of UC contaminated soil at a site, contiguous or non-contiguous.
5. Human exposure on wildlands sites during limited periods of the year (i.e. hunting camps) may be compared to the prescribed exposure threshold of 2 hours/day, 1 day/week by averaging total annual exposure over a 12-month period. Actual human exposure must be indicated in supporting technical reports.
6. On sites where groundwater concentrations exceed applicable UCCs, contour maps, cross-sections and supportive rationale are required to show that UC contaminated groundwater does not have the potential to migrate within 10 m of the receptor (water supply well or aquatic habitat).
7. Where groundwater concentrations exceeding UCCs for aquatic life have not been delineated to within 10 m of the high water mark of an aquatic habitat, groundwater concentrations at wells installed nearest 10 m from the high water mark are considered representative of concentrations at that point.
8. Unauthorized discharges are discharges of site surface water (including storm water and drainage ditches) above UCCs into an aquatic habitat that are not authorized under the Act.
9. Area threshold assumes site contamination is surrounded by the same land use.