

Overview of Nova Scotia Contaminated Sites Regulations for Site Closure

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Nova Scotia Contaminated Sites Regulations

- Contaminated Sites Regulations, made under clause 25(1)(g) and Section 91 of the Environment Act.
- The regulations became effective July 6, 2013
- Documentation and reporting, qualifications for the Site Professionals, timelines for assessment and remediation, and defines the remediation options.
- Brownfield, Commercial/Industrial, and Residential properties.

Qualifications for Site Professionals

- Certificate of registration or licence to practice under the Geoscience Profession Act or the Engineering Profession Act; and
- 5 years' experience in contaminated site investigation, management and remediation, which must include experience in all of the following:
 - conducting a Phase 1 or 2 ESA,
 - developing and implementing a remedial action plan.

Site Professional Liability Insurance Requirements

- 1) must have and maintain insurance coverage, whenever the person
 - holds themselves out as a site professional;
 - undertakes or supervises any work while acting as a site professional; or
 - makes a statement, declaration or certification while acting as a site professional.
- 2) An insurance policy for a site professional must do all of the following:
 - indemnify the site professional against liability imposed by law arising out of the performance of or the failure to perform any activity described in bullet 1;
 - indemnity limit of at least \$2 000 000 per claim and at least \$2 000 000 in the aggregate during the period of the insurance;
 - provide for coverage to continue if the insured becomes bankrupt or insolvent, is declared incompetent or dies during the period of insurance;
 - provide coverage for a period of 2 years after the date the person ceases to act as a site professional, including doing anything described in subsection (1).
- 3) A site professional is deemed to be maintaining the insurance coverage required by this Section if the site professional's employer maintains an insurance policy that satisfies the requirements of subsection (2).

Ministerial Protocols

A ministerial protocol refers to an applicable standard adopted or established by the Minister under Section 90 of the Environment Act. There are seven ministerial protocols identified in the regulations.

PRO100	Notification of Contamination
PRO200	ESA for Limited Remediation
PRO300	Phase 1 ESA
PRO400	Phase 2 ESA
PRO500	Remediation Levels
PRO600	Remedial Action Plan
PRO700	Confirmation of Remediation

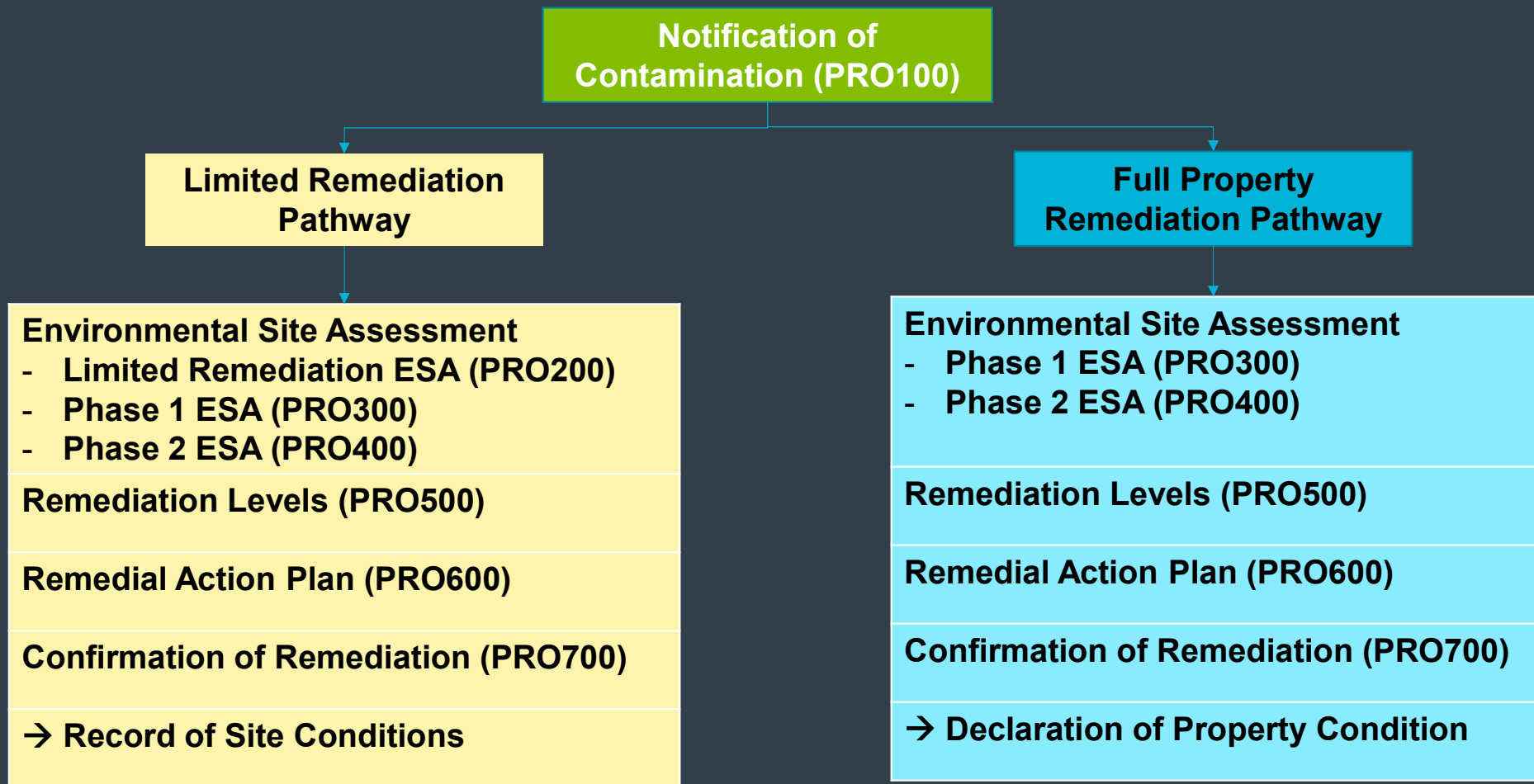
PRO 100 Notification of Contamination

- Duty to notify when free product is present
- Duty to notify of soil, sediment, surface water or groundwater contamination
- Form of written notice
- Exemptions – notification is not required (minor area/volume, 30 day, background)
- Site Professional included as person responsible for notifying

Duties Respecting Contaminated Sites

- Duty to take remedial measures
- Remediation must be limited or full property remediation

Limited Remediation vs Full Property Remediation



Key Differences

Limited Remediation Pathway

- Minimum pathway to achieve closure
- Unconditional & conditional closure
- Allows Engineering/Admin controls
- Pathway options
 - L1
 - L2
 - L3
- Can be limited in area
- Record of Site Conditions

Full Property

- Optional pathway
- Unconditional Closure only
- No controls permitted
- Rigid process
- Full site cleanup
- Declaration of Property Conditions

Limited Remediation

Environmental Site Assessment

- L1
- L2
- L3

Remediation Levels (PRO500)

Remedial Action Plan
(PRO600)

Confirmation of Remediation
(PRO700)

→ Record of Site Conditions
(FRM700)

- ESA to be completed - 180 days after notification of contamination
- The RAP is completed as per the protocol.
- The Confirmation report is completed as per the protocol and states that the site meets the objectives as outlined in the remedial action plan.
- The remediation and filing of site conditions - no later than 2 years from the Notification to the Minister

Limited Remediation – Pathway Options

Environmental Site Assessment
 - Limited Remediation ESA (PRO200)

L1 ESA	<ul style="list-style-type: none"> Contaminate Sources - Single COCs - Single or Multiple Affected Media - Soil only 	<p>Limited ESA (PRO200)</p> <p>The ESA, RAP, and confirmation report requirements may be compiled and documented in a single report.</p>
L2 ESA	<ul style="list-style-type: none"> Contaminate Sources - Single COCs - Single or Multiple Affected Media – Soil, GW, SW, sediment 	<p>L2 ESA - Phase 2 ESA (PRO400)</p> <p>Must be conducted on all portions of the property or properties affected by the contaminant event. Phase 1 ESA not required.</p>
L3 ESA	<ul style="list-style-type: none"> Contaminate Sources - Single or multiple COCs - Single or Multiple Affected Media – Soil, GW, SW, sediment 	<p>L3 ESA - Phase 1 ESA (PRO300) and Phase 2 ESA (PRO400) ESA required.</p>

As the level of site complexity increases so should the assessment requirements.

Based on the Site Conditions the Site Professional must select the applicable L1, L2, or L3 requirement.

Full Property Remediation

Environmental Site Assessment

- Phase 1 ESA (PRO300)
- Phase 2 ESA (PRO400)

Remediation Levels (PRO500)

Remedial Action Plan (PRO600)

Confirmation of Remediation (PRO700)

→ Declaration of Property Condition (FRM701)

- Phase 1 ESA
- Phase 2 ESA – within 180 of the Notification of Contamination
- The RAP is completed as per the protocol.
- The confirmation report is completed as per the protocol and states that the site meets the objectives as outlined in the remedial action plan.
- Full property remediation and filing of declaration of property conditions - no later than 2 years from the Notification to the Minister

Remediation Levels Protocol (PRO500)

Unconditional Closure meets the applicable criteria and has no ongoing management conditions.

Conditional Closure occurs when applicable criteria are not met but risks are managed by other means. This requires long-term exposure management

Remediation Level or Method	Conditional/ Unconditional	Limited Remediation	Full Property Remediation
Tier 1 EQS	Unconditional	Yes	Yes
Tier 2 (Unconditional)	Unconditional	Yes	Yes
Tier 2 (Conditional)	Conditional	Yes	No
Exposure Management Monitoring or Controls	Conditional	Yes	No

RAP and Confirmation of Remediation Protocols

Remedial Action Plan (PRO600)	Summary of ESA Selection of Remedial Criteria Identification of Remediation Method Requirements for Addressing Third Parties Monitoring Requirements
Confirmation of Remediation (PRO700)	Confirmatory Sampling Waste Management Backfill Material Management Long Term Exposure Management Conditions Minimum Reporting
→ Record of Site Condition (FRM-700)	This form is for all sites that have undergone Limited Remediation as specified in Section 13, and meet the requirements of Section 14, of the Contaminated Sites Regulations
→ Declaration of Property Condition (FRM-701)	This form is for all sites that have undergone Full Property Remediation as specified in Section 15, and meet the requirements of Section 16, of the Contaminated Sites Regulations

Downstream O&G Site

Site History - former service station (operated for ~ 32 years, decommissioned in 2004), eleven underground storage tanks (USTs), one aboveground storage tank (AST), a pump island and a service station building (retail/office area and two service bays). An above-ground hydraulic hoist, as well as in-ground hoist and an oil-water separator in the service bay area.

- Vacant lot
- Municipal services for water and sewer
- Remediation end point - Commercial
- Soil exceedances – BTEX/TPH
- No groundwater exceedances
- Client required – Full Property / Declaration of Property Conditions

Initial thoughts/ plan - excavation, transportation and disposal of non-hazardous contaminated soil, handling and disposal of non-hazardous contaminated water from within the excavation, verification sampling of the floor and walls of the excavations, backfill of the excavation with clean fill, and final restoration of the excavation.

Steps completed

PRO100	Notification of Contamination	Notification was previously provided
PRO200	ESA for Limited Remediation	Not applicable
PRO300	Phase 1 ESA	Completed
PRO400	Phase 2 ESA	Completed
PRO500	Remediation Levels	Plan – full property remediation (no conditions), to receive a Declaration of Property Conditions → Original - NSE <u>Tier I EQS</u> commercial, non-potable coarse-grained soil criteria

Steps completed

PRO600	Remedial Action Plan	<p><u>Original</u> – Excavation <u>Revised</u></p> <ul style="list-style-type: none"> • Soil borehole and soil vapour investigation program to assess risk to environment and human health. • <u>Atlantic Risk-Based Corrective Action (RBCA) for Impacted Sites in Atlantic Canada Guidance for Vapour Intrusion Assessments</u> (December 2016). • The soil vapour analytical results were confirmed to be below the applicable sub-slab Vapour Intrusion Screening Levels (VISL). • Petroleum hydrocarbon impacts in soil that exceed NSE Tier I EQS at the Site do not pose a risk to the inhalation of indoor air exposure pathway; therefore, <u>meeting the requirements for NSE Tier II unconditional closure</u>.
PRO700	Confirmation of Remediation	<p>The Site meets the requirements for NSE Tier II unconditional closure → which is applicable under Full Property Remediation → provides a Declaration of Property Conditions</p>