



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

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GUIDANCE DOCUMENT

Title: Protocol for the Management of Excavated Soils, Concrete
Rubble and Dredged Materials

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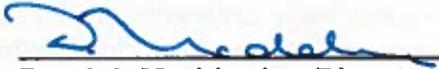


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Issue Date: June 9, 2006

Revision Dates: October 10, 2013 (Dexter Pittman)
May 26, 2015 (CB)

Approved By:



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**MANAGEMENT OF EXCAVATED SOILS,
CONCRETE RUBBLE AND DREDGED
MATERIALS
GD-PPD-045.2**

1.0 SUBJECT

The management of excavated soils, concrete rubble and dredged materials.

2.0 OBJECTIVE

To set out the protocol acceptable to the Department of Environment and Conservation for the management of excavated soils, concrete rubble and dredged materials.

3.0 DEFINITIONS

Applicable Guidelines: Atlantic Partnership in RBCA (Risk-Based Corrective Action) Implementation (PIRI) Guidelines or Canadian Council of Ministers of the Environment (CCME) soil quality guidelines, latest edition. Applicable guidelines can be Tier I, Tier II or Tier III (i.e, published or calculated based on site-specific information).

Beneficial Use: The use of excavated soils, concrete from demolition and/or dredged materials, in a manner that replaces fill material that would otherwise be required to be imported to a site.

Contaminant: A substance that causes or may cause an adverse effect to human or ecological health.

CSQG: The CCME Canadian Soil Quality Guidelines, latest edition.

Department: Newfoundland and Labrador Department of Environment and Conservation.

Greenfield Site: A site that has been previously undeveloped, where environmental impacts/contamination would not be expected above natural background conditions. These sites may be zoned for a certain land use, such as agricultural, residential, commercial or industrial.

Impacted Site/Area: A site or area of a site that contains an identified contaminant above a natural background level.

Recognized Form of Accreditation: Accreditation obtained from an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Agreement and based on ISO 17025.

Remediation: The actions necessary at an impacted site to prevent, minimize, or mitigate unacceptable risk to exposed human and ecological receptors.

Service NL: Service Newfoundland and Labrador (Government Service Centre). Service NL offices are located in various regions across the Province.

Site-Specific Target Levels (SSTLs): Risk-based remedial guidelines for a specific site that are derived using site-specific conditions and accepted risk assessment / risk management methods at Tier II or III.

TPH: Total petroleum hydrocarbons, as measured by the Atlantic PIRI method.

4.0 BACKGROUND

It is the Department's policy that:

1. Impacted sites are to be managed in accordance with the Department's "Guidance Document for the Management of Impacted Sites."
2. Pursuant to the Environmental Protection Act, waste material must be disposed of in an approved landfill.

5.0 LEGISLATION

- Environmental Protection Act, Sections 12, 13(a), 14(d), 16, 26(2), 29(a) and 29(b)
- This guidance documents updates GD-PPD-045 and incorporates GD-PPD-028 which was previously rescinded.

6.0 SAMPLING AND ANALYSIS

- 6.1 Any dredging in harbours or other locations with human activity, or excavation of soil on commercial and industrial properties, should be considered potentially contaminated and therefore must be preceded by sampling.
- 6.2 Parameters to be tested must be appropriate to the type of contamination expected. A sufficient number of samples must be collected in order to accurately assess the contamination. The samples may include grab and/or composite samples extracted from various locations and depths within the dredge/excavation area.
- 6.3 Additional representative sampling will be required during the excavation or dredging activities to confirm that the material meets the appropriate standards for the intended use or disposal.
- 6.4 Sample analyses are subject to the Department's Accredited Laboratory Policy Directive, PD: PP2001-01.2, and must be performed at a laboratory having a recognized form of accreditation.

7.0 DISPOSAL

- 7.1 Waste soil or dredged material, as with any other waste material, must be directed to an approved landfill or treatment facility.
- 7.2 Waste soil or dredged material may be disposed of in an approved waste disposal site, with the permission of the owner/operator and approval of the regional Service NL office, provided that TPH concentrations are less than or equal to 1000 mg/kg and the material either
- (1) meets the CSQG for industrial land use; or
 - (2) passes the U.S. EPA Toxicity Characteristic Leaching Procedure (TCLP), Test Method 1311 (as amended), for leachability of contaminants of concern.

For further information on these testing and disposal criteria, please refer to the Department's Guidance Document "GD-PPD-26.1 - Leachable Toxic Waste, Testing and Disposal".

- 7.3 Where one or more contaminants in the material fail to meet these criteria, the waste is considered a hazardous waste and will not be approved for disposal in a waste disposal site in this Province.
- 7.4 Where there is no existing industrial guideline for a contaminant of concern, the potential adverse environmental and human health impacts of the contaminant shall be reviewed by a knowledgeable professional. The knowledgeable professional would make a recommendation that provides for protection of human health and the environment to the Department. Guidelines and criteria from other jurisdictions and/or applicable scientific reviews may be used in this determination.
- 7.5 Where dredged material may be redistributed within a freshwater or marine environment, the CCME "Canadian Environmental Quality Guidelines for Sediment Quality-Freshwater or Marine", would apply. In all cases, consent or approval from the Department of Fisheries and Oceans is required respecting the disposal of dredged material in waters frequented by fish and where fish habitat exists.

8.0 BENEFICIAL USE

- 8.1 Excavated soils from greenfield residential sites where no impacts are expected may be used on the source property or other properties for beneficial purposes, without testing.

- 8.2 Excavated soils from greenfield commercial and industrial sites may be reused on the source property, or other commercial or industrial sites for beneficial purposes, where testing determines that a higher standard, i.e. the CSQG for residential land use, is met, with the approval of the Department or the regional Service NL office.
- 8.3 Excavated soils from commercial and industrial sites may be used for beneficial purposes on impacted areas of the same site where the soils meet CSQG for commercial and industrial land use, respectively, with the approval of the Department or the regional Service NL office. Only soils meeting residential guidelines may be used on non-impacted areas of the same site. Soils exceeding residential guidelines may not be used on offsite properties. Variances may be approved by the Department where the proponent demonstrates that exceedances are solely the result of natural background levels. Where this is the case, these soils may only be used on sites where the particular background concentrations are similar to the source property.
- 8.4 Dredged material may similarly be used as per 8.3, subject to the material being dry enough to place.
- 8.5 Where soil or dredged material may be redistributed within a freshwater or marine environment, the CCME Canadian Environmental Quality Guidelines for Sediment Quality - Freshwater or Marine, would apply. In all cases, consent or approval from the Department of Fisheries and Oceans is required respecting disposal of dredged material in waters frequented by fish and where fish habitat exists.
- 8.6 It is the responsibility of the proponent to demonstrate the environmental benefits of any proposed use of excavated soils or dredged material and that there will be no negative environmental impacts.

9.0 MANAGEMENT OF SOILS EXCAVATED DURING SITE REMEDIATION

- 9.1 If soil contaminant concentrations are lower than applicable guidelines, soils excavated during site remediation work may be used on site for beneficial purposes. This requires the approval of the Department and must be noted in the Closure Report. Otherwise they must be sent for disposal. On more complex or larger sites where different areas have individual Tier I guidelines or SSTLs, any excavated soils cannot be moved to another area of the site having a less stringent applicable guideline.
- 9.2 If soil contaminant concentrations exceed applicable guidelines, excavated soils must be removed from the site and disposed of in accordance with the provisions outlined in Section 7.0 of this Guidance Document.

10.0 CONCRETE

- 10.1 Clean concrete (i.e. no surface coatings) without exposed rebar, from demolition or remediation of a site, may be buried on site with the approval of the Department or the regional Service NL office. Concrete shall not be imported as fill without the express approval of the Department. The Department may view clean bricks in a similar manner as clean concrete, where an acceptable proposal is submitted.
- 10.2 Concrete with surface coatings (e.g. paint) and without exposed rebar, from demolition or remediation of a site, may be buried on site with the approval of the Department or the regional Service NL office, where:
- The paint meets the CSQG for lead for the land use classification (agricultural, residential, commercial or industrial) that is relevant for the site in terms of remediation standards and/or future land use, and;
 - The paint passes the TCLP test for leachability of lead.

11.0 HANDLING CONSIDERATIONS

- 11.1 Dredged material must be transported in water tight trucks, containers or other suitable means to prevent leakage during transport.
- 11.2 Stockpiling of material on waste disposal sites for future spreading as cover material is acceptable, provided that contaminant concentrations meet the appropriate criteria.
- 11.3 Where odour, health or environmental concerns exist, dredged material should be spread upon arrival at a disposal site. Immediately following disposal operations, and where appropriate, layer of clean, non-dredged material should be placed over the top of the dredged material in order to control/eliminate any odour concerns. The clean material should have a thickness of 0.5 meters compacted depth. Liming of dredged material, using hydrated lime, may be an alternative to applying clean cover material. The volume of lime to be applied must be assessed by the proponent on a case by case basis.