TABS ON CONTAMINATED SITES

Contaminated Sites Program - Federal Sites

This is one in a series of Technical Assistance Bulletins (TABs) prepared by Environment Canada - Ontario Region for Federal Facilities operating in Ontario

TAB #25

A BASIC OUTLINE OF ONTARIO'S LAND-USE GUIDELINES

DESCRIPTION:
The new Ontario guideline, for use at contaminated sites, and its three companion documents have superceded five previous publications on site assessment and site restoration in Ontario. The new guideline is not a regulation and does not change or supercede the relevant provisions of the Environmental Protection Act, the Environmental Assessment Act, the Ontario Water Resources Act, and the Pesticides Act, which, collectively, define the regulatory mandate of the Ministry of the Environment (MOE). The importance of communication, at various stages of the four-step site assessment process, is stressed, and three approaches to site restoration, namely: background, generic criteria and site specific risk assessment, are included. Administration and record keeping mechanisms provided by the guideline can enable the MOE to monitor the use of the new guideline and to identify modifications and improvements for future implementation.

NOTE: If you are uncertain whether provincial or municipal laws apply to your federal facility operations or to you, consult your legal services unit.

1. INTRODUCTION

The new guideline represents an important effort on the part of the Ontario Ministry of the Environment (MOE)* to protect human health and the natural environment from adverse effects associated with contaminated sites, in Ontario. It was revised in February, 1997 but originally came into effect on July 1, 1996 when it was first published. The new guideline is not a regulation and does not change or supercede the legislative powers of the regulatory role of the MOE. The role and powers of the MOE are collectively defined by the Environmental Protection Act, the Ontario Water Resources Act and the Pesticides Act. Together with its three companion documents, (see references) the revised guideline updates, and in some cases, replaces the guidance and criteria provided by five previous provincial guidelines (see references). The function of the new guideline is to provide guidance to MOE staff and to proponents (i.e. landowners, consultants, government ministries, and agencies) who are interested in assessing or restoring sites that contain contaminants which can cause or have the potential to cause adverse effects.

2. THE NEED FOR A NEW GUIDELINE

The revised guideline is an improvement on the five previous documents, and it is more

NOTE: The Ministry of the Environment (MOE) used to be the Ministry of Environment and Energy (MOEE) until November 1997, hence the use of MOEE in the references.

comprehensive, in that it contains the following new and additional features:

BETTER GUIDANCE
In addition to metals and petroleum products, the revised 1997 guideline provides guidance on a more extensive list of chemical parameters for soil, groundwater and sediment. The 1996 guideline has as many parameters as the 1997 guideline, but the latter guideline used more accurate exposure models to develop the required criteria.

MORE FLEXIBLE APPROACH TO SITE RESTORATION
The guideline minimizes and/or eliminates the need to apply similar standards to all sites. The intended land use or reuse and the land type designation (i.e. agriculture, residential, parkland, commercial, industrial, etc.) are some of the factors used to select the restoration approach. There are also criteria for various restoration options. For example, there is a full depth and stratified option for soil, and one for potable and non-potable groundwater. In addition, there are Level 1 and Level 2 management options for the site specific risk assessment (SSRA) approach. An improved and centralized administration guideline ensures that a consistent and equitable process is available to those involved with site restoration and management activities.

IMPROVED AND CENTRALIZED ADMINISTRATIVE GUIDELINE
An improved and centralized administrative guideline ensures that a consistent and equitable process is available to those involved with, and affected by site restoration and management activities. These objectives are achieved by applying the following principles:

- Action by the MOE related to this guideline and/or the issuance of written statements acknowledging receipt of a record of site condition is not intended to release other persons or groups from liability under statutory or common law.
- It is the responsibility of the owner, occupant of a property, or other responsible persons to ensure that all activities related to the site restoration, comply with all relevant federal, provincial, and municipal legislation/policies.

3. COMMUNICATION

The revised guideline proposes that a public relations program should be set up early in the site restoration process, and then maintained throughout the period of site activity. Such a program would be vital in establishing lines of communication with affected and interested people in the community. The objectives of the program should include the following:

i. To enable the public to provide input to assessment and restoration activities.
ii. To inform the public of planned or on-going activities.
iii. To resolve conflict among the various parties (i.e. the community, consultants, etc.,) involved with the restoration of the site of interest.

In order to avoid duplication, communication initiatives should be coordinated and integrated. For example, communication with the public on issues related to the restoration of sites should be undertaken in conjunction with the prescribed land-use planning consultation process. For additional information on public relations programs, refer to "Developing a Community Relations Program for Contaminated Sites", (TAB #12 in the Contaminated Sites series).

4. THE SITE ASSESSMENT AND RESTORATION PROCESS

The four-step site assessment process, discussed in the guideline, is similar in a number of ways to the six phases of the National Guideline for Decommissioning Industrial Sites (CCME/WM-TRE013E, March, 1991) and the seven phases of "Contaminated Sites Remediation Framework", (TAB #14 in the Contaminated Sites series).

STEP 1 OR PHASE 1 ENVIRONMENTAL SITE ASSESSMENT (ESA)
The purpose of the Phase 1 ESA is to gather information systematically to identify actual or potential contamination at a site.

(i). The following sources of historical information can be consulted:

(a) aerial photos and historical maps to review site history; (b) title searches; (c) regulatory agency records; (d) topographic maps; and, (e) interviews with present and past owners, neighbours and informed people.

(ii). Other activities

(a) site visits to verify any of the findings or discrepancies of the historical information; and, (b) geomagnetic or geophysical surveys to gather information for any subsequent sampling program.

The results of the Phase 1 ESA determines the need for further site investigation in terms of the type and extent of sampling and analysis required.

STEP 2 ESA

During this phase, sampling and analysis are used to confirm and delineate the contamination, or show the absence of contamination. For information on the collection and analysis of soil, groundwater, sediment and air samples, refer to "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", (MOEE,1996a).

STEP 3 ESA - SITE RESTORATION

This step involves the development and implementation of a plan to restore the site to the proposed land and groundwater use condition, and verify that restoration has taken place as planned.

STEP 4 - COMPLETION

Completion or the final step involves summarizing the information gathered in the first three steps. It may also involve providing a record of site conditions to the ministry when remedial work is completed.

5. APPROACHES TO SITE RESTORATION

When the decision to restore a site is made, three approaches: namely Background, Generic and Site Specific Risk Assessment (SSRA) may be used. The selection of one or a combination of approaches usually depends on:

i. the present and desired physical condition of the site;
ii. the intended use or reuse/redevelopment of the site; and,
iii. the administrative process accompanying each approach.

Refer to Tab #26 for detailed information on the three approaches

6. COMPLETION

When site assessment and restoration activities are completed, the proponent(s) and the consultant(s) complete and submit a Record of Site Condition (RSC) form to the MOE. The RSC form can be submitted irrespective of the chosen restoration approach. However, the form should be submitted whenever the stratified approach, or Level II risk management measures are used. Provided that the RSC form is completed properly, the MOE will acknowledge receipt of it.

7. LAND USE PLANNING

The Minister of Municipal Affairs and Housing or the appropriate approval authority has a responsibility under the Planning Act to take into consideration matters of provincial interest, including public health and safety, and protection of the natural environment, when making decisions on matters of land-use planning. A planning application which proposes the re-use or re-development of a contaminated or potentially contaminated site may require approval through a number of different planning mechanisms under the Planning Act. Some of the mechanisms are: (a) an official plan amendment; (b) a zoning bylaw amendment; (c) a subdivision plan; and (d) a site plan agreement or a minor variance. During the process of granting planning approvals, the need to restore contaminated sites to a level suitable for the proposed use, should be recognized by the approval authority, the municipality and the proponent. In fact, the assessment and restoration should be done prior to the application for planning approval.

MUNICIPAL MECHANISMS FOR LAND-USE CONTROL

In addition to the mechanisms referred to above, municipalities use community improvement areas, density bonusing, interim control bylaws and secondary plans to identify contaminated and potentially contaminated sites, and to guide/control the use of such lands. The official plan is the principal mechanism available to a municipality when considering the re-use of contaminated or potentially contaminated sites. See the main document for an exhaustive list of the opportunities and considerations for using these mechanisms. Municipalities should develop and adopt official plans which identify known or suspected areas of soil and groundwater contamination, and which incorporate land-use schedules. Policies that outline the requirements for developing areas or suspected areas of soil contamination, should also be developed. For information on identifying areas or suspected areas of contamination in the province, refer to the publication entitled, "Historical Land Use: A Guide for Ontario Municipalities." (1997).

REFERENCES

Canadian Urban Institute/City of Toronto Public Health Department, (1997). *Historical Land Use: A Guide for Ontario Municipalities*.

CCME (1991). *National Guidelines for Decommissioning Industrial Sites*, CCME/WM-TRE013E.

Federal Programs Division, EPB, Environment Canada, (1997*). TAB #12 (Contaminated Sites series), Developing a Community Relations Program for Contaminated Sites*.

Federal Programs Division, EPB, Environment Canada, (1997). *TAB #14 (Contaminated Sites Series), Contaminated Sites Remediation Framework.*

Companion Documents

MOEE (1996a). *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*.

MOEE (1996b). *Guidance on Site Specific Risk Assessment for Use at Contaminated Sites in Ontario.*

MOEE (1996c). *Rationale for the Development and Application of Generic Soil, Groundwater, and Sediment Criteria for Use at Contaminated Sites; Ontario.*

Previous Provincial Guidelines

MOEE (1989). *Guidelines for the Decommissioning and Clean-up of Sites in Ontario*.

MOEE (1993). *Interim Guideline for the Assessment and Management of Petroleum Contaminated Sites In Ontario*.

MOEE (1994a). *Proposed Guideline for the Cleanup of Contaminated Sites in Ontario*.

MOEE (1994b). *Interim Position on the Cleanup of Contaminated Sites in Ontario*.

MOEE (1996). *Guideline for Use at Contaminated Sites in Ontario*.

Glossary of Terms

Criteria: Numerical values for the concentrations of chemical substances in soil, groundwater and sediments that relate to the suitability of the site, for specific uses and land-use categories.

Density Bonusing: A land-use control mechanism that gives incentives in order to direct development away to less hazardous areas, manage growth wisely and promote communities that are economically and environmentally sound.

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http://www.on.ec.gc.ca/pollution/ecnpd/