

Victorian Children's Services Soil assessment guidelines for applicants and licensees of children's services

Fact Sheet | March 2010

Why is soil assessment required?

Soil assessment is part of the process of considering whether the proposed location of the children's service is considered satisfactory for that purpose (*Children's Services Act 1996*, section 10). It provides confirmation that the soil does not contain substances at levels that are harmful to human health and that the soil has no offensive odour.

When is soil assessment undertaken?

Soil assessment may be required when children are likely to have access to the soil at the service. There is no need to undertake soil assessment if no outdoor space for the children's play is offered, or if the outdoor space does not allow children access to soil (for example it is located on the roof of a building).

Note: outside school hours care services located on a registered school site are not required to have a soil assessment.

Where children will be likely to have access to the soil the Department of Education and Training (the Department) requires preliminary investigation of the soil at:

- all proposed sites of children's services, including sites with or without buildings¹.
- those existing licensed children's services, meeting the following criteria:
 - application is received to alter or extend the premises
 - the alteration or extension requires earthworks or deep excavations (exceeding a depth of 1 metre)
 - the works are going to take place in an area that is used for children's outdoor play or will be used for children's outdoor play after the work is completed
 - soil assessment has not been undertaken at the children's service.

Minor landscaping, creation of sand pits, movement of play equipment and so on do not qualify as earthworks. These alterations do not require a licence application to alter or extend the premises and do not require soil assessment.

However, building works and some playground renovations are likely to involve earthworks that may expose deeper soils that may be potentially contaminated. These types of alterations generally require council approval, do require a licence application to alter or extend the premises with an accompanying soil assessment.

If there is doubt whether a soil assessment is required, please contact a Children's Services Adviser at the relevant regional office, their contact details are on the Practice Note Regional offices.

(If a soil assessment has already been undertaken at the site please refer to the section on, *When may the requirement for soil assessment have already been met?* There is no need to conduct a second soil assessment under these circumstances.)

¹ If land is re-zoned planning authorities will require some form of soil assessment to be undertaken.

Who can undertake soil assessment?

An environmental consulting firm (environmental consultant) with experience in the assessment of contaminated land should be engaged to undertake soil assessment. Some environmental consultants are also environmental auditors.

The environmental consultant uses a formal set of methods for this assessment. These methods determine the nature, extent and levels of existing contamination and the actual or potential risk to human health, on or off-site, resulting from that contamination.

Environmental Consultants are listed in the Yellow Pages or on the Australian Contaminated Land Consultants Association website, www.aclca.org.au.

The document, *Assessing the soil in children's services - Guidelines for Environmental Consultants*, outlines the expectations that the Department has in relation to the conduct of this assessment.

What is the relationship between a children's service soil assessment and an environmental audit?

Sometimes when application is made for a planning permit to use land for a children's service the council will advise that an environmental audit is required. This may be because:

- there is a change of land use
- there is a change of zoning of the land to a sensitive use
- an Environmental Audit Overlay applies to the site because the previous land use was potentially contaminating
- the local government wants to be satisfied that, before a permit is issued for a sensitive use such as a children's service, the site will be safe for this purpose.

An environmental audit must be undertaken by an environmental auditor appointed by the Environment Protection Authority (EPA) in the category of contaminated land. A list of appointed environmental auditors may be located on www.epa.vic.gov.au.

The roles of the environmental auditor and the environmental consultant are different, and the conduct of an environmental audit and a soil assessment for a children's service licence are different. An environmental auditor may conduct a soil assessment for a children's service licence in his/her capacity as an environmental consultant. This will not be an environmental audit.

If an environmental audit has been undertaken and a Certificate of Environmental Audit or Statement of Environmental Audit has been issued, there is no need to undertake a soil assessment (refer to, *When may the requirement for soil assessment have already been met?*).

Soil assessment in children's services

Assessing the soil for a children's service licence application may require three levels of investigation:

- Stage 1: Preliminary investigation (with or without soil sampling)
- Stage 2: Detailed site investigation
- Stage 3: Site-specific human health risk assessment.

The Department requires preliminary investigation as a minimum. However, some soil assessments proceed from one stage to the next due to the complexity of the site and the need to assess potential human health risk.

Stage 1: Preliminary investigation with or without soil sampling

Preliminary investigation involves the following components:

- establishing a site history
- detailing the proposed use as a children's service
- reviewing local land and water systems
- conducting a site inspection (paying particular attention to presence of naturally elevated levels of potentially harmful substances, potentially contaminated fill and presence of any offensive odours from the site).

The Environmental Consultant may consider during the site inspection that it is prudent to undertake initial sampling and analysis of a limited range of substances across the site. S/he may decide to limit soil sampling to smaller parts of the site where children may be exposed to the potential substances identified in the site history.

The consultant should use the plan of the service to identify the areas where children may have access and ensure these areas are sampled.

When sampling has been undertaken as part of the preliminary investigation the report should append all of the site information and analyses (preferably on CD), including:

- a site plan showing the number, depth and location of samples collected, attaching corresponding analytical results of soil samples.
- the rationale for selection of the assessment locations related to the location's usage, for example areas the children will use in their play.

At the end of the preliminary investigation, with or without soil sampling, the environmental consultant will conclude one of the following:

- The soil at the site is not likely to be contaminated and is not likely to pose a risk to human health. There is no need for further assessment.
- The soil at the site is contaminated, or there is likelihood of contamination, and there is enough information to devise a Soil Management Plan (SMP), to control the potential human health risk. There is no need for further assessment.
- It is not possible to adequately assess the risks to humans from potential contamination at the site and a more detailed site investigation (involving more sampling) is required (see Stage 2).

Stage 2: Detailed site investigation

A detailed site investigation is required when the results of the preliminary investigation do not provide the environmental consultant with enough information to assess the potential for health risks to humans and/or develop a soil management plan for the site.

Potential contamination may be indicated by historical activities or structures at the site, for example underground fuel or chemical storage tanks, or by observations of matters made during the site inspection and/or sampling such as stained soil, imported fill, or presence of odorous soils. Actual contamination may have been detected in the form of contaminants that are not naturally occurring, or as elements or compounds that are naturally occurring but are above the level expected.

The environmental consultant will undertake more soil sampling and then analyse the sample results against established guidelines, called Health Investigation Levels (HILS), for each substance identified. For more information about HILS refer to the document *Information for the community on Soil Investigation Levels and Health Investigation Levels*.

It should be noted that exceedence of applicable HILS can sometimes result from naturally occurring substances, for example naturally elevated metal concentrations, as well as from man-made substances, such as petroleum products.

If the soil test results are above the HILS values this does not automatically mean that children, families and staff using the site are at risk. It does prompt the environmental consultant to consider whether a site-specific human health risk assessment (see Stage 3) should be undertaken.

At the end of the investigation the environmental consultant will conclude one of the following:

- The soil sample results for each substance identified for each stratum of soil tested do not exceed the relevant HIL criteria² and there is no evidence of an unacceptable health risk and no offensive odours associated with the site. There is no need for further assessment.
- The soil sample results exceed the HIL criteria for nominated substances and/or there is evidence of a potential unacceptable health risk and there is enough information to devise a Soil Management Plan (SMP) to control the potential health risk. There is no need for further assessment.

The Department may include the provisions of the SMP as conditions on the children's service licence, if the licence is granted.

- The soil sample results exceed the HIL criteria for nominated substances and/or there is evidence of a potential unacceptable human health risk. A site-specific human health risk assessment is recommended. (See Stage 3)

Stage 3: Site-specific human health risk assessment

The site-specific human health risk assessment is specific to the site and the proposed use of that site. It is undertaken to determine if adverse health effects are likely to occur from the soil contamination.

In many situations a site-specific human health risk assessment will not be necessary as the environmental consultant will be able to recommend strategies for managing or fixing the soil contamination at the site prior to this stage.

With more complex circumstances a site-specific human health risk assessment process may be required and this is likely to require the input of a number of specialists. This may result in the assessment being expensive and time consuming. The cost and time implications, uncertainties and potential outcomes should be discussed with the environmental consultant prior to embarking on a human health risk assessment.

The report should append all of the site information and analyses (preferably on CD) including:

- a site plan depicting the number, depth and location of samples taken in the detailed assessment, attaching corresponding analytical results of soil samples
- the rationale for selection of the assessment locations related to the location's usage, for example areas the children will use in their play.

At the end of the site-specific human health risk assessment the environmental consultant will conclude:

- the concentration of substances present in the soil is not at levels that pose an unacceptable risk to human health
- a remediation or management strategy is required as part of a Soil Management Plan (SMP) to control the potential health risk.

The Department may include the provisions of the SMP as conditions on the children's service licence, if the licence is granted.

In some circumstances the SMP may be complex, expensive and time consuming to implement. However, without an SMP such a site would not be granted an approval in principle for the location of a licensed children's service and an alternative location would need to be sought.

Reporting results

The Department has developed a form, *Soil Assessment Summary Report*, which should be completed by the environmental consultant and provided to the applicant to lodge as part of the children's service Approval of Premises process.

The completed *Soil Assessment Summary Report* may be referred by the Department to the Environment Protection Authority, the Environmental Health Unit of the Department and/or the local council for comment, prior to any decision in relation to the children's service licence application.

² This means the arithmetic mean of the level of each substance is below the relevant HIL, the standard deviation is less than half the relevant HIL and no individual sample exceeds 2.5 times the relevant HIL.

The Department will use all of the information available from the soil assessment summary report and comments from other experts in considering whether to grant an Approval of Premises and to define any conditions or restrictions that may apply to the children's service licence.

If the requirement for soil assessment has already been met (see below) there is no need to complete a second assessment or *Soil Assessment Summary Report*.

When may the requirement for soil assessment have already been met?

The requirement for soil assessment may have been met when:

- soil assessment³ has been undertaken at the site of the proposed or actual location of the children's service and that assessment report is available to the Department
- the site has been issued with a Certificate of Environmental Audit or Statement of Environmental Audit produced in consideration of the sensitive use of the land. A copy of this Certificate or Statement may be submitted with the Approval in Principle application
- the relevant planning authority (generally local government) identifies that an environmental audit is required before the planning permit may be issued to use the land for sensitive use such as a children's service. The environmental audit will produce either a Certificate of Environmental Audit or Statement of Environmental Audit, a copy of which may be submitted with the Approval of Premises application.

The Department will confirm if the applicant does not need to undertake a further soil assessment for the purposes of a children's services licence in these circumstances.

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³ Soil investigations are carried out to achieve specific objectives and have a purpose, scope and limitations statement. A previous soil assessment of the site must be appropriate and sufficient for its intended use as a children's service