Managing Land Contamination

Planning Guidelines
SEPP 55–Remediation of Land

1998

Department of Urban Affairs and Planning • Environment Protection Authority

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Foreword

The New South Wales Government recognises that the management of contaminated land is a major issue for public agencies, industry and the community. We have brought forward a package of reforms to provide a comprehensive, consistent and whole-of-government approach to contamination and remediation. The *Contaminated Land Management Act 1997* will commence later this year. State Environmental Planning Policy No. 55—Remediation of Land has already commenced. The publication of these revised planning guidelines is an important part of the Government's reform package for contaminated land.

Managing Land Contamination: Planning Guidelines replaces *Planning Guidelines for Contaminated Land* which was published in 1995. The Guidelines have been substantially revised and updated to integrate them with the other parts of the Government's reform package. They contain expanded sections on planning functions, and information gathering and interpretation.

The new Guidelines have involved extensive consultations with the community and stakeholders during their preparation. We thank all who contributed their ideas and participated in the consultations and workshops. We are pleased that *Managing Land Contamination: Planning Guidelines* reflects those contributions.

Managing Land Contamination: Planning Guidelines will assist planning and consent authorities to undertake their responsibilities under the *Environmental Planning and Assessment Act 1979*. The Guidelines deal with the early identification of contaminated sites, rezoning and development applications, the recording and use of information, and the provision of information to the community. Planning and consent authorities should incorporate the Guidelines into their policy processes.

We are pleased to be associated with the publication of these Guidelines. They will serve as a strategic framework for managing contaminated land and will form a practical guide for those involved in the planning process and members of the community.

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1. Introduction

1.1 PURPOSE

In some situations, the use of land can result in its contamination by chemicals, posing a risk to human health or the environment and precluding later development of a site for particular uses. The purpose of these Guidelines is to establish 'best practice' for managing land contamination through the planning and development control process. The Guidelines explain what needs to be done to show that planning functions have been carried out in good faith. Obviously they cannot provide a definitive answer in all cases, so planning authorities will also need to exercise their judgement.

The Guidelines include:

- information to assist in the investigation of contamination possibilities
- a decision making process that responds to the information obtained from an investigation
- information on how planning and development control can cover the issues of contamination and remediation
- a suggested policy approach for planning authorities
- discussion of information management systems and notification and notation schemes, including the use of s. 149 planning certificate notations
- approaches to prevent contamination and reduce the environmental impact from remediation activities.

Though written primarily for planning authorities, in particular local councils, the Guidelines are also relevant to:

- developers, lenders, property insurers, property owners and consultants such as site auditors, valuers and remediators
- determining authorities for activities under Part 5 of the EP&A Act (that is, those activities not requiring consent but requiring an approval from a public authority)
- interested members of the community.

Note that for the purpose of the Guidelines the person or body seeking to develop land is known as 'the proponent'.

1.2 CONTEXT

The Guidelines replace those published in October 1995 and notified in the Government Gazette in December 1995. They were exhibited in draft form for public comment from 4 November to 16 December 1997. The details in these new Guidelines reflect current departmental views and address issues raised at a series of workshops with local councils in April 1996 and November 1997. It is intended to monitor their use and to review them if, and when, necessary.

1.3 KEY PRINCIPLES

The planning and development control process as provided for in the *Environmental Planning and Assessment Act 1979* (EP&A Act) plays an important role in the management of land contamination. The integration of land contamination management into the planning and development control process will:

- ensure that changes of land use will not increase the risk to health or the environment
- avoid inappropriate restrictions on land use
- provide information to support decision making and to inform the community.

A key message for planning authorities is the need to:

- consider the likelihood of land contamination as early as possible in the planning and development control process
- link decisions about the development of land with the information available about contamination possibilities
- adopt a policy approach that will provide strategic and statutory planning options based on the information about contamination
- exercise statutory planning functions with a reasonable standard of care.

1.4 COMPLIANCE

Part 7A of the EP&A Act provides that planning authorities who act substantially in accordance with these Guidelines are taken to have acted in good faith. This means that before an authority can be found negligent of an act or omission related to a particular planning function, it must be shown that they did not substantially comply with the Guidelines.

The planning functions covered by this statutory protection are:

a) the preparation or making of an environmental planning instrument
b) the preparation or making of a development control plan
c) the processing and determination of a development application
d) the modification of a development consent
e) the furnishing of advice in a planning certificate under s. 149 of the Act
f) anything incidental or ancillary to the carrying out of any function listed in paragraphs (a)–(e).

The Guidelines offer guidance and recommend strategies for each of these functions. Any significant departure from the Guidelines should be justified by demonstrating that their overall aims and principles have been met.

Note that the EP&A (Amendment) Act 1997 transfers subdivision and building approvals from the Local Government Act to the EP&A Act from 1 July 1998. These approval processes are included in point (c) above, and the statutory protection applies.

1.5 STRUCTURE

The Guidelines reflect a logical progression through the planning and development control process and are structured as follows:

- what decisions need to be made
- what information is needed to make a decision
- how to get the necessary information
- how to interpret the information
- options available in making decisions
- recording information for the future (including the decisions made)
- releasing information to the public
- using information to prevent future contamination and harm.

1.6 WHAT HAS CHANGED SINCE THE 1995 GUIDELINES

The 1995 guidelines have been revised and updated for two main reasons. Firstly, although they were well received, the response from user groups, in particular the local councils, has indicated a need for further information on some aspects and a clarification of some issues. For example:

- there is now greater emphasis on *planning* functions, with more technical matters being left to NSW Environment Protection Authority (EPA) guidelines
- there is more detail on gathering and interpreting information for making planning decisions—the site investigation process
- the use of independent reviews has been clarified.

Secondly, the Guidelines have been updated in line with the *Contaminated Land Management Act 1997* (CLM Act) and State Environmental Planning Policy No. 55—Remediation of Land (SEPP 55). This includes a revision of the suggested wording of s. 149 planning certificates. The definition of contaminated soil treatment works in Schedule 3 of the Environmental Planning and Assessment Regulation 1994 (designated development) is being revised and is therefore no longer included as an appendix.

How the 1995 Guidelines Compare with the 1998 Guidelines

1995	1998
1. Purpose	1. Introduction
3. Rationale	2. What Needs to be Decided
2. Identification	3. What Information is Needed to Make a Decision
4. Planning	4. Making the Decision
	4.4 Control of Remediation Work
4.2 Support Systems	5. Recording and Use of Information
5. Remediation	*Deleted—refer to EPA and ANZECC guidelines*
6. Prevention	6. Preventing Contamination and Harm
Appendix A.Designated Development	*Deleted—under review*
Appendix B.Suggested Planning Implementation Process	*Incorporated into chapters 2–5*

2. What needs to be decided

2.1 INTRODUCTION

Land contamination is most often the result of past uses. It can arise from activities that took place on or adjacent to a site and be the result of improper chemical handling or disposal practices, or accidental spillages or leakages of chemicals during manufacturing or storage. Activities not directly related to the site may also cause contamination; for example, from diffuse sources such as polluted groundwater migrating under a site or dust settling out from industrial emissions.

When carrying out planning functions under the EP&A Act, a planning authority must consider the possibility that a previous land use has caused contamination of the site as well as the potential risk to health or the environment from that contamination. Decisions must then be made as to whether the land should be remediated, or its use of the land restricted, in order to reduce the risk.

Failure to consider the possibility of contamination at appropriate stages of the planning decision process may result in:

- inappropriate land use decisions
- increased risk to human health
- detrimental effects on the biophysical environment
- impacts on the safety of existing and new structures
- delay in realising developments
- substantial fall in the land value and the passing on of unanticipated development costs to other parties.

2.2 WHAT DECISIONS NEED TO BE MADE

The decisions that a planning authority will need to make relate to the planning functions with which it is charged.

Planning function	Decisions to be made
Preparing and making a planning instrument	Is the land suitable or can it be made suitable for the rezoned use?
Preparing and making a development control plan (DCP)	Are appropriate issues covered in the DCP?
Processing and determining a development application	Is the land suitable, or can and will it be made suitable, for the proposed development?
Modifying a development consent	Will the land be suitable for the proposed use under the modified consent?

When an authority carries out a planning function, the history of land use needs to be considered as an indicator of potential contamination. **Where there is no reason to suspect contamination after acting substantially in accordance with these Guidelines, the proposal may be processed in the usual way**. However, where there is an indication that the land is, or may be, contaminated, the appropriate procedures outlined in these Guidelines should be followed. Table 1 on page 12 lists activities that may cause contamination.

Essentially, the Guidelines recommend that rezonings, development control plans and development applications (DAs) are backed up by information demonstrating that the land is suitable for the proposed use or can be made suitable, either by remediation or by the way the land is used. Where remediation has already occurred but residual contamination is above the recommended thresholds, it may be necessary to restrict the land uses allowed. This approach may also be appropriate for cases where investigation shows that only some land uses would be suitable. In situations where the land is not suitable for the proposed use and cannot be rendered suitable for technical or practical reasons, the proposal should be refused.

Generally, the proponent or person(s) who will benefit from the granting of the approval must prove that the land is, or can be made, suitable for the proposed use. However, planning authorities are required to exercise their planning functions in good faith; in some cases this may require a detailed analysis by the planning authority, or an independent review, of the information provided by the proponent and [council] records to confirm the proponent’s claims.

2.3 THE STRATEGIC CONTEXT: MAKING A COUNCIL POLICY

The general principle of the Guidelines is that planning authorities should adopt a cautionary approach when exercising a planning function. The object of this approach is to enable any land contamination issues to be identified and dealt with at an early stage in the planning process in order to prevent harm and reduce delays and costs.

Consideration of contamination at a strategic level provides an opportunity to consider contamination issues early, well in advance of statutory approvals for land use changes. An assessment of a planning authority's broad strategies and policies should be made, based on a general knowledge of past land uses and the potential for contamination. This then provides a context for future decision making.

> To supplement these Guidelines, it is strongly recommended that each local council develop and adopt a formal policy for managing land contamination to provide a local context for decision making. The policy should be consistent with these Guidelines and either adopt or be based on them, with variations based on local conditions and procedures.

The preferred approach is to have a policy that applies to *all* land in the local government area because the consideration of contamination must be undertaken for all land use changes. State Environmental Planning Policy No. 55 requires the issue of contamination be considered whenever a planning authority considers a development or rezoning proposal where the new use may increase risk from contamination, if it is present (see Table 1). This means that the planning authority must routinely consider whether land is suitable for a proposed use in terms of the risk from contamination. However, **restrictions** on land use due to contamination will only apply to *certain* land and the council's policy needs to state the circumstances in which this applies.

While it is up to each council to determine the content and wording of an appropriate policy for its local government area, the policy might usefully include:

1. reference to the key principles outlined in section 1.3 of the Guidelines
2. a statement on the council's policy on the restriction of land use under particular circumstances. The following considerations may be relevant:
   - if the contamination status of land is unknown, no change in use should occur which may increase the risk of harm until the land has been investigated
   - if contamination causes an unacceptable risk of harm, the use of the land should be restricted to reduce the risk to acceptable levels
   - if remediation has reduced the risk to acceptable levels, no restriction on land use is necessary
3. a statement on the council's policy on the conduct of remediation work. The following considerations may be relevant, for either the whole local government area or for certain identified areas:

- restrictions on the hours of operation of remediation work
- restrictions on the routes to be used by vehicles associated with the remediation work
- restrictions on parking
- restrictions on the disposal of contaminated spoil removed from remediated land

4. a statement on the council's policy on the use of site audits in the planning decision process. The following considerations may be relevant:
   - under what circumstances will council require a site audit or site audit statement under the CLM Act?
   - does the council have any requirements for how auditors should be appointed?
   - what does the council require from the auditor; for example, to review and provide comments on every report provided by the proponent, or to provide a summary report? Note that the EPA's *Guidelines for the NSW Auditor Scheme* (1998a) provides information about how an auditor is engaged

5. a statement on the council's policy on access to information on council records relevant to contamination. The following considerations may be relevant:
   - if restrictions are placed on the use of the land, this information should be available to any enquirer
   - if no restrictions are placed on the use of the land, but information on contamination exists, this should be available to any enquirer
   - councils should access their records on contamination before answering enquiries
   - if a site audit statement exists, this must be noted on any s. 149(2) planning certificate and may be attached to a planning certificate under s. 149(5)

6. the notation system for s. 149 planning certificates, for example, the sort of information council may provide under s. 149(5). See section 5.3.3.

Note that council's policy on contaminated land may be contained within a number of documents, such as planning instruments that contain land use restrictions relevant to contamination and a development control plan or plans. However, it is also advisable to have a formal 'stand-alone' policy document that addresses the matters listed above.

Further discussion on these matters is contained in the following chapters.

3. What information is needed to make a decision

3.1 INTRODUCTION

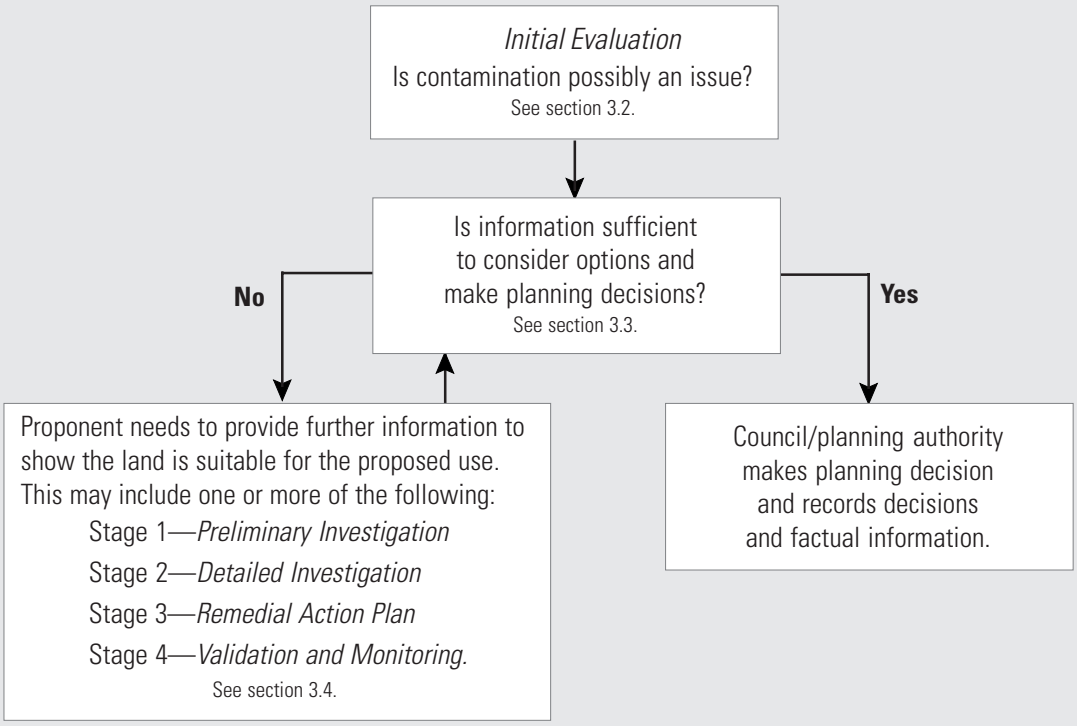
This chapter focuses on the process for evaluating and assessing contamination issues.

> Before carrying out a planning function, it is essential to consider whether the issue of contamination is relevant. If it is, investigations might be needed to provide information about the land to enable that function to be carrying out in good faith.

When defining the area to be investigated, all land subject to the planning decision must be considered. For example, a council's decision to accept a dedication of land for open space as part of a development proposal might need an investigation into its suitability, and because it involves a change of use even if no development is proposed on the land at the time.

For the purpose of these Guidelines, the process for making a decision on a change of land use is as shown in figure 1.

Figure 1. Decision Process for Land Use Changes



3.2 INITIAL EVALUATION BY THE PLANNING AUTHORITY

An initial evaluation is essential to determine whether contamination is an issue and whether sufficient information is available to carry out a planning function in good faith. The purpose of the initial evaluation is for the planning authority, before a planning function is exercised, to determine whether land contamination is relevant to the decision being made and whether further information is required from the proponent.

The initial evaluation can be based on **readily available factual information** and should be carried out **regardless of the nature of the proposed use or the current use.** Readily available information may include: current zoning and permissible uses, records from previous rezonings, development applications and building applications for the site, property files, information provided by the proponent such as a development application or rezoning request or an investigation, and the knowledge of council staff. Information provided by the owner or proponent should be checked against information held by the planning authority on the subject land and, if available, adjoining properties.

Further information may be gained by visiting the site. Site inspections can provide valuable information on previous land uses that may have resulted in land contamination, especially if the inspector already has information on the history of the site. However, it is recognised that a site inspection may not be feasible or practical in all cases and it is not suggested as a mandatory requirement.

3.2.1 Suggested Checklist for Initial Evaluation

The potential for contamination is often linked to past uses of land and a good early indicator of possible uses is land zoning. Contamination is more likely to have occurred if the land is currently, or was previously, zoned for industrial, agricultural or defence purposes. The following is a brief checklist for doing an initial evaluation.

- Is the planning authority aware of any previous investigations about contamination on the land? What were the results, including any previous initial evaluations?
- Do existing records held by the planning authority show that an activity listed in Table 1 has ever been approved on the subject land? (The use of records held by other authorities or libraries is not required for an initial evaluation.)
- Was the subject land at any time zoned for industrial, agricultural or defence purposes?
- Is the subject land currently used for an activity listed in Table 1?
- To the planning authority's knowledge was, or is, the subject land regulated through licensing or other mechanisms in relation to any activity listed in Table 1?
- Are there any land use restrictions on the subject land relating to possible contamination, such as notices issued by the EPA or other regulatory authority?
- Does a site inspection conducted by the planning authority [optional] suggest that the site may have been associated with any activities listed in Table 1.
- Is the planning authority aware of information concerning contamination impacts on land immediately adjacent to the subject land which could affect the subject land?

Table 1. Some Activities that may Cause Contamination

- acid/alkali plant and formulation
- agricultural/horticultural activities
- airports
- asbestos production and disposal
- chemicals manufacture and formulation
- defence works
- drum re-conditioning works
- dry cleaning establishments
- electrical manufacturing (transformers)
- electroplating and heat treatment premises
- engine works
- explosives industry
- gas works
- iron and steel works
- landfill sites
- metal treatment
- mining and extractive industries
- oil production and storage
- paint formulation and manufacture
- pesticide manufacture and formulation
- power stations
- railway yards
- scrap yards
- service stations
- sheep and cattle dips
- smelting and refining
- tanning and associated trades
- waste storage and treatment
- wood preservation

Source: ANZECC & NHMRC 1992 *The Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.* For information on chemicals commonly associated with these activities see Appendix A.

Note: It is not sufficient to rely solely on the contents of this Table to determine whether a site is likely to be contaminated or not. The Table is a guide only. A conclusive status can only be determined after a review of the site history and, if necessary, sampling and analysis.

3.3 IS THE INFORMATION SUFFICIENT TO CONSIDER OPTIONS AND MAKE PLANNING DECISIONS?

3.3.1 Instances where No Further Information is Required

If, after carrying out an initial evaluation, none of the enquiries suggest that the land might be contaminated or that further enquiry is warranted, the planning process should proceed in the normal way.

The planning authority may not need more information to make a decision about previously investigated or remediated land if sufficient information has already been provided. However, proposals on such land should be carefully managed through the planning and development control process. The nature, distribution and levels of residues remaining on the land need to be considered when a planning authority makes a planning decision.

3.3.2 Instances where Further Information is Required

After carrying out an initial evaluation, if there are indications that contamination is, or may be, present and the planning authority has insufficient information on which to make a planning decision, the proponent should be asked to provide further information.

A planning authority may need to seek further information when:

- the subject site or land in the vicinity is, or may be, associated with activities listed in Table 1 but it is not known whether contamination exists
- the land was, or is, regulated by the EPA or other regulatory authority in relation to land contamination, and there is insufficient information available about the nature and extent of contamination
- the land has been investigated or remediated but there is insufficient information available about the nature and extent of contamination, or the circumstances have changed
- there are restrictions on, or conditions attached to, the use of the site by regulatory or planning authorities that are, or may be, related to contamination, but there is insufficient information available about the nature and extent of contamination
- council records have demonstrated that the land is associated with complaints about pollution or illegal dumping of wastes but it is not known whether contamination exists
- a use such as residential, educational, recreational, hospital or childcare is proposed on the land and records on the site history are unclear about whether the land has been used in the past for a purpose listed in Table 1.

A site history may be ‘unclear’ if there are significant gaps in historical information, or land uses are not described in sufficient detail to identify the presence or absence of uses listed in Table 1 during periods in which such uses were permissible under the zoning.

3.4 INFORMATION TO BE PROVIDED BY THE PROPONENT

If contamination is, or may be, present the proponent must investigate the site and provide the planning authority with the information it needs to carry out its planning functions. The appropriate level of investigation will depend on the circumstances and may involve one or more of the stages described below in the *site investigation process*.

3.4.1 A Summary of the Site Investigation Process

Stage 1—Preliminary Investigation. The main objectives of a preliminary investigation are to identify any past or present potentially contaminating activities, provide a preliminary assessment of any site contamination and, if required, provide a basis for a more detailed investigation. A preliminary investigation is not necessary where contamination is not an issue.

Stage 2—Detailed Investigation. A detailed investigation is only necessary when a preliminary investigation indicates that the land is contaminated or that it is, or was, formally used for an activity listed in Table 1 and a land use change is proposed that has the potential to increase the risk of exposure to contamination. A detailed investigation will also need to be conducted as part of a remediation proposal. The objectives of a detailed investigation are to define the nature, extent and degree of contamination; to assess potential risk posed by contaminants to health and the environment; and to obtain sufficient information to develop a remedial action plan (RAP), if required.

Stage 3—Remedial Action Plan. The objective of an RAP, or plan of remediation, is to set objectives and document the process to remediate the site.

Stage 4—Validation and Monitoring. The objective of validation and monitoring is to demonstrate whether the objectives stated in the RAP and any conditions of development consent have been achieved. SEPP 55 requires a notice of completion for all remediation work. Validation is an important prerequisite of this notice.

It should be emphasised that not every site will require all four stages of investigation. An investigation may proceed directly to Stage 2 for example, if it is clear early on that the land has been used for an activity listed in Table 1 and the proposed change of use would increase the risk from contamination.

Proponents may also choose not to proceed with the proposal and terminate the site investigation process at any stage. If a proponent decides to proceed with the proposal and provide the necessary information for consideration by the planning authority, they should engage suitably qualified contaminated land professionals who are experienced in contaminated site assessment and management.

The following sections provide further guidance on what needs to be considered in the review of information and the issues that should be considered at each stage of the site investigation process.

3.5 EVALUATION OF THE INFORMATION PROVIDED BY THE PROPONENT

The EP&A Act and SEPP 55 require a planning authority to consider the suitability of land for a proposed development. Ultimately, a planning authority needs to be satisfied that a site is suitable for its proposed use or can and will be made suitable, based on what they know of the site. This will involve an evaluation or review of the information submitted by the proponent.

In some cases, the planning authority will have the technical expertise to conduct the appropriate evaluation internally. In other cases, it will be necessary for an independent expert to assist in the evaluation. In the 1995 Guidelines this was referred to as an *independent review*. An independent review is carried out by a third party such as another consultant who is qualified to deal with the type of land contamination in question and who is independent of both the proponent and the proponent's consultant.

3.5.1 What are Some of the Issues in the Site Investigation Process?

The following sub-sections outline some issues to consider when evaluating reports during various stages of the site investigation process. Some issues could be technically difficult and the assistance of an experienced consultant may be needed. Further assistance may also be sought from the EPA's *Guidelines for Consultants Reporting on Contaminated Sites* (1997b) and from Edwards et al (1994).

If a planning authority considers, or is advised by the proponent, their consultant or site auditor, that the subject site poses a significant risk to health or the environment, the EPA may be notified for possible action under the CLM Act. There is a legal duty on owners of land as well as persons whose activities have contaminated land to notify the EPA as soon as practicable after becoming aware that contamination poses a significant risk of harm to human health or the environment (see s. 60 of the CLM Act). The Contaminated Land Management (General) Regulation 1998 prescribes the format of the notification given to the EPA.

3.5.2 Stage 1—Preliminary Investigation

The preliminary investigation contains a detailed appraisal of the site's history and a report based on a visual site inspection and assessment. It is important that all relevant information about the site is assessed to determine the potential for site contamination.

Where contaminating activities are suspected to have had an impact on the land, sampling and analysis will be required to confirm and support any conclusion reached from the site history appraisal. Through the assessment of sampling results, an assessment of contamination can be established.

A preliminary investigation is an important step in deciding whether a more detailed investigation is needed. Where the results of a preliminary sampling program demonstrate the potential for, or the existence of contamination, a detailed investigation should be undertaken; not necessarily immediately after the preliminary investigation but before the new use commences. Where the preliminary investigation shows a history of non-contaminating activities at a site and, in the absence of other contrary evidence, there will be no need for further investigation.

Issues to consider

- Is the information about the site's history adequate:
  - are the descriptions of activities on the site detailed enough to identify a use listed in Table 1?
  - are there any big gaps in the history that might hide a use listed in Table 1?
  - are the sources reliable?
  - is the information verifiable?
- Does the information conform with the relevant EPA guidelines?
- If contamination or a contaminating activity, whether previous or existing, is confirmed should the proponent conduct a detailed investigation to further define the extent and degree of contamination?
- If the site history suggests that the site is unlikely to be contaminated but there are gaps in the history and Table 1 uses were permissible under the zoning during those periods, is limited site sampling needed to confirm the site is not contaminated? Consult a site auditor if necessary.
- Does this site pose a significant threat to human health or the environment? If so, refer to the CLM Act in relation to duty to notify the EPA.
- Is a site audit of the preliminary investigation necessary? See section 3.6.1.

If there is sufficient information to satisfy the planning authority that the site is suitable for the proposed use, the planning process should proceed in the normal way.

3.5.3 Stage 2—Detailed Investigation

A detailed investigation should provide information about the extent and degree of contamination. It should also include an assessment of the risk posed by the contaminants to health and the environment. Generally, the risk can be assessed by comparing the levels of residue on-site with appropriate predetermined thresholds such as the soil investigation levels specified in the EPA's guidelines (1998a). The risks can also be determined by a site-specific risk assessment undertaken by the proponent's consultant.

Issues to consider

- Is the sampling program that has been undertaken by the consultant adequate to identify hot spots of contamination on the site? Does it conform with the relevant EPA guidelines? Check the sampling program against the EPA's guidelines or consult a site auditor if necessary.
- Have appropriate thresholds and criteria been used for the assessment? Compare with appropriate criteria or consult a site auditor if necessary.

- Do the levels of contamination on the site need to be reduced in order for the site to be suitable for the proposed use? If so, progress to Stage 3—Site Remedial Action Plan.
- Does this site pose a significant threat to human health or the environment? If so, refer to the CLM Act in relation to duty to notify the EPA.
- Is a site audit of the detailed investigation necessary, or required under the CLM Act? See section 3.6.1.

3.5.4 Stage 3—Site Remedial Action Plan

An RAP, or plan of remediation, should be based on the information from investigations and on the proposed land use. The objectives of the remediation strategy and the recommended clean-up criteria should be clearly stated in the RAP. The RAP should demonstrate how the proponent or their consultant proposes to reduce risks to acceptable levels and achieve the clean-up objectives for the site.

It is important to note that the remediation of contaminated land is considered to be development and may require planning approval, even if the proposed land use does not require approval. If development consent is required, an RAP must be submitted with the development application for approval. Refer to SEPP No. 55—Remediation of Land for further information.

Issues to consider when an RAP is received

- Can the site be appropriately remediated? Consider the RAP and any statement by the proponent's consultant certifying that remediation is practical. If necessary, consult a site auditor.
- Are the proposed clean-up criteria appropriate for the future use of the site, considering possible human health and environmental impacts? Consult a site auditor if necessary, or check EPA guidelines.
- Are the proposed plans for remediation work acceptable? For example, do they include an occupational health and safety plan, site environmental management plan, community relations plan, contingency plan? For more information consult the section on RAPs in the EPA's guidelines (1997b).
- Is a site audit of the RAP necessary? See section 3.6.1.

3.5.5 Stage 4—Validation and Monitoring

Validation is an important part of the site investigation and remediation process. The purpose of validation is to confirm whether the predetermined clean-up objectives have been attained and whether any further remediation work or restrictions on land use are required. Ideally, validation should be conducted by the same consultant that conducted the rest of the site investigation and remediation process.

Validation must confirm statistically that the remediated site complies with the clean-up criteria set for the site. The consultant should follow the relevant EPA guidelines when validating the site.

A report on the validation must assess the results of the post-remediation testing against the clean-up criteria stated in the RAP, or where there is no RAP, against standards endorsed by the EPA. Where the targets have not been achieved, reasons for such failure must be stated and additional site work should be proposed that will achieve the original objectives.

The validation report should also include information confirming that all licences, approvals and development consents have been complied with. In particular, documentary evidence should be provided to confirm that any contaminated soil that has been disposed of off-site or removed for re-use has been dealt with as specified by the relevant authority.

In situations where full clean-up is not feasible or on-site containment of contamination is proposed, the need for a continuing monitoring program should be assessed by both the proponent's consultant and the planning authority. If required, this monitoring program should include the proposed monitoring strategy, the parameters to be monitored, the monitoring locations, the frequency of monitoring and reporting requirements.

SEPP 55 requires that notice of completion of remediation be submitted to the local council, or the Minister for Urban Affairs and Planning if consent was given by him. Further details on the notification requirements are provided in section 4.4.2.

Issues to consider

- Is the monitoring program proposed by the proponent adequate? Does it conform with the relevant EPA guidelines?
- Has the proponent or the consultant provided a clear statement on the suitability of the proposed site use? Refer to the EPA's guidelines (1997b) for reporting requirements.
- Are there any ongoing site management requirements, for example, restrictions on use to be notified pursuant to s. 149(2), covenants on title or annual reporting and other information made available under s. 149(5)?
- Are there any other uncertainties?
- Is a site audit of the validation necessary? See section 3.6.1.

3.6 WHAT IS A SITE AUDIT?

A *site audit* is an independent review of any or all stages of the site investigation process, conducted in accordance with the CLM Act. A site audit may review a preliminary investigation, a detailed investigation, a remedial action plan, or a validation report.

A site audit will lead to the provision of a certificate called a *site audit statement*, stating for what use the land is suitable. Only site auditors accredited by the EPA can issue site audit statements.

Another document prepared by site auditors which could be of use to planning authorities is a *site audit summary report*. A site audit summary report is a requirement of the EPA. It contains the key information and the basis of consideration which leads to the issue of the site audit statement.

Site auditors are accredited by the EPA under the CLM Act. They are environmental professionals with demonstrated expertise and broad experience in the assessment and remediation of contaminated sites and have a good understanding of relevant NSW legislation, regulations and guidelines.

Site auditors can assist a planning authority by commenting on or verifying information provided by a proponent in relation to site assessment, remediation or validation—such as whether they have adhered to relevant standards, procedures and guidelines. Engaging a site auditor can also provide greater certainty about the information on which the planning authority is basing its decision, particularly where sensitive uses are proposed on land that may be contaminated and a statement about the suitability of the site is required.

Further information about the NSW site auditor scheme and the appointment, role and technical requirements of auditors are contained in the EPA's guideline (1998a).

3.6.1 When is a Site Audit Necessary?

As a general principle, a site audit is only necessary when the planning authority:

- believes on reasonable grounds that the information provided by the proponent is incorrect or incomplete
- wishes to verify the information provided by the proponent adheres to appropriate standards, procedures and guidelines
- does not have the internal resources to conduct its own technical review.

Any appropriately qualified contaminated land consultant may provide an independent review of another consultant's work. In some circumstances, these 'site audits' must be performed by a site auditor accredited by the EPA under the CLM Act. Section 47(2) of the CLM Act specifies when the involvement of a site auditor accredited by the EPA is mandatory.

Normally, it is unnecessary to have more than one site audit for the same stage of the site investigation process.

SEPP 55 does not require a mandatory site audit at any stage of the planning process for remediation work, although the CLM Act allows the SEPP to require a site audit.

If a planning authority considers that it needs a site audit in order to make its planning decision, the cost should be borne by the proponent and not the planning authority.

3.7 RECORD DECISIONS AND INFORMATION

A planning authority should keep its information up-to-date by recording all planning decisions or activities relating to a specific parcel of land. This information should then be used when carrying out subsequent planning functions, for example, when a council applies their contaminated land policy or issues a s. 149 planning certificate. The information that needs to be recorded is listed in more detail in section 5.2.

3.8 SUMMARY

The proponent is responsible for investigating contamination issues on the land and demonstrating to the planning authority that planning approval should be granted.

When approval is required, the planning authority must evaluate the information it already has and the information provided by the proponent before making a decision.

The planning authority should seek further information from the proponent if the information available is insufficient.

Planning decisions and factual information must be recorded for future use.

4. Making the decision

This chapter will help decision makers carry out planning functions in good faith under the EP&A Act in relation to land contamination. Decision making must be based on adequate and appropriate information. This can necessitate an investigation of land and an evaluation of the information from this investigation, as discussed in Chapter 3.

The possible planning responses listed in this chapter are based on the assumption that adequate information is available to make a decision. If this is not the case, refer to Chapter 3 before proceeding.

The planning functions discussed in this chapter are the subject of the statutory protection described in Part 7A of the EP&A Act (see section 1.4). These functions are:

- the preparation or making of an environmental planning instrument (rezoning)
- the preparation or making of a development control plan
- the processing and determination of a development application
- the modification of a development consent
- anything incidental or ancillary to these functions.

The function of giving advice in a certificate under s. 149 of the EP&A Act is also the subject of the statutory protection, but is covered separately in Chapter 5.

4.1 REZONING DECISIONS

SEPP 55 requires consideration of contamination issues when rezoning land. If a rezoning allows a change of use that may increase the risk to health or the environment from contamination, then the planning authority must be satisfied that the land is suitable for the proposed use or can be remediated to make it suitable. If remediation is necessary, the planning authority must be satisfied that suitable planning controls are in place to ensure that this occurs. To assist in considering these matters, the SEPP requires consideration of a report on a *preliminary investigation* where a rezoning allows a change of use that may increase the risk to health or the environment from contamination.

It must be emphasised that the level of investigation must be appropriate to the potential risk from contamination. An investigation is not necessary at the rezoning stage if there is no reason to suspect contamination. An investigation is necessary where:

- land is within a current investigation area under Part 3 of the CLM Act
- an activity referred to in Table 1 (see page 12) is being carried out on the land
- records show that such an activity has been carried out on the land
- there are incomplete records about the use of the land, and
  - it is proposed to be used for residential, educational, recreational or childcare purposes, or for the purposes of a hospital, and
  - during the periods not covered by those records it would, according to the uses permitted on the land, have been lawful to carry out an activity referred to in Table 1.

4.1.1 Spot Rezonings

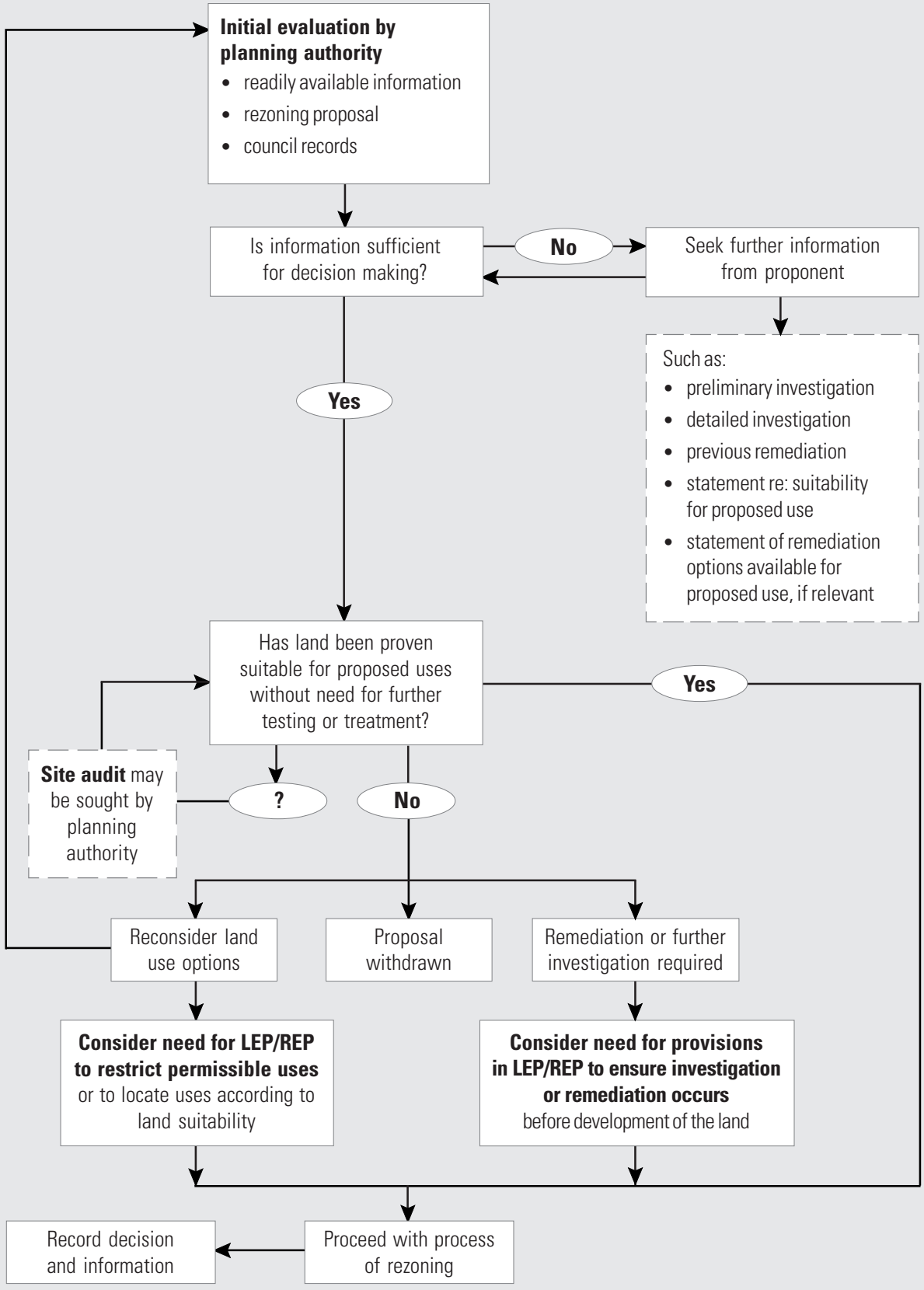
When a spot rezoning is requested there is usually a specific development or land use associated with the proposal. In such cases it would not be appropriate to proceed with the rezoning unless the land was proven suitable for that development or it could be demonstrated that the land can, and will be, remediated to make the land suitable. This would be particularly important if the land was proposed to be developed for residential, educational, recreational or childcare purposes, as the risk to health is higher under those uses than most other uses. Under these circumstances, the rezoning should be treated like a development application in considering contamination issues. It may even be necessary for a *detailed investigation* to be carried out at the rezoning stage.

4.1.2 Generalised Rezonings

Rezonings that cover a large area, for example, more than one property, usually describe proposed land uses very generally both in type and location. This makes it difficult for a planning authority to be satisfied that every part of the land is suitable for the proposed use(s) in terms of contamination at the rezoning stage. In these cases, the rezoning should be allowed to proceed, provided measures are in place to ensure that the potential for contamination and the suitability of the land for any proposed use are assessed once detailed proposals are made. However, if the rezoning includes the identification of locations for sensitive uses, such as childcare centres, then it may be appropriate to determine the suitability of the land in those locations at the rezoning stage.

For some rezonings contamination will not be an issue if, for example, there is no change of use or where there is a change to a similar use.

Figure 2. Options Available in the Rezoning Process where the Specific End Use is Known



Suggestions for possible planning responses for planning instruments

- If investigations find that contamination makes some land unsuitable for particular uses and the land may be appropriately remediated for those uses, provisions are needed to require the remediation of that land before those uses can occur. SEPP 55 contains a general provision that requires consideration of contamination for all development proposals which require development consent. However, planning authorities may wish to include a more specific requirement for remediation work in their own plans if development might occur on contaminated land without development consent. These plans could also further clarify the way the planning authority will deal with contamination issues, provided the provisions are consistent with the SEPP.
- For most large area rezonings, where a detailed site history is not available for all the land, additional provisions to those in SEPP 55 are probably not necessary.
- If an investigation indicates that contamination makes the land unsuitable for some uses and remediation may not be appropriate, either the rezoning should not proceed or the range of permissible uses should be restricted in the local environmental plan or regional environmental plan; that is, the land use options should be reconsidered.
- Information on contamination possibilities can be used to locate uses according to land suitability; for example, sensitive uses only being allowed in areas of low contamination probability.

4.2 DEVELOPMENT CONTROL PLANS

Consideration of contamination issues when preparing a development control plan (DCP) should be similar to the rezoning process. However, given that the provisions in a DCP is are more detailed provisions than a planning instrument, the investigation of contamination will also need to be more detailed where it is a relevant issue. The level of detail in the investigation will depend on the nature of the planning decision being made in the preparation of the DCP and the degree of certainty which is required. Land should not be identified in a DCP for a particular use unless it has been demonstrated that the land is suitable in terms of levels of contamination, or can and will be made suitable.

Suggestions for possible uses of DCPs

If council planning instruments contain provisions relating to contaminated land, for example, if they incorporate the SEPP 55 provisions, it may be useful to have a DCP that maps previous land uses associated with the activities listed in Table 1 of the Guidelines. This could be used as a guide to the areas where further investigation is required before any redevelopment takes place. The DCP should contain a qualification that there may be land uses unknown to council that are not mapped and that an enquirer should also conduct their own investigations.

> It should be made clear that the mapping of land in a DCP is only for the purpose of stating council planning requirements that apply to that land and that DCPs should not be used as a de facto register to label or classify land.

4.3 DEVELOPMENT APPLICATIONS

The relevance of contamination to a decision on a development application (DA) will vary depending on the uses specified in the application and the risk associated with those uses. However, this section is still relevant for *all* development applications, with the exception of applications specifically for remediation work, which are dealt with separately in section 4.4.

When assessing DAs, the EP&A Act requires consent authorities to consider certain matters. Prior to 1 July 1998, s. 90(1)(g) of the Act requires consent authorities to consider: '...whether the land to which that development application relates is unsuitable for that development by reason of its being, or being likely to be subject to flooding, tidal inundation, subsidence, slip or bush fire or to any other risk.'[1] From 1 July 1998, s. 90(1) is replaced by s. 79C(1), which requires consent authorities to consider '…the suitability of the site for the development.' The risk to health and the environment from contamination must be included in this assessment.[2]

Consideration of risk must include risks during the construction and operation of the development. The former includes work safety issues, as well as the potential for construction to disturb contamination and cause off-site movement of chemicals. Where land has been remediated in the past, contamination issues will still need to be considered when the land is proposed for redevelopment. Planning authorities will need to ensure that any residual contamination is dealt with to permit the proposed new land use, particularly if clean-up standards have changed or there is on-site encapsulation of contaminated material.

Suggestions for possible planning responses for DAs

If investigations find that contamination makes the land unsuitable for the proposed use and requires remediation, this may be enforced by:

- if the remediation *requires consent* under SEPP 55 (category 1 work):
  - requiring the applicant to **amend the DA** to include a remediation proposal, or
  - requiring a **new and separate DA** for the remediation before the DA for the use is considered
- if the remediation may be carried out *without consent* under SEPP 55 (category 2 work):
  - imposing **conditions** on the development consent for the use, requiring remediation to be carried out and validated either before other work commences or before occupation of the site, or
  - issuing a **deferred commencement** consent for the use, and requiring remediation to be carried out and validated before other work commences.

1 SEPP 55 also contains a provision which states that a consent authority must not consent to the carrying out of development on land unless it has considered whether the land is contaminated.

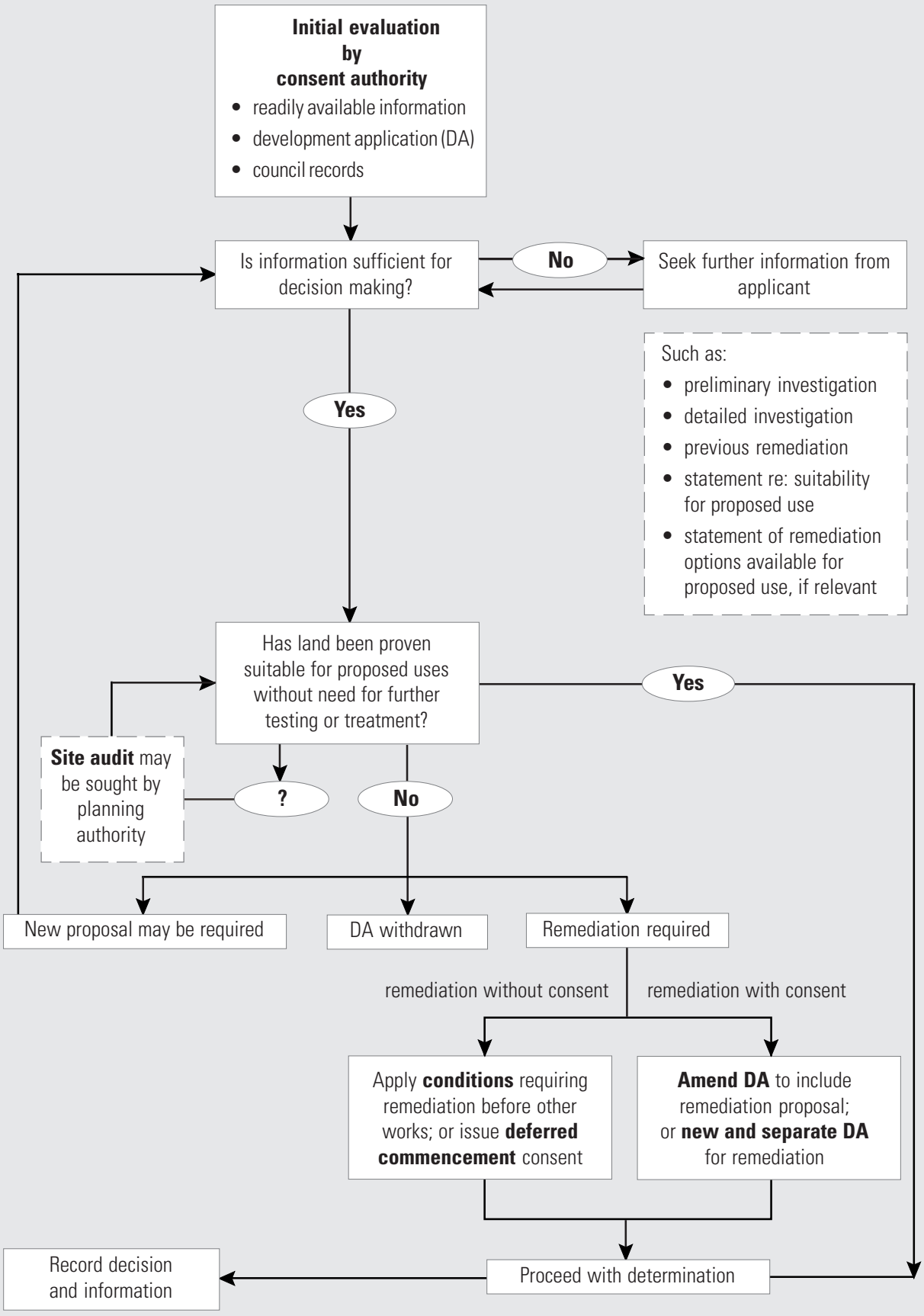
2 In the court case *Alec Finlayson Pty Ltd v Armidale City Council & Anor* (1994) 51FCR378 it was held that duty of care arises in the exercise of s. 90 of the EP&A Act, and that the Act required the council to consider the unsuitability of the land for development by reason of the land being subject to any risk.

- Information on contamination may be used to locate uses or structures within a site to minimise risk; and to place controls on construction methods, operation, and environmental management. The types of issues that may need to be covered in conditions of approval are listed in Appendix C.
- If investigations find that contamination makes the land unsuitable for the proposed use and either the land may not be appropriately remediated or the proponent does not wish to remediate:
  - the proposal may be modified to a use that is suitable for the land without remediation, provided a new DA is not required, or
  - the application may be withdrawn, or
  - the application should be refused.

When can land be appropriately remediated?

A consultant experienced in contamination issues can advise on what remediation options are available to reduce contaminant concentrations to an appropriate level for a particular land use. Although proceeding with remediation may be an economic decision for the proponent, a consent authority should make a preliminary assessment of whether remediation would be acceptable on planning grounds, that is, the potential environmental impact of the works.

Figure 3. Options Available in the Development Application Process



4.4 CONTROL OF REMEDIATION WORK

Remediation is generally considered beneficial as it improves the quality of the environment, reduces health risks and restores land to productive use. Care must therefore be taken not to create disincentives to remediation through complicated and costly planning procedures. However, in some situations remediation work itself has the potential for environmental impact and the planning process must ensure that these impacts are adequately identified and mitigated.

SEPP No. 55—Remediation of Land provides consistent state wide planning and development controls for the remediation of contaminated land.

In summary, the SEPP ensures that:

- land use changes do not occur until planning authorities consider whether the land is contaminated and whether it needs to be remediated to make it suitable for the proposed use
- remediation of contaminated land is permissible throughout the State
- remediation requires consent only where it has the potential for significant environmental impacts or does not comply with a council's policy for contaminated land
- most remediation proposals which require consent are advertised for public comment
- all remediation is carried out in accordance with appropriate standards and guidelines
- applications for remediation are not refused without substantial justification
- councils are notified at commencement and completion of remediation.

4.4.1 When is Consent Required for Remediation?

Development consent is generally only required for remediation work where there is potential for significant environmental impacts from the work.

Remediation work which requires development consent is known as category 1 work. Category 1 refers to work:

- which is designated development under Schedule 3 of the EP&A Regulation or under a planning instrument
- proposed on land identified as critical habitat under the *Threatened Species Conservation Act 1995*
- where consideration of s. 5A of the EP&A Act indicates the remediation work is likely to have a significant effect on threatened species, populations, ecological communities or their habitats
- proposed in an area or zone identified in a planning instrument as being an area of environmental significance such as scenic areas, wetlands. These are listed in the SEPP
- which requires consent under another SEPP or a regional environmental plan.

All other remediation work may be carried out without development consent and is known as category 2 work. However, if the work is proposed to be carried out in a manner which is inconsistent with a council's policy on contaminated land (made in accordance with these Guidelines), then the work becomes category 1 and needs development consent. See point 3 in section 2.3.

SEPP 55 requires that local councils be notified 30 days before category 2 remediation works commence. This notification will provide councils with the information needed to verify that the work is not category 1 by reference to the criteria summarised above. The 30-day limit does not apply to works that are category 2 regardless of whether they meet the criteria, for example, works that may be carried out without consent under SEPP 4.

If councils consider that the work needs consent under the SEPP, s. 76 of the EP&A Act provides councils with the power to prevent the work from proceeding. The 30-day limit does not prevent council intervention after that time for a breach of the Act or non-compliance with the SEPP.

The notification also serves as the basis for updating council records on properties in its area. The minimum content of the notification is set by the SEPP.

Relationship to other planning instruments

SEPP 55 contains some exceptions to the consent requirements outlined above where another SEPP or a regional environmental plan applies. The SEPP does not apply to development under SEPP No. 38—Olympic Games and Related Facilities.

Ancillary development

Remediation is often carried out in conjunction with other development, to make the land suitable for that development. The SEPP contains the following rules for remediation as ancillary development:

- remediation work may be treated as category 2 work instead of category 1 if the only reason it is in category 1 is that it is ancillary to designated development
- remediation work that meets the criteria for category 1 work may not be treated as category 2 just because it is ancillary to development without consent
- if category 1 remediation work is carried out ancillary to development without consent, this does not result in a requirement for consent for that development
- if remediation work is designated development under Schedule 3 of the EP&A Regulation or the provisions of a planning instrument, this does not mean that any associated development is also designated.

4.4.2 What is the Planning Process for Remediation Work?

Appendix B sets out the steps in the planning process for remediation work. The process differs slightly depending on whether consent is required, whether the work is designated development, and whether the work is subject to a *remediation order* by the EPA.

Under the CLM Act, the EPA may declare that land is a *remediation site* if land has been found to be contaminated in such a way as to present a significant risk of harm to human health or the environment. There does not have to be a new use proposed on the land for this to occur. The EPA may issue a direction to remediate a remediation site. This direction is known as a remediation order. It is a requirement of s. 24(1)(d) of the CLM Act that remediation required by a remediation order be audited by a site auditor accredited by the EPA. Remediation work on a remediation site may be either category 1 or category 2 work under the SEPP, depending on whether it meets the criteria for category 1 work.[3]

Where the remediation work on a remediation site is category 1, the Minister for Urban Affairs and Planning is the consent authority and DAs will be lodged with the Department of Urban Affairs and Planning (DUAP) (on behalf of the Minister). The relevant councils will be notified when a DA is received and copies of the DA, remedial action plans and notifications of remediation will be provided to councils for their records.

4.4.3 What are the Standards for Remediation Work?

All remediation work, both category 1 and category 2, must:

- be consistent with these Guidelines
- be carried out in accordance with standards in EPA guidelines made under the CLM Act.

4.4.4 How should Remediation Proposals be Assessed?

The environmental impact of remediation work should be assessed like any other development proposal but for one difference, that is, the consequences of not carrying out the remediation will need to be considered and weighed up against the environmental impacts of carrying out the work. This involves an assessment of matters such as how the work will contribute to a net improvement in environmental quality, reduce health risks or promote the economic use and development of the land. Both the applicant and the consent authority need to consider this issue.

There must be substantial planning justification to refuse an application for remediation. SEPP 55 allows refusal only where the environmental impacts of the method of remediation would pose a more significant risk to human health or the environment than if the land were not remediated in that manner. The consent authority may need to seek advice from an independent consultant, a site auditor or DUAP in determining the relevant risk. If the proposed method of remediation is unsatisfactory, the consent authority should negotiate modifications with the

3 Development consent is not required for remediation work subject to a remediation order that is declared by the EPA to be emergency work. This work is automatically treated as category 2.

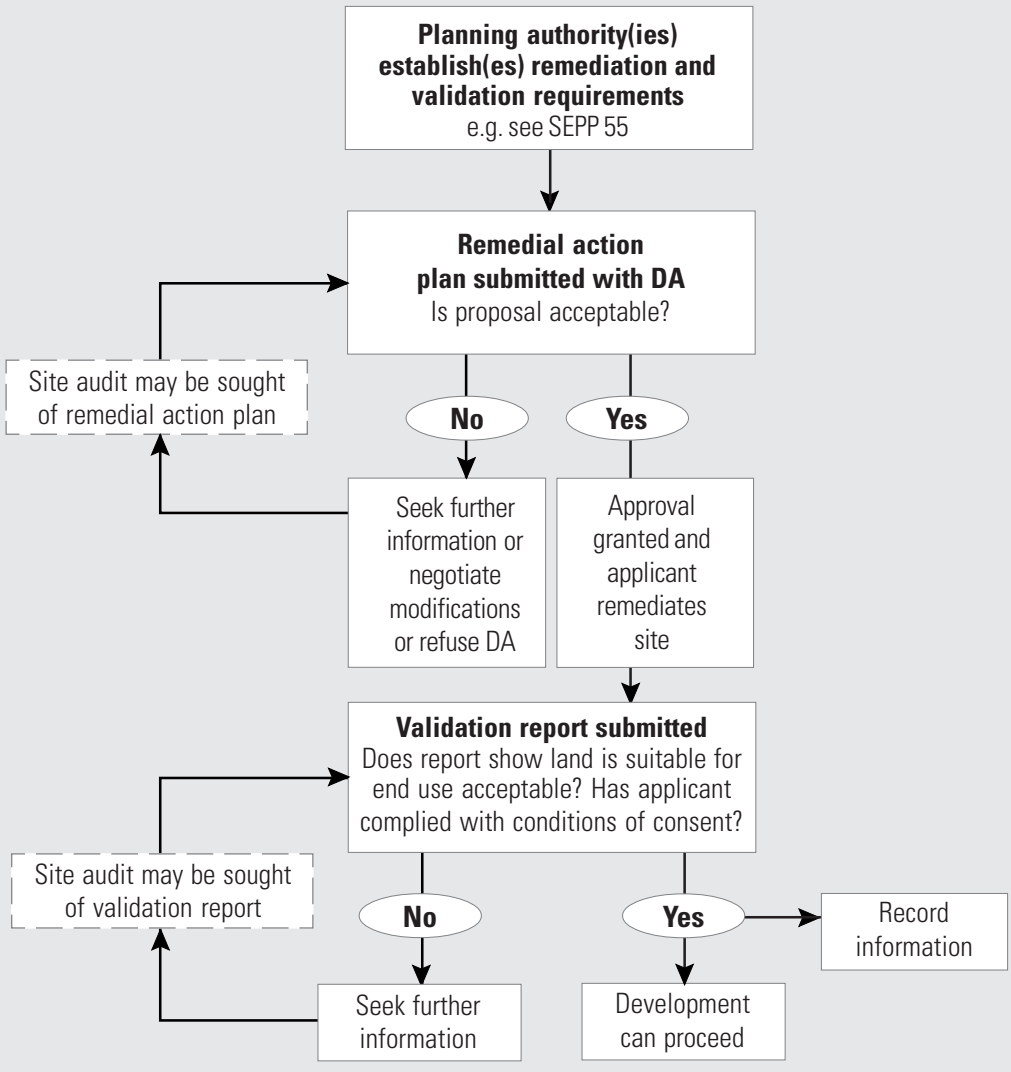
applicant. If the consent authority cannot reach an agreement with the applicant, DUAP may be approached to mediate.

Issues to consider when assessing a remediation proposal

In addition to the matters listed for consideration under s. 79C of the EP&A Act (before 1 July 1998, s. 90), the following issues may be relevant:

- Is the operational plan acceptable, for example, operation hours, site environmental management plans?
- Does the proposal require approvals from regulatory authorities?
- Is the remediation work proposed to be supervised by an appropriately qualified consultant?
- Is the proposal for validating the remediation adequate?
- Are reporting and monitoring mechanisms and proposals adequate?

Figure 4. Process for Category 1 Remediation Work



4.4.5 When is a Remedial Action Plan Required?

Ideally, a remedial action plan (RAP) should be prepared for all remediation proposals, as a guide to the objectives of the remediation and to assist in the planning of work. An RAP also provides a useful measure for validation of the work after it is completed. However, an RAP is a mandatory requirement only for category 1 remediation work. For this work the RAP must be submitted to the consent authority with a development application for approval. The RAP may form part of an environmental impact statement if the remediation work is designated development.

An RAP must be prepared by an appropriately qualified consultant in accordance with the EPA's guidelines (1997b). For further information see Chapter 3.

4.5 DETERMINING ACTIVITIES UNDER PART 5 OF THE EP&A ACT

Part 5 of the EP&A Act applies where development consent is not required under a planning instrument but an approval from a public authority is required. Under Part 5, a determining authority, that is, the authority determining whether to grant an approval (in some cases the proponent may be the determining authority) must take full account of all matters likely to affect the environment. When an activity is likely to significantly affect the environment, an environmental impact statement (EIS) is required.

4.5.1 When is Remediation a Part 5 Activity?

Remediation is a Part 5 activity when:

- it is carried out ancillary to an activity under Part 5, for example, development which does not require consent under SEPP 4 and which requires an approval from a public authority, or
- it is in category 2 (without consent) under SEPP 55 and an approval from a public authority is required.

4.5.2 When is an EIS Required under Part 5?

If consent is not required for remediation under the SEPP, it is unlikely that the remediation will significantly affect the environment (as the criteria for requiring consent relate to the potential for a development to significantly affect various aspects of the environment) and therefore an EIS will probably not be necessary. However, this will be a decision that must be made by the relevant determining authority on a case by case basis.

If the remediation work is ancillary to an activity for which an EIS is being prepared, then the proponent should consider covering the remediation work in the EIS.

4.6 SUMMARY

In carrying out planning functions under the EP&A Act in relation to land that is, or may be, contaminated, planning authorities should take account of the principles summarised below.

- No planning decision should be made unless sufficient information is available to make the decision.
- Development applications should include sufficient information on past uses of the subject land to allow the suitability of the land for the proposed use to be assessed.
- Changes of use on contaminated land may proceed provided:
  - the land is suitable for the intended use, or
  - provisions are included in the planning instrument to require appropriate investigation or restrictions on any subsequent development applications, or
  - conditions are attached to the development consent to ensure that the subject land can and will be remediated to a level appropriate to its intended use prior to, or during, the development stage.

5. Recording and use of information

By following the procedures discussed in Chapters 3 and 4, planning authorities will build up information on land use history, contamination and remediation in their areas. If this information is recorded and managed, it can be a valuable resource for use in decision making.

Reliable information is also important in providing accurate advice to the community. It is recognised that land contamination may cause concern, in particular regarding any potential risk that may be associated with such contamination. It is understandable, therefore, that the community seeks access to information held by government and councils on the issue of contamination and the remediation of land.

General objectives

An information system should:

- record information in a manner appropriate to current legislation, and which assists planning authorities to carry out planning functions in the context of land use history
- ensure a fair and equitable means of informing stakeholders, especially potential purchasers or occupiers, of the presence of, or potential for, contamination on specific parcels of land
- provide relevant information which facilitates the control of land use, to minimise the risk to health and the environment
- encourage an approach which does not unnecessarily place restrictions on land or otherwise unnecessarily affect its value
- acknowledge any limitations on information, such as its degree of uncertainty and accuracy, and the purpose and time it was collected.

5.1 HOW SHOULD INFORMATION BE RECORDED AND MANAGED?

Information should be managed to enable easy access to all the relevant information for a particular parcel of land. This may mean that the relevant information for each parcel of land is kept in a single location such as a file, or that a centralised record is kept of the various sources of information for each parcel of land. For strategic planning purposes, it may also be appropriate to record some information on files relating to a broader area of land or subject, for example, a residential strategy file.

A flexible information system is needed to accommodate the dynamic nature of land contamination management. Knowledge about contamination and the relevance of contamination as an issue will change over time, as land is investigated further, is remediated for particular uses, or as standards for remediation change to accommodate changing community values. This is one of the reasons why a register of contaminated sites is not the preferred approach in NSW. A register falsely implies that information held by the planning authority at and beyond the time of registration is complete and comprehensive, and that land may be clearly classified as 'contaminated' or 'not contaminated'. It is difficult for a register to adjust to new information about land.

5.1.1 Property Information Systems

Property information systems have been installed in many councils to handle various types of information and enquiries. Where these are available, they may provide a helpful administrative tool for managing information on land relating to contamination. Property files should be accessed each time a planning authority takes any planning action.

5.1.2 Mapping Systems

In many instances, computerised geographic information systems (GISs) have been installed to assist councils with the management of information. Where available, such systems may provide a very useful tool for mapping existing or previous land uses as a guide to the relevance of contamination issues. Experience in some councils suggests that GISs, while a substantial cost initially, are a worthwhile investment for the effective long-term management of land.

5.2 WHAT INFORMATION NEEDS TO BE RECORDED?

The future uses of the information should be kept in mind when deciding what information to record on files or the GIS. All information which may assist in carrying out the planning functions covered in Chapter 4 should be recorded. This may include the following:

- previous property descriptions, for cross-referencing purposes
- chronological land use history
- complaints about contamination or potentially contaminating activities and whether these were substantiated
- information from any initial evaluations
- information from any site investigations
- notifications of remediation
- any site audit statements
- previous zones and permissible uses, particularly uses listed in Table 1
- approved DAs and building applications (BAs) for uses listed in Table 1 or uses where contamination was an issue
- refused DAs and BAs where they have been refused on the basis of contamination-related issues
- rezoning requests approved and refused on the basis of contamination-related issues
- EPA declarations and orders under the CLM Act, and resulting action.

Copies of relevant documents such as remedial action plans may also be useful on the files. The sources of information and the purpose for which it was collected should also be recorded. This includes the date of the information and the date on which it was recorded.

It is clear that much of this information will also be useful for exercising planning functions where contamination is not an issue.

5.2.1 Maintaining a Record of Remediation Work

An important category of land use information that should be maintained is information on remediation work. SEPP 55 requires that the relevant consent authority, usually the council, be notified prior to and at the completion of remediation work. This notification is required of all remediation work, regardless of whether or not consent is required.

5.3 NOTIFYING RESTRICTIONS ON LAND USE AND ADDITIONAL INFORMATION

If contamination present on a parcel of land may cause an unacceptable risk to human health or the environment, a planning authority should restrict the use of that land so the risk is minimised. When a restriction is placed on land, information about that restriction should be available to any enquirer.

If there is no need to restrict the use of land due to the risk from contamination, but information is held by the planning authority that may assist others in making decisions about that land, this information should also be made available to enquirers.

These matters are discussed in more detail in the following sections.

5.3.1 How Should Section 149 Planning Certificates be Used?

Under s. 149 of the EP&A Act, a person may request from a council a planning certificate containing advice on matters about land that are prescribed in the Regulation. One such prescribed matter is the existence of a council policy to restrict the use of land. This is taken to include restrictions on land use due to risks from contamination. Certificates are issued under s. 149(2).

> It should be noted that a s. 149(2) planning certificate does not, in itself, restrict the use of land. It is simply the mechanism for recording the fact that a council policy applies which restricts the use of land. Section 2.3 of these Guidelines deals with the preparation of a council policy.

Other matters prescribed for inclusion on planning certificates under s. 149(2) in relation to contaminated land are whether:

- the land is within an investigation area or remediation site
- the land is subject to an investigation order or remediation order
- a copy of a site audit statement for the land is held by council.

These matters are required under the CLM Act.[1] **Note** that there is no requirement to include copies of site audit statements or reports on remediation with planning certificates under s. 149(2).

Section 149(5) provides councils with the opportunity to record additional property information, of a **factual nature**. Any limitations on the information should be made clear, such as the purpose for which the information was collected, or the reliability of the source of the information.

There are a number of critical differences between those planning certificates issued under s. 149(2) *with* additional information provided in accordance with s. 149(5), and those issued *without* such additional information (a basic planning certificate).

A basic planning certificate must be provided to every prospective purchaser under provisions in vendor disclosure legislation.[2] If information noted under the basic planning certificate is not disclosed or is incorrect, the purchaser may be able to rescind the contract. There are, however, no such obligations for the vendor to include information under s. 149(5). The decision to check information under s. 149(5) on a property is at the purchaser's discretion, and may require payment of an additional fee.

The EP&A Act was amended in 1996 so that councils do not incur any liability for advice provided in good faith under s. 149(2) or s. 149(5) relating to contaminated land, provided it is provided substantially in accordance with the Planning Guidelines in force at the time (s. 145B). Previously, s. 149(6) only provided this protection for information provided under s. 149(5).

5.3.2 What Investigation is Required when Issuing Section 149 Planning Certificates?

Ultimately, the responsibility for investigating the potential for contamination during the sale of land rests with vendor and purchaser (vendor disclosure and 'buyer beware'). However, a council has an obligation under s. 149 of the EP&A Act to provide certain information relevant to contamination when requested. This means that council records should be checked before a planning certificate is issued. For contamination issues, this check may be similar to an initial evaluation described in Chapter 3. The objective in checking council records is to determine the type of notation that should recorded on the planning certificate under s. 149(2), that is, the degree to which the council policy and other prescribed information is likely to apply, and any additional information that may be useful to the enquirer under s. 149(5).

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1 The EP&A Regulation is being amended to include these matters as prescribed for s. 149(2).

2 Section 52(A) of the Conveyancing Act sets out the 'duty of disclosure' requirements. This legislation requires the vendor of a property to disclose to the potential purchaser any prescribed documents relating to that property. If this is not done, the purchaser may rescind the contract. Clause 4 of the Vendor Disclosure Regulation specifies a planning certificate issued under s. 149(2) of the EP&A Act as a prescribed document in relation to land the subject of a contract of sale.

5.3.3 Suggestions for Notations on Section 149 Planning Certificates

The basic certificate under s. 149(2)

The following notations are only suggestions. Substantial compliance with the Guidelines under Part 7A of the EP&A Act does **not** require the adoption of these notations, word for word.

Where council's contaminated land policy restricts the use of land which:

- has a previous land use history which could have involved use of contaminants on the site, for example, land which may have been used for an activity listed in Table 1, or
- is known to be contaminated, but
- **has not been** remediated,

an appropriate notation may be:

'Council has adopted by resolution a policy on contaminated land which may restrict the development of the land. This policy is implemented when zoning or land use changes are proposed on lands which have previously been used for certain purposes. Consideration of council's adopted policy and the application of provisions under relevant State legislation is warranted.'

Where council's contaminated land policy restricts the use of land which:

- is known to contain contaminants, but
- **has been** remediated for a particular use or range of uses **and** some contamination remains on the site, for example, encapsulated,

an appropriate notation might be:

'Council has adopted by resolution a policy on contaminated land which may restrict the development of the land. This policy is implemented when zoning or land use changes are proposed on lands which are considered to be contaminated, or on lands which have been remediated for a specific use. Consideration of council's adopted policy and the application of provisions under relevant State legislation is warranted.'

Where council records **do not contain a clear site history without significant gaps in information** and council cannot determine whether or not the land is contaminated, and therefore the extent to which council's policy should apply, council may decide to take a cautious approach. In such cases an appropriate notation might be:

'Council has adopted by resolution a policy on contaminated land which may restrict the development of the land. This policy is implemented when zoning or land use changes are proposed on lands which have previously been used for certain purposes. Council records do not have sufficient information about previous use of this land to determine whether the land is contaminated. Consideration of council's adopted policy and the application of provisions under relevant State legislation is warranted.'

No notation is necessary under s. 149(2) where council's policy **does not restrict** the use of land, and is unlikely to result in a restriction once the land has been further investigated. This would include:

- land which has been used for a purpose listed in Table 1, but which has been remediated to an extent that no restriction on land use is necessary,[3] or
- there is a history of non-contaminating activities on the land and there is no contrary evidence to suggest that the land has been used for a purpose listed in Table 1.

When issuing a planning certificate under s. 149(2), councils should consider advising the enquirer whether further information is available under s. 149(5).

Information under s. 149(5)

Information may be provided under s. 149(5) even if no restriction is placed on the land under s. 149(2). This means that if land has been remediated, or investigated and found to be uncontaminated, this information could be included on planning certificates under s. 149(5) as factual information about the land.

Other information that may be relevant to an enquirer may include any of the information recorded by council, which is listed in section 5.2 of these Guidelines. As a minimum, these Guidelines suggest that the following information be provided on all planning certificates under s. 149(5):

- any activities listed in Table 1 of these Guidelines that council records show have occurred on the land
- the results of any site investigations held by the council
- any notifications of remediation
- copies of any site audit statements held by the council.

5.4 SUMMARY

- Councils should maintain efficient property information systems on which factual information pertinent to contamination is recorded.
- Councils must ensure their records are accurate and up-to-date. They should ensure that stakeholders are aware of the status of the subject land and the planning policy requirements relating to contamination.
- Section 149(2) planning certificates issued under the EP&A Act are an appropriate system of legal notification of the application of council policies which place restrictions on land use due to risks from contamination.
- Factual information relating to past land use and other matters relevant to contamination may also be provided, even when land use is not restricted. Provision of information under s. 149(5) is a useful means of recording details of land history, assessment, testing and remediation.
- When council receives a request for a certificate under s. 149(2), it is suggested that applicants be informed that further information is available under s. 149(5).
- When land has been investigated and is considered suitable for the permissible uses, this information should be retained in council records and provided under s. 149(5).

3 Chemical residues above naturally occurring levels may remain on the site after remediation, but if they pose no risk to human health or the environment then the land is not considered to be contaminated.

6. Preventing contamination and harm

6.1 INTRODUCTION

Almost all measures dealt with so far in these Guidelines have been of a remedial nature rather than anticipatory. The prevention of future contamination and the minimisation of risk from existing contamination may be achieved by diligent investigation of contamination issues and the appropriate recording of information on land use and potentially contaminating activities.

6.2 PREVENTING HARM

With time, the application of the procedures described in these Guidelines will help councils to build up their records on past land uses. Knowledge gained through the investigation process and the notification of remediation work will help to reduce risk and prevent harm to health and the environment by increasing understanding of the relationship between previous land uses, contamination and environmental impacts. Making factual information available to enquirers will also raise general awareness of contamination issues.

6.3 PREVENTING FUTURE CONTAMINATION

Measures to prevent possible pollution at its source may help to reduce future land contamination and the need for remedial action. Once contamination has been detected, environmental damage may have occurred and clean-up bills could be high. Therefore, future economic consequences of contamination play a part in the current motivation for prevention.

A pro-active approach which ensures that the potential for contamination is reduced or that it does not occur must be linked to the nature of an activity on a particular site. Contamination of land may often be associated with new developments involving potentially contaminating activities (see Table 1). Such activities may result in accidental releases of chemicals to land which in turn will render the land contaminated. It is therefore suggested that the following principles for a pro-active approach could be applied by planning authorities:

- Development applications for new or expanding developments may be required to include information on the potential for the activity to contaminate; this will be particularly relevant for uses listed in Table 1. Consent authorities may require information to be provided on the chemicals proposed to be used.
- Environmental impact assessment should cover different aspects of contamination. This will ensure that effective environmental management is maintained.
- In assessing development applications for activities which could be potential sources of contamination, planning authorities should ensure that technical and management controls are adequate to prevent contamination and should impose appropriate conditions of consent (such as a requirement for monitoring and environmental management plans) to ensure that such controls are applied. Plant design should aim to reduce the waste produced and eliminate or minimise the release of waste into the environment by, for example, appropriate primary and secondary containment and good work practices.
- Periodic environmental audits should be encouraged and the introduction of 'clean' technologies promoted; for example, the production of new alternative products.
- Better technologies, waste management practices, and environmental management practices should be promoted.

Appendixes

APPENDIX A. INDUSTRIES AND CHEMICALS USED

Industry	Type of Chemical	Associated Chemicals
Agricultural/ horticultural activities		See Fertiliser, Insecticides, Fungicides and Herbicides under 'Chemicals manufacture and use'
Airports	Hydrocarbons Metals	Aviation fuels Particularly aluminium, magnesium, chromium
Asbestos production and disposal		Asbestos
Battery manufacture and recycling	Metals Acids	Lead, manganese, zinc, cadmium, nickel, cobalt, mercury, silver, antimony Sulfuric acid
Breweries/distilleries	Alcohol	Ethanol, methanol, esters
Chemicals	Acid/alkali manufacture and use	Mercury (chlor/alkali), sulfuric, hydrochloric and nitric acids, sodium and calcium hydroxides
	Adhesives/resins	Polyvinyl acetate, phenols, formaldehyde, acrylates, phthalates
	Dyes	Chromium, titanium, cobalt, sulfur and nitrogen organic compounds, sulfates, solvents
	Explosives	Acetone, nitric acid, ammonium nitrate, pentachlorophenol, ammonia, sulfuric acid, nitroglycerine, calcium cyanamide, lead, ethylene glycol, methanol, copper, aluminium, bis(2-ethylhexyl) adipate, dibutyl phthalate, sodium hydroxide, mercury, silver
	Fertiliser	Calcium phosphate, calcium sulfate, nitrates, ammonium sulfate, carbonates, potassium, copper, magnesium, molybdenum, boron, cadmium
	Flocculants	Aluminium
	Foam production	Urethane, formaldehyde, styrene

	Fungicides	Carbamates, copper sulfate, copper chloride, sulfur, chromium, zinc
	Herbicides	Ammonium thiocyanate, carbamates, organochlorines, organophosphates, arsenic, mercury, triazines
	Paints	
	• heavy metals	Arsenic, barium, cadmium, chromium, cobalt, lead, manganese, mercury, selenium, zinc Titanium
	• solvents	Toluene oils either natural (e.g. pine oil) or synthetic
	Pesticides	
	• active ingredients	Arsenic, lead, organochlorines, organophosphates, sodium tetraborate, carbamates, sulfur, synthetic pyrethroids
	• solvents	Xylene, kerosene, methyl isobutyl ketone, amyl acetate, chlorinated solvents
	Pharmaceutical	
	• solvents	Acetone, cyclohexane, methylene chloride, ethyl acetate, butyl acetate, methanol, ethanol, isopropanol, butanol, pyridine methyl ethyl ketone, methyl isobutyl ketone, tetrahydrofuran
	Photography	Hydroquinone, sodium carbonate, sodium sulfite, potassium bromide, monomethyl para-aminophenol sulfate, ferricyanide, chromium, silver, thiocyanate, ammonium compounds, sulfur compounds, phosphate, phenylene diamine, ethyl alcohol, thiosulfates, formaldehyde
	Plastics	Sulfates, carbonates, cadmium, solvents, acrylates, phthalates, styrene
	Rubber	Carbon black
	Soap/detergent	
	• general	Potassium compounds, phosphates, ammonia, alcohols, esters, sodium hydroxide, surfactants (sodium lauryl sulfate), silicate compounds
	• acids	Sulfuric acid and stearic acid
	• oils	Palm, coconut, pine, teatree
	Solvents	
	• general	Ammonia
	• hydrocarbons	e.g. BTEX (benzene, toluene, ethylbenzene, xylene)
	• chlorinated organics	e.g. trichloroethane, carbon tetrachloride, methylene chloride
Defence works		See Explosives under ‘Chemicals manufacture and use’; also ‘Foundries’, ‘Engine works’ and ‘Service stations

Drum reconditioning		See ‘Chemicals manufacture and use’
Dry cleaning		Trichlorethylene and 1,1,1–trichloroethane Carbon tetrachloride Perchlorethylene
Electrical		PCBs (transformers and capacitors), solvents, tin, lead, copper, mercury
Engine works	Hydrocarbons Metals Solvents Acids/Alkalis Refrigerants	 Chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons
	Antifreeze	Ethylene glycol, nitrates, phosphates, silicates
Foundries	Metals	Particularly aluminium, manganese, iron, copper, nickel, chromium zinc, cadmium and lead and oxides, chlorides, fluorides and sulfates of these metals
	Acids	Sulfuric and phosphoric Phenolics and amines coke/graphite dust
Gas works	Inorganics	Ammonia, cyanide, nitrate, sulfide, thiocyanate Aluminium, antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, vanadium, zinc
	Organics	BTEX, phenolics, PAHs and coke
Iron and steel works		BTEX, phenolics, PAHs, metals and oxides of iron, nickel, copper, chromium, magnesium, manganese and graphite
Landfill sites		Alkanes and ammonia, sulfides, heavy metals, organic acids
Marinas	 Antifouling paints	See ‘Engine works’and Electroplating metals under ‘Metal treatments’ Copper, tributyltin (TBT)
Metal treatments	Electroplating • metals • acids • general	 Nickel, chromium, zinc, aluminium, copper, lead, cadmium, tin Sulfuric, hydrochloric, nitric, phosphoric sodium hydroxide, 1,1,1–trichloroethane, tetrachloroethylene, toluene, ethylene glycol, cyanide compounds
	Liquid carburizing baths	Sodium, cyanide, barium, chloride, potassium chloride, sodium chloride, sodium carbonate, sodium cyanate

Mining and extractive industries		Arsenic, mercury and cyanides and also explosives under 'Chemicals manufacture and use' Aluminium, arsenic, copper, chromium, cobalt, lead, manganese, nickel, selenium, zinc and radio-radionuclides The list of heavy metals should be decided according to the composition of the deposit and known impurities
Power stations		Asbestos, PCBs, fly ash metals, water treatment chemicals
Printing shops		Acids, alkalis, solvents, chromium See also Photography under 'Chemicals manufacture and use'
Railway yards		Hydrocarbons, arsenic, phenolics (creosote), heavy metals, nitrates, ammonia
Scrap yards		Hydrocarbons, metals, solvents
Service stations and fuel storage facilities		Aliphatic hydrocarbons BTEX (i.e. benzene, toluene, ethylbenzene, xylene) PAHs Phenols Lead
Sheep and cattle dips		Arsenic, organochlorines, organophosphates, carbamates, synthetic pyrethoids
Smelting and refining		Metals, the fluorides, chlorides and oxides of copper, tin, silver, gold, selenium, lead and aluminium
Tanning and associated trades	Metals	Chromium, manganese, aluminium
	General	Ammonium sulfate, ammonia, ammonium nitrate, arsenic phenolics, formaldehyde, sulfide, tannic acid
Water and sewage treatment plants	Metals	Aluminium, arsenic, cadmium, chromium, cobalt, lead, nickel, fluoride, lime, zinc
Wood preservation	Metals	Chromium, copper, arsenic Naphthalene, ammonia, pentachlorophenol, dibenzofuran, anthracene, bipheny, ammonium sulfate, quinoline, boron, creosote, organochlorine pesticides

Source: Appendix 1 of Australian Standard AS4482.1–1997—Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-Volatile and Semi-Volatile Compounds.

APPENDIX B. PLANNING PROCESS FOR DIFFERENT TYPES OF REMEDIATION WORK

Please note that category 1 refers to remediation work that needs development consent under SEPP 55 and category 2 refers to remediation work that does not. The integrated development provisions of the *Environmental Planning and Assessment (Amendment) Act 1997* may also apply.

Category 1 Remediation Work—with Council Consent

1. If the proposal is designated development, the Director-General's requirements sought for the environmental impact statement (EIS)
2. Development application (DA) prepared, including Remedial Action Plan (RAP) (and EIS if required)
3. DA and RAP (and EIS if required) lodged with council
4. Council may request an audit of the DA or RAP by a site auditor. Note that this is **not** mandatory
5. DA and RAP advertised and submissions received
6. If proposal is designated and objections are received, these are sent to the Department of Urban Affairs and Planning (DUAP) for comment
7. Council determines proposal (after DUAP comments received)
8. Proposal carried out in accordance with approval
9. Validation obtained from qualified expert at completion of remediation work
10. Council notified of validation within a month of completion of work
11. Council may request an audit of the validation by a site auditor. Note that this is **not** mandatory.

Category 1 Remediation Work Subject to a Remediation Order by the EPA—with Consent of the Minister For Urban Affairs and Planning

1. Remediation order received from EPA
2. If proposal is designated development, the Director-General's requirements sought for the EIS
3. DA prepared, including RAP (and EIS if required) in consultation with EPA
4. DA and RAP (and EIS if required) lodged with DUAP
5. DUAP sends copies of DA and RAP to EPA and council
6. DUAP may request an audit of the DA or RAP by a site auditor. Note that this is **not** mandatory
7. If proposal is designated development, DA and RAP are advertised and submissions received
8. DUAP determines proposal, in consultation with EPA and council
9. Proposal carried out in accordance with approval
10. Validation obtained from qualified expert at completion of remediation work
11. DUAP notified of validation within a month of completion of work

12. DUAP sends copy of validation notice to council and EPA
13. DUAP may request an audit of the validation by a site auditor. Note that this is **not** mandatory.

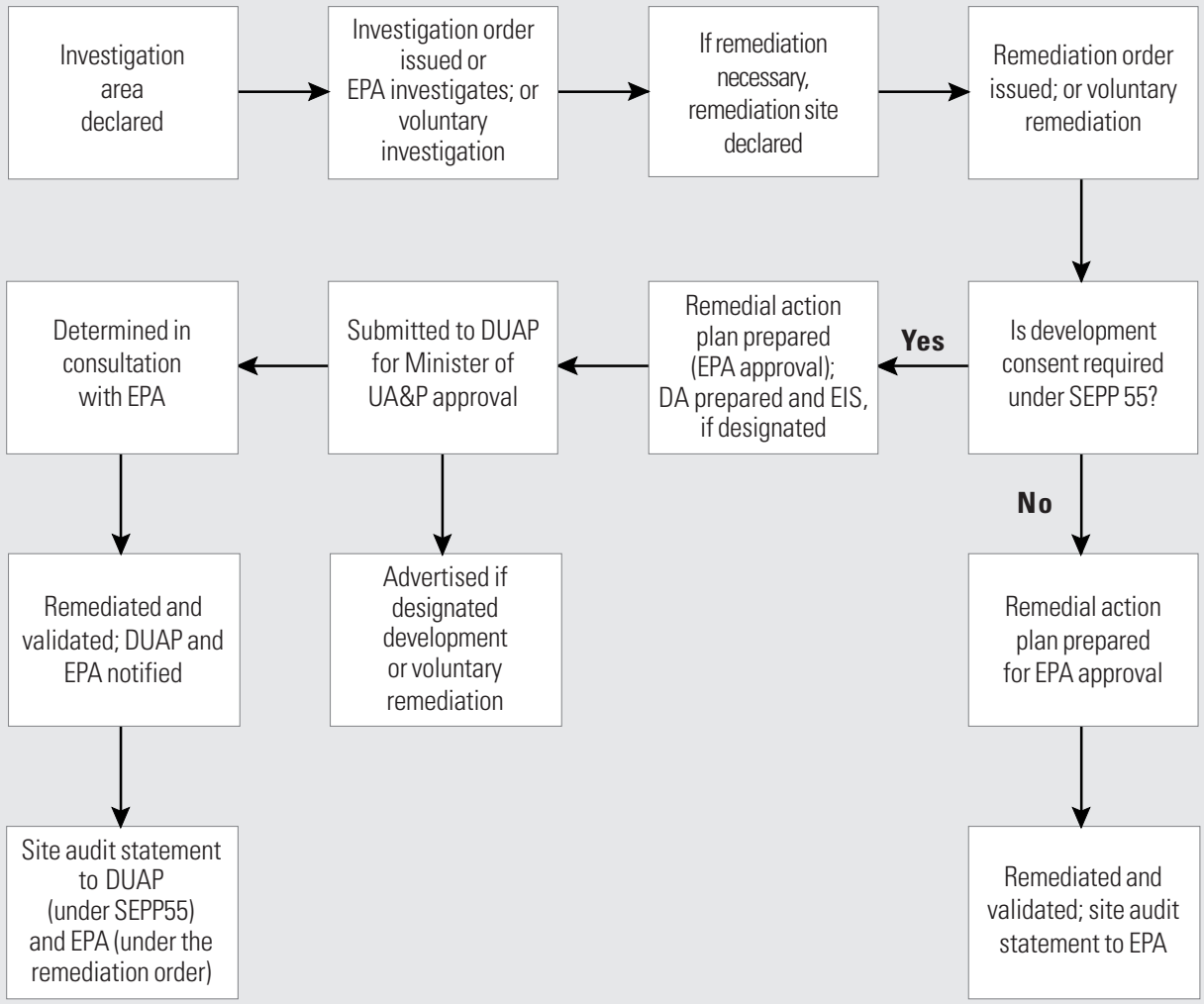
Category 2 Remediation Work—without Consent

1. Council notified of proposed remediation
2. Proposal documentation prepared, including RAP if proponent considers it necessary
3. Proposal carried out in accordance with submitted information
4. Validation obtained from qualified expert at completion of remediation work
5. Council notified of validation within a month of completion of work.

Category 2 Remediation Work Subject to a Remediation Order by the EPA—without Consent

1. Remediation order received from EPA
2. Council notified of proposed remediation
3. Proposal prepared, including RAP if required, in consultation with EPA
4. Proposal lodged with EPA
5. Proposal determined by EPA
6. Proposal carried out in accordance with approval
7. Validation obtained from qualified expert at completion of remediation work
8. EPA notified of validation
9. Council notified of validation within a month of completion of work.

Figure 5. Relationship between the Planning System and the Contaminated Land Management Act



Note: The local council receives copies of DA, EIS, notifications and site audit statement.

APPENDIX C. CONDITIONS OF CONSENT

It is suggested that conditions of consent for remediation work cover the following.

Statutory requirements

- meet requirements such as those of the EPA, Sydney Water, Department of Health, council and WorkCover Authority
- meet relevant regulations, and Australian standards and codes. See (EPA 1998a)

Health and safety

- prepare a health and safety plan in accordance with WorkCover Authority requirements
- meet all occupational health and safety and construction safety regulations
- establish site fencing, public safety warning signs, and security surveillance

Air quality

- ensure no burning of material on site
- maintain equipment in functional manner to minimise exhaust emissions
- cover vehicles entering and leaving the site with soil/fill material
- regularly monitor air quality throughout work
- establish dust suppression measures to minimise wind borne emissions of dust, having regard to site specific wind conditions

Water quality

- regularly monitor water quality throughout work
- store water for dust suppression in adequately bunded area and drain to a central collection sump and treat, if necessary, to meet EPA discharge criteria

Erosion and sediment control

- establish temporary erosion and sediment control measures prior to commencement
- maintain erosion and sediment control measures in functional condition
- meet the NSW Department of Housing's 1993 guidelines *Soil and Water Management for Urban Development*, if applicable
- submit detailed designs for pollution control system, including leachate collection and disposal, before commencement of work
- store any temporary stockpiles of contaminated materials in a secure area
- clean vehicles leaving the site

Noise

- control noise emissions in accordance with the *Noise Control Act 1975*
- ensure plant equipment is noise suppressed
- regularly monitor noise quality throughout work and send results to EPA/ consent authority

Waste

- remove, dispose of and monitor, in accordance with the requirements of the *Environmentally Hazardous Chemicals Act 1985* and the Waste Minimisation and Management Act
- prepare, if contaminated solid is to be removed from site, a waste management plan and annual report detailing issues such as where it will go, how it will be treated and transportation issues

Landscaping and rehabilitation

- prepare landscaping plan for approval of consent authority
- landscape site in accordance with landscape plan
- progressively stabilise and revegetate disturbed areas in accordance with landscape plan

Consultants

- ensure professionals undertaking remediation are appropriately qualified and experienced

Validation

- prepare final soil validation program in accordance with EPA requirements
- submit validation notice to consent authority within a month of completion
- prepare and submit a detailed survey of all sites used as landfill disposal pits, identifying the boundaries and depth of disposal pits in relation to existing roadways and buildings

Performance bonds

Ongoing monitoring

- periodically monitor material containment areas for the leaching of contaminants

Abbreviations

CLM Act	*Contaminated Land Management Act 1997*
DA	development application
DCP	development control plan
DUAP	Department of Urban Affairs and Planning
EIS	environmental impact statement
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	NSW Environment Protection Authority
LEP	local environmental plan
RAP	remedial action plan
REP	regional environmental plan
SEPP	State environmental planning policy

Glossary

category 1 remediation work under SEPP 55	remediation work that needs development consent
category 2 remediation work	remediation work that does not need development consent under SEPP 55
contaminated land	land in, on or under which any substance is present at a concentration above that naturally present in, on or under the land and that poses, or is likely to pose, an immediate or long-term risk to human health or the environment [1]
contamination	concentration of substances above that naturally present that poses, or is likely to pose, an immediate or long-term risk to human health or the environment
detailed investigation	an investigation to define the extent and degree of contamination, to assess potential risk posed by contaminants to health and the environment, and to obtain sufficient information for the development of a remedial action plan if required. See section 3.5.3
independent review	an evaluation by an independent expert required by a planning authority of any information submitted by a proponent, conducted at the proponent's expense
initial evaluation	an assessment of readily available factual information to determine whether contamination is an issue relevant to the decision being made. See section 3.2
investigation order	an order by the EPA under the Contaminated Land Management Act to investigate contamination at a site or within an area [2]
notice of completion	notice to the council (or Minister for Urban Affairs and Planning where he is the consent authority) in accordance with SEPP 55 that remediation work has been completed [3]

notification of remediation	prior notice of a category 2 remediation work given to the council in accordance with SEPP 55 [3]
planning authority	a public authority or other person responsible for exercising a planning function
planning function	function exercised by a planning authority under the *Environmental Planning and Assessment Act 1979*, such as the preparation or making of an environmental planning instrument [1]
preliminary investigation	an investigation to identify any past or present potentially contaminating activities and to provide a preliminary assessment of any site contamination. See section 3.5.2.
remedial action plan	a plan which sets remediation goals and documents the process to remediate a site. See section 3.5.4
remediation order	a direction from the EPA under the Contaminated Land Management Act to remediate [2]
remediation site	a site declared by the EPA under the Contaminated Land Management Act as posing a significant risk of harm [2]
remediation work	a work means a work in, on or under contaminated land, being a work that: (a) removes the cause of the contamination of the land, or (b) disperses, destroys, reduces, mitigates or contains the contamination of the land, or (c) eliminates or reduces any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on that land) [3]
site audit	an independent review by a site auditor of any or all stages of the site investigation process conducted in accordance with the Contaminated Land Management Act. [2] See section 3.6
site auditor	a person accredited by the EPA under the Contaminated Land Management Act to conduct site audits [2]
site audit statement	a certificate issued by a site auditor stating for what use the land is suitable [2]
site audit summary report	a report containing the key information and the basis of consideration which leads to the issue of a site audit statement. See (EPA 1998a)

site history	a land use history of a site which identifies activities or land uses which may have contaminated the site, establishes the geographical location of particular processes within the site, and determines the approximate time periods over which these activities took place. See (Edwards et al 1994)
site investigation process	the process of investigating land which may be, or is, contaminated, for the purpose of providing information to a planning authority. See section 3.4
soil investigation levels	See (EPA 1998a)
spot rezoning	rezoning of a small area of land, as opposed to a large area rezoning
Statement of Affairs	published annually by each government agency as a requirement under the Freedom of Information Act
validation	the process of determining whether the objectives for remediation and any conditions development consent have been achieved

Notes
1 Defined in the EP&A Act.
2 Defined in the Contaminated Land Management Act.
3 Defined in SEPP 55—Remediation of Land.

Changes to the licencing requirements of the EPA will be introduced by the *Protection of the Environment Operation 1997*. The POEO Act will replace the Pollution Control Act, Clean Waters Act, Clean Air Act, Noise Control Act, Environmental Offences and Penalties Act, and the regulatory provisions of the Waste Minimisation and Management Act.

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