

Contaminated Land Planning Guidelines

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Introduction

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1. Introduction

Contaminated land is land on which a substance occurs at concentrations above background levels which causes, or is likely to cause, a risk of harm to human health or the environment.

Contamination is generally the result of past uses or activities on land. It can occur as a result of the improper storage, production or use of petroleum products, improper chemical handling or disposal practices or the placement of contaminated fill on a site. Contamination can also occur when polluted groundwater, dust or hazardous ground gases move from a contaminated site to nearby land.

Contamination can have significant environmental, social and economic consequences including:

- the degradation of soil and water
- the uptake of contaminants by plants and animals
- increased risk of harm to human health and
- restrictions on the development of land.

When carrying out planning functions under the *Environmental Planning and Assessment Act 1979* (EP&A Act), a planning authority must consider the potential for land to be contaminated. If land is contaminated, a planning authority must consider the potential risk of harm to human health and the environment from that contamination. A planning authority must then make decisions as to whether the land should be remediated, or its use restricted.

Purpose and Structure of the Contaminated Land Planning Guidelines

These Contaminated Land Planning Guidelines (Planning Guidelines) have been prepared by the Department of Planning and Environment (DPE) and the Environment Protection Authority (EPA) to assist planning authorities:

- address land contamination issues when dealing with rezoning or development applications
- assess development applications for remediation works.

Although written primarily for planning authorities, particularly local councils, the Guidelines are also relevant to landowners, planning consultants, contaminated land consultants and site auditors, 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) and interested members of the community.

The Planning Guidelines have six sections –

Section 1

- sets out the legislative framework for the management of contaminated land in NSW
- explains the roles of DPE, EPA, planning authorities, applicants, landowners, certified contaminated land consultant and accredited site auditors

Section 2

- provides advice for planning authorities on how to undertake an initial evaluation for the potential for land to be contaminated when a development application or rezoning proposal is received

Section 3

- explains the key processes in investigating and remediating contaminated land in NSW
- highlights the issues that the planning authorities should consider when reviewing documents and reports received at each stage of the process
- provides advice on how certified contaminated land consultant and accredited site auditors can assist planning authorities during investigation and remediation processes

Section 4

- includes information to assist planning authorities respond to information about land contamination and make planning decisions
- describes the notification and information requirements for remediation works that can be undertaken without consent
- provides advice on assessing development applications for remediation works that require consent

Section 5

- provides advice on record keeping and information management

Section 6

- provides advice on preventing contamination and harm.

1. Introduction (cont'd)

Legislative Framework

In NSW, contaminated land is principally managed under the *Contaminated Land Management Act 1997* (CLM Act), the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the Remediation of Land State Environmental Planning Policy (Remediation of Land SEPP).

In general terms, the EPA manages land which it has declared to be significantly contaminated land under the CLM Act. Councils and other planning authorities manage land that is less seriously contaminated under the provisions of the EP&A Act and the Remediation of Land SEPP, when land is proposed to be rezoned or developed.

Other legislation which plays a role in the management of contaminated land in NSW includes:

- the Protection of the *Environment Operations Act 1997* (POEO Act) under which councils manage local pollution and illegal dumping incidents
- the regulations made under that POEO Act such as the Protection of the Environment Operations (Waste) Regulation 2014 which regulates the disposal of waste from remediation works
- the *Work Health and Safety Act 2011*, particularly with regard to the management of asbestos in the workplace and management of hazardous chemicals encountered in site remediation operations, such as those from disused underground storage tanks
- the *Water Management Act 2000*, particularly with regard to remediating contaminated groundwater.

Role of the EPA

Manages Significantly Contaminated Land

If the EPA has reason to believe that land is contaminated, and that the contamination is significant enough to warrant regulation, the EPA may declare the land to be significantly contaminated land under the provisions of the CLM Act. There does not have to be a new use proposed on the land for this to occur.

The EPA has powers to issue a management order, or approve a voluntary management proposal, to require the investigation and/or remediation of significantly contaminated land.

The EPA also has powers to order that land that has been the subject of a management order or approved voluntary management proposal be subject to an ongoing maintenance order.

Administers the Site Auditor Scheme

The EPA administers the NSW site auditor scheme under the CLM Act. The purpose of this scheme is to provide a pool of accredited site auditors who can be engaged to independently review the work undertaken by contaminated land consultants.

The scheme improves access to competent technical advice on the investigation and remediation of contaminated land, providing increased certainty in the 'sign off' of contaminated land assessments and remediation plans.

Information about the NSW site auditor scheme and a current list of accredited site auditors is available on the EPA's website.

Maintains Public Records relating to Contaminated Land

The EPA maintains a public record of notices related to contaminated land on its website. The public record includes:

- preliminary investigation orders
- declarations of significantly contaminated land
- a copy of any other order made under Part 3 of the CLM Act, including management orders and ongoing maintenance orders
- approved voluntary management proposals
- site audit statements related to significantly contaminated land.

In addition to the notices on the public record the EPA also maintains a register of NSW contaminated sites notified under section 60 of the CLM Act.

The EPA's public record of notices can be used by planning authorities during the initial evaluation of a site.

1. Introduction (cont'd)

Makes and approves Contaminated Land Guidelines

Under section 105 of the CLM Act, the EPA may make or approve guidelines for purposes connected with the objects of that Act. The EPA maintains access to made or approved guidelines on its website.

Guidelines made or approved by the EPA include the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013) (ASC NEPM), Guidelines for consultants reporting on Contaminated Sites and Guidelines for the NSW Site Auditor.

Role of councils and other planning authorities

Councils and other planning authorities must consider the potential for land to be contaminated when proposing land use changes (including changes to permitted land uses or through rezoning proposals) and when assessing development applications. The decisions that a planning authority will need to make relate to the planning function being undertaken.

Planning function	Decisions to be made
Preparing a planning proposal for zoning/rezoning, or preparing a state environmental planning policy that will affect a rezoning or otherwise permit a change in land use	Is the land suitable or can it be made suitable for the uses permitted in the new zone?
Preparing a development control plan (DCP)	Are provisions required to identify the need to consider contamination in any assessment, or that a site is known to be contaminated?
Assessing and determining a development application under Part 4, or application under Part 5.1, of the EP&A Act	Is the land suitable, or can and will it be made suitable, for the proposed development?
Modifying a development consent or other approval	Will the proposed modification affect the suitability of the land for existing and future proposed use/s?

Role of the Applicant

Applicants who prepare development applications, or a proposal for the rezoning of the land, are responsible for ensuring that:

- the provisions of the Remediation of Land SEPP and the Contaminated Land Section 117 Direction have been addressed in the documentation provided to the planning authority and
- if land is contaminated or potentially contaminated, an appropriately qualified and experienced environmental consultant undertakes the investigation, assessment, remediation and validation processes.

Applicants who prepare development applications should also consider whether they are required to obtain the Secretary's Environmental Assessment Requirements (SEARs) prior to undertaking the environmental assessment of the proposed development. SEARs are required for local development categorised as designated development by an environmental planning instrument or listed in Schedule 3 of the EP&A Regulation, and for State significant development.

Applicants and landowners should also be aware that section 60 of the CLM Act requires a person whose activities have contaminated land, as well as the landowner, to notify the EPA when they become aware of contamination. Further information is available in the EPA's Guidelines on the Duty to Report Contamination under the *Contaminated Land Management Act 1997*.

Role of Accredited Site Auditors and Site Auditor Statements

Accredited site auditors are highly qualified and experienced contaminated land consultants who are accredited by the EPA under the CLM Act.

Accredited site auditors can be engaged to independently review the work of contaminated land consultants, principally to ensure work has been undertaken in accordance with current regulations and guidelines, and provide a state audit statement. The involvement of an accredited site auditor in overseeing and signing off the work of a contaminated land consultant can provide greater certainty to planning authorities and communities.

The EPA Guidelines for the NSW Site Auditor Scheme includes information about the NSW site auditor scheme and the appointment, role and responsibilities of site auditors. The role of an accredited site auditor is further discussed in Section 3.

1. Introduction (cont'd)

Role of Certified Contaminated Land Consultants

A certified contaminated land consultant (in the context of the investigation, assessment, remediation and validation of contaminated land) is a contaminated land consultant, whose qualifications and experience have been confirmed through a recognised certification scheme to have the necessary competencies to carry out work relating to contaminated land to an appropriate standard.

Certification schemes that are recognised by the EPA as providing a suitable level of accreditation for contaminated land consultants are listed on the EPA's website.

A certified contaminated land consultant, typically engaged by the site owner or applicant, conducts site investigations and assessments, undertakes any necessary remediation and validates the remediation work when it is completed.

A certified contaminated land consultant may be engaged by a planning authority at any time to review the work undertaken by another certified contaminated land consultant.

Planning authorities should be aware that, under the CLM Act, only accredited site auditors can undertake site audits and issue site audit statements.

Advice on the use of Principal Certifying Authorities (PCAs)

PCAs are professionals accredited by the Building Professionals Board (accredited certifiers). PCAs, depending on their accreditation, can issue Part 4A certificates under the EP&A Act. Part 4A certificates include:

- subdivision certificates
- occupation certificates
- construction certificates, which certifies that plans for construction have been carried out in accordance with development consents and the Building Code of Australia
- compliance certificates, which certify that work complies with particular plans, conditions and standards.

PCAs, unless they have dual accreditation, are not certified contaminated land consultants in relation to the investigation, assessment, remediation and validation of contaminated land, and must not review or approve contamination reports. Planning authorities must ensure that conditions of development consent require a certified contaminated land consultant, not a PCA, to review or approve contamination reports.

Under the EP&A Regulation, a certifying authority, including a PCA, must not issue a construction certificate unless it is satisfied that all conditions of development consent have been met. If a condition of development consent requires a site audit statement certifying the site is suitable for the proposed land use to be provided, a certifying authority must not issue a construction certificate until a site audit statement has been provided by an accredited site auditor.

There may be circumstances where a site audit statement stating a site is suitable for the proposed use cannot be issued until construction has begun. For example, the site may not be suitable for the proposed use until certain areas have been capped during the construction of a building. In these circumstances, the site auditor could issue a site audit statement stating the site can be made suitable subject to the implementation of certain actions.

Liability

Under Part 7A of the EP&A Act, a planning authority does not incur liability in respect of anything it does in good faith in carrying out a planning function (set out in section 145B (2) of the EP&A Act) in so far as it relates to contaminated land or potentially contaminated land or to the nature or extent of contamination.

A planning authority, in relation to a function specified in section 145B, means:

- (a) in the case of a function relating to a development application—the consent authority (or a person or body taken to be a consent authority), and
 - (a1) in the case of a function relating to an application for a complying development certificate—the council or accredited certifier to whom the application is made, and
- (b) in the case of any other function—the public authority or other person responsible for exercising the function.

Section 145B also extends the exemption from liability to councillors, employees of planning authorities, public servants and anyone acting under the direction of a planning authority.

1. Introduction (cont'd)

A planning authority is taken to have acted in good faith if has acted substantially in accordance with the contaminated land planning guidelines in force under Part 7A (section 145B (3)).

The planning functions covered by the EP&A Act's statutory protection relevant to contaminated land are:

- (a) the preparation or making of an environmental planning instrument, including a planning proposal for the proposed environmental planning instrument
- (b) the preparation or making of a development control plan
- (c) the processing and determination of a development application and any application under Part 3A or Part 5.1
- (d) the modification of development consent
- (d1) the processing and determination of an application for a complying development certificate
- (e) the furnishing of advice in a certificate under section 149
- (f) anything incidental or ancillary to the carrying out of any function listed in paragraphs (a)–(e).



Initial Evaluation by the Planning Authority



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2. Initial Evaluation by the Planning Authority

Introduction

This section of the Planning Guidelines provides advice to the planning authority on how to undertake an initial evaluation.

Planning authorities are required to consider the potential for land to be contaminated, and the impacts of that contamination on the suitability of the land for proposed uses, by:

- the Remediation of Land SEPP when determining development applications and
- a Ministerial Section 117 Direction when preparing environmental planning instruments.

It is therefore important that planning authorities undertake an initial evaluation by considering, as early as possible in the planning process and preferably as soon as an application is received, whether contamination is an issue and whether it has sufficient information to carry out its planning functions.

Initial Evaluation

As contamination is often linked to past uses of land and is more likely to have occurred when land is or was used or zoned for industrial, agricultural, defence or some commercial purposes (such as service stations or dry cleaners), an initial evaluation usually includes consideration of information such as:

- current and previous use of the land (see Appendix 1) for potentially contaminating activities, industries and chemicals
- current zone and the permissible uses in that zone
- previous zones and permissible uses in those zones
- history of development applications and approvals for the site
- property records for the site
- information provided by the applicant
- information on whether the land has been previously remediated
- notices on the EPA's contaminated land public record
- EPA's list of sites notified under section 60 of the CLM Act.

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. An inspection of the site and the land uses in its vicinity may also provide valuable information during the initial evaluation.

Appendix 2 includes a checklist which may assist planning authorities in undertaking this initial evaluation.

If an initial evaluation reveals that contamination is, or may be, present on a site and the planning authority considers it does not have sufficient information to undertake its planning functions, the planning authority should require the applicant to provide further information on the potential for site contamination or undertake an assessment of site contamination.

The initial evaluation includes consideration of whether the specific requirements of the Contaminated Land s117 Direction (in the case of proposed changes in land use) and the requirements of the Remediation of Land SEPP (for development proposals) have been addressed.

Planning authorities must ensure that the process of how the initial evaluation was undertaken, and its findings, are appropriately documented.

Contamination on nearby land

In undertaking an initial evaluation, a planning authority should consider whether there is any known or potential contamination on nearby or neighbouring properties, or in nearby groundwater, and whether that contamination needs to be considered in the assessment and decision-making process. This should include consideration of whether the subject land is adjacent to a site on the EPA's list of notified sites or a site on the EPA's public register.

When a planning authority knows or suspects that nearby land or water is contaminated, it will need to review any available information on that land and assess the impact of the nearby contamination on the suitability of the subject land for the proposed uses.

If the planning authority knows that contamination of nearby land is present but has not yet been investigated, it may require further information from the applicant to demonstrate that the contamination on nearby land will not adversely affect the subject land having regard to the proposed use.

2. Initial Evaluation by the Planning Authority (cont'd)

A planning authority should also consider the potential for situations where land nearby to the subject land is known to be contaminated does not pose a present risk, but the proposed use of the subject land may result in a risk occurring.

This situation may arise in relation to marine sediments contaminated by past industrial activities or polluted water, which do not present a risk while they remain undisturbed but may be disturbed by development on the foreshore which has the potential to disturb the sediments and pose an increased risk to human health or the environment.

Previously remediated land

If the subject land has been previously investigated or remediated, a planning authority may not need to undertake an initial evaluation, as there may be information available (such as a preliminary site investigation, a detailed site investigation, a validation of remediation works or a site audit statement) that is sufficient to satisfy the planning authority the remediated site is suitable for the proposed use or uses.

When considering and determining development applications on previously remediated land, planning authorities should consider the need for ongoing management of the residual contamination, potentially through a condition of development consent that requires the preparation and implementation of an environmental management plan (see Section 3).

When preparing a plan or rezoning proposal that changes the uses permitted on previously remediated land, planning authorities should ensure appropriate provisions relating to the ongoing management of the residual contamination are included in the plan or environmental planning instrument.

Where no contamination is suspected, or none is identified

Having undertaken an initial evaluation, if a planning authority is satisfied that contamination is unlikely to be an issue and is satisfied it has sufficient information to make this decision, then the planning authority should record this decision and planning process should proceed as usual.

Investigation, Assessment and Management of Contaminated Land

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3. Investigation, Assessment and Management of Contaminated Land

Introduction

This section of the Planning Guidelines explains how contaminated land is investigated, assessed and managed in NSW. It includes:

- a description of how these processes are undertaken by consultants
- a description of the documents and reports provided to the planning authority and
- the key issues that planning authorities should consider when reviewing those documents and reports.

As described in Section 2, planning authorities should undertake an initial evaluation for the potential for land to be contaminated for development application or rezoning proposals at an early stage of any planning process. The availability of documents relating to the potential for the land to be contaminated will vary depending on the circumstances.

For example, in circumstances where the applicant or landowner knows the subject land is contaminated, some investigation and assessment processes may be completed before the development application or rezoning proposal is submitted. In these circumstances, documents relating to the investigation and management of the contamination will be submitted to the planning authority with the application.

In other circumstances, an initial evaluation will result in the planning authority deciding it does not have sufficient information about the potential for the subject land to be contaminated and requiring the applicant to provide a preliminary site investigation.

Table 1 shows the documents that may be provided to the planning authority following the various stages of the investigation and assessment process.

Process undertaken by the applicant or landowner	Documents provided to the planning authority
Assessment of site contamination which may include a – <ul style="list-style-type: none"> • preliminary site investigation • detailed site investigation 	Preliminary Site Investigation Report Detailed Site Investigation Report <i>Note: The potential for contamination may also be addressed as part of a Land Capability Study, particularly if the planning process is a high-level strategic process covering a large parcel of land</i>
Preparation of Remediation Plan	Remediation Plan
Remediation and Validation	Notice of Completion of Remediation Works Validation Report
Ongoing monitoring and management	Environmental Management Plan (EMP)

Table 1 - Investigation, Assessment and Management Stages

Assessment of Site Contamination

Assessments of site contamination should be undertaken in accordance with the Commonwealth guidelines for the assessment of site contamination and other guidelines made or adopted by the EPA under section 105 of the CLM Act.

Commonwealth Guidelines

The National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013) (ASC NEPM) was made by the National Environment Protection Council with the aim of establishing a nationally consistent approach to the assessment of site contamination by regulators, site assessors, auditors, landowners and developers.

It is the core technical reference document for undertaking an assessment of site contamination in Australia.

3. Investigation, Assessment and Management of Contaminated Land (cont'd)

Schedule A of the ASC NEPM includes a recommended process for the assessment of site contamination and schedule B includes a suite of technical guidelines. Both Schedules are available for download from the National Environment Protection Council (NEPC) website. The ASC NEPM Toolbox is also available on NEPC's website and includes calculators, spreadsheets and other supporting material.

Risk-based Assessment Approach

The ASC NEPM recommends a tiered risk-based assessment approach to the investigation of contaminated sites. The flowchart in Schedule A shows the relationship between the tiered risk-based assessment process and the established contaminated land reporting stages of preliminary site investigation, detailed site investigation, remediation, validation and management.

The development of a conceptual site model (CSM) is an important part of the ASC NEPM's risk-based assessment approach and provides the framework for identifying how the site became contaminated and how exposure to contamination may occur in the present or the future.

The CSM is developed in the first stage of site assessment and revised throughout the investigation process as more detailed information on the site and the nature of contamination becomes available. The CSM identifies risks to human health and environment, as well as uncertainties in information that need to be addressed through further assessment. The CSM is refined until there is sufficient information and understanding of the site to propose an approach to remediating the land or an approach to managing identified risks.

Preliminary site investigation

The principal aim of a preliminary site investigation is to identify any past or present potentially contaminating activities and to provide a preliminary assessment of the extent and nature of site contamination if it exists. It typically includes a detailed appraisal of the site history and may include some initial site sampling.

The preliminary site investigation report should be undertaken or approved by a certified contaminated land consultant.

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

Issues for planning authorities to consider when reviewing the findings of a preliminary site investigation site investigation and risk assessments

Is the information about the site's history adequate?

- Are the descriptions of activities on the site detailed enough to identify whether any uses listed in Appendix 1 were carried out on the site?
- Are there any gaps in the history that may conceal a use listed in Appendix 1 from being identified?
- Are the sources of information reliable?
- Is the information verifiable?

If the site history suggests that the site is unlikely to be contaminated but there are gaps in the history and potentially contaminating uses were possible due to the land zoning, has limited site sampling been undertaken?

Has the preliminary site investigation been undertaken or approved by a certified contaminated land consultant in accordance with relevant EPA guidelines made or approved under section 105 the CLM Act, including the ASC NEPM?

Has consideration been given to the human health exposure pathways, ecological risks and risks to groundwater?

3. Investigation, Assessment and Management of Contaminated Land (cont'd)

Detailed Site Investigation

A detailed site investigation is required when the results of the preliminary site investigation indicate that contamination is present, or is likely to be present, and the information available is insufficient for planning authorities to make planning decisions or to allow site management strategies to be devised.

Detailed site investigations are undertaken to:

- define the nature, extent and degree of contamination
- assess the potential risk posed by contaminants to human health and the environment by considering the likelihood of exposure to contaminants of concern and the potential effect of such exposure and
- obtain sufficient information for the development of a remediation plan (if necessary).

A detailed site investigation should be undertaken or approved by a certified contaminated land consultant.

A detailed site investigation may include up to three tiers of assessment. The initial Tier 1 assessment generally includes a comparison of known site data with generic risk-based guidance levels for contaminants. When levels of contaminants exceed Tier 1 guidance levels or if there are unresolved uncertainties identified in the Tier 1 assessment the risk assessment progresses from Tier 1 to Tier 2.

Tier 2 assessments include a site-specific risk assessment and the development of site-specific criteria. A Tier 3 assessment may follow where exceedance of Tier 2 site-specific target levels is judged to represent a potentially unacceptable risk to human health and/or the environment. Tier 3 assessments generally require additional site investigation and assessment to reduce uncertainties. Tier 2 assessments include a site-specific risk assessment and the development of site-specific criteria. If there is sufficient information in the detailed site investigation to satisfy the planning authority that the site is suitable for the proposed use, the planning process should proceed in the normal way. If the levels of contamination need to be remediated in order for the site to be suitable for the proposed use, remediation works will be required.

Issues for planning authorities to consider when reviewing the findings of a detailed site investigation and risk assessments when reviewing a remediation plan

Has the detailed site investigation been undertaken or approved by a certified contaminated land consultant in accordance with relevant EPA guidelines made or approved under section 105 the CLM Act, including the ASC NEPM?

Is the sampling program that has been undertaken by the certified contaminated land consultant adequate to identify all contaminants of potential concern and the extent of any contamination on the site?

Have appropriate thresholds and criteria been used for the assessment in accordance with the ASC NEPM?

Remediation

The Remediation of Land SEPP sets out the classes of remediation works that require development consent (Category 1 works) and the classes of remediation works that may be undertaken without development consent (Category 2 works).

A remediation plan prepared or approved by a certified contaminated land consultant is required for both Category 1 and Category 2 remediation works. Remediation plans should be fit for purpose, with the level of detail in the plan responding to the scale, complexity and risks of the proposed remediation works. Remediation plans should be prepared in accordance with current EPA guidelines.

The minimum requirements for a remediation plan for Category 2 works are set out in the Remediation of Land SEPP. In submitting the notification of Category 2 remediation works to a planning authority, the Remediation of Land SEPP requires a certified contaminated land consultant to certify that the works are not Category 1 works.

3. Investigation, Assessment and Management of Contaminated Land (cont'd)

A remediation plan is based on the information from the assessment of site contamination (that is, the preliminary and detailed site investigations) having regard to the proposed use of the site. It should:

- set remediation goals that ensure the remediated site will be suitable for the proposed use and will not pose an unacceptable risk to human health or to the environment
- document in detail all procedures and plans to be implemented to reduce risks to acceptable levels for the proposed use
- include a site management plan that sets out the environmental safeguards required to complete the remediation in an environmentally acceptable manner and
- identify and include proof of the necessary approvals and licences required by regulatory authorities.

Issues for planning authorities to consider when reviewing a remediation plan

Is the remediation plan appropriate in response to the nature and extent of the contamination identified, and the associated risks given the proposed land use?

Can the site be appropriately remediated? Consider the remediation plan and any statement by the applicant's certified contaminated land consultant that remediation is practical.

Are the proposed clean-up criteria appropriate for the future use of the site, considering possible human health and environmental impacts?

Are the proposed plans for managing the environmental impacts associated with undertaking the remediation work acceptable? For example, does the remediation plan include appropriate soil and water management and monitoring measures, a workplace health and safety plan, a community engagement plan or a contingency plan?

Is the proposed remediation likely to require a post-remediation environmental management plan (EMP) requiring legal enforcement by the planning authority or the EPA? For more information, refer to EPA guidelines on preparing and implementing remediation plans and EMPs.

Validation

The Remediation of Land SEPP requires a notice of completion to be prepared or approved by a certified contaminated land consultant for all remediation works. The notice of completion must include a validation that states whether the clean-up objectives have been achieved and whether any further remediation work or restrictions on land use are required.

The validation must describe the works carried out and observations made during the work. It must assess the results of post-remediation observations, testing and outcomes against the clean-up criteria stated in the remediation plan. Where the targets have not been achieved, reasons for this must be stated and additional site work proposed to ensure the original objectives will be achieved.

The validation should also include information confirming that the remediation works have complied with relevant conditions of all licences, approvals and development consents, and confirm that any contaminated soil or other material that has been removed from the site has been managed in accordance with the requirements of the *Protection of the Environment (Waste) Regulation 2014*.

Environmental Management Plans (EMP)

Where full remediation of a contaminated site is not feasible or reasonable, a planning authority should consider whether to require the applicant to prepare and implement an Environmental Management Plan (EMP).

An EMP should set out how the residual contamination on a site will be managed and monitored following the approval of a development application for remediation work or another land use.

An EMP may be prepared and submitted during the assessment process, so it can be considered by the consent authority during the determination of a development application. It may also be required as a condition of consent.

3. Investigation, Assessment and Management of Contaminated Land (cont'd)

EMPs are typically required when planning authorities have reasonable confidence that the potential impacts of residual contamination on human health and the environment can be avoided by implementing known operational or technical approaches

An EMP may be appropriate when:

- complete remediation of a certain area of land is not practicable (for example, when low levels of contamination remain under a concrete slab following the development of a site)
- it is proposed that contaminants be capped or contained on-site or
- remediation is likely to cause a greater adverse impact than would occur if the site was left undisturbed.

An EMP should be a stand-alone, fit for purpose document that can be easily understood by future landowners, users, regulators and the community. Generally, an EMP should be prepared or approved by a certified contaminated land consultant or accredited site auditor.

An EMP should:

- state the objectives of the plan
- include a list, and advice on how to access, any relevant site investigations, assessments of site contamination, remediation plans, site audit statements or validations
- describe the remediation work that has been completed
- describe the nature and extent of residual contamination
- specify the performance criteria for residual contamination, ensuring the criteria are specific and measurable, with clear timeframes
- include information on how residual contamination will be managed
- include information on how residual contamination will be monitored and reported on
- describe the actions that will be undertaken if the criteria are exceeded and
- include information on who is responsible for the implementation of the plan and how, when and by who it will be reviewed.

Planning authorities should consider whether the EMP should be prepared and submitted to the planning authority for approval prior to its implementation and how compliance with the EMP will be achieved.

Planning authorities should also be aware that the EPA may require the preparation and implementation of an EMP under notices issued under the provisions of the CLM Act.

Issues for planning authorities to consider when reviewing an EMP required by a condition of development consent

Has the nature and extent of the residual contamination been appropriately and fully described?

Are the proposed management and monitoring strategies adequate and in accordance with relevant guidelines made or approved by the EPA under section 105 of the CLM Act?

When implemented, will the actions proposed in the EMP provide protection to human health and the environment?

Who will be responsible for the implementation the EMP?

Does the EMP include appropriate reporting mechanisms?

How will the EMP be recorded in the planning authority's records?

3. Investigation, Assessment and Management of Contaminated Land (cont'd)

Independent Reviews and Site Audits

The assessment of site contamination, remediation and validation and the preparation of related reports is typically undertaken or approved by a certified contaminated land consultant.

In some circumstances, a planning authority may decide to engage another certified contaminated land consultant, or an accredited site auditor, to independently review the work of a contaminated land consultant.

The Remediation of Land SEPP does not specify the circumstances when an independent review by a certified contaminated land consultant or a site audit is required, but generally, these are only necessary when:

- the planning authority believes on reasonable grounds that the information provided by an applicant is incorrect or incomplete
- the contamination and/or remediation issues are complex and the planning authority does not have the internal resources to conduct its own technical review
- the planning authority requires additional certainty that a site can be made suitable for a particular use or uses if remediated in accordance with a remediation plan.

In most cases, provided there is reasonable evidence that work has been undertaken in accordance with relevant EPA guidelines, a planning authority should be able to rely on the findings of investigation and assessments undertaken or approved by a certified contaminated land consultant.

In some circumstances, a site audit is required by law. These site audits are known as statutory site audits and may be required to secure compliance with a requirement of the CLM Act. Site audit statements are statutory documents and only site auditors accredited by the EPA can issue site audit statements.

The purpose of the site audit statement is to outline the findings of a site audit. The site audit statement will be accompanied by a site audit report which contains the information, discussion and rationale that support its conclusions.

The EPA guidelines for the NSW Site Auditor Scheme sets out the obligations of site auditors in conducting a site audit and the administrative framework supporting the site auditor scheme.



Decision making by the planning authority

4

4. Decision making by the planning authority

Introduction

This section of the Planning Guidelines includes information to assist planning authorities make decisions in response to information received about the investigation, assessment and management of land contamination.

Key Principles

- consider the potential for land contamination as early as possible
- make evidence-based decisions
- ensure that changes of land use do not increase risks to human health and the environment
- encourage the remediation of contaminated land
- maintain records on land use, land contamination and remediation works to provide the community with information and support future decisions
- exercise statutory planning functions with a reasonable standard of care.

When undertaking a planning function, the planning authority must ensure that planning decisions are based on adequate and appropriate information relating to the contamination or potential contamination of the land.

Changes of use on contaminated or potentially contaminated land should only proceed if the planning authority is satisfied that:

- the land is suitable for the proposed use or
- the land can be remediated to a level that would make it suitable for the proposed use or
- for development applications, conditions of consent will ensure that the subject land is remediated to make it suitable for its proposed use prior to commencement of that use

Strategic Planning and Rezoning

A planning authority should always consider the potential for land to be contaminated when changes to existing permissible land uses are proposed, regardless of whether it is undertaking a high level strategic planning exercise covering a large area or a smaller site-specific rezoning of a small parcel of land.

In some instances, for example when considering land use changes over large areas of former rural land, it may be difficult for a planning authority to be satisfied at an early stage of the planning process that every part of the land will be suitable for the proposed use. In these instances, the potential for contamination should be considered and planning controls put in place to ensure that further investigations are undertaken as required.

For areas or precincts identified by government for targeted urban growth, a high-level assessment for the potential for contamination should be undertaken to inform the structure planning process. These high-level assessments can lead to the following outcomes:

1. based on an initial evaluation of available information, significant contamination is unlikely
2. contamination or potential contamination is suspected in certain areas, but appropriate provisions have been put in place in an environmental planning instrument or development control plan to ensure that:
 - (a) contaminated or potentially contaminated land is identified
 - (b) contaminated or potentially contaminated land will be further investigated before land use changes occur
 - (c) contaminated land will be remediated to ensure it is suitable for its proposed use.

Planning Proposals – Contaminated Land Section 117 Direction

In accordance with the Contaminated Land Section 117 Direction (s117 Direction), councils must consider the potential for land to be contaminated when preparing planning proposals for rezoning, including when preparing planning proposals for which council is the applicant.

4. Decision making by the planning authority

The s117 direction also requires that a planning proposal to rezone land must be accompanied by a preliminary site investigation or detailed site investigation when:

- land is significantly contaminated land within the meaning of the CLM Act
- an activity listed in the SEPP (as reproduced in Table 1 in Appendix 1) is being carried out on the land and is potentially causing contamination
- records show that a potentially contaminating activity has been carried out on the land
- there are incomplete records about the use of the land and during the periods not covered by those records, it would have been lawful to carry out a potentially contaminating activity and
- the proposed rezoning, or proposed change to planning controls, would allow the land to be used for residential, educational, recreational or child care purposes, or for the purposes of a hospital.

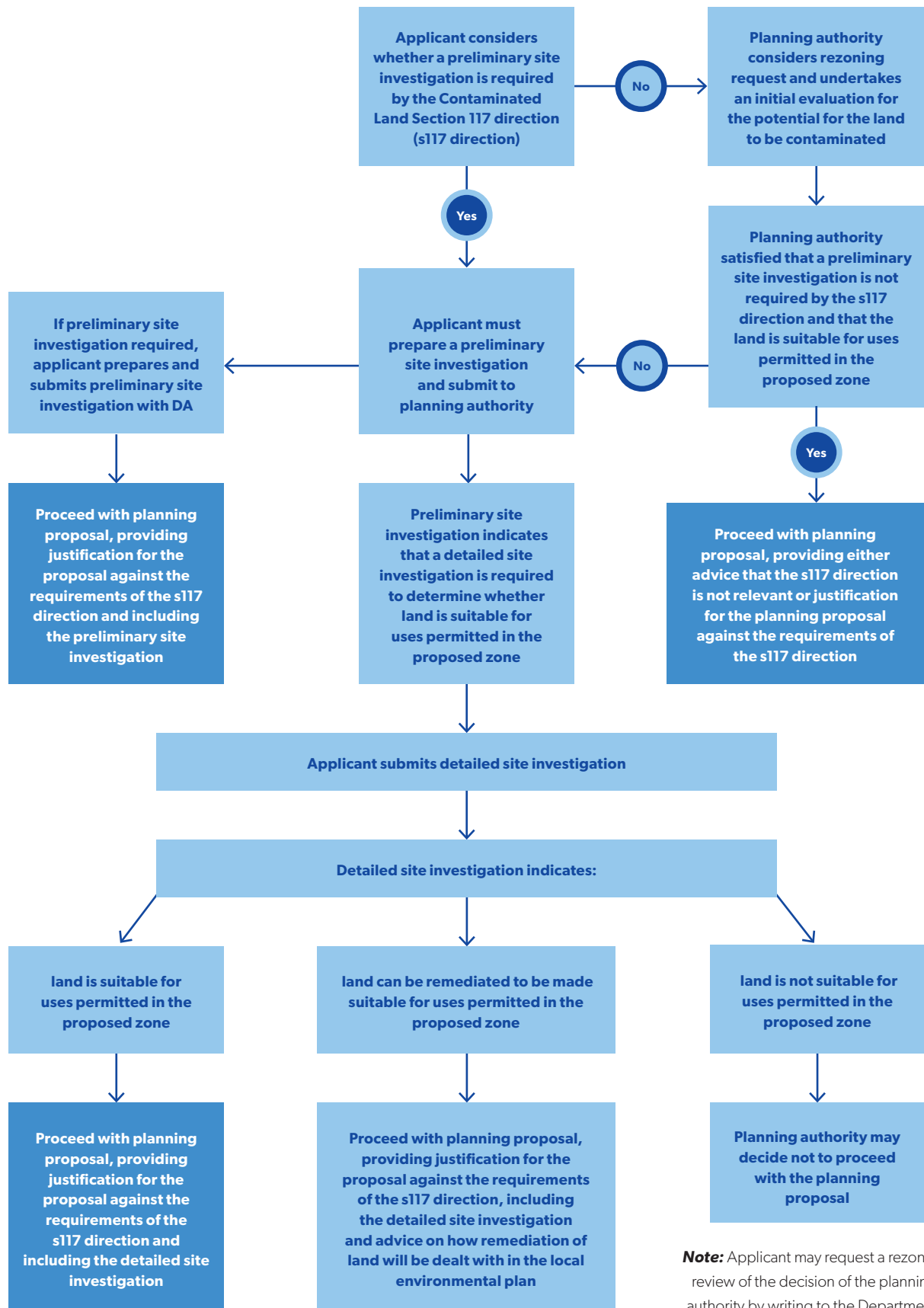
Possible responses in planning instruments to contamination issues

In circumstances where remediation is required to make contaminated land suitable for particular uses, a planning authority should consider using provisions in the environmental planning instrument to ensure the contaminated land is remediated before these uses occur.

If an investigation indicates that contamination makes the land unsuitable for some uses and remediation is not appropriate or possible, either the proposal for rezoning should not proceed or the range of permissible uses should be restricted in the relevant environmental planning instrument.

4. Decision making by the planning authority (cont'd)

Figure 1: Considering contamination issues in the planning proposal and rezoning process



Note: Applicant may request a rezoning review of the decision of the planning authority by writing to the Department.

4. Decision making by the planning authority (cont'd)

Development Control Plans

A development control plan (DCP) is a document that provides additional, usually more detailed, planning and design guidelines to support the planning controls in a LEP.

When preparing a DCP, planning authorities should consider whether the land the DCP applies to is contaminated or potentially contaminated.

If land is contaminated or potentially contaminated, a DCP may require that certain land is further investigated or remediated before it can be used for certain uses. A DCP may also include provisions placing restrictions on the use of contaminated land.

Development Assessment

When determining a development application for any use, a planning authority should consider whether the land is contaminated or potentially contaminated. For most applications, contamination won't be an issue.

However, the Remediation of Land SEPP requires a consent authority to not grant consent to development unless:

- it has considered whether the land is contaminated, and
- if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be made suitable following remediation) for the purpose for which development is proposed to be carried out, and
- if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Therefore, as set out in Section 2, a planning authority should undertake an initial evaluation of potential for land to be contaminated for every development application.

When the application is being determined, Section 79C of the EP&A Act requires consent authorities to consider the suitability of the site for the development. If land is contaminated, a consent authority should specifically consider the risk to human health and the environment from the contamination, including during any remediation works.

The relevance of contamination to a decision on a development application will vary depending on the uses specified in the application and the risk associated with those uses. Where contaminated land has been remediated, planning authorities must ensure that any residual contamination is appropriately managed to permit the proposed new land use. This is particularly important when there is on-site encapsulation of contaminated material.

Under the Remediation of Land SEPP, a preliminary site investigation and, if required, detailed site investigation, must be provided to the planning authority for its consideration when determining a development application on contaminated or potentially contaminated land.

Contaminated or potentially contaminated land includes:

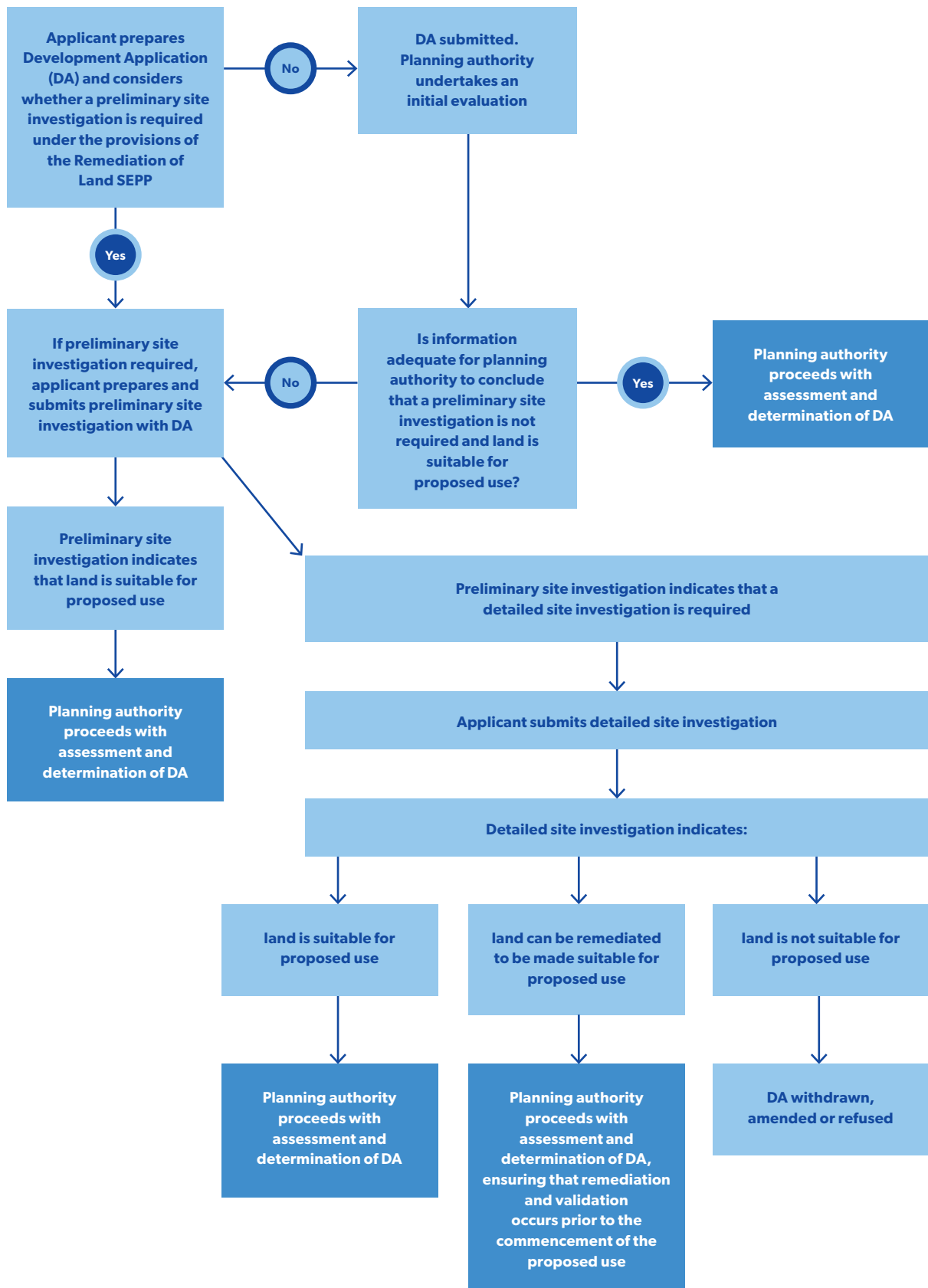
- Significantly contaminated land within the meaning of the CLM Act
- Land that the consent authority knows is contaminated
- Land on which development that may have caused contamination of land has been carried out or may have been carried out (as listed in a schedule to the SEPP)
- Land on which development for residential, educational, recreational, child care purposes or a hospital is proposed and for which there is incomplete knowledge about whether development that may have caused contamination has been carried out
- Land on which development of a kind that the consent authority knows causes, or is likely to cause, contamination has been carried out.

In addition, if a planning authority has any other reasonable grounds to believe the land is contaminated or potentially contaminated, it should require the applicant to provide information, including a preliminary site investigation if necessary, to enable the planning authority to consider the suitability of the site for the proposed development under section 79C of the EP&A Act.

The four-stage investigation, evaluation and management process detailed in Section 3 occurs throughout the assessment and determination process for a development application. The general process for considering contamination issues is shown on Figure 2.

4. Decision making by the planning authority (cont'd)

Figure 2: Considering contamination issues in the development assessment process



4. Decision making by the planning authority (cont'd)

Development Assessment of Remediation Works

The Remediation of Land SEPP establishes the planning framework for the remediation of contaminated land in NSW. It makes the remediation of contaminated land permissible throughout the State and ensures that development consent is required for remediation works that have the potential for significant environmental impacts.

As a general rule, remediation of contaminated land should be encouraged as it can improve the quality of the environment, reduce risks to human health and restore land to productive use. However, remediation works have the potential for environmental impacts and planning authorities must ensure these impacts are adequately identified, mitigated and managed.

The Remediation of Land SEPP divides remediation works into two categories – either Category 1 remediation work which requires development consent and Category 2 which may be carried out without development consent.

Category 1 remediation works

Category 1 remediation works may only be undertaken with development consent. The list of works in this category reflects the need for development assessment based on the scale, risk and complexity of the proposed remediation work. Category 1 also includes any remediation work undertaken on environmentally sensitive land and remediation that is designated development.

Category 2 remediation works

Category 2 remediation work does not require development consent and includes any remediation not specified as Category 1. Category 2 remediation work is proposed to encompass remediation work that is technically straightforward, moderate in scale and can be reasonably expected to have a low impact on the environment and community.

The Remediation of Land SEPP requires that councils be notified 30 days before Category 2 remediation works commence (or the day before, in the case of emergency work subject to a management order under the CLM Act).

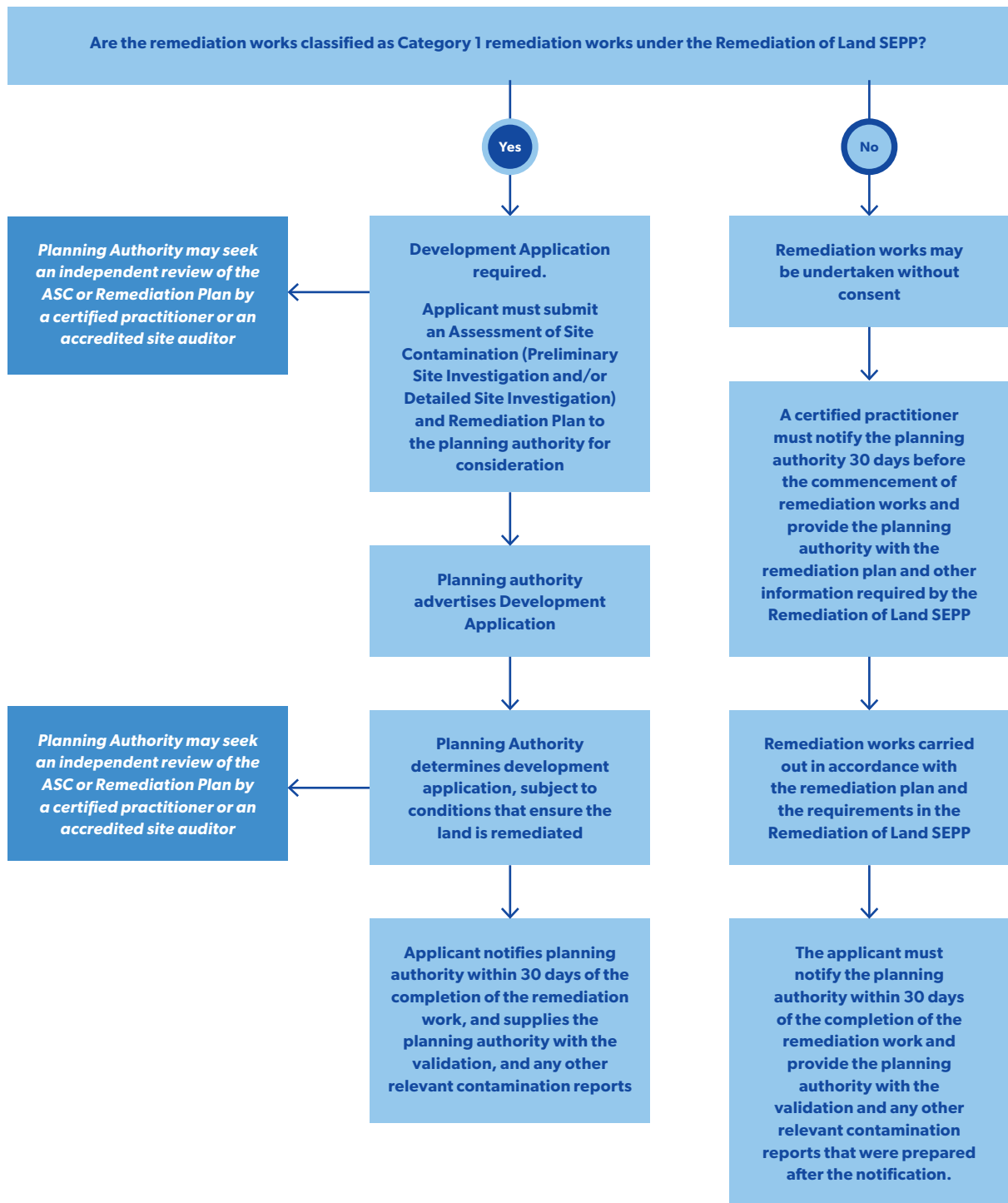
The notification to council must be accompanied by a certification from a certified contaminated land consultant stating that, having regard to the provisions of the Remediation of the Land SEPP, the proposed remediation is a Category 2 remediation.

The Category 2 remediation works notification must provide the following information:

- property description and street address of the land on which remediation work is to be carried out
- locality map or plan that shows the location of the land
- site plan drawn to scale that clearly shows the area of contaminated land proposed to be remediated
- name and contact information of the person submitting the proposal and responsible for carrying out the remediation
- brief description of the nature and extent of the contamination that it is proposed to remediate
- remediation plan that includes a description of the remediation method, the procedures for treatment or disposal of materials generated during remediation, the validation sampling and analysis required to demonstrate that remediation has been successful, backfill and/or reinstatement of the site following remediation
- any assessments of site contamination (preliminary site investigation or detailed site investigation) that have been prepared
- date when remediation is expected to commence
- expected duration of remediation works.

4. Decision making by the planning authority (cont'd)

Figure 3: Process for dealing with Category 1 and Category 2 Remediation Works



4. Decision making by the planning authority (cont'd)

Options for the Planning Authority if it does not agree the Remediation Works are Category 2

If a planning authority receives notification of Category 2 remediation works that it believes is Category 1 remediation work, it should advise the notifier as soon as possible that a development application is required. Section 76A (1) of the EP&A Act provides that development may not proceed except with development consent if an environmental planning instrument so provides.

Should the remediation work commence, a council may intervene to restrain any breaches of the EP&A Act or POEO Act.

Remediation Works on Significantly Contaminated Land

Under the CLM Act, the EPA may regulate site contamination if it believes the contamination is significant enough to warrant regulation. There does not have to be a new use proposed on the land for this to occur. The EPA may declare the site to be significantly contaminated land and issue a management order or approve a voluntary management proposal to require investigation and/or remediation of a site. The management order or approved voluntary management proposal may also specify whether the work is to be audited by an accredited site auditor.

Under State Environmental Planning Policy (State and Regional Development) 2011, where the proposed remediation work on significantly contaminated land is category 1 remediation work, the work is State significant development if it is to be carried under a management order that requires:

- (a) the taking of action of the kind referred to in section 16 (d) or (g) of the CLM Act, or
- (b) the preparation of a plan of management that provides for the taking of any such action.

Assessing remediation work that is associated with a development application for another use

If proposed remediation work requires consent under the Remediation of Land SEPP (Category 1 remediation work) the applicant may include details of the proposed remediation work as part of the development application for the use of the land, or provide a separate development application for the remediation work.

If the remediation does not require consent under the Remediation of Land SEPP (Category 2 remediation work), the planning authority should impose conditions of consent to require remediation and validation either before other work commences or before occupation of the site. Alternately, a deferred commencement consent for the use could be issued requiring remediation to be carried out and validated before other work commences. Standard requirements for carrying out Category 2 remediation work will apply. A deferred commencement consent should only be considered if the consent authority is satisfied that remediation is feasible and the land will be suitable for its proposed use following remediation.

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.

If investigations find that contamination makes the land unsuitable for the proposed use and either the land may not be appropriately remediated or the applicant does not wish to remediate, the proposal may be modified to a use suitable without remediation. Alternatively, the application may be withdrawn or refused.

Assessing Category 1 remediation works

The environmental impact of remediation work should be assessed like any other development proposal but with the additional consideration of the consequences of not carrying out the work against the environmental impacts of carrying out the work. Both the applicant and the consent authority need to consider how the work will contribute to a net improvement in environmental quality, reduce risks to human health or promote the economic use and development of the land.

Planning justification is required to refuse a development application for remediation work. The Remediation of Land SEPP requires a consent authority to consider whether there would be a more significant risk of harm to human health or the environment from carrying out the work than there would be from the use of the land in the absence of the work for any purpose for which it may be lawfully used. The consent authority should consider seeking advice from a certified contaminated land consultant or an accredited site auditor in determining the risk.

4. Decision making by the planning authority (cont'd)

Issues to consider when determining a development application for Category 1 remediation work

When determining a development application for Category 1 remediation work, in addition to considering the relevant section 79C matters, a consent authority should also consider the following matters, when relevant:

- the potential impacts of the proposed remediation work on the environment
- the potential impacts of the proposed remediation work on the health and amenity of nearby residents, particularly having regard to noise, odour, traffic and air quality impacts
- whether the environmental assessments submitted with the development application, such as the noise impact assessment, the air quality assessment and the surface and groundwater impact assessment, adequately identify and propose measures to avoid, minimise and mitigate the environmental impacts of the proposed remediation work
- whether an operational plan for carrying out the remediation work, that details the measures proposed to protect the environment, and the health and amenity of nearby residents, should be required
- whether the remediation work will be supervised by an appropriately qualified and experienced person
- the adequacy of proposed monitoring and reporting mechanisms
- the adequacy and timeliness of the proposed validation process
- the availability of an appropriate waste disposal facility when off-site disposal is required and
- whether there is a need to require an EMP for on-going maintenance or operation of any works on site or monitoring, particularly where there is on site capping and/or containment.

Staged or deferred commencement consent

Staged development

Where it is proposed to carry out development in stages, a remediation plan should be submitted with the development application that addresses how land will be remediated for each stage of the development. In determining the development application, the consent authority should consider whether:

- it is satisfied that contaminated areas within the site will be remediated to a level suitable for the proposed use of that area before that use commences and
- remediation at subsequent stages of development will not be impeded by, or create a risk to, preceding stages. In particular, there should be no impact to the occupants of buildings already constructed from any ongoing remediation.

Deferred commencement

A “deferred commencement” consent may be warranted where an applicant has demonstrated that the land can be remediated to make it suitable for its proposed use, but the remediation work has not yet occurred. Such a consent may be granted subject to a condition that the consent is not to operate until the applicant provides a remediation plan to the satisfaction of the consent authority, or remediates and validates the site.

Similarly, a development consent may be granted subject to a condition that states that certain aspects of the consent (for example, construction of above-ground parts of the development), must not commence until remediation has been completed and validated. A site audit statement may be required at that stage.

However, a deferred commencement consent cannot be used to defer adequate investigation of the nature and extent of contamination. A consent authority must be satisfied that remediation is feasible before granting consent.

When is a Remediation Plan required?

A remediation plan should be prepared for all remediation proposals, to specify the objectives of the remediation, to specify how the work will be done, and to provide criteria against which successful completion of the remediation can be measured.

For Category 1 remediation work, a remediation plan must be submitted to the consent authority and approved prior to the commencement of work. A remediation plan may form part of an environmental impact statement if the remediation work is designated development or State significant development.

Where a remediation is, complex or requires significant time to complete, it may not be practical to finalise all details of a remediation plan at the time a development application is submitted. Post-remediation management

Appendix 4 includes post-remediation management issues that should be addressed in setting conditions of consent for Category 1 remediation work. These also represent a valuable checklist for Category 2 remediation work.

4. Decision making by the planning authority (cont'd)

Planning authorities can impose a condition of consent requiring the preparation and, if approved by the consent authority, the implementation of an Environmental Management Plan (EMP). An EMP may be needed for sites with potential for residual contamination due to the type of remediation being carried out, such as where contamination cannot practically be removed and is contained by way of encapsulation, or where active or passive systems are required to control hazardous ground gases or vapours.

Conditions of Development Consent

Planning authorities should ensure that the conditions of consent relating to the assessment and management of contaminated land:

- are achievable and enforceable
- are time specific
- are unambiguous
- use the word “must” rather than “should”
- clearly state what actions must be carried out by what date
- clearly specify what standards must be met and
- ensure that an accredited site auditor is responsible for signing off on site audits

When is a Remediation Plan required in the development assessment process?

A remediation plan should be prepared for all remediation proposals, to specify the objectives of the remediation, to specify how the work will be done, and to provide criteria against which successful completion of the remediation can be measured.

For Category 1 remediation work, a remediation plan must be submitted to the consent authority and approved prior to the commencement of work. A remediation plan may form part of an environmental impact statement if the remediation work is designated development or State significant development.

Where a remediation is complex or requires significant time to complete, it may not be practical to finalise all details of a remediation plan at the time a development application is submitted.

Planning authorities can impose a condition of consent requiring the preparation and the implementation of an Environmental Management Plan (EMP) for sites with potential for residual contamination due to the type of remediation being carried out, such as where contamination cannot practically be removed and is contained by way of encapsulation, or where active or passive systems are required to control hazardous ground gases or vapours.

The need for an EMP may only become apparent during the remediation process or following a site audit completed at the end of the process. In these circumstances, proponents must provide the planning authority with a notice of variation of remediation.

Where an EMP is required as a condition of consent, planning authorities should ensure that systems are in place to ensure compliance with the provisions of the EMP.

Part 5 of the EP&A Act

Under Part 5 of the EP&A Act, public authorities or agencies may undertake some activities as development without consent. In these circumstances, the public authority determining whether to grant an approval for an activity or proposing to carry out an activity, without development consent, must take into account to the fullest extent possible all matters affecting or likely to affect the environment. The public authority should ensure that the potential for land to be contaminated is taken into account as part of this process and is adequately addressed in any Review of Environmental Factors.

Record keeping and information management

5

5. Record keeping and information management

Planning authorities, particularly councils, play an important role in providing the community and other stakeholders with information on land use history, including information on contaminated land and its remediation. Information collected about contaminated land and remediation works during rezoning and development approval processes can also be a valuable resource when future decisions about the use of land are being made.

A planning authority should ensure that information about contaminated land and remediation works:

- is collected, recorded and maintained in accordance with current legislation
- is easily accessible to assist planning authorities carry out planning functions in the context of a reliable land use history
- is provided to stakeholders and the community, especially potential purchasers and occupiers of land, in a fair and equitable manner
- does not unnecessarily place restrictions on land or affect its value and
- acknowledges any limitations, such as the degree of uncertainty and accuracy of the information.

EPA Registers

Planning authorities should be aware that the EPA maintains a number of registers that allows planning authorities to establish whether or not the EPA has previously, or is currently, regulating a site or whether a site has been notified to the EPA under section 60 of the CLM Act. However, planning authorities should not rely solely on the EPA's registers to determine if there is the potential for contamination as it is possible that the EPA may not have been notified of all contaminated sites.

Information to be recorded

All information which may assist in carrying out the planning functions covered in Section 3 should be recorded. This may include:

- previous property descriptions, for cross-referencing purposes
- chronological land use history
- complaints about contamination or potentially contaminating activities and whether these were substantiated
- details of initial evaluations and conclusions
- preliminary or detailed site investigations, including their findings and recommendations
- development approvals for Category 1 remediation works, and any associated remediation plans or environmental management plans
- notifications of Category 2 remediation work, including associated remediation plans
- notifications of completion of Category 2 remediation works
- site audit statements
- previous zones and permissible uses, particularly uses listed in Table 1 in Appendix 1
- approved development applications for uses listed in Table 1 in Appendix 1 or uses where contamination was an issue
- determinations for development applications that were refused because of contamination-related issues
- planning proposals that did not proceed because of contamination-related issues
- planning proposals which included information about land contamination
- information provided to the planning authority by the EPA in relation to contaminated land
- licences and notices issued under the Protection of the Environment Operations Act 1997 or declarations, orders and notices and approved voluntary management proposals under the CLM Act, and resulting action.

All records should include the source of the information, its date and the purpose for which it was collected.

Notifying restrictions on land use and additional information

When land is contaminated, it may not be suitable for certain purposes and its use may need to be restricted. Information about any restriction on land as a result of contamination should be publicly available, particularly for future purchasers of the land.

When there is no need to restrict the use of land arising from contamination, but information is held by the planning authority about contamination that may assist others in making decisions about that land, this information should also be made available to support informed decision making.

5. Record keeping and information management (cont'd)

Section 149 planning certificates

Under section 149 of the EP&A Act, a person may request a council to issue a planning certificate. The certificate must contain advice on matters about land that are prescribed by the Environmental Planning and Assessment Regulation 2000. Schedule 4 to the Regulations set out these matters. These include:

- zoning and land use
- road widening and road realignment
- land reserved for acquisition
- bush fire prone land
- council and other public authority policies on hazard risk restrictions

Policies on hazard risk restrictions includes policies that restrict the development of the land concerned due to risks such as those arising from contamination.

A section 149 (2) planning certificate provides information to members of the public on whether a council policy applies which restricts the development of land.

Additionally, section 59 of the CLM Act requires the following matters to be specified on a section 149 (2) certificate:

- that the land is significantly contaminated land—if the land (or part of the land) is significantly contaminated at the date when the certificate is issued
- that the land to which the certificate relates is subject to a management order—if in force at the date when the certificate is issued
- that the land is the subject of an approved voluntary management proposal—if in force at the date when the certificate is issued
- that the land is subject to an ongoing maintenance order—if in force at the date when the certificate is issued
- that the land is the subject of a site audit statement—if a copy of such a statement has been provided at any time to the local authority issuing the certificate (Note: there is no requirement to include copies of site audit statements or reports on remediation with planning certificates).

These matters are listed in a note to Schedule 4 to the Environmental Planning and Assessment Regulation 2000.

Note: Site audit statements may contain conditions requiring the implementation of EMPS, and EMPs must be attached to the statement. There is no requirement to specify the existence of an EMP on planning certificates but councils should consider doing so to adequately inform persons dealing with the site as to long-term management requirements.

A planning certificate under section 149 (2) must be provided to every prospective purchaser under provisions in vendor disclosure legislation . If information required to be included on the planning certificate is not disclosed or is incorrect, the purchaser may be able to rescind the contract.

Section 149 (5) provides councils with the opportunity to record additional property information about the land. A purchaser may request information under section 149 (5), which may incur a fee. However, there are no specific obligations for the vendor to provide a planning certificate under section 149 (5) of the EP&A Act.

Councils do not incur any liability for advice provided in good faith under section 149 (2) or section 149 (5) relating to contaminated land.

Investigation required when issuing section 149 planning certificates

A planning certificate under section 149 (2) must be provided to every prospective purchaser under provisions in vendor disclosure legislation¹. If information required to be included on the planning certificate is not disclosed or is incorrect, the purchaser may be able to rescind the contract.

¹ Section 52A of the Conveyancing Act sets out the 'duty of disclosure' requirements. This legislation requires the vendor of a property to attach to the contract of sale any prescribed documents relating to that property. If this is not done, the purchaser may rescind the contract. Clause 4 of the Conveyancing (Sale of Land) Regulation 2010 specifies a planning certificate issued under section 149 (2) of the EP&A Act as a prescribed document in relation to land the subject of a contract of sale.

5. Record keeping and information management (cont'd)

Information under section 149 (5)

Councils are encouraged to provide information relating to contamination and remediation of land when they are aware of that information. Information relating to contamination and remediation may be provided under section 149 (5) even if nothing is noted with respect to a council policy relating to contaminated land under section 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 section 149 (5) as factual information about the land. As well, if council is aware of the existence of an EMP that must be complied with at the time the certificate is issued, this information could also be noted.

¹ Section 52A of the Conveyancing Act sets out the 'duty of disclosure' requirements. This legislation requires the vendor of a property to attach to the contract of sale any prescribed documents relating to that property. If this is not done, the purchaser may rescind the contract. Clause 4 of the Conveyancing (Sale of Land) Regulation 2010 specifies a planning certificate issued under section 149 (2) of the EP&A Act as a prescribed document in relation to land the subject of a contract of sale.

Preventing contamination and minimising risks

6

6. Preventing contamination and harm

While the main emphasis in the Remediation of Land SEPP and the Land Contamination Planning Guidelines is identifying, and dealing with pre-existing contamination, in undertaking planning functions, planning authorities should ensure that the potential for future contamination is minimised.

This can be achieved by the diligent investigation of contamination issues and the appropriate recording of information on land use and potentially contaminating activities. The prevention of future contamination may also be achieved by imposing appropriate conditions on development consents.

Knowledge gained through the investigation process and the notification of remediation work will help to proactively reduce risk from contamination and prevent harm to human health and the environment by increasing understanding of the relationship between previous land uses, contamination and environmental impacts. Making factual information available will also raise general awareness of contamination issues.

Measures to prevent pollution at its source will help reduce future land contamination. Once contamination is detected, environmental damage may have occurred. The cost of cleaning a site from contaminants can be high and should be a deterrent in avoiding contamination of land in the first instance.

A proactive approach to reduce the potential for or to prevent contamination must be linked to the nature of specific activities on land. Contamination of land can be associated with new development involving potentially contaminating activities (see Appendix 1). These activities may result in accidental release of chemicals on land. Planning authorities should consider the following principles -

- Development applications for new or expanding developments should include information on the potential for the activity to contaminate including details about the type of chemicals to be used or stored on the land, particularly for uses listed in Appendix 1.
- In assessing development applications for uses or activities which could be a source of contamination, planning authorities should ensure that the technical and management controls are adequate to prevent contamination and use appropriate conditions of consent or approval (such as a requirement for monitoring and EMPs) to ensure that such controls are applied. Plant design should aim to reduce waste production and minimise or eliminate the release of waste into the environment by, for example, appropriate primary and secondary containment and good work practices.
- Periodic environmental audits should be conducted and the use of clean, alternative technologies promoted.
- Improved technologies, waste management practices and environmental management practices should be identified and promoted.

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Appendix

Appendix 1 - Potentially contaminating land uses, activities, industries and chemicals

The following tables list potentially contaminating activities, industries and the chemicals typically associated with them. There is some overlap between the two tables, which are taken from different sources. The lists are not exhaustive but provide guidance for an initial evaluation of possible contamination at a site.

Table 1: Some activities that may cause contamination

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

Source: Adapted from ANZECC & NHMRC 1992 The Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (Ref b)). While these guidelines have been rescinded, the list is still useful. For information on chemicals commonly associated with these activities see Table 2.

Note: It is not sufficient to rely solely on the contents of Table 1 to determine whether a site is likely to be contaminated or not. The Table is a guide only. The contamination status can only be determined after a review of the site history and, if necessary, sampling and analysis. For example, where agricultural activities have been carried out using organic farming techniques and without the application of herbicides and pesticides, contamination from this use would not usually be suspected, notwithstanding its inclusion in Table 1

Appendix 1 - Potentially contaminating land uses, activities, industries and chemicals (cont'd)

Table 2: Industries that may cause contamination and chemicals used ¹

Industry	Type of chemical	Associated chemicals
Agricultural/horticultural activities		See Fertiliser, Insecticides, Fungicides and Herbicides under 'Chemicals manufacture and use'
Airports	Hydrocarbons	Aviation fuels, PFAS
	Metals	Particularly aluminium, magnesium, chromium
Asbestos production and disposal		Asbestos
Battery manufacture and recycling	Metals	Lead, manganese, zinc, cadmium, nickel, cobalt, mercury, silver, antimony
	Acids	Sulfuric acid
Breweries/distilleries	Alcohol	Ethanol, methanol, esters
Chemicals	Acid/alkali manufacture and use	Mercury, chlorine (chloralkali process), 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, arsenic
	Flocculants	Aluminium
	Foam production	Urethane, formaldehyde, styrene
	Fungicides	
	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, hydrocarbons	

¹ See Appendix 1 of Australian Standard AS4482.1-2005—Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-Volatile and Semi-Volatile Compounds.

Appendix 1 - Potentially contaminating land uses, activities, industries and chemicals (cont'd)

Industry	Type of chemical	Associated chemicals
Chemicals (cont'd)	Pesticides	
	active ingredients	Arsenic, lead, organochlorines, organophosphates, sodium tetraborate, carbamates, sulfur, synthetic pyrethroids
	solvents	Xylenes, kerosene, methyl isobutyl ketone, amyl acetate, wide range of chlorinated solvents
	Pharmaceutical	
	Solvents	Acetone, cyclohexane, methylene chloride, ethyl acetate, butyl acetate, methanol, ethanol, sopropanol, 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, tea tree	
Solvents	General	Ammonia
	hydrocarbons	e.g. BTEX (benzene, toluene, ethylbenzene, xylenes)
	chlorinated organics	e.g. tetrachloroethene (perchloroethylene) trichloroethene, trichloroethane, dichloroethane, carbon tetrachloride, methylene chloride
Council Depots		Hydrocarbons, PAH, asbestos, heavy metals, pesticides, herbicides, PFAS
Defence works		Hydrocarbons, PFAS, asbestos, see Explosives under 'Chemicals manufacture and use'; also 'Foundries', 'Engine works' and 'Service stations'
Drum reconditioning		See 'Chemicals manufacture and use'
Dry cleaning		Tetrachloroethene (perchloroethylene), Trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, white spirit (mixed hydrocarbons)

Appendix 1 - Potentially contaminating land uses, activities, industries and chemicals (cont'd)

Industry	Type of chemical	Associated chemicals
Electrical		PCBs (transformers and capacitors), solvents, tin, lead, copper, mercury
Engine works	Hydrocarbons	
	Metals, Solvents, Acids/Alkalis	
	Refrigerants	Chlorofluorocarbons, hydro chlorofluorocarbons, hydrofluorocarbons
	Antifreeze	Particularly aluminium, manganese, iron, copper, nickel, chromium zinc, cadmium and lead and oxides, chlorides, fluorides and sulfates of these metals
Foundries	Metals	Particularly aluminium, manganese, iron, copper, nickel, chromium zinc, cadmium and lead and oxides, chlorides, fluorides and sulfates of these metals
Gas works	Inorganics	Asbestos, 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
Hospitals	Waste	Asbestos, Various
	Radioactive Materials	Diagnostic and therapeutic isotopes
Iron and steel works		BTEX, phenolics, PAHs, metals and oxides of iron, nickel, copper, chromium, magnesium, manganese and graphite
Landfill sites		Methane, carbon dioxide, ammonia, sulfides, heavy metals, organic acids, hydrocarbons, asbestos
Marinas		See 'Engine works' and Electroplating metals under 'Metal treatments'
	Antifouling paints	Copper, tributyltin (TBT)
Metal treatments	Electroplating	
	metals	Nickel, chromium, zinc, aluminium, copper, lead, cadmium, tin
	acids	Sulfuric, hydrochloric, nitric, phosphoric
	general	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

Appendix 1 - Potentially contaminating land uses, activities, industries and chemicals (cont'd)

Industry	Type of chemical	Associated chemicals
Mining and extractive industries		<p>Arsenic, mercury and cyanides and also explosives under 'Chemicals manufacture and use'</p> <p>Aluminium, arsenic, copper, chromium, cobalt, lead, manganese, nickel, selenium, zinc and radio-radionuclides</p> <p>The list of heavy metals should be decided according to the composition of the deposit and known impurities</p>
Power stations		Asbestos, PCBs, fly ash metals, water treatment chemicals
Printing shops		<p>Acids, alkalis, solvents, chromium, trichloroethene, methyl ethyl ketone</p> <p>See also Photography under 'Chemicals manufacture and use'</p>
Research Institutions		Various depending on nature of work being carried out. A case specific evaluation is required.
Railway yards		Hydrocarbons, asbestos, arsenic, phenolics (creosote), heavy metals, nitrates, ammonia
Scrap yards		Hydrocarbons, metals, solvents, asbestos
Service stations and fuel storage facilities		<p>Aromatic hydrocarbons BTEX (i.e. benzene, toluene, ethylbenzene, xylenes, naphthalene)</p> <p>PAHs</p> <p>Phenols</p> <p>Lead</p>
Sheep and cattle dips		Arsenic, organochlorines, organophosphates, carbamates, synthetic pyrethroids
Smelting and refining		Metals, fluorides, chlorides and oxides of copper, tin, silver, 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, biphenyl, ammonium sulfate, quinoline, boron, creosote, organochlorine pesticides

Appendix 2 - Suggested checklist for initial evaluation

The following is a brief checklist for guiding an initial evaluation:

The following is a brief checklist for guiding an initial evaluation:		
Aspect being evaluated	Yes/No	Response
1. Previous evidence of contamination:		
(a) Was the subject land at any time zoned for industrial, agricultural or defence purposes?		<p>If the answer to all of these questions is "NO" it is unlikely that the land is contaminated and normal processes may be followed.</p> <p>If the answer to any of the questions is "YES" then further evaluation is required. Go to item 2 unless there is information that demonstrates that the land is unlikely to be contaminated.</p>
(b) Do existing records held by the planning authority show that a potentially contaminating activity listed in Table 1 in Appendix 1 has previously been approved or carried out on the subject land? (The use of records held by other authorities or libraries is not required for an initial evaluation.)		
(c) Is the subject land currently used for a potentially contaminating activity listed in Table 1 in Appendix 1?		
(d) Has the subject land ever been regulated through licensing or other mechanisms in relation to any potentially contaminating activity listed in Table 1 in Appendix 1?		
(e) Are there any land use restrictions on the subject land relating to possible contamination, such as orders or notices issued under the CLM Act?		
(f) Has a site inspection indicated that the site may have been associated with any potentially contaminating activities listed in Table 1?		
(g) Are there any contamination impacts on immediately adjacent land which could affect the subject land?		
(h) Are there any human or environmental receptors that could be affected by contamination?		
(i) Is the site adjacent to a site on the EPA's list of notified sites under s60 of the CLM Act, or adjacent to a site regulated by the EPA under the CLM Act?		
2. Previous investigations		
(j) Have there been any previous contamination investigations on the land?		<p>If "NO" then a preliminary investigation is required</p> <p>If "YES" proceed to the next question</p>
(k) Did the results of any of the investigations show possible or actual contamination?		<p>If "YES" proceed to the next question.</p> <p>If "NO" then it is unlikely that the land is contaminated and normal processes may be followed.</p>
3. Previous remediation		
(l) Has the land already been remediated and verification provided that the remediation results in the land being suitable for the proposed used?		<p>If "YES" then it is unlikely that the land is contaminated and normal processes may be followed, unless there is residual contamination (see the next question).</p> <p>If the answer is "NO" then the land may be contaminated and further investigation is required.</p>
(m) Is there an environmental management plan (e.g. on-site containment of contamination or an ongoing monitoring of contamination) within the site?		<p>If the answer is "YES", the requirements and effectiveness of the environmental management plan should be taken into account in the decision-making process.</p>

Appendix 2 - Suggested checklist for initial evaluation (cont'd)

The following is a brief checklist for guiding an initial evaluation:

Aspect being evaluated	Yes/No	Response
4. Other		
(m) Are there known to be ambient background levels of substances that present a risk of harm to human health or to any other aspect of the environment?		Although high ambient background levels would not cause the land to be regarded as contaminated (see section 145A of the EP&A Act) they would still need to be taken into account in considering whether the land was suitable for a proposed use.

Appendix 3 - Planning pathways for different types of remediation work

The process for carrying out remediation work differs depending on whether consent is required, whether the work is designated development or State significant development, and whether the work is on a site declared by the EPA to be significantly contaminated land. The integrated development provisions of the EP&A Act may also apply.

Category 1 remediation work is remediation work that requires development consent and Category 2 is remediation work that does not. Certain development for the purposes of Category 1 remediation work on significantly contaminated land is State significant development for which the Minister is the consent authority.

Figure 4 shows the relationship between the planning approval pathways for the remediation of contaminated land and the CLM Act.

Category 1 remediation work - with development consent

Council will usually be the consent authority for Category 1 remediation, except as noted in the next section. The typical pathway is:

- If the proposal is designated development, the Secretary's environmental assessment requirements are sought for the environmental impact statement
- A development application is prepared, including a remediation plan and environmental impact statement if required
- Consent authority may request an audit by a site auditor, though this is not mandatory
- The development application and remediation plan are advertised and submissions received
- If proposal is designated and objections are received, these are sent to the DPE for comment.
- Consent authority determines the application after receiving the Department's comments.
- The proposal is carried out in accordance with consent if consent granted.
- Validation is obtained from a certified practitioner once the remediation work is complete.
- Consent authority receives a notice of completion of remediation work within a month of completion of the work.
- Consent authority may request an audit of the validation by a site auditor, though this is not mandatory.

Category 1 remediation work on a site declared by the EPA to be significantly contaminated land

This remediation work may be State significant development if it is required to be carried out by certain management orders made under the CLM Act.

During this process, DPE and the EPA will ensure the issues leading to the declaration under the CLM Act are considered while also streamlining the process. This includes the following steps:

- The EPA declares the site to be significantly contaminated land under the CLM Act and remediation must be carried out by a management order that requires the taking of action that would cause the work to become State significant development
- The applicant requests Secretary's requirements (SEARs) for an environmental impact statement.
- The Secretary consults with relevant agencies and issues SEARs.
- The environmental impact statement and remediation plan are prepared and submitted with the development application. These are advertised for at least 30 days and submissions received.
- Secretary prepares an environmental assessment report for the Minister or delegate of the Minister such as the Planning Assessment Commission.
- Minister or delegate determines the application.
- The work is carried out in accordance with the consent.
- The work is validated at completion of remediation work and a validation report prepared or reviewed and approved by a certified practitioner (required if there is an intention demonstrate compliance with the management order or and lift the declaration)
- The Minister/Department and relevant local council receive a notice of completion of remediation work within 30 days of completion.
- The DPE may send copy of notice of completion to the EPA.
- The Department may also request an audit of the validation by a site auditor, though this is not mandatory.

Appendix 3 - Planning pathways for different types of remediation work (cont'd)

Category 2 remediation work - without consent

Remediation work is category 2 unless it meets the specific requirements for category 1. Council notification needs to be accompanied by a statement from a certified practitioner that the proposed work meets the criteria for Category 2 remediation. In summary:

- Council is notified of the proposed remediation works at least 30 days before proposed remediation begins.
- The notification is submitted with a remediation plan prepared or reviewed and approved by a certified practitioner.
- The notification includes a statement by a certified practitioner that the proposed work meets the criteria for Category 2 remediation.
- Work is carried out in accordance with the remediation plan.
- Council receives a notice of completion of remediation work prepared or reviewed and approved by a certified practitioner within 30 days of completion.

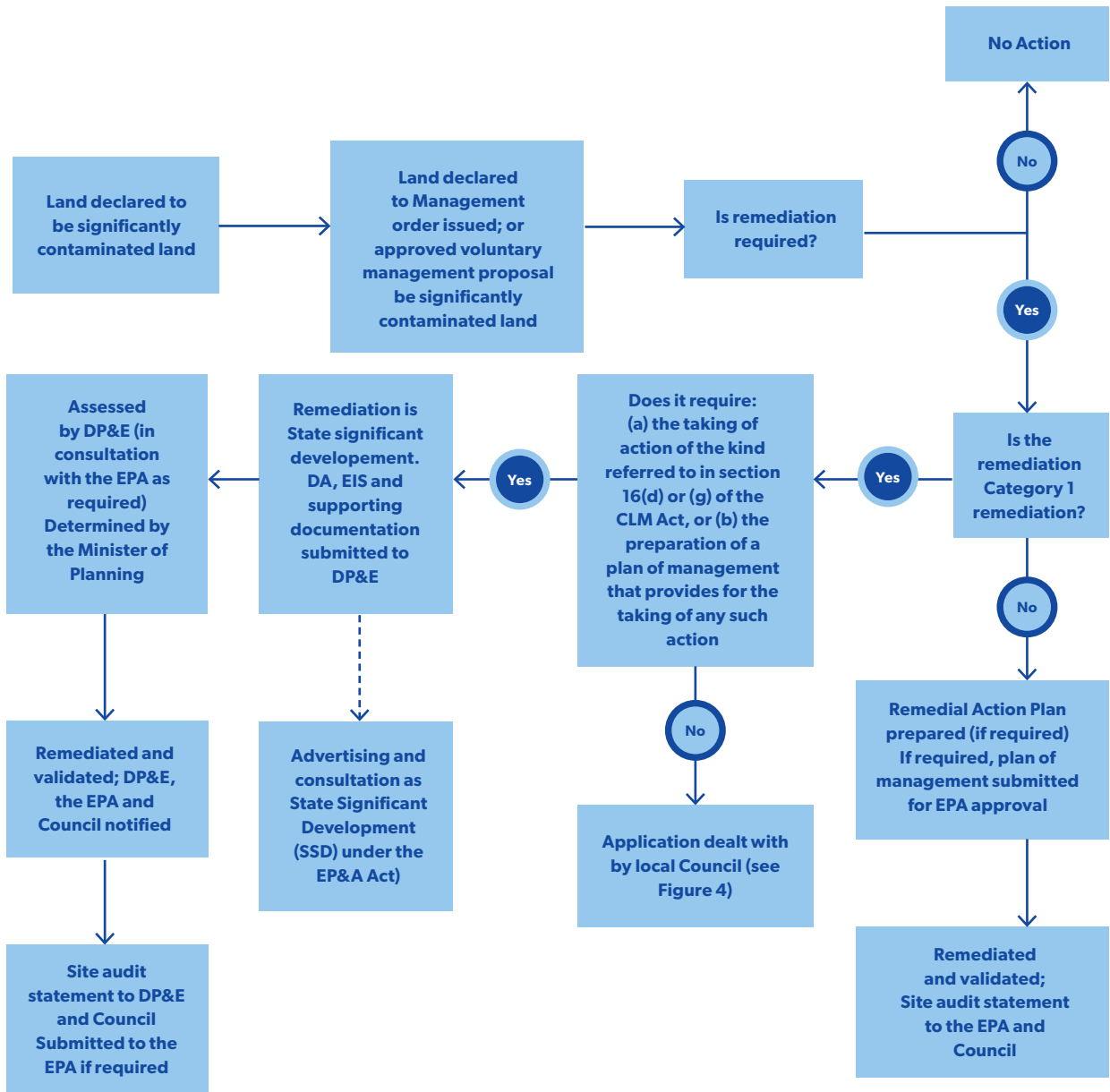
Category 2 remediation work on a site declared by the EPA as significantly contaminated land¹²

For category 2 remediation work on sites the EPA declares as significantly contaminated land, requirements include:

- Council is notified of proposed remediation at least 30 days before it begins (except where the EPA has made a management order that requires work to be carried out within a time frame that is less than the period allowed for an appeal in relation to the order).
- A remediation plan is prepared.
- If a plan of management is required under a management order or an approved voluntary management proposal, the plan may need to be lodged with, and approved by, the EPA.
- Remediation is carried out in accordance with the plan.
- The work is validated in accordance with any EPA requirements.
- The EPA is notified of validation if required.
- Council receives a notice of completion of remediation work within 30 days of completion.

Appendix 3 - Planning pathways for different types of remediation work (cont'd)

Figure 4: Relationship between the planning system and the CLM Act when dealing with land declared to be significantly contaminated land



Appendix 4 - Remediation Plan

A remediation plan, which is sometimes referred to as a Remedial Action Plan (RAP), should be prepared and implemented if a site investigation indicates that a site poses unacceptable risks to human health or the environment on-site or off-site under either the present or the proposed land use.

A remediation plan is required for both Category 1 and Category 2 remediation works.

The remediation plan should:

- (a) set remediation goals that ensure the remediated site will be suitable for the proposed use and will pose no unacceptable risk to human health or to the environment
- (b) specify the validation procedures required to demonstrate that the remediation goals have been met
- (c) document in detail all procedures and plans to be implemented to reduce risks to acceptable levels for the proposed site use
- (d) establish the environmental safeguards required to complete the remediation in an environmentally acceptable manner

The remediation plan should be prepared in accordance with EPA guidelines and include:

- remediation goal
- the extent of remediation required
- possible remedial options and the risks associated with each
- rationale for the selection of recommended remedial option
- proposed testing that will be required to validate the site after remediation
- contingency plan if the selected remedial strategy fails
- site management plan (note that Category 2 remediation has standard operational requirements) including:
 - fencing and warning signs
 - site stormwater management plan
 - soil management plan
 - noise control plan
 - dust control plan, including wheel wash (where applicable)
 - odour control plan
 - occupational health and safety plan
- remediation schedule
- hours of operation
- contingency plans to respond to site incidents, to obviate potential effects on surrounding environment and community
- identification of regulatory compliance requirements such as licences and approvals
- names and phone numbers of appropriate personnel to contact during remediation
- community relations plans, where applicable
- staged progress reporting, where appropriate
- whether an environmental management plan is likely to be required, and the issues that it may need to address.

Appendix 5 - Conditions of consent for remediation work

It is suggested that conditions of consent or approval for Category 1 remediation work cover the following matters .

It should be noted that Category 2 remediation has a requirement that standard conditions as set out in the SEPP apply. A consent authority, in determining a DA for Category 1 remediation work or is proposing to grant consent for other development on the condition that remediation is carried out in a manner specified in the consent, might find the requirements in the SEPP useful guidance in considering conditions to impose as an alternative to the below.

Health and safety

- prepare a health and safety plan
- 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 and control measures to minimise wind borne emissions of dust, having regard to site specific wind conditions
- monitor and manage odours

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
- 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

- ensure plant equipment is noise suppressed
- regularly monitor noise quality throughout work and send results to appropriate regulatory authority.

Waste

- If contaminated soil will be removed from site, prepare a waste management plan and report detailing issues such as waste classification and compliance with the waste regulation, where it will go, how it will be treated and transported.

Landscaping and rehabilitation

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

Consultants

- ensure professionals undertaking remediation are appropriately qualified and experienced.

Appendix 5 - Conditions of consent for remediation work (cont'd)

Validation

- prepare a final validation program in accordance with EPA guidelines
- submit a notice of completion of remediation work to the consent/approval authority (and to council, where council is not the consent authority) within a month of completion of the work
- 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.

Ongoing monitoring

- periodically monitor material containment areas for the leaching of contaminants
- consider the need for an EMP.

Appendix 6 - Abbreviations

Term	Definition
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
CLM Act	Contaminated Land Management Act 1997
DA	Development application
DCP	Development control plan
DPE	Department of Planning and Environment
EA	Environmental assessment
EIS	Environmental impact statement
EMP	Environmental Management Plan
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
LEP	Local environmental plan
POEO Act	Protection of the Environment Operations Act 1997
SEPP	State environmental planning policy

Appendix 7 - Glossary

Term	Definition
category 1 remediation work	remediation work that needs development consent under the SEPP
category 2 remediation work	remediation work that does not need development consent under the SEPP
certified contaminated land consultant	A contaminated land consultant who has been certified by a certification scheme recognised by the EPA as providing a thorough process for certifying contaminated land consultants to an acceptable minimum standard of competency
contaminated land	land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment
contamination	concentration of a substance at a level that is above the concentration at which the substance is normally present in the same locality and that presents a risk of harm to human health or any other aspect of the environment
detailed site 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 remediation plan
environmental management plan	a plan to ensure that appropriate environmental management and monitoring practices are implemented during the construction and/or use of a development
independent review	an evaluation by an independent expert required by a planning authority of any information submitted by a applicant, as required by a planning authority
initial evaluation	an assessment of readily available factual information to determine whether contamination is an issue relevant to the decision being made
management order	an order by the EPA under the <i>Contaminated Land Management Act 1997</i> to carry out any action in relation to the management of the land and/or submit a plan of management of the land for EPA's approval
notice of completion	notice to the council (and the consent authority if not the council) in accordance with the SEPP that remediation work has been completed
planning authority	as defined in Part 7A of the EP&A Act
planning functions	functions exercised by a planning authority under the EP&A Act, as set out in section 145B of the Act
preliminary site investigation	an investigation to identify any past or present potentially contaminating uses or activities and to provide a preliminary assessment of any site contamination
remediation plan	a plan which sets remediation goals and documents the process to remediate a site
significantly contaminated land	a site declared by the EPA under the CLM Act to be significantly contaminated land
remediation	<p>(a) removing, dispersing, destroying, reducing, mitigating or containing the contamination of any land, or</p> <p>(b) eliminating or reducing any hazard arising from the contamination of any land (including by preventing the entry of persons or animals on the land).</p> <p>Note: This definition of remediation corresponds to parts of the definition of remediation in the Contaminated Land Management Act 1997.</p>

Appendix 7 - Glossary (cont'd)

Term	Definition
site audit	<p>site audit means a review:</p> <ul style="list-style-type: none"> (a) that relates to management (whether under this Act or otherwise) of the actual or possible contamination of land, and (b) that is conducted for the purpose of determining any one or more of the following matters: <ul style="list-style-type: none"> (i) the nature and extent of any contamination of the land, (ii) the nature and extent of any management of actual or possible contamination of the land, (iii) whether the land is suitable for any specified use or range of uses, (iv) what management remains necessary before the land is suitable for any specified use or range of uses, (v) the suitability and appropriateness of a plan of management, long-term management plan or a voluntary management proposal.
site auditor	a person accredited by the EPA under the CLM Act to conduct site audits
site audit statement	means a site audit statement prepared by a site auditor in accordance with Part 4 of the CLM Act (it may include an opinion as to the land use(s) for which the site is suitable or can be made suitable.)
site audit report	means a site audit report prepared by a site auditor in accordance with Part 4 of the CLM Act.
site history	A site's land use history 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 any activities have taken place. (See Reference material, reference (d))
site investigation process	the process of investigating land which is, or may be, contaminated, to enable information to be provided to a planning authority.
soil investigation levels	assessment levels of various substances used to determine whether a site is potentially contaminated and whether further investigation is required. These may be drawn from various sources (See Reference material, references (f) and (s))
validation	the process of determining whether the objectives for remediation and any conditions of development consent or approval in relation to remediation have been achieved.

Appendix 8 - Reference Material

(a)	ANZECC & ARMCANZ 2004 Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Paper No 4.
(b)	ANZECC & NHMRC 1992 The Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.
(c)	Standards Australia 2005 Australian Standard AS4482.1. Appendix 1 - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-Volatile and Semi-Volatile Compounds.
(d)	Commonwealth Department of Health and Ageing and EnHealth Council 2002 Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards.
(e)	DEC 2005 Contaminated Sites: Guidelines for Assessing Former Orchards and Market Gardens.
(f)	Environment Protection Authority (2017) Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd edition).
(g)	DECC 2007 Guidelines for the Assessment and Management of Groundwater Contamination.
(h)	Environment Protection Authority 2015 Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997.
(i)	Department of Infrastructure, Planning and Natural Resources 2004 Guideline for the Preparation of Environmental Management Plans.
(j)	Edwards, J.W., van Alphen, M., & Langley, A. 1994 Identification and Assessment of Contaminated Land. Improving Site History Appraisal. Contaminated Sites Monograph Series No.3. South Australian Health Commission.
(k)	Environment Protection Authority 1994 Contaminated Sites: Guidelines for Assessing Service Station Sites.
(l)	Environment Protection Authority 1994 Guideline for the Management of Materials Containing Polychlorinated Biphenyls (PCBs) below 50 Milligrams per Kilogram.
(m)	Environment Protection Authority 1995 Contaminated Sites: Sampling Design Guidelines.
(n)	Environment Protection Authority 1995 Contaminated Sites: Guidelines for the Vertical Mixing of Soil on Former Broad-Acre Agricultural Land.
(o)	Environment Protection Authority 1997 Contaminated Sites: Guidelines for Assessing Banana Plantation Sites.
(p)	Environment Protection Authority 2011 Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.
(q)	Imray, P. & Langley, A. 1996 Health-Based Soil Investigation Levels. National Environmental Health Forum Monographs, Soil Series No.1, South Australian Health Commission.
(r)	Lock, W. H. 1996 Composite Sampling. National Environmental Health Forum Monographs, Soil Series No.3, SA Health Commission, Adelaide.
(s)	National Environment Protection Council 1999 National Environment Protection (Assessment of Site Contamination) Measure 1999.
(t)	NSW Department of Agriculture and CMPS&F Environmental 1996 Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes.



Notes

