

CRC for Contamination Assessment and Remediation of the Environment

National Remediation Framework

Guideline on implementing institutional controls

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National Remediation Framework

The following guideline is one component of the National Remediation Framework (NRF). The NRF was developed by the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) to enable a nationally consistent approach to the remediation and management of contaminated sites. The NRF is compatible with the *National Environment Protection (Assessment of Site Contamination) Measure* (ASC NEPM).

The NRF has been designed to assist the contaminated land practitioner undertaking a remediation project, and assumes the reader has a basic understanding of site contamination assessment and remediation principles. The NRF provides the underlying context, philosophy and principles for the remediation and management of contaminated sites in Australia. Importantly it provides general guidance based on best practice, as well as links to further information to assist with remediation planning, implementation, review, and long-term management.

This guidance is intended to be utilised by stakeholders within the contaminated sites industry, including site owners, proponents of works, contaminated land professionals, local councils, regulators, and the community.

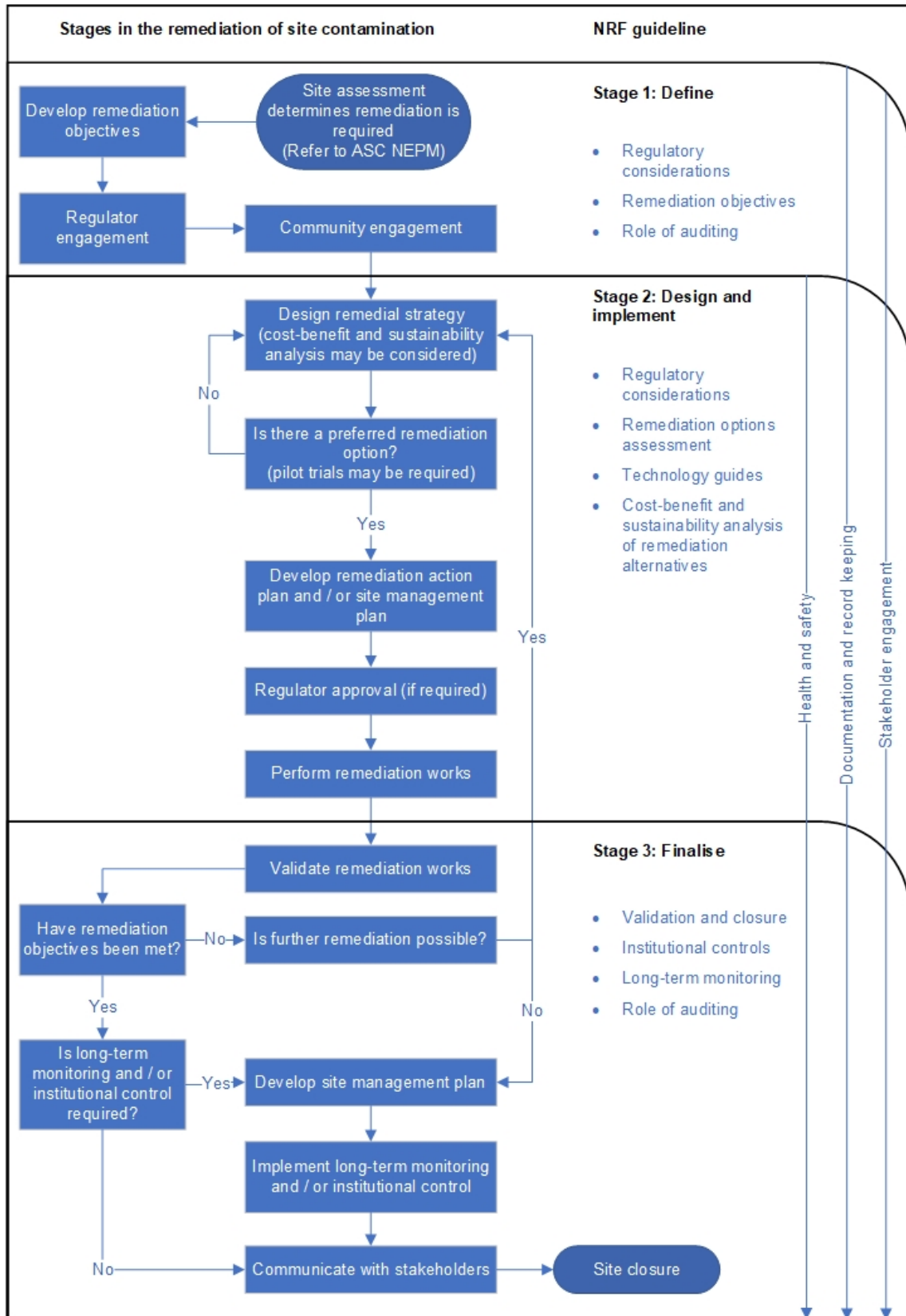
The NRF is intended to be consistent with local jurisdictional requirements, including State, Territory and Commonwealth legislation and existing guidance. To this end, the NRF is not prescriptive. It is important that practitioners are familiar with local legislation and regulations and note that **the NRF does not supersede regulatory requirements**.

The NRF has three main components that represent the general stages of a remediation project, noting that the remediation steps may often require an iterative approach. The stages are:

- Define;
- Design and implement; and
- Finalise.

The flowchart overleaf provides an indication of how the various NRF guidelines fit within the stages outlined above, and also indicates that some guidelines are relevant throughout the remediation and management process.

It is assumed that the reader is familiar with the ASC NEPM and will consult other CRC CARE guidelines included within the NRF. This guideline is not intended to provide the sole or primary source of information.



Executive summary

During the assessment of a site in accordance with the ASC NEPM, potential risks to human health and the environment may require management. Similarly, during and/or following the remediation of a site, residual contamination or long-term management controls (such as a cap and contain system) may continue to present a potential risk to human health and/or the environment. Additionally, regulators often have specific local knowledge with respect to potential sources of contamination and potential risks and may choose to engage specific measures to manage the exposure risk. When such risks are identified one management option may be to employ an institutional control.

ICs are non-engineered instruments, such as administrative and legal controls, which help minimise the potential for *exposure* to contamination and/or protect the remediation integrity. They comprise controls which can be implemented administratively following (or as an alternative to) the remediation of a site, to ensure continued protection of the environment and human health.

Minimising the potential for exposure may be achieved by limiting the use of a site, or by guiding human behaviour at the site.

In the Australian context, there are three broad categories of ICs available:

- Property controls:
- Government controls:
- Informational devices:

The applicability and implementation of ICs varies by jurisdiction. As such this guideline provides general guidance on implementing ICs, and then summarises current information by jurisdiction.

Abbreviations

ACT	Australian Capital Territory
AEO	Airport Environment Officer
ALC	Airport-Lessee Company
CLR	Contaminated Land Register
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CSCS	Contaminated Sites Classification Scheme
CSGIS	Contaminated Sites Geographic Information System
CSMD	Contaminated Sites Management Database
CUN	Clean Up Notice
CUO	Clean Up Order
DEHP	Department of Environment and Heritage Protection (Queensland)
DER	Department of Environment Regulation (Western Australia)
EAO	Environment Audit Overlay
EMP	Environment Management Plan
EMR	Environment Management Register
EPA	Environmental Protection Agency / Authority
EPO	Environment Protection Order
GPA	Groundwater Prohibition Area
GQRUZ	Groundwater Quality Restricted Use Zones
IC	Institutional Control
MWPAN	Minor Works Pollution Abatement Notice
NEPM	National Environment Protection (Assessment of Site contamination) Measure 1999 (amended 2013)
NRF	National Remediation Framework
NSW	New South Wales
NT	Northern Territory
OMO	Ongoing Maintenance Order (NSW)
PAN	Pollution Abatement Notice
PRN	Public Record of Notices
QLD	Queensland

SA	South Australia
SMN	Site Management Notice
SMP	Site Management Plan
SoEA	Statement of Environmental Audit
TAMS	Territory and Municipal Services Directorate (ACT)
TAS	Tasmania
VCAT	Victorian Civil and Administrative Tribunal
VIC	Victoria
WA	Western Australia

Glossary

Concentration	The amount of material or agent dissolved or contained in unit quantity in a given medium or system.
Conceptual site model	A representation of site-related information including the environmental setting, geological, hydrogeological and soil characteristics together with the nature and distribution of contaminants. Contamination sources, exposure pathways and potentially affected receptors are identified. Presentation is usually graphical or tabular with accompanying explanatory text.
Contaminant	Any chemical existing in the environment above background levels and representing, or potentially representing, an adverse health or environment risk.
Contaminated site	A site that is affected by substances that occur at concentrations above background or local levels and which are likely to pose an immediate or long-term risk to human health and/or the environment. It is not necessary for the boundaries of the contaminated site to correspond to the legal ownership boundaries.
Contamination	The presence of a substance at a concentration above background or local levels that represents, or potentially represents, a risk to human health and/or the environment.
Environment(al) protection authority / agency	The government agency in each state or territory that has responsibility for the enforcement of various jurisdictional environmental legislation, including some regulation of contaminated land.
Groundwater	Water stored in the pores and crevices of the material below the land surface, including soil, rock and fill material.
In-situ	A Latin phrase that translates literally to "on site" or "in position". It refers to remediation that is performed on the contamination while it is in place, without excavating soil.
Institutional control	Non-engineered instruments, such as administrative and legal controls, which help minimise the potential for exposure to contamination and/or protect the remediation integrity
Notional owner	A legal term used in NSW referring to a person who has interest in land sufficient to benefit from the value of the land, but who is not technically in freehold possession of the land. Most commonly interpreted as a mortgagee in possession

Practitioner	Those in the private sector professionally engaged in the assessment, remediation or management of site contamination.
Proponent	A person who is legally authorised to make decisions about a site. The proponent may be a site owner or occupier or their representative.
Remediation	An action designed to deliberately break the source-pathway-receptor linkage in order to reduce the risk to human health and/or the environment to an acceptable level.
Risk	The probability that in a certain timeframe an adverse outcome will occur in a person, a group of people, plants, animals and/or the ecology of a specified area that is exposed to a particular dose or concentration of a specified substance, i.e. it depends on both the level of toxicity of the substance and the level of exposure. 'Risk' differs from 'hazard' primarily because risk considers probability.
Site	A parcel of land (including ground and surface water) being assessed for contamination, as identified on a map by parameters including Lot and Plan number(s) and street address. It is not necessary for the site boundary to correspond to the Lot and Plan boundary, however it commonly does.
Subject matter expert	An individual with a deep and current understanding of a particular process, function, technology, machine, material or type of equipment.

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1. Introduction

The objective of this guideline is to provide an overview on the different types of institutional controls (IC) in Australian jurisdictions, and when they are relevant within the context of remediation.

This guidance is intended to be utilised by stakeholders within the contaminated sites industry, including site owners, proponents of works, contaminated land professionals, local councils, regulators, and the community.

It is assumed that the reader is familiar with the ASC NEPM and will consult other CRC CARE guidelines included within the NRF. This guideline is not intended to provide the sole or primary source of information about ICs.

It should be noted that **this guidance does not supersede regulatory requirements**, and familiarity with local legislation and regulations is necessary before proceeding with environmental remediation and management. It is also noted that the information in this guideline was current at the time of publication.

1.1 Definition and role of institutional controls

During the assessment of a site in accordance with the ASC NEPM, potential risks to human health and the environment may require management. Similarly, during and/or following the remediation of a site, residual contamination or long-term management controls (such as a cap and contain system) may continue to present a potential risk to human health and/or the environment. Additionally, regulators often have specific local knowledge with respect to potential sources of contamination and potential risks, and may choose to engage specific measures to manage the exposure risk. When such risks are identified one management option may be to employ an institutional control.

This guideline defines an IC as:

Non-engineered instruments, such as administrative and legal controls, which help minimise the potential for exposure to contamination and/or protect the remediation integrity

ICs are considered to comprise controls which can be implemented administratively following (or as an alternative to) the remediation of a site, to ensure continued protection of the environment and human health.

Minimising the potential for exposure may be achieved by limiting the use of a site, or by guiding human behaviour at the site. For example, zoning restrictions prevent unacceptable land uses (such as low density residential) that are not consistent with the level of remediation or existing contamination. Each Australian jurisdiction has developed legislated and non-legislated ICs relating to the use of sites, which can be adopted by regulators and recommended by practitioners in the contaminated sites context.

1.2 Categories of institutional controls

In the Australian context, there are three broad categories of ICs available:

- Property controls:
 - Legislated instruments;
 - Requiring a notation (memorial) or covenant on a title or planning certificate, and listing the information on a public register, which inform prospective purchasers and other interested parties of the site's status; and
 - Ensuring that dealings with the site will not release or obscure the responsibility for the management and monitoring of a site over time.
- Government controls:
 - Specifying legal obligations for a responsible party and impose restriction(s) on the land.
- Informational devices:
 - Providing information, or a method of notification, that residual contamination remains in-situ.

1.3 Reporting for institutional controls

The documentation of ICs is important as it provides a mechanism for the transfer of knowledge between current and future stakeholders.

The legislation in most jurisdictions allows for notices or memorials to be placed on titles with respect to land use controls. Some jurisdictions provide a regulatory mechanism for the development and enforcement of environmental management plans (EMPs). It is through the development and enforcement of EMPs that practitioners are predominantly engaged in the implementation of ICs.

Specific reporting requirements for ICs vary across jurisdictions and are not detailed here. Guidance on reporting requirements should be sought from relevant documentation provided by regulators.

1.4 Compliance with institutional controls

A previous review of ICs in the context of in-situ containment of contamination identified complexities and uncertainties in the effective implementation of long-term management of contaminated sites in Australian jurisdictions. The primary issue is whether the statutory mechanisms currently available under contaminated land, planning and property legislation can adequately achieve post-remediation objectives at sites where contamination remains in-situ. Practice has shown that the general approach across most jurisdictions is to rely on clean-up orders and remediation plans to achieve long-term post remediation goals. However, as described in the following sections, reliance on these controls may not be appropriate in instances where:

- A management/monitoring obligation has been imposed by a remediation order/notice, and subsequent revocation of that order/notice following clean-up will thus cast doubt on the continuation of any remaining obligations;

- A remediation order applies to a person upon whom a responsibility lies for the remediation, however should the property be sold, the responsibility does not run with the land;
- The subdivision of a lot (with a post-remediation obligation) results in several new titles, which may not have post-remediation obligations if the responsibility does not run with the land. If the responsibility does run with the land, and a notice is served, then there are inherent difficulties in enforcing remediation against a range of landholders who may have varying types and concentrations of contamination; and
- The obligation limits site use (eg extension of a house may involve building over an area of vapour risk) and is placed upon an “innocent landowner” thus restricting potential site users and lowering land value.

1.5 Roles and responsibilities

The key parties involved in post remedial management ICs are the proponent, environmental practitioners, regulators, environmental auditors, and other stakeholders such as the community. It is anticipated that the roles of each of these should be outlined as part of the remedial action plan and remedial objectives for a site. Due to the nature of ICs, the roles and responsibilities may change over the lifetime of the remediation due to changes that have occurred at the site and to the nature of remediation carried out.

1.5.1 *Proponent*

The proponent includes those who are legally authorised to make decisions about a site, such as a site owner or occupier, a representative of the site owner or occupier, developer, planner (private and/or government) or other person with written consent from the owner or occupier. It is most often the responsibility of the proponent to ensure compliance with ICs placed on a site as part of the close-out process.

1.5.2 *Practitioner*

Practitioners are contaminated land specialist consultants engaged by a proponent to develop the remedial strategy for a site. This may be the same practitioner who carried out the site assessment.

The practitioner developing the post-remediation site design, and recommending applicable ICs, should consult with the regulator and/or auditor regarding their expectations for the site, to make the process of implementing ICs more efficient and cost-effective. It is essential for the practitioner to maintain communication with the proponent, auditor (where applicable) and regulator throughout the works, to ensure their expectations are met.

1.5.3 *Regulators and other decision-making authorities*

Regulators and government agencies administer the legislation relevant to contamination and land use planning. At sites where ICs are considered necessary they must be approved and/or implemented applied by the regulators. The regulator determines the specific IC(s) to be applied to a site, and it is the responsibility of the proponent/land owner to correctly implement the ICs, often with the assistance of a practitioner.

1.5.4 **Auditors**

An auditor is an individual accredited under state specific formal auditing schemes, to independently review site contamination consultants' activities to ensure the work complies with current regulations and guidelines and meets the standard appropriate for the proposed land use.

An auditor undertakes an audit, which involves reviewing contamination consultants' activities to ensure the work complies with current regulations and guidelines for that jurisdiction and meets the standard appropriate for the proposed land use. As part of the audit the auditor may endorse or recommend a specific IC to meet the post-remediation objectives.

In addition to jurisdiction specific guidance readers are directed to the NRF *Guidelines on the role of auditing* for further detail on the auditing of remediated land in Australia.

1.5.5 **Other stakeholders**

In addition to owners and occupiers of affected sites, stakeholders such as the public, community and interest groups should be considered during the implementation of ICs. The scope and detail of stakeholder engagement will depend on the size of the project, its complexity, and the level of interest or concern expressed by the community. Readers are directed to the NRF *Guideline on stakeholder consultation* for more detailed information.

1.5.6 **Communication**

Effective communication regarding ICs should be established with stakeholders as early as possible. It has been shown that when stakeholders can have meaningful and substantial participation in the decision process, they are more likely to support difficult policy, budgetary, and technical decisions. Moreover, stakeholders may have valuable information about site characteristics, receptors, history, and future intended use of a site, which can be used to improve the implementation of ICs. It is typically the responsibility of the proponent to consider stakeholder interests and involve them where necessary. The proponent should develop and implement a community consultation plan in line with regulations or engage an environmental practitioner to do so. Readers are directed to the NRF *Guideline on stakeholder consultation* for more detailed information.

2. Implementing institutional controls

When evaluating whether ICs can be effectively implemented at a site, there are number of factors to be considered. These include at a minimum:

- Subject matter experts – ICs can be complex and consulting subject matter experts is likely to be helpful and cost-effective long term. For example, a solicitor or conveyancer should be consulted when drafting easements or covenants as they are legal documents and must comply with jurisdictional requirements. Environmental practitioners with specialist remediation skills can be considered subject matter experts, and regulators often have subject matter experts in-house for aspects of their jurisdiction, who are also able to be consulted in the evaluation and preparation of ICs.
- Lines of communication – it is recommended that the relevant authority responsible for an IC be consulted during the determination to apply a specific IC at a site. Active communication with the relevant authority when the authority is applying the IC should be considered, particularly for *government controls*.
- Documentation – the method of documentation of the IC should be considered when communicating the effect of the IC to other parties and ensuring its effectiveness and longevity. Some jurisdictions require documentation in a certain format or frequency, others may keep copies in perpetuity.
- Landowner input – the landowner is legally responsible for implementing the ICs and they must be aware of their responsibilities and the consequences of the ICs. It is recommended that discussions with the landowner include whether the IC involves a notation on the title, the cost implications, the timeline for completing the IC at a minimum.

The following sections provide guidance for environmental practitioners on the implementation of the three types of ICs within Australian jurisdictions.

2.1 Implementing government controls

Government controls apply to State and local governments and their regulatory bodies (such as environmental regulators), and they typically have a broad range of authority to implement *government controls*, often with minimal input from other relevant parties. For example, State and local governments oversee zoning, land use controls, groundwater restrictions and enforcement orders. *Government controls* can sometimes be relied on by relevant parties to tailor a specific IC relevant to site conditions, such as the official endorsement of an EMP drafted by an environmental practitioner. Conversely, *government controls* can also be applied entirely at the discretion of the relevant authority without consultation with relevant parties.

It is recommended that practitioners and proponents communicate with as early as possible with the relevant authority responsible for *government controls* to ensure common understandings of the site and associated issues.

2.2 Implementing property controls

Property controls principally involve private agreements that place restrictions on the use of a property. The most common *property control* is a covenant or easement that

restricts the use of land through a written agreement. Many *property controls* are legal documents and run with the land, so that future owners are bound by the restrictions.

When preparing a *property control* it is strongly recommended that a subject matter expert such as a conveyancer or solicitor be engaged to ensure the full effectiveness of the control with respect to the specific legislation. It is important that the practitioner understands the relevant legislation and whether the relevant *property controls* within the state or territory will be effective in achieving the required objectives.

2.3 Implementing informational devices

Informational devices are designed to provide notification or information that residual contamination remains in-situ at a site. *Informational devices* differ from *property* and *government controls*, as they are commonly not designed to be enforceable on the future use of a property (although this is not the case in WA). The most common *informational devices* in Australian jurisdictions are state authority-controlled registers, which frequently rely on practitioner reports in the determination of whether a site is listed on the register.

Recorded notices on a title or other instrument are another common *informational device*. Recorded notices are usually contained on conveyancing documents and provide notice to anyone reviewing the certificate of title information on the contamination status of a property. A recorded notice by itself will often not be sufficient to prevent exposure and should be used in conjunction with another IC.

3. Australian Capital Territory specific controls

At the time of writing there were three pieces of legislation within the Australian Capital Territory (ACT) that allow for the implementation of ICs. They are:

- Environment Protection Act 1997 and Regulations;
- Contaminated Sites Environment Protection Policy 2016; and
- The Planning and Development Act 2007.

Further information on the ICs is provided below.

3.1 Environment protection agreement

An environment protection agreement (Agreement) is a *government control* entered by proponents and ACT EPA when a site requires ongoing management regarding contamination. The Agreement will detail the nature of the substances remaining at the site, specific site details, and the required management measures. The Agreement will also include a requirement that the site be managed in accordance with an ACT EPA/auditor endorsed site management plan (SMP) and that the management continue until the ACT EPA/auditor agrees in writing that the SMP is no longer required. It is the responsibility of the proponent to apply for an Agreement.

3.2 Environment protection order

An environment protection order (EPO) is a *government control* available to ACT EPA to enforce conditions included in an EMP or SMP. In the event an Agreement is not entered, the ACT EPA will issue an EPO to ensure the site continues to be managed appropriately. The conditions of an EPO typically comprise measures to contain and monitor existing contamination at the site to ensure it does not pose a significant risk of harm to human health or the environment.

3.3 Registration on land title (leased land)

Where a contaminated site comprises leased land that is subject to a SMP or EMP, the ACT EPA will also lodge a notation on the land title. Removal of the registration is conducted by the ACT EPA on a case-by-case basis.

3.4 Public land (unleased land) management controls

A significant number of known and potentially contaminated sites in the ACT are on land owned and managed by the ACT Government and its agencies. The Territory and Municipal Services Directorate (TAMS) is the main custodian of public land in the ACT. The 'Procedure for the Management of TAMS Contaminated Assets' was developed to ensure appropriate management of sites subject to a SMP or EMP, as well as for sites that have not been assessed but known to be potentially contaminated.

The contaminated land asset procedure is designed to be integrated into the TAMS Integrated Asset Management System. Its purpose is to outline steps required for the collation, provision and updating of information for employees or contractors undertaking works at land assets associated with contaminated or potentially contaminated materials in a way that maintains safety for human health of employees, contractors and the public, and of the environment.

3.5 Information on contaminated sites in the ACT

The ACT EPA maintains the ACT Government's records of sites which are known to be, have been, or have the potential to be, contaminated. This does not mean that the ACT EPA has information on all sites that are potentially contaminated.

Information on contaminated sites:

- Is recorded in the ACT EPA's Contaminated Sites Geographic Information System (CSGIS) and Contaminated Sites Management Database (CSMD);
- Can be obtained by undertaking a contaminated land search through the *Access Canberra* portal; and
- Is flagged in the lease conveyancing enquiry required when purchasing properties in the ACT.

If the lease conveyancing enquiry report indicates that the ACT EPA has information in relation to contamination of the site, practitioners and proponents can undertake a contaminated land search to obtain this information.

3.5.1 Register of contaminated sites

The register of contaminated sites (the Register) is an *informational device* available to the regulator as it provides information to practitioners, proponents, and other stakeholders on the contamination status of a site. The Register and EPOs are publicly available.

Sites subject to the following are recorded on the Register:

- An Order under 91C(1) of the EP Act to assess whether land is contaminated;
- An Order under subsection 91D(1) of the EP Act to remediate contaminated land;
- An Order under subsection 125(2) or subsection 125(3) of the EP Act to manage contaminated land;
- The ACT EPA has required an environmental audit of a site under subsection 76(2); or
- The ACT EPA has received a notice under section 76A(1) that an auditor has been engaged to undertake an audit under the EP Act or another Act. Typically this will be under the P&D Act where a condition of development approval requires that an auditor be engaged to verify the assessment and any required remediation of a site as part of its redevelopment, e.g.. the redevelopment of former service station sites for residential purposes.

A site is removed from the Register:

- Once it has been assessed, remediated if necessary, and independently audited as suitable for the proposed land use; and
- No ongoing management of contamination on the site is required.

In any other case, a site entered in the Register will remain on the Register in perpetuity.

3.5.2 **Contaminated sites management database**

The CSMD is an *informational device* that tracks correspondence on contaminated sites. The CSMD is an electronic means of recording all correspondence and information on the contamination status of sites in the ACT (it incorporates the Register of Contaminated Sites). A site is recorded on the CSMD if an assessment order, remediation order, statutory audit or an Order has been issued.

It is noted that it is the responsibility of ACT EPA to record the information within the CSMD and relies on information provided by practitioners and proponents, including ACT and Commonwealth government agencies.

3.5.3 **Contaminated sites geographic information system**

The CSGIS is an *informational device* used to spatially record information on sites in the ACT that are known to be, have been, or have the potential to be contaminated. The CSGIS also contains records of potentially contaminated sites which do not present a significant risk of harm whilst the current land use continues (e.g. operational service stations, active landfills etc.).

4. Commonwealth airport specific controls

Commonwealth airports were privatised through long term lease arrangements during the 1990s. As part of the lease process the Commonwealth legislated to ensure commercial and regulatory activities were separated to avoid potential, perceived or real conflicts of interest. The *Airports Act 1996* and associated regulations for environment protection, the Airport (Environment Protection) Regulations 1997 (AEPR), were applied to federally leased airports.

The regulations place the onus on the operator of an undertaking (Operator) and the airport-lessee company (ALC) to protect environmentally significant areas and ensure that “all reasonable and practical measures” are taken to preserve the environment so the beneficial use of sites is preserved. Operators are required to establish and maintain a system of monitoring and to report results to the ALC and the Commonwealth’s Airport Environmental Officer (AEO).

Further information on the institutional controls at Commonwealth airports is provided below.

4.1 Master plan

Each Commonwealth airport has an airport master plan, which is a *governmental control* available to the ALC. The airport master plan is approved by the Minister for Infrastructure and Transport and outlines the potential beneficial uses for areas on airport. It will include an airport environment strategy which provides a framework to manage the airport environment to promote better environmental outcomes and demonstrate continuous environmental improvement.

4.2 Environmental site register and contaminated sites register

The environmental site register and contaminated sites register are *informational devices* available to regulators, proponents and practitioners. They are individual to each Commonwealth airport and are not held by the regulator.

Operators on Commonwealth airports are required to conduct monitoring of the environmental consequences of their operations. Results of that monitoring must be provided to the ALC and incorporated into the environmental site register specific to that site.

The ALC is then responsible for compiling a contaminated site register for the airport which details the extent of contamination and progress of remediation.

4.3 Expert site examination

An expert site examination is a *governmental control* available to the AEO. The AEO may issue a direction to undertake an expert site examination in response to monitoring results that indicate a non-compliance with trigger levels. This direction requires the operator of a Commonwealth airport to appoint an appropriately qualified and experienced environmental investigator and environmental assessor to undertake an expert site examination of the potentially contaminated area.

On completion of the investigation, the environmental assessor produces an assessor report for the AEO which details the extent of any contamination and the impact on potential receptors.

4.4 Environmental remedial orders

An environmental remedial order is a *governmental control* available to the AEO if they have reasonable grounds to believe that a person (includes body corporates) has caused or is causing pollution at a Commonwealth airport.

The environmental remedial order may include direction to:

- Investigate whether pollution has occurred;
- Investigate the nature and extent of the pollution;
- Identify measures likely to prevent, reduce or control pollution or its effects;
- Complete measures to prevent, reduce or control pollution or its effects;
- Monitor the effectiveness of measures taken to prevent, reduce or control pollution or its effects;
- Report the outcome of the order actions; and
- Advise the public either on or off the Commonwealth airport of the outcome of the order actions.

4.5 Infringement notices

An infringement notice is a *governmental control* available to the AEO, if they have reasonable grounds to believe that an offence against the *Airports Act 1996* or the AEPR has occurred. The penalty is fixed at one fifth of the maximum penalty that may be imposed by a court of law.

Prior to an infringement notice being issued the Operator may apply for an authorisation. Authorisations are designed for exceptional circumstances when the Operator is unable to comply with a duty under the AEPRs. The authorisation then allows the Operator to submit a management plan detailing their plan to address the non-compliances within a reasonable period. Requests for authorisations may have to be advertised and will either be granted or rejected by the AEO in accordance with the AEPR.

5. New South Wales specific controls

At the time of writing there were five pieces of legislation within NSW that allow for the implementation of ICs. They are:

- Contaminated Land Management Act 1997;
- Protection of the Environment Operations Act 1997;
- Conveyancing Act 1919;
- Environmental Planning and Assessment Act 1979; and
- State Environmental Planning Policy no. 55.

Further information on the ICs is provided below.

5.1 Management order

Under Section 14 of the CLM Act, the EPA may issue a management order for the management of significantly contaminated land. A management order can be issued to those responsible for the contamination, the landowner, or the notional owner.

Actions in a management order may include requirements to:

- Investigate the existence, nature and extent of any significant contamination of the significantly contaminated land to which the order relates;
- Investigate the nature and extent of any harm that has been or may be caused by the significant contamination of the land;
- Investigate the most appropriate means for undertaking remediation of the land;
- Carry out remediation of the land;
- Monitor the effectiveness of any remediation or the risk of harm presented by the significant contamination of land;
- Erect a fence, wall, bund or other barrier in a specified place on the land;
- Treat, store or contain on the land, or remove from the land and treat or dispose of any solid or liquid materials including any soil, sand, rock or water;
- Vacate, or cease to carry on any activity, on the land or any part of it;
- Display on the land any specified sign or notice;
- Refrain from disturbing or further disturbing the land in a specified manner or below a specified depth; or
- Enter any specified land (which may, but need not, be the significantly contaminated land) in order to carry out the management order.

Management orders are a *government control* available for implementation by the EPA, and only operate until a site ceases to be significantly contaminated. A management order may require particular reports to be prepared by an environmental practitioner and outline the reporting specifics (or that the EPA be contacted for further guidance on the expectations of the reporting required).

5.2 Ongoing maintenance order

Ongoing maintenance orders (OMOs) are a *government control* available to the NSW EPA, which are served on the owner or occupier. They can also be issued by the NSW EPA as a covenant or restriction on the use of land in conjunction with the Conveyancing Act.

An OMO may direct a person to:

- Carry out ongoing management of the land;
- Provide reports to the NSW EPA,;
- Not carry out specified activities on the land and to not permit persons to use the land for specified purposes; or
- Carry out any other requirement in relation to the ongoing monitoring and maintenance of the land.

They are generally used when continuing actions are required for a site, such as maintaining the integrity of a capping system or monitoring of groundwater to ensure the effectiveness of the remediation.

OMOs may require the implementation of an EMP that outlines measures designed to ensure the long-term integrity of a remediation structure (including inspections), prevent human health and environmental risks from any remaining in-situ contamination, and provide guidance with respect to carrying out works at the site which may disturb the in-situ contamination.

5.3 Public record of notices

The public record of notices (PRN) is an *informational device* for providing information regarding the regulation of site contamination on significantly contaminated sites. It is maintained by the NSW EPA, and contains:

- A record of written notices issued by NSW EPA;
- The names of the sites, owners or occupiers at the time of a notice; and
- Copies of site audit statements provided to NSW EPA relating to significantly contaminated land.

The PRN contains copies of notices, not the reports/deliverables required by the notices.

Through the listing of sites on the PRN, it allows individuals to ascertain the risks associated with a site. Additionally, the PRN provides information to other stakeholders on the status of regulation on a site. Prior to undertaking works at a site, practitioners should consult the PRN to determine if the site is listed. Similarly, prospective purchasers of sites should consult the PRN as part of their due diligence to determine potential risks in purchasing a site.

Removal of a site from the PRN is conducted by the NSW EPA on a case-by-case basis.

5.4 Covenant or restriction on the use of land

Covenants and restrictions on the use of land are *property controls* enabled by Part 6 Division 4 of the Conveyancing Act. There is no material difference between a

covenant and a restriction on the use of land in NSW, rather the terminology refers to how the instrument was created.

A covenant or restriction requires the proprietor to maintain, repair or insure any structure or work on the land. Additionally, the body creating the covenant can impose any term or condition with respect to the performance of, or failure to perform, any such obligation.

If a covenant or restriction on the use of land is being considered to ensure the implementation of a post-remediation control, such as a cap and contain structure, assistance from a solicitor or conveyancer should be sought to ensure the correct drafting and implantation of the *property control* due to its legal nature. The legal nature of the *property control* makes it useful in protecting the future uses of a site subject to sale.

Removal of the covenant or restriction is conducted by the NSW EPA on a case-by-case basis.

5.5 Planning certificate

A planning certificate (often referred to as a Section 149 Certificate) is an *informational device* available to regulators (local councils in particular) to provide planning information to practitioners and proponents.

Planning certificates are particularly useful in recording information provided to council, and in passing this information on to prospective purchasers of land or to practitioners performing environmental investigations. However, the utility of planning certificates rely on the council being privy to assessment and remediation information regarding a site. Planning certificates are required to record:

- Whether the land is declared significantly contaminated by the NSW EPA under the CLM Act;
- Whether the land is subject to a management order issued by the NSW EPA under the CLM Act;
- If a voluntary management proposal has been approved for the site;
- Whether the land is subject to an ongoing maintenance order; and
- Whether the land is the subject of a site audit statement, if a copy of such a statement has been provided.

It is the responsibility of the respective councils to record any other information of a factual nature regarding contamination which they deem appropriate.

6. Northern Territory specific controls

At the time of writing there were two pieces of legislation within the Northern Territory (NT) that allow for the implementation of institutional controls. They are:

- Waste Management and Pollution Control Act 1998; and
- Planning Act 1999.

Further information on the ICs is provided below.

6.1 Pollution abatement notice

A pollution abatement notice (PAN) is a written notice that specifies an offence, or potential for an offence, causing pollution. It is a *government control* available to NT EPA to enforce conditions such as an EMP on a site.

The PAN will outline actions that are required to be undertaken, which can include active management of contamination, preparation of a rehabilitation/remediation plan, and implementation of an EMP. When a PAN is issued by NT EPA, it is listed on the PAN register, which is available online and provides a copy of the notice. Additionally, a PAN must also be linked to the relevant Certificate of Title under the *Land Title Act* to ensure perpetuity with landowners.

6.2 Performance agreement

A performance agreement is a written agreement between NT EPA and a responsible person to bind that person to remediating a site. It is a *government control* available to the NT EPA.

The performance agreement may specify that the NT government is to assist with the performance of the remediation.

6.3 Environment protection approvals and licences

An Environment Protection Approval or Licence is a *government control* available to the NT EPA.

The NT EPA grants environment protection approvals and licences for activities listed in Schedule 2 of the WMPC Act. These activities are associated with the disposal of waste by burial, and processing hydrocarbons to produce, store and/or despatch liquefied natural gas or methanol. Environment protection approvals are granted for works associated with the construction phase of these activities and environment protection licences are granted for the operation phase of the activity.

6.4 Compliance plan

A compliance plan is a *governmental control* that enables a person who, for reasons satisfactory to the NT EPA, is or will be unable to comply with a provision of the Regulations or of an environment protection objective. A compliance plan provides for a staged approach to improvements such that at the conclusion of the program the person has complied with the provision.

Compliance plans may be voluntary, required by the NT EPA or be ordered by the Court. Compliance plans must be approved by the NT EPA. They may also be amended or revoked by the NT EPA. Voluntary compliance plans cannot be amended by the NT EPA without the consent of the person to whom the compliance plan relates.

It is noted that compliance must be achieved no later than 5 years after the commencement of a compliance plan. Contravention or failure to comply with a compliance plan may be considered a legal offence.

6.5 Authorised officer directions

Authorised officers are officers of the NT EPA. They have extensive investigative powers including being able to enter and search land, take photographs, take samples and issue directions regarding the prevention, control or clean-up of pollution or environmental harm. An authorised officer direction is generally issued in writing. Where an authorised officer issues a verbal direction this will be followed up with a written direction. A direction will specify why the authorised officer is issuing the direction and conditions or actions that the recipient must comply with. A verbal direction will be issued in situ when immediate actions are required to address pollution.

6.6 Development permit conditions

A development permit condition is a *planning control* available to a Planning Authority with regards to the management of post-remediation considerations. Development permit conditions can include consideration of site contamination and requirements to manage residual contamination or implement monitoring.

7. Queensland specific controls

At the time of writing there were two pieces of legislation within Queensland (QLD) that allow for the implementation of institutional controls. They are:

- Environment Protection Act 1994 and Regulations; and
- Sustainable Planning Act 2009 and Regulations.

Further information on the ICs is provided below.

At the time of writing there were two pieces of legislation within Queensland (QLD) that allow for the implementation of institutional controls. They are:

- Environment Protection Act 1994 and Regulations; and
- Sustainable Planning Act 2009 and Regulations.

Further information on the ICs is provided below.

7.1 Land Registers

The Environmental Management Register (EMR) and the Contaminated Land Register (CLR) are public registers which contain information about contaminated land in Queensland. The EMR also contains information of land which is, or could potentially be, contaminated because it is being used for an activity which may cause contamination.

Land is listed on the EMR or CLR by lot and plan when DES is notified, or become aware, that notifiable activities are, or have been, carried out on the land or if the land is affected by a hazardous contaminant.

The EMR/CLR are public registers which list contaminated, or potentially contaminated land, in Queensland and can be searched for a fee.

A register search is commonly done by people who are considering:

- buying a property
- developing or changing the use of a parcel of land.

All search responses reflect what is recorded in the EMR or the CLR at the time of the search.

The search response **will** show:

- if the land you have searched is or is not listed on the EMR or the CLR
- what, if any, contaminants are on the land and have been notified to us
- what, if any, notifiable activities have been, or are being, conducted on the land and have been notified to us
- if there is a site management plan for the land. If there is, a copy of the plan will also be provided.

Search results **will not** include:

- contaminated land where we have not been notified of the contamination

- land on which a notifiable activity is being, or has been, undertaken but where we have not been notified of the activity
- a complete list of notifiable activities or contamination affecting the land if we have not been notified of them.

7.2 Environmental management register

Land is listed on the EMR if certain types of activities (known as notifiable activities) have been, or are being, carried out on the land, or if the land is contaminated land. Contaminated land is land which is affected by a hazardous contaminant.

When land is listed on the EMR for a notifiable activity, it is an indication that the land is likely to be contaminated but it does not mean it needs to be cleaned up or is not suitable for its current land use. This will depend on the nature, extent and risks of any contamination on the land, which can be determined by engaging a suitably qualified person to carry out a site investigation.

7.3 Contaminated land register

Contaminated land is moved from the EMR to the CLR where it is necessary to take action to remediate the land to prevent serious environmental harm and protect human health or other aspects of the environment.

7.4 How is land listed on the register

Land may be listed on the EMR or CLR following a notification by a person, such as the landowner, that the land has been, or is being, used for a notifiable activity or an event or change has occurred on the land which is likely to cause material or serious environmental harm due to contamination.

Alternatively, DES may receive a complaint about contamination or may identify the contamination when we respond to a pollution incident or carry out a compliance action.

Where there is sufficient evidence to warrant land being listed on the EMR or the CLR DES issue a show cause notice to the landowner outlining the proposal and grounds for listing the land on the relevant land register. For further information about when it is appropriate to list or remove land on the land registers refer to the Guideline: Listing and removing land on the land registers.

Landowners who receive a show cause notice have 20 business days to provide a submission and evidence to show why the land should not be listed. Where no submission is received, the decision is based on the initial information outlined in the show cause notice for the proposed listing. When a decision has been made, DES issue a decision notice to the landowner and the relevant local government authority within five business days. Where the decision is made to record land on the CLR, a notice is also given to any registered mortgagee of the land.

7.5 Removing land from the land registers

To remove land from the EMR or CLR—you need to submit a contaminated land investigation document that demonstrates:

- no ongoing notifiable activity is being carried out on the land; and
- the land is not contaminated land and is suitable for any land use.

The term 'land' also includes the airspace in and above the land, surface water and ground water.

Only sites that are suitable for unrestricted land use will be eligible for removal from the relevant land register. Any site that requires ongoing management through a site management plan due to residual risks will remain on the relevant land register. That is because, while the contaminated land NEPM encourages a risk-based approach to manage residual contamination, the only tool currently available under Queensland legislation to manage residual risks is to list the land on one of the registers.

For further information about when land can be removed from the land registers refer to the Guideline: Listing and removing land on the land registers and Module 6: Content requirements for contaminated land investigation documents, certifications and audit reports.

7.6 Site management plan

A site management plan (SMP) is a *property control* available to the proponent and practitioner for sites listed on either the EMR or CLR. The SMP is required to be submitted to DES for approval with regard to conditions under which a site on either register can be used or developed. Conditions can be applied preventing residual contamination from causing environmental harm or posing a risk to human health. SMPs are recorded on the EMR and can be provided when a search of the EMR or CLR is undertaken.

A draft SMP must be supported by a site investigation report and/or validation report that substantiates the management objectives of the plan. DES will need the supporting report when deciding whether to approve the draft SMP. Specific requirements for the preparation and submission of a draft SMP are detailed in ss. 391–395 inclusive of the EP Act.

Section 389(1)(i) of the EP Act specifies that the plan must include all the following information:

- the proposed objectives to be achieved and maintained under the plan
- the proposed methods for achieving and maintaining the objectives
- the proposed monitoring and reporting compliance measures for the land.

A draft SMP must state whether the objectives, methods and measures proposed in the plan are appropriate. If a draft SMP is prepared by a person other than the land's owner, it must be accompanied by a signed statement by the land's owner agreeing to the draft plan (see s. 390(5)(a) of the EP Act). Furthermore, the draft SMP should take account of, and address, the following matters:

- a) the nature and extent of contamination

- b) expected risks to public safety and amenity, human health, environmental values of waters and ecological values associated with any residual contamination of the land after site management measures are implemented
- c) appropriate standards that will: protect public safety and amenity, human health, environmental values of waters and ecological values; support the suitability of the land for its intended use and associated activities; and avoid environmental harm to other land and the surrounding environment
- d) associated risks to environmental values that could arise from actions taken to manage contamination
- e) the mitigation strategy that will be applied to specified parts of the land to reduce and manage risks
- f) ongoing monitoring of the effectiveness of the adopted measures, environmental quality and any residual risks.

The following advice expands on some of those requirements for a draft SMP.

Develop the draft SMP's objectives having regard to, and identifying, the relevant aspects of the contaminated land NEPM, the EP Act, the Environmental Protection Regulation 2008, environmental protection policies, and any relevant technical standards.

Ensure the proposed methods specify what must be done and who must do it, are relevant to the land contamination, and are measureable and achievable. Also, provide each proposed method with a specific timeframe for its achievement. The methods will typically involve a combination of engineered solutions (such as capping and fencing) and active measures (such as the treatment or removal of contamination, monitoring, and reporting).

If the draft SMP proposes to rely, either in part or fully, on monitored natural attenuation, it must assess: the likelihood of success; the reasonableness of the time period over which natural attenuation is predicted to occur; and the risks of environmental harm compared to more active forms of remediation.

In addition to addressing the direct risks of environmental harm due to the contamination itself, the draft site management plan should address activities associated with managing the contamination that might cause impacts on environmental values. This might include, for example, describing how to manage noise, dust, odour, run-off, erosion, and/or acidification during works to remediate contamination.

Develop monitoring and reporting measures that are commensurate with the environmental risks involved. The measures must include indicators and procedures that will be used to monitor and evaluated compliance with the objectives and obligations of the site management plan. The measures must effectively monitor and evaluate the risks associated with the current contamination of the land and potential changes to the condition of the contaminated land. The measures must also be capable of detecting and evaluating any new hazardous contamination. The measures must include details of who will prepare reports of the monitoring results, when the reports will be due, and who the reports will be provided to.

8. South Australia specific controls

The Environment Protection Act provides for site contamination assessment orders and site remediation orders to be issued by the SA EPA. The SA EPA does not consider these to be institutional controls and have not been discussed in this document.

At the time of writing there were three pieces of legislation within South Australia (SA) that allow for the implementation of institutional controls. They are:

- Environment Protection Act 1993 and Environment Protection Regulations 2009;
- Development Act 1993; and
- Land and Business (Sale and Conveyancing) Act 1994.

Further information on the ICs is provided below.

8.1 Special management areas

A special management area (SMA) is a *property control* available to the SA EPA. If the SA EPA has reason to believe that site contamination of a particular kind exists in a wide area, or numerous areas, as a result of the same activity or proximate or related activities, they may declare an SMA.

Once declared, the SA EPA will publicise the SMA, establish a consultative process involving itself and other relevant public authorities, industries, businesses, residents and others, and make one or more environmental performance agreements or other voluntary agreements to manage the contamination.

8.2 Groundwater prohibition areas

Groundwater prohibition areas (GPAs) are a *property control* available to the SA EPA to supplement remediation methods to prevent or limit exposure to groundwater contamination. If SA EPA is satisfied that action is necessary to prohibit or restrict the use of groundwater to prevent actual or potential harm to human health or safety, a GPA may be declared.

The SA EPA advises users within the declared area on the status of the relevant groundwater resource and passes the responsibility to not use the groundwater onto the occupants.

8.3 EPA public register

The SA EPA Public Register is an *informational device* that provides information held by the SA EPA on site contamination and other environmental matters to interested parties.

It contains:

- Site contamination notifications and reports received by the SA EPA since the commencement of the SA EP Act on 1 May 1995,
- Information on institutional controls (such as GPAs and SMAs),
- Orders issued by the SA EPA,
- Voluntary proposals

A limited searchable record is available to the public via the EPA website, while other information is available on direct enquiry to the EPA Public Register Administrator. The SA EPA Guideline on assessment and remediation (2018) advises that consultants ensure that when sampling on private property a process is included whereby owners are informed of the likelihood of the results having to be provided to the EPA and recorded on the EPA Public Register.

Removal of a site from the EPA public register is conducted by the SA EPA on a case-by-case basis.

8.4 Registration of orders on Title

The registration of an order on a title is a *property control* available to SA EPA. When orders (eg EPOs, CUOs, site contamination assessment orders or site remediation orders) issued by the SA EPA include ongoing requirements relating to the site which the site owner or occupier are bound to comply with, the order can be registered against the certificate of title for the property by SA EPA. By registering an order against the title of a site, SA EPA can ensure that the order binds subsequent owners and occupiers and is effective in perpetuity if necessary.

Removal of the registration is conducted by DEHP on a case-by-case basis.

8.5 Condition of development approval

A condition of development approval is a *planning control* available to the SA EPA in their capacity as a referral body during the development approval process where a referral for site contamination exists. Conditions recommended/directed by SA EPA can include the requirement to implement an EMP or the application of a specific technology or engineering solution. Conditions directed by SA EPA for development approval must be imposed on the final approval given by the planning authority.

8.6 Statement of government interests

A statement of government interest is an *informational device* available to proponents, practitioners and regulators. They are designed to provide consumer protection for the sale of land, and to ensure environmental obligations are communicated to prospective site owners. The SA EPA has a statutory obligation under the LBSC Act to provide information relating to environmental protection to assist with the preparation of the Form 1 or Form 2 statement, which is provided by a vendor or their agent to a prospective buyer before settlement of land or a small business.

9. Tasmania specific controls

At the time of writing there were two pieces of legislation within Tasmania (Tas) that allow for the implementation of institutional controls. They are:

- Environmental Management and Pollution Control Act 1994; and
- Land Use Planning and Approvals Act 1993.

Further information on the ICs is provided below.

9.1 Remediation notice

A remediation notice is a *governmental control* available for use by the TAS EPA. A remediation notice issued by TAS EPA will contain provisions to be undertaken by the person listed to ensure that human health and the environment are protected from harm or further harm caused by contamination (TAS EPA, 2012).

9.2 Site management notice

A site management notice (SMN) is a *property control* available to the TAS EPA and contains provisions to be undertaken by the person listed in the notice to ensure the safe management of contamination at a site. An SMN can require ongoing monitoring for the site, restrict access to the site, or require other actions be undertaken to minimise exposure to contamination.

9.3 Registration of notice on Title

The registration of a notice on title is a *property control* available to TAS EPA. Notices issued by the TAS EPA under Part 5A of the EMPC Act must be registered by the TAS EPA against the title for the site. By registering a notice against the title of a site it ensures that the notice binds subsequent owners and is effective in perpetuity.

Removal of the notice on the title is conducted by TAS EPA on a case-by-case basis.

9.4 Planning permit conditions

A planning permit condition is a *planning control* available to a planning authority with regards to the management of post-remediation conditions. Planning permit conditions can include requirements to manage residual contamination, maintain on-site structures, or implement monitoring.

9.5 Site sign-off

Information Bulletin No. 112 is a guidance document prepared by TAS EPA to provide information regarding the site sign-off process relating to site contamination. The sign-off process was established by the TAS EPA to assist planning authorities in meeting the requirements of the LUPA Act in ensuring that land is suitable for its intended use.

The sign-off process is triggered by a request from a planning authority and is supplied to the planning authority which makes the request.

Site contamination sign-off is a written endorsement provided by TAS EPA. The sign-off states that works and investigations have been undertaken by a suitably qualified and experienced consultant and that it is reasonable to rely on the consultant's recommendation.

10. Victoria specific controls

At the time of writing there were six pieces of legislation within Victoria (Vic) that allow for the implementation of institutional controls. They are:

- Environment Protection Act 1970;
- State Environment Protection Policy (Prevention and Management of Contamination of Land);
- State Environment Protection Policy (Groundwaters of Victoria);
- Planning and Environment Act 1987;
- Victoria Planning Provisions; and
- Transfer of Land Act 1958.

Further information on the ICs is provided below.

10.1 Statement of environmental audit

A statement of environmental audit (SoEA) is a *property control* available to regulators and planning authorities to ensure that ongoing monitoring or remedial options are implemented and maintained at a site. When a site is within an environmental audit overlay within a planning scheme or proposed for a more sensitive land use an environmental audit by an appointed auditor is required. The environmental audit is to verify that potentially contaminated land can be used for a specific land use and may result in an SoEA.

An SoEA usually contains one or more conditions that must be implemented for the site to be considered suitable for the proposed land use.

The relevant planning authority must consider any conditions in an SoEA and:

- Include provisions in a planning scheme amendment or conditions in a planning permit that reflect the requirements of the conditions of the SoEA;
- Require the applicant to demonstrate that the conditions included in the SoEA have been or will be met before the use commences; and
- Liaise with other agencies of appropriate jurisdiction where the nature of the conditions means they are more properly considered by that agency.

Most commonly an SoEA involves the Vic EPA, but on occasions may involve other agencies such as water authorities.

10.2 Remedial notices

Remedial Notices are a *government control* available to EPA Victoria and consists of a written direction requiring that the recipient undertake works or activities detailed in the notice. Failure to comply with a remedial notice is an offence under the EP Act.

The three most common remedial notices issued by EPA Victoria are:

- Pollution abatement notices (PAN);
- Minor works pollution abatement notices (MWPAN); and
- Clean-up notice (CUN).

10.2.1 **Pollution abatement notices**

PANs are issued under section 31A of the EP Act (VIC). They aim to prevent further occurrence of pollution or potential environmental risk through installation of risk controls and changes to on-site processes and practices.

10.2.2 **Minor works pollution abatement notice**

MWPANs are issued under section 31B of the EP Act (VIC). They aim to prevent further occurrence of pollution or potential environmental risk through installation of risk controls and changes to onsite processes and practices in urgent situations.

10.2.3 **Clean up notice**

CUNs are issued under Section 62A of the EP Act (VIC). They aim to prevent further contamination and impact on beneficial uses through the removal of waste, undertaking clean-up activities, ongoing management of pollution, and altered handling, storage or location of industrial or prescribed industrial waste.

10.3 **Groundwater quality restricted use zone**

A groundwater quality restricted use zone (GQRUZ) is a *property control* available to the EPA Victoria when it is satisfied that an existing level of contamination of groundwater precludes one or more of the beneficial uses that would otherwise apply to that groundwater. When a GQRUZ is established, it must be managed to contain the contaminated groundwater within the zone and be cleaned up to the extent practicable. When a GQRUZ has been established, restrictions on how the water can be used without future treatment may remain, depending on the quality of the groundwater.

Removal of the restricted use zone is conducted by EPA Victoria on a case-by-case basis.

10.4 **Section 173 agreement**

A Section 173 Agreement is a *property control* available to planning authorities and regulators to ensure that ongoing post-remediation considerations are implemented at a site. It is a legal contract made between a responsible authority and an owner of land under the P&E Act that sets out conditions or restrictions on the use or development of the land, or obligations to achieve other planning objectives in relation to the land. It is a statutory instrument which may be enforced by the responsible authority (usually Council). The responsible authority (or any person) may apply to the Victorian Civil and Administrative Tribunal (VCAT) for an enforcement order if the land use or development of the land contravenes, or is likely to contravene, a section 173 agreement.

A Section 173 Agreement must be registered over the title of the land so that the owner's obligations under the agreement bind future owners and occupiers of the land. Other persons or bodies can be additional parties to a Section 173 Agreement, which is beneficial in circumstances such as when:

- the conditions of a SoEA will be ongoing in nature and require maintenance or monitoring such as regular groundwater or waterway testing; and
- other parties, such as Vic EPA or a water authority, are involved with conditions of an ongoing nature.

Periodic reporting should also be provided in a Section 173 Agreement. If it is impractical or inappropriate to include the conditions of an SoEA in the Section 173 Agreement, the auditor should be asked to either re-issue the SoEA or to confirm that the intent of the Statement condition is adequately captured in the proposed planning permit conditions.

10.5 Planning permit conditions

Planning permit conditions are a *property control* available to Councils in their role as the development authorities. They aim to achieve a cohesive and ordered set of relevant and effective requirements upon the permitted uses, development, or other matters. Planning permit conditions confer obligations on the permit operator. So long as a permit is relied upon, these conditions in relation to the land continue.

10.6 Environmental audit overlay

An environmental audit overlay (EAO) is a *property control* available to local Councils with respect to sites which may pose a contamination risk. It mandates that an SoEA be issued by an appointed environmental auditor before a sensitive land use commences, or before the construction or carrying out of buildings and works associated with a sensitive use commences. A local government can apply an EAO to a site, or area, to signal that the land is potentially contaminated and requires an environmental audit before any works commence.

10.7 Registered restrictive covenant

A registered restrictive covenant is a *property control* available to proponents to ensure land use restrictions as recommended by a practitioner following remediation are implemented in perpetuity. It is a legal agreement between the vendor and buyer of a site that restricts what the land can be used for and is recorded on the title of the burdened land.

11. Western Australia specific controls

At the time of writing there were three pieces of legislation within Western Australia (WA) that allow for the implementation of institutional controls. They are:

- Contaminated Sites Act 2003 and Contaminated Sites Regulations 2006;
- Environmental Protection Act 1986; and
- Planning and Development Act 2005.

Further information on the ICs is provided below.

11.1 Contaminated site classification system

The Contaminated Site Classification System (CSCS) is a *government control* available to the WA Department of Environmental Regulation (WA DER) that ensures residual contamination is addressed in the redevelopment of a property. Following the reporting of a site to and the submission of any available environmental investigation reports, the site is assessed and classified by DER. If contamination is present the DER has a number of classifications available to them, including:

- Contaminated-remediation required;
- Contaminated – restricted use¹;
- Remediated for restricted use; or
- Possibly contaminated – investigation required.

Each of these classifications have associated restrictions, including:

- The land use of the site is restricted to commercial/industrial land use. The site should not be developed for a more sensitive land use such as public open space, residential use or childcare centres, without further contamination assessment and/or remediation;
- Due to the presence of asbestos in soil, a site-specific health and safety plan is required to address the risks to health of workers undertaking intrusive works (below 'x'¹ m depth) until further notice; and
- Other than for analytical testing or remediation, groundwater abstraction is not permitted at the site.

It is at the discretion of DER whether to apply further restrictions such as periodic monitoring of soil, groundwater and/or air quality in order to measure the effectiveness of the implemented remedial measures. The frequency and nature of ongoing monitoring is generally informed by the conclusions and recommendations made by environmental practitioners in the relevant environmental reports and/or auditors in contaminated sites audit reports.

11.2 Memorial on Title

Placing a memorial on the property title is a *property control* available to planning regulators. It is used when a site has been classified under the CSCS as:

¹ Where 'x' refers to the depth of the top of the contaminated material and/or geotextile warning barrier.

- Contaminated – remediation required;
- Contaminated – restricted use;
- Remediated for restricted use; or
- Possibly contaminated – investigation required.

When a memorial is registered against a site; subdivision, amalgamation then development of the land is not to be approved without the relevant authority seeking and considering the advice of WA DER as to the suitability of the land for the proposed use.

When land with a notice of memorial is sold or leased, full disclosure of its contamination status must be provided to the relevant parties if the site is classified as:

- Contaminated – remediation required;
- Contaminated – restricted use;
- Remediated for restricted use; or

Full disclosure is not mandatory for sites classified as '*possibly contaminated-investigation required*' however, DER recommends that full disclosure is provided.

Removal of the memorial is conducted by WA DER on a case-by-case basis.

11.3 Contaminated sites database and reported sites register

The contaminated sites databased and reported sites register is an *informational device* available to regulators, proponents, practitioners and the public. It consists of an online database and register that is administered by WA DER. The register and database must be updated by DER within 10 days of classifying a site.

A site is entered into either the database or the register based on the classification applied by the WA DER (see section # above). The following classifications are entered into the database:

- Contaminated – remediation required;
- Contaminated – restricted use; and
- Remediated for restricted use.

The following classifications are recorded on the register:

- Possibly contaminated-investigation required;
- Decontaminated;
- Report not substantiated; and
- Not contaminated-unrestricted use.

Access to copies of technical reports (practitioner and audit reports) for a site is available through submitting a detailed summary of records request to WA DER (fee payable).

Removal of a site from the database or register is conducted by WA DER on a case-by-case basis.

11.4 Clean-up notice

A clean-up notice (CUN) is a *government* control available to WA DER when it has been identified that a site classified as 'contaminated – remediation required' has not, or is not being remediated within the appropriate timeframe or manner. The CUN can compel the responsible person to:

- Prepare and submit an SMP to WA DER;
- Comply with an SMP referred to in the CUN;
- Implement a relevant SMP;
- Monitor a site in accordance with an SMP; and
- Perform relevant community engagement.

11.5 Planning scheme referral

Planning referrals are *property controls* available to planning regulators to both capture changes in land use, and to manage a parcel of land as a whole if development, subdivision or amalgamation is proposed.

Under the EP Act (WA), all planning schemes and amendments created under the P&D Act (WA) are required to be assessed by the WA DER and approved prior to commencement. WA DER also assesses significant and strategic proposals where, if implemented, they are likely to have significant effect on the environment. As part of the planning approval, the relevant planning authority will impose a planning condition, which will require the proponent to address site contamination matters to the satisfaction of WA DER. A mandatory audit report is required to be submitted to WA DER for them to recommend that the planning condition can be discharged.

Appendix A – References

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- QLD DEHP, 2014, *Guideline: Managing contaminated land under the 'Sustainable Planning Act 2000'*, Queensland Department of Environment and Heritage Protection, Brisbane.
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- South Australia Environment Protection Authority, Adelaide.
- TAS EPA, 2012, *Notification of a contaminated site*, Info Bulletin no 101, Tasmanian Environment Protection Authority, Hobart.
- US EPA, 2012, *Institutional controls: A guide to preparing institutional control implementation and assurance plans at contaminated sites*, EPA/540/R-09/022, United States Environmental Protection Agency, USA.
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- WA DEC, 2006, *Contaminated sites management series - Site classification scheme*, Western Australia Department of Environment and Conservation, Perth.
- WA DER, 2014, *Contaminated sites guideline: Assessment and management of contaminated sites*, Western Australia Department of Environment Regulation, Perth.
- WA DPC, 2014, *Introduction to the Western Australian planning system*, Western Australia Department of Planning, Perth.