



Initiating the Investigation, Remediation and Site Audit Process

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Disclaimer

The Guide "*Initiating the Investigation, Remediation and Site Audit Process*" has been coordinated by the Hunter Joint Organisation. It is designed as a Guide for Councils to consider when assessing and managing contamination through the land use planning process. The content of this Guide is current at the time of publication. While every effort has been made to ensure accuracy and completeness, no responsibility is taken, nor guarantee given, by the Hunter Joint Organisation with respect to errors or omissions in the materials contained in the Guide. The contents do not constitute legal advice, are not intended to be a substitute for legal advice, and should not be relied upon as such. The Hunter Joint Organisation does not accept any responsibility or liability in regard to your use of any information given in this Guide.

FOREWORD

This document (“the Guide”) provides guidance for Council on Initiating the Contaminated Land Process, when needed, for Planning Applications.

Implementing procedures for the management of contaminated land through the land use planning process can assist councils ensure they act in “good faith” with their legislative obligations relating to providing and gathering information.

The document was developed collaboratively with staff from Councils participating in the Regional Contaminated Land Capacity Building Program.

The Guide forms part of a series of guides and resources, developed as supporting documents to the *Model Contaminated Land Policy – Land Use Planning* (Hunter Joint Organisation, 2020). Figure 1 presents this Guide in the context of the document series.

Advisory notes are included in shaded boxes to provide greater clarity and direction to staff when assessing and managing contamination through the land use planning process.

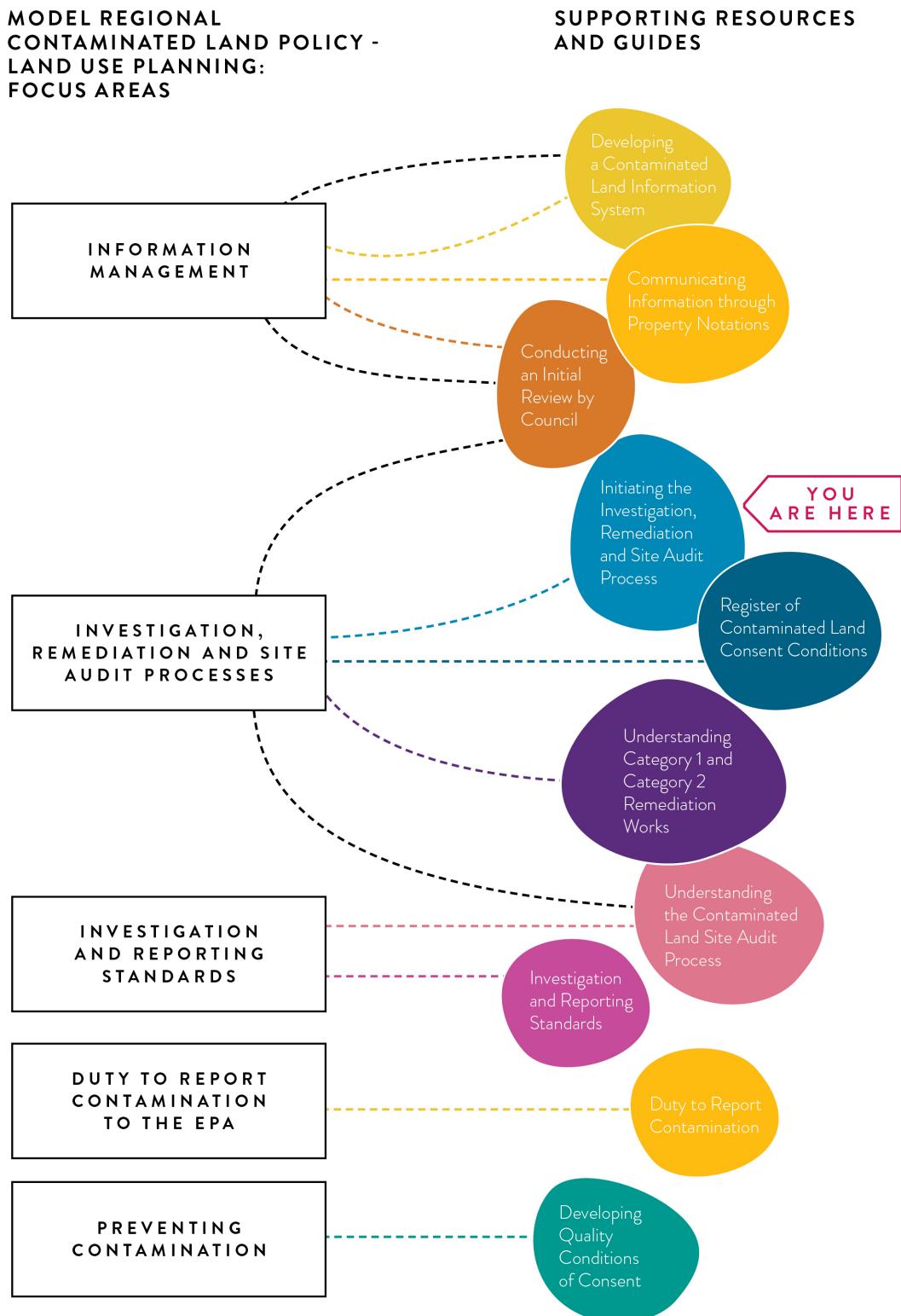


Figure 1. Contaminated Land Resources and Guides, produced as part of the Contaminated Land Capacity Building Program.

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Key Terms and Acronyms

Category 1 Remediation	Remediation works requiring Development Consent
Category 2 Remediation	Remediation works that do not require Development Consent (but must be notified to Council)
Conditions of Consent	Requirements imposed by Council on a development approval to ensure the development complies with required standards. Conditions may apply to both the immediate construction stages of the development and occasionally beyond
Contamination	The condition of land or water where any chemical substance or waste has been added as a direct or indirect result of human activity at above background level, and represents, or potentially represents, an adverse health or environmental impact
Contaminated Land Process	<p>The process includes several stages of investigations and actions. The level ultimately required is determined by the circumstances and outcomes from the previous stage.</p> <p>The potential stages of the Contaminated Land Process are:</p> <ul style="list-style-type: none">• Preliminary Site Investigation (PSI)• Detailed Site Investigation (DSI): Several reports, such as additional investigations, contamination delineation, monitoring, and/or Site Specific Risk Assessments may be included in this stage)• Remedial Action Plan (RAP)• Remediation• Validation (including Monitoring if applicable)• Ongoing Environmental Management Plan (OEMP) and Monitoring
CLM Act	<i>Contaminated Land Management Act 1997 (NSW)</i>
Detailed Site Investigation (DSI)	An investigation with the objective to define the nature, extent and degree of contamination; assess potential risk posed by contaminants to health and the environment; and obtain sufficient information to develop a Remedial Action Plan (if needed)
Data Quality Indicators (DQI)	Pre-determined indicators used to assess if the data is considered fit for its intended uses in operations, decision making and planning. The typical parameters adopted are Precision, Accuracy, Representativeness, Completeness and Comparability (PARCC)
Data Quality Objectives (DQO)	The DQO Process is a seven step planning approach used to define the type, quality and quantity of data required to inform a specified decision relating to the environmental condition of a site
Development Application	A development application is a formal request for consent to carry out development and is considered under Part 4 of the <i>Environmental Planning & Assessment Act 1979</i>
Development Consent	Formal approval from Local Councils to proceed with a development. Development Consent is required prior to commencement of any works associated with development governed by Part 4 of the <i>Environmental Planning & Assessment Act 1979</i>

Duty to Report	The duty to report significant contamination to the NSW EPA is a requirement under the <i>Contaminated Land Management Act 1997</i> , with updates provided in the <i>Contaminated Land Management Amendment Act 2008</i> . The triggers for reporting are presented in the <i>Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997</i> (2015)
EPA	Environment Protection Authority
Initial Evaluation	An evaluation undertaken by Council to determine whether contamination is likely to be an issue, and to assess whether further information is required for it to conduct its planning functions in good faith
Land Contamination	Land contamination may be the result of past or current uses. The land may be contaminated by a current or historical land use activity directly on that site or through migration of contamination from adjacent sites. See also definition of "Contamination"
LEP	Local Environmental Plan. An LEP guides planning decisions for Local Government Areas through zoning and development controls, which provide a framework for the way land can be used. LEPs are Planning Instruments from the <i>Environmental Planning & Assessment Act 1979</i>
LGA	Local Government Area
Ongoing Environmental Management Plan (OEMP)	A plan outlining monitoring and management requirements where contamination remains on site, and there is uncertainty as to its potential to migrate; and/or the effectiveness of the management measures implemented to contain the contamination following remediation and validation; and/or monitoring and ongoing management forms part of the remediation strategy
Planning Application	A Development Application or Planning Proposal made to/by Council in accordance with the <i>Environmental Planning and Assessment Act 1979</i> (NSW)
Planning Guidelines	<i>NSW Managing Land Contamination Planning Guidelines – SEPP 55 Remediation of Land</i> (1998)
Planning Proposal	A formal application submitted by Council that proposes to rezone land
POEO	<i>Protection of the Environment Operations Act 1997</i> (NSW)
Preliminary Site Investigation (PSI)	An investigation to identify any past or present potentially contaminating activities, to provide a preliminary assessment of any site contamination, and if required, to provide a basis for a more detailed investigation
Proponent	The person who puts forward the development application to Council
Quality Assurance/Quality Control Process (QA/QC)	A process used to assess the reliability of field work and analytical results for an investigation
Remedial Action Plan (RAP)	A plan that sets objectives, and documents the process, for remediating a contaminated site
Request for Information	Requests by Council to the Proponent prior to determination of a development application to ensure Council is provided with adequate information to determine whether consent can be granted
s10.7 Certificate	Planning Certificate under Section 10.7 of the <i>Environmental Planning and Assessment Act 1979</i> (NSW)
Sampling and Analysis Quality Plan (SAQP)	A document outlining the details for a sampling program, such as the objective(s) and the intended process

SEPP 55	<i>State Environmental Planning Policy No 55 – Remediation of Land</i>
Significantly Contaminated Land	A site is declared Significantly Contaminated Land by the EPA where contamination is considered significant enough to warrant regulation under the <i>Contaminated Land Management Act 1997</i> (with changes made through the <i>Contaminated Land Management Amendment Act 2008</i>) given the site's current or approved use
Site Audit	An independent review by a Contaminated Land Auditor, accredited by the NSW EPA, of any or all stages of the site investigation process, conducted in accordance with the requirements of the <i>Contaminated Land Management Act 1997</i>
Site Audit Report (SAR)	A report which summarises the report(s) audited, and provides the Auditor's opinion and conclusions. A Site Audit Report must be accompanied by a Site Audit Statement
Site Audit Statement (SAS)	A statement which outlines the conclusions of a site audit. A Site Audit Statement must be accompanied by a Site Audit Report
Table 1 of the Planning Guidelines	List of potentially contaminating activities included in Table 1 of the <i>NSW Managing Land Contamination Planning Guidelines</i> (1998)
UPSS	Underground Petroleum Storage Systems are tanks and associated piping, completely or partially buried. Includes piping to or from the tanks to the inlet point of any dispensers. Petroleum also includes ethanol & biodiesel fuels and used oil.
Validation	The objective of the validation stage of the Contaminated Land Process is to demonstrate whether or not the objectives stated in the Remedial Action Plan have been achieved

Key Legislative Instruments, Regulations, Policies & Guidelines

<i>Contaminated Land Management Act 1997</i>	Sets out the role of the EPA and the rights and responsibilities of parties it might direct to manage land where contamination is significant enough to warrant regulation
<i>Contaminated Land Management Amendment Act 2008</i>	Introduced amendments aimed to allow sites to be cleaned up more efficiently while reinforcing the 'polluter pays' principle
<i>Contaminated Land Management Regulation 2013</i>	Sets out the recovery of administrative costs for the EPA relating to regulated sites and the auditor system. It also sets out timeframes for administrative matters under the <i>Contaminated Land Management Act 1997</i>
Guidelines on the Duty to Report Contamination under the <i>Contaminated Land Management Act 1997</i> (2015)	Details the circumstances that can trigger the requirement to notify the EPA about contamination under Section 60 of the <i>Contaminated Land Management Act 1997</i>
<i>Environmental Planning & Assessment Act 1979</i>	Provides the overarching structure for regulation of planning and development in NSW together with the <i>Environmental Planning and Assessment Regulation 2000</i>
<i>Environmental Planning and Assessment Regulation 2000</i>	Provides the overarching structure for the regulation of planning and development in NSW together with the <i>Environmental Planning and Assessment Act 1979</i>
National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)	Establishes a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community which includes regulators, site assessors, site auditors, landowners, developers and industry
NSW Managing Land Contamination Planning Guidelines – SEPP 55 Remediation of Land (1998)	The Planning Guidelines support SEPP55 and address the policy framework, identification and investigation of contamination, the decision making process, management of contaminated sites and remediation, information management, and principles for proactively preventing future contamination
State Environmental Planning Policy No 55 – Remediation of Land	Ensures planning decisions take into account possible land contamination, and promotes remediation to reduce risk of harm

1 Introduction

Contaminated land in New South Wales (NSW) is primarily managed through two avenues:

1. Sites where contamination is considered significant enough to warrant regulation are the management responsibility of the NSW Environment Protection Authority (EPA) through the powers provided to it under the *Contaminated Land Management Act 1997*.
2. Other sites are managed by Councils via land use planning instruments, through the powers provided to it under the *Environmental Planning and Assessment Act 1979*.

As the Regulatory Authority under the *Environmental Planning and Assessment Act 1979*, Council must consider the possibility that the previous and/or current land uses, and/or a nearby land uses, have caused contamination of the site, and the potential risk to human health and the environment from that contamination.

This document outlines the procedures for initiating the investigation, remediation and site audit process (referred to herein as “the Contaminated Land Process”) though the land use planning function, and provides context to the stages of the process.

Advisory Notes:

1. *This Guide supports the policy statements included in the Model Regional Contaminated Land Policy - Land Use Planning (Hunter Joint Organisation, 2020). Where Council has amended the Model Policy to develop their local Contaminated Land Policy, the amendments must be considered to ensure the procedures in this Guide meet the requirement of Council's local policy.*
2. *Contaminated land information gathered through the land use planning process is to be recorded in Council's Contaminated Land Information System. Refer to the Guide: Developing a Contaminated Land Information System (Hunter Joint Organisation, 2020).*

2 Council's Obligations

The *National Environment Protection (Assessment of Site Contamination) Measure* (ASC NEPM, 2013), volume 1, Section 5 (Planning and Development) states:

"Authorities of participating jurisdictions (at local and State government level) that consent to developments, or changes in land use, should ensure a site that is being considered for development or a change in land use, and that the authorities ought reasonably know if it has a history of use that is indicative of potential contamination, is suitable for its intended use."

This is consistent with the requirements of SEPP 55 (s7):

"A consent authority must not consent to the carrying out of any development on land unless:

- a) *It has considered whether the land is contaminated, and*
- b) *If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable after remediation) for the purpose of which the development is proposed to be carried out, and*
- c) *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".*

The general principle of the *Managing Land Contamination Planning Guidelines 1998* is that a precautionary approach be adopted when exercising a planning function, and that the identification of land contamination issues occurs at an early stage in the planning process in order to prevent harm and reduce unnecessary costs or delays.

Based on the above requirements, the *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding Council's management of contamination through the land use planning function:

Policy Statement:

- Council shall not approve a Development Application or support a Planning Proposal unless it is satisfied on the basis of information available to it under this Policy that:
 - Contamination has been considered;
 - If the land is contaminated, that the land is suitable in its contaminated state (or will be suitable following remediation) for all the uses permissible under the approval; or
 - If the land is contaminated, that conditions can be placed in planning instruments or on development consents and approvals under Part IV of the *Environmental Planning and Assessment Act 1979* that will ensure any contaminated land can be remediated to a level appropriate to its intended use, prior to, or during the development stage.

The Initial step for Council to determine if it needs to initiate the Contaminated Land Process is to undertake an Initial Review (or "Initial Evaluation"), a process that is outlined in *Conducting an Initial Review by Council* (Hunter Joint Organisation, 2020). The Initial review is to be undertaken for all Planning Applications (i.e. both Development Applications and Planning Proposals). Through the Initial Review, Council is to evaluate if there is sufficient information relating to contamination to determine if the site is, or can be made, suitable for the proposed land use or zoning.

Where Council identifies that contamination is, or may be present, Council is to initiate the Contaminated Land Process, where the Proponent must investigate, and if needed; remediate the Site and provide Council with the information it needs to carry out its planning functions.

3 The Contaminated Land Process

The Contaminated Land Process is outlined in the *National Environment Protection (Assessment of Site Contamination) Measure* (ASC NEPM, 2013), and in several guidelines and technical notes produced or adopted by the NSW EPA under the powers provided to it in the *Contaminated Land Management Act 1997*.

The process includes several stages of investigations and actions. The level ultimately required is determined by the circumstances and outcomes from the previous stage.

Following an Initial Review by Council, indicating that contamination is or may be present, the potential stages of the Contaminated Land Process are:

1. Preliminary Site Investigation (PSI)
2. Detailed Site Investigation (DSI): Several reports, such as additional investigations, contamination delineation, monitoring, and/or site specific risk assessments may be included in this stage
3. Remedial Action Plan (RAP)
4. Remediation
5. Validation (including Monitoring if applicable)
6. Ongoing Environmental Management Plan (OEMP) and Monitoring

Site Auditors, accredited by the NSW EPA, may be engaged to independently review all, or part of, the process and resulting reports.

The following Sections 3.1 to 3.8 outline the stages of the Contaminated Land Process in detail, and provides procedures to support the Model Policy Statements, for Council to consider.

Advisory Note:

Not every site requires all stages of investigation. In accordance with the Managing Land Contamination Planning Guidelines 1998:

- *An investigation may proceed directly to a Detailed Site Investigation if it is clear early on that the land has been used for an activity listed in Table 1 of the Planning Guidelines and the proposed change of use would increase the risk from contamination. However, in this circumstance the investigation should still include the necessary steps of a Preliminary Site Investigation to ensure that the sampling program is based on sufficient information.*
- *A proponent may also choose not to proceed with the proposal and terminate the site investigation process at any stage (noting the duty to report to the NSW EPA still applies if that process has been triggered. Refer to Section 3.8 or the document: Duty to Report Contamination (Hunter Joint Organisation, 2017). As defined in the Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (2015), local councils may also consider regulating, where warranted, under the POEO Act.*

3.1 Site Audit

A Site Audit is an independent review of a Contaminated Land Consultant's investigations and reports for any or all stages of the Contaminated Land Process. A Site Audit must be undertaken by a NSW EPA accredited Site Auditor, and be conducted in accordance with the *Contaminated Land Management Act 1997*. Section 4 of the Act defines a Site Audit as a review:

- “*that relates to management, carried out in respect of the actual or possible contamination of land; and*
- *that is conducted for the purpose of determining any one of the following matters:*
 - *the nature and extent of any contamination of the land;*
 - *the nature and extent of any management of actual or possible contamination of the land;*
 - *whether the land is suitable for any specified use or range of uses;*
 - *what management remains necessary before the land is suitable for any specified use or range of uses; or*
 - *the suitability and appropriateness of a plan of management, a long-term management plan, a voluntary management proposal”.*

Engaging a Site Auditor to provide a statement about the suitability of the site for its proposed land use can provide greater certainty about the information on which the planning authority is basing its decision, particularly where sensitive uses are proposed is required. A Site Auditor ensures that the methodology used by Consultants and their interpretation of data are consistent with current NSW EPA regulations and guidelines.

A Site Audit will lead to the provision of a Site Audit Statement. Only Site Auditors accredited by the NSW EPA can issue a Site Audit Statement. Site Auditors are also required to provide a Site Audit Report, which contains the key information and the basis of consideration leading to the issue of the Site Audit Statement.

When requesting a Site Audit, it is important to clarify the purpose of the Audit. This will ensure that the information provided from the Audit is clear and appropriate to the requirements of Council. The specific purposes of a Site Audit (which are identified in the Site Audit Statement) are:

- A To determine land use suitability (the intended land use needs to be specified).
- B(i) To determine the nature and extent of contamination; and / or
- B(ii) To determine the appropriateness of an investigation / remedial action / management plan (the specific plan / report needs to be defined); and / or
- B(iii) To determine if the land can be made suitable for a particular use or uses by implementation of a specified remedial action plan / management plan (the specific plan needs to be identified, and the intended land use(s) need to be specified).

A staged approach to an Audit may be appropriate in some cases. Sign-off on each stage may occur as an Interim Opinion (IO) given by the Site Auditor, with a Site Audit Statement and Site Audit Report produced in the final stage of the Audit. This can be a cost and time effective approach in some cases, however; it is important to note that the end result of an Audit must be a Site Audit Statement and Site Audit Report.

Site Audits are explained in more detail in *Understanding the Contaminated Land Site Audit Process* (Hunter Joint Organisation, 2017).

The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding when a Council may initiate a Site Audit:

Policy Statements:

- Council may require a Site Audit to be carried out where Council:
 - Believes on reasonable grounds that the information provided by the Proponent is incorrect or incomplete;
 - Wishes to verify whether the information provided by the Proponent has adhered to appropriate standards, procedures and guidelines; or
 - Does not have the internal resources to conduct its own technical review.
- All costs associated with providing a Site Audit are to be borne by the Proponent.

3.1.1 Council Procedures

1. Council is to review the investigation reports and other documentation provided by the Proponent regarding the nature and extent of contamination, risk assessments, proposed remediation works or validation and monitoring outcomes. Procedures to consider when reviewing contaminated land reports are provided in *Investigation and Reporting Standards* (Hunter Joint Organisation, 2017)
2. Council is to require the Proponent to engage a Site Auditor to perform a Site Audit (with all costs of the audit to be borne by the Proponent), for any or all of the reasons defined in the Model Policy Statement
3. When requesting a Site Audit from the Proponent, Council will specify the purpose of the Site Audit (refer above), and any other specific issues to be included within the scope of the Site Audit.

Advisory Note:

Although the site audit is a separate process from the investigation and remediation, it is recommended that the site auditor is engaged at the beginning of the investigation and/or remediation project. Communication between the consultant and the site auditor from an early stage should ensure that the consultant does sufficient work to satisfy the site auditor and therefore minimise potential delays for the site owner or developer (Source: NSW Environment Protection Authority, 2015).

3.2 Preliminary Site Investigation

A Preliminary Site Investigation report should contain a detailed appraisal of the Site's history, information gathered from a site inspection, and compilation of information from a number of sources in accordance with the NSW EPA (2020) *Guidelines for Consultants Reporting on Contaminated Sites*. It is important that all relevant information about the Site is sought and assessed to determine the potential for site contamination, and (if needed) to base further investigations on.

The main objectives of the Preliminary Site Investigation are to:

- Identify any past or present potentially contaminating activities; and
- Provide a preliminary assessment of any site contamination, and if required, provide a basis for a Detailed Site Investigation.

The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding when a Council is to initiate a Preliminary Site Investigation:

Policy Statement:

- A Preliminary Site Investigation is required when an Initial Evaluation identifies that contamination is, or may be present on the site, or if potential or actual contamination on an adjacent area has the potential to migrate to the site.

3.2.1 Council Procedures

1. Council is to undertake and Initial review in accordance with *Conducting and Initial Review by Council* (Hunter Joint Organisation, 2017).
2. Where Council identifies that contamination is, or may be present, it is to request a Preliminary Site Investigation by the Proponent, or alternatively, initiate the Contaminated Land Process.

3.3 Detailed Site Investigation

The objectives of a Detailed Site Investigation (DSI) are to:

- Define the nature, extent and degree of contamination;
- To assess potential risk posed by contaminants to health and the environment; and
- To obtain sufficient information to develop a Remedial Action Plan (RAP), if required.

It should be noted that several investigations and associated reporting such as delineation, site specific risk assessments and monitoring may be needed in this stage of the process.

A Detailed Site Investigation Report should be prepared in accordance with the NSW EPA (2020) *Guidelines for Consultants Reporting on Contaminated Sites*. It should include an assessment of the risk posed by the contaminants to human health and the environment, which is a tiered approach. Generally, Tier 1 Risk Assessments can be undertaken by comparing the levels of contamination on-site with appropriate predetermined thresholds for various media (e.g. soil, groundwater, surface water, sediment and vapour) specified in *National Environment Protection (Assessment of Site Contamination) Measure 1999*, amended in 2013 (ASC NEPM, 2013) and relevant NSW EPA guidelines and Technical Notes. More detailed, site-specific risk assessments (Tier 2 and 3) can be undertaken by the Proponent's Consultant should the Tier 1 assessment indicate that risks are present.

The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding when a Council is to initiate a Detailed Site Investigation:

Policy Statement:

- A Detailed Site Investigation is required:
 - Where the Preliminary Site Investigation indicates that the land is, or may be contaminated
 - When the site is, or was, formally used for an activity listed in Table 1 of the Managing Land Contamination Planning Guidelines (refer Attachment B of the Model Policy), or other potentially contaminating activities known to Council, and a land use change is proposed that has the potential to increase the risk of exposure to contamination
 - To accompany a remediation proposal or notification.

3.3.1 Sampling and Analysis Quality Plan

A Sampling and Analysis Quality Plan (SAQP) is a requirement for contaminated site investigations. Where considered appropriate, the Sampling and Analysis Quality Plan can be requested as a separate document to be prepared prior to the investigation(s) proposed. The Sampling and Analysis Quality Plan ensures that the Consultant targets the investigation to meet the objectives, and pre-determines (amongst other things) criteria, data quality parameters and acceptance levels, and where, how and what to sample to answer the questions relating to site contamination.

Note that a Sampling and Analysis Quality Plan is a living document and changes may be made to respond to specific conditions on site (such as location of sub-surface utilities) or evidence of more widespread contamination than expected.

The model wording relating to the Sampling and Analysis Quality Plan specifically mentions that it must include the seven step Data Quality Objective Process, and a Conceptual Site Model. These are essential tools in planning an investigation and are described further below.

Data Quality Objectives

The Data Quality Objective (DQO) process is a seven step planning approach that is used to define the type, quantity and quality of data needed to inform decisions relating to the contamination status of a site. The seven steps in the Data Quality Objective process are:

- Step 1: State the problem
- Step 2: Identify the decision/goal of the study
- Step 3: Identify the information inputs
- Step 4: Define the boundaries of the study
- Step 5: Develop the analytical approach
- Step 6: Specify performance or acceptance criteria
- Step 7: Develop the plan for obtaining data

Conceptual Site Model

A Conceptual Site Model should organise and visualise the available information about a site, to enable an assessment of the required information and risks associated with contamination. A Conceptual Site Model figure can be a 2D or 3D representation of the (potential and established) sources (e.g. a leaking tank), pathways (e.g. groundwater, service trench, air), and receptors (e.g. people, eco-systems, property) at a site, known as the SPR-linkages. Where there is no pathway (or an incomplete one) between a source and a receptor, the receptor would not be effected unless a pathway was created by, for example, extraction of contaminated groundwater, or removal of a concrete slab that capped the contamination.

The Conceptual Site Model should be updated by the Consultant throughout the Contaminated Land Process as new information becomes available.

3.3.2 Council Procedures

1. Council is to request a Detailed Site Investigation by the Proponent when either:
 - o A review of the Preliminary Site Investigation identified that contamination is, or may be present, (note that Council may wish to initiate the remaining Contaminated Land Process rather than specifically for a Detailed Site Investigation). Procedures to consider when reviewing contaminated land reports are provided in *Investigation and Reporting Standards* (Hunter Joint Organisation, 2017);
 - o Where the site is or was used for any of the activities in activity listed in Table 1 of the Planning Guidelines (refer Attachment B of the Model Policy), or other potentially contaminating activities known to Council, and a land use change is proposed that has the potential to increase the risk of exposure to contamination; or
 - o When a remediation proposal or notification is sent to Council.
2. Council is to consider specific requirements for a separate Sampling Analysis and Quality Plan to be provided if Council wish to review the intended investigation design prior to its implementation, or if Council wish to have the Plan Audited by a NSW EPA accredited Auditor.

When requesting a Detailed Site Investigation, Council should ensure that the Proponent understands that this stage may require several investigations and reports to sufficiently characterise contamination and risks.

3.4 Remedial Action Plan

The aim of a Remedial Action Plan (RAP) is to set objectives and document the process to remediate the site.

A Remedial Action Plan should be based on the information from investigations and on the proposed land use. The objectives of the remediation strategy and the recommended clean-up criteria should be clearly stated.

The Remedial Action Plan should demonstrate how the Proponent (and their Consultant) proposes to reduce risks to acceptable levels, making the site suitable for its proposed land use.

Remediation of contaminated land is considered to be development and may require planning approval (“Category 1” Remediation), even when the proposed land use does not require approval. If development consent is required, a Remedial Action Plan must be submitted with the development application (refer to SEPP 55 - Remediation of Land). For remediation not requiring consent (“Category 2” Remediation), Council must be notified prior to commencement and upon completion. These notifications must include a Remedial Action Plan (prior to commencement), and a Validation Report (upon completion).

The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding when a Council is to initiate a Remedial Action Plan, and what documents to expect from the proponent for Category 1 and Category 2 Remediation Works:

Policy Statements:

- A Remedial Action Plan is required where the Detailed Site Investigation identifies that remediation or management is needed to render the site suitable for its intended land use.
- A Remedial Action Plan (and accompanying investigation reports) must accompany the Planning Application where development consent is required for remediation (i.e. Category 1 Remediation Works).
- A Remedial Action Plan (and accompanying investigation reports) must accompany any notification to Council for proposed Category 2 Remediation work.

3.4.1 Council Procedures

1. Council is to request a Remedial Action Plan (note that Council may wish to initiate the remaining Contaminated Land Process rather than specifically for a Remedial Action Plan) by the Proponent when either:
 - A review of the Detailed Site Investigation(s) identified that contamination is present, and the site needs remediation or management to render it site suitable for its intended land use. Procedures to consider when reviewing contaminated land reports are provided in *Investigation and Reporting Standards* (Hunter Joint Organisation, 2017);
 - Development consent is required for remediation (i.e. Category 1 Remediation Works), in which case the Remedial Action Plan and all Investigation Reports are to be requested by Council; or
 - Notification is given to Council for proposed Category 2 Remediation work, in which case the Remedial Action Plan and all Investigation Reports are to be requested by Council.

3.5 Remediation

Remediation can be broadly considered as an action, or combination of actions taken to mitigate the risks associated with contamination. Remediation can range from administrative procedures (such as procedural changes), to engineering controls (such as fencing, signage and capping) through to elimination (such as active removal or treatment of contamination).

Remediation is generally considered beneficial as it improves the quality of the environment, reduces health risks and restores land to productive use. However, in some situations remediation work itself has the potential for environmental impact and the planning process must ensure that these impacts are adequately identified and mitigated.

SEPP No. 55 - Remediation of Land, provides consistent state wide planning and development controls for the remediation of contaminated land. As described above in Section 1.4, remediation work which requires development consent is known as **Category 1 Remediation Work**. All other remediation work may be carried out without development consent and is known as **Category 2 Remediation Work**. Category 1 and Category 2 Remediation Works are explained in more detail in *Understanding Category 1 and Category 2 Remediation Works* (Hunter Joint Organisation, 2017).

For Category 2 Remediation Works (not needing consent), notification must be provided to Council at least 30 days prior to commencement, and within 30 days after completion.

The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding Remediation Works:

Policy Statements:

- Development consent is required for the following remediation work:
 - Category 1 Remediation Work requiring consent as defined by SEPP 55 Section 9
 - Proposed works that are inconsistent with the requirements of this policy (i.e. remediation works that do not comply with the conduct of remediation works specified in Attachment D of the Model Policy, and are thereby reclassified as Category 1 Remediation Work).
- Council must be notified of proposed Category 2 Remediation Works no less than 30 days prior to their scheduled commencement.

3.5.1 Council Procedures

1. Council is to review the Remedial Action Plan provided by the Proponent with the Notification of Remediation Works, Planning Proposal, Development Application, or through the Request for Information process, to ensure that it can make the land suitable for its proposed land use. Procedures to consider when reviewing contaminated land reports are provided in *Investigation and Reporting Standards* (Hunter Joint Organisation, 2017)
2. Council is to confirm if the remediation works is considered Category 1 or Category 2 Remediation Works (refer to *Understanding Category 1 and Category 2 Remediation Works* (Hunter Joint Organisation, 2017))
3. Where Council determines that the proposed remediation works are Category 1:
 - Council is to advise the Proponent that a development application is required for the proposed works (or possibly an amendment to an existing development application already in place for the site).
 - Upon receipt of the development application, Council will advertise the application for a period of not less than 30 days (as required by SEPP 55).
 - Following the advertising period Council will consider any submissions that have been provided and make a determination to either refuse or approve the development application.
4. Where Council determines that the proposed remediation works are Category 2:
 - Works must be carried out in accordance with the site management requirements specified in Attachment B of the Model Policy. These requirements (if adopted) apply to the whole of the Local Government Area and have been formulated to ensure that Category 2 remediation works do not adversely impact on the environment and public amenity.
 - Where Council becomes aware that remediation works are not being implemented in accordance with the site management requirements included in Attachment B of the Model Policy, it will initiate appropriate regulatory action that reflects the nature and severity of the breach. This may include requiring a development application to be submitted for the remediation work.

All remediation work must be completed in accordance with:

- The Contaminated Land Planning Guidelines
- The National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM, amended 2013)
- Guidelines published under the *Contaminated Land Management Act 1997* (the up to date list is available on <http://www.epa.nsw.gov.au/clm/guidelines.htm>)
- The Remedial Action Plan

In accordance with clause 12 of SEPP 55, Council must not refuse development consent for Category 1 remediation work unless it is satisfied that the proposed remediation works will pose a more significant risk of

harm to human health or the environment than if the land was not remediated in the manner proposed in the Remedial Action Plan.

Advisory Notes:

1. *It is the responsibility of those remediating a site to ensure compliance with all relevant environmental legislation and regulations. Compliance with the site management provisions set out in this Policy (refer Attachment B of the Model Policy) does not imply that all relevant environmental legislation and regulations have been complied with.*
2. *For the construction phase of a development, a Construction Environmental Management Plan is to be implemented to ensure appropriate environmental management practices are followed, regardless of whether contamination is present or not. Where contamination is present, the Construction Environmental Management Plan needs to specifically consider the contamination and its potential impacts during the construction stage.*

3.6 Validation and Ongoing Environmental Management Plans

The purpose of validation is to confirm whether the predetermined remediation objectives have been attained and whether any further remediation work or restrictions on land use are required.

SEPP 55 requires that a notice of completion of remediation be submitted to the local Council, within 30 days of completion of the remediation for Category 2 Remediation, and as defined by Council for Category 1 Remediation. Validation and associated reporting is an essential prerequisite of this notice.

Ideally, validation should be conducted by the same Consultant that conducted the rest of the site investigation and remediation process. Validation must confirm statistically that the remediated site complies with the remediation criteria set for the site. The Consultant should follow the relevant NSW EPA guidelines, and *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended in 2013), when validating the site.

Where monitoring has formed part of the validation process, the monitoring results are typically incorporated into the validation process/report.

The outcomes of the validation process should be presented in a Validation Report, which must assess the results of the post-remediation testing against the remediation criteria stated in the Remedial Action Plan. Where the targets have not been achieved, reasons for such failure must be stated and additional site work proposed that will achieve the original objectives.

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

Ongoing monitoring/management is required where contamination remains on site and there is uncertainty relating to its potential to migrate and/or the effectiveness of the management measures implemented to contain the contamination. Ongoing monitoring/management is undertaken after the Validation Report has been completed and as such, the land use suitability (and associated statement in the Validation Report) for the remediated Site may be subject to the outcomes of an ongoing monitoring/management program. An **Ongoing Environmental Management Plan (OEMP)** is the document outlining the requirements and specific details of an ongoing monitoring/management program.

The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding Validation and Ongoing Environmental Management Plans:

Policy Statements:

- A Validation Report (including monitoring results where applicable) is required to validate the completion and effectiveness of all remediation works for which consent has been provided by Council (i.e. Category 1 Remediation Works).
- The Notice of Completion provided to Council for any Category 2 remediation works is to include the Validation Report.
- An On-going Environmental Management Plan is required to be provided to Council and implemented where contamination remains on site, and there is uncertainty as to its potential to migrate; and / or the effectiveness of the management measures implemented to contain the contamination following remediation and validation; and / or monitoring and ongoing management forms part of the remediation strategy.

3.6.1 Council Procedures

1. Council is to require a Validation Report for all remediation works. The report must clearly state if the land is considered suitable for the intended land use.
2. Council is to review the Validation Report to ensure that the land is suitable for the proposed land use, and to check if any restrictions apply, or if the site is subject to an Ongoing Environmental Management Plan. Procedures to consider when reviewing contaminated land reports are provided in *Investigation and Reporting Standards* (Hunter Joint Organisation, 2017).
3. If the site is subject to an Ongoing Environmental Management Plan, Council must ensure that the plan is legally enforceable, by for example, including the implementation of the plan as part of the conditions of consent. To further ensure that it is implemented and that the relevant parties are aware of their responsibilities, it can also be placed as a restriction or covenant on the land.

3.7 Underground Petroleum Storage Systems

Underground Petroleum Storage Systems (UPSS) have the potential to leak, and due to their underground location, leaks are commonly undetected for periods of time. Contamination caused by leaking UPSS can result in harm to human health and the environment, costly remediation projects, and migration of contamination to neighbouring sites.

The *Underground Petroleum Storage System (UPSS) Regulation* (revised in September 2019) takes a preventative approach to managing potential contamination from underground petroleum storage tanks and associated pipework. The UPSS Regulation requires owners and operators to regularly check for leaks in the fuel tanks and pipes used to store and handle petroleum products. They also need to meet minimum standards in their day-to-day environmental management of these storage systems.

3.7.1 Council Procedures

1. Where Underground Petroleum Storage Systems are present or proposed, Council is to ensure that the requirements of the UPSS Regulation are followed in addition to the other requirements outlined in this Guide. The *Register of Contaminated Land Consent Conditions* (Hunter Joint Organisation, 2020) include information and model conditions relating to UPSS.

3.8 Duty to Report

The duty to report contamination to the NSW EPA is a requirement under Section 60 of the *Contaminated Land Management Act 1997*, with updates provided in the *Contaminated Land Management Amendment Act 2008*.

The following people are required to report contamination as soon as practical after they become aware of any contamination that meets the triggers for the duty to report:

- Anyone whose activities have contaminated land.
- An owner of land that has been contaminated.

It should be noted that although the above people have the duty to report contamination, anyone can at any time report suspected contamination to the NSW EPA. The *Model Regional Contaminated Land Policy - Land Use Planning* (Hunter Joint Organisation, 2020), includes the following statement regarding the Duty to Report:

Policy Statement:

- Where Council considers that contamination on a site triggers the duty to report contamination, and it is not clear if the polluter or site owner has reported the contamination, it will notify the EPA for possible action under the *Contaminated Land Management Act 1997*.

3.8.1 Council Procedures

1. Council is to consider the Duty to Report triggers when managing contamination through the land use planning process (refer to *Duty to Report Contamination* (Hunter Joint Organisation, 2017) for details on the Duty to Report).
2. Where Council consider that the Duty to Report is triggered, and it is not clear if it has been reported to the NSW EPA, Council is to notify the site.

4 Managing Contamination through the Land Use Planning Process

The land use planning process includes two types of planning functions:

1. Rezoning, where a Council supports, or puts forward, a Planning Proposal to the Department of Planning for consideration.
2. Developments where a proponent submits a Development Application to Council for consideration; and

The extent to which the Contaminated Land Process is triggered depends on the type of Planning Application, as outlined in Sections 4.1 to 4.3.

4.1 Zoning and Rezoning Proposal

Where it is proposed to rezone a large area of land that covers more than one property, it may be difficult for Council to be satisfied that every part of the land is suitable for the permissible use(s) at the rezoning stage. In these circumstances, Council may include provisions in a Local Environmental Plan (LEP) or Development Control Plan (DCP) to ensure that the potential for contamination and the suitability of the land for any proposed use are assessed for a more targeted land use prior to the redevelopment of the land, through the Development Application Process.

For a spot rezoning there may be a specific development or land use associated with the proposal. In such cases it may not be appropriate to proceed with the rezoning unless sufficient investigations were undertaken to ensure that the land is considered suitable for the intended zoning or it could be demonstrated that the land can be remediated to make the land suitable during the development stage.

Figure 1 in Attachment A shows the typical process for initiating the Contaminated Land Process when considering supporting, or putting forward, a planning proposal. However, it should be noted that the level of information needed it to be assessed on a case-by-case basis.

As described in Section 2, Council is to start the evaluation by undertaking an Initial Review to assess if the Contaminated Land Process is to be triggered. SEPP 55 identifies some situations where Council is to consider contamination and remediation in Clause 6 as follows:

- 1) *"In preparing an environmental planning instrument, a planning authority is not to include in a particular zone (within the meaning of the instrument) any land specified in subclause (4) if the inclusion of the land in that zone would permit a change of use of the land, unless:*
 - (a) *the planning authority has considered whether the land is contaminated, and*
 - (b) *if the land is contaminated, the planning authority is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for all the purposes for which land in the zone concerned is permitted to be used, and*
 - (c) *if the land requires remediation to be made suitable for any purpose for which land in that zone is permitted to be used, the planning authority is satisfied that the land will be so remediated before the land is used for that purpose.*

Note : In order to satisfy itself as to paragraph (c), the planning authority may need to include certain provisions in the environmental planning instrument.

- 2) *Before including land of a class identified in subclause (4) in a particular zone, the planning authority is to obtain and have regard to a report specifying the findings of a preliminary investigation of the land carried out in accordance with the contaminated land planning guidelines.*
- 3) *If a person has requested the planning authority to include land of a class identified in subclause (4) in a particular zone, the planning authority may require the person to furnish the report referred to in subclause (2).*
- 4) *The following classes of land are identified for the purposes of this clause:*
 - (a) *and that is within an investigation area,[note that terminology changed in 2009, and "investigation area" is now referred to as "significantly contaminated land"]*
 - (b) *land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,*

- (c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital-land:
 - i. in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and
 - ii. on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge)."

4.2 Development Application

When assessing development applications, Council is required to initiate the Contaminated Land Process if it considers that land contamination may be present, and could pose a risk to human health and/or the environment in the proposed land use scenario. As described in Section 2, Council is to start the evaluation by undertaking an Initial Review to assess if the Contaminated Land Process is to be triggered. SEPP 55 identifies some situations where Council is to consider contamination and remediation in Clause 7 as follows:

- 1) "A consent authority must not consent to the carrying out of any development on land unless:
 - (a) it has considered whether the land is contaminated, and
 - (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
 - (c) 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.
- 2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.
- 3) The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.
- 4) The land concerned is:
 - (d) land that is within an investigation area,[note that terminology changed in 2009, and "investigation area" is now referred to as "significantly contaminated land"],
 - (e) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,
 - (f) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital-land:
 - iii. in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and
 - iv. on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge)."

In the Development Application Process, Council typically initiates the Contaminated Land Process in two stages:

1. Request for Information; and
2. Conditions of Development Consent

These stages are described in Sections 4.2.1 – 4.2.2.

4.2.1 Requests for Information

Council, as the regulatory authority, is unable to provide consent for a development until it is satisfied that the site is, or can be made, suitable (during the development stage with the implementation of remediation and/or management) for the proposed land use. For that reason, Site Investigation and Remedial Action Plan stages will typically be addressed through a “Request for Information” process rather than specifying them as conditions of development consent.

Figure 2 in Attachment A shows the typical process for Requests for Information. However, it should be noted that the level of information needed to ensure the land is, or can be made, suitable for the proposed land use needs to be assessed on a case-by-case basis. In some situations, the request for information may include further stages of the Contaminated Land Process (than those outlined in Figure 2) if deemed necessary for Council to make a determination on the development application.

4.2.2 Conditions of Development Consent

Conditions of Consent accompany a development approval (issued when Council is satisfied that the site is, or can be made, suitable for the proposed land use), to identify the actions and information required by the Proponent before and during construction, or that will apply to ongoing management and monitoring of the site beyond the construction stage.

Figure 3 in Attachment A shows the typical process through which Conditions of Consent are applied for contaminated land matters. However, it should be noted that the level of information and actions needed to ensure the land is suitable for the proposed land use needs to be assessed on a case-by-case basis. In some situations, consent may be given at an earlier or later stage of the process than indicated in Figure 3, if deemed appropriate by Council.

Attachment A – Process Flow Charts

PLANNING PROPOSALS

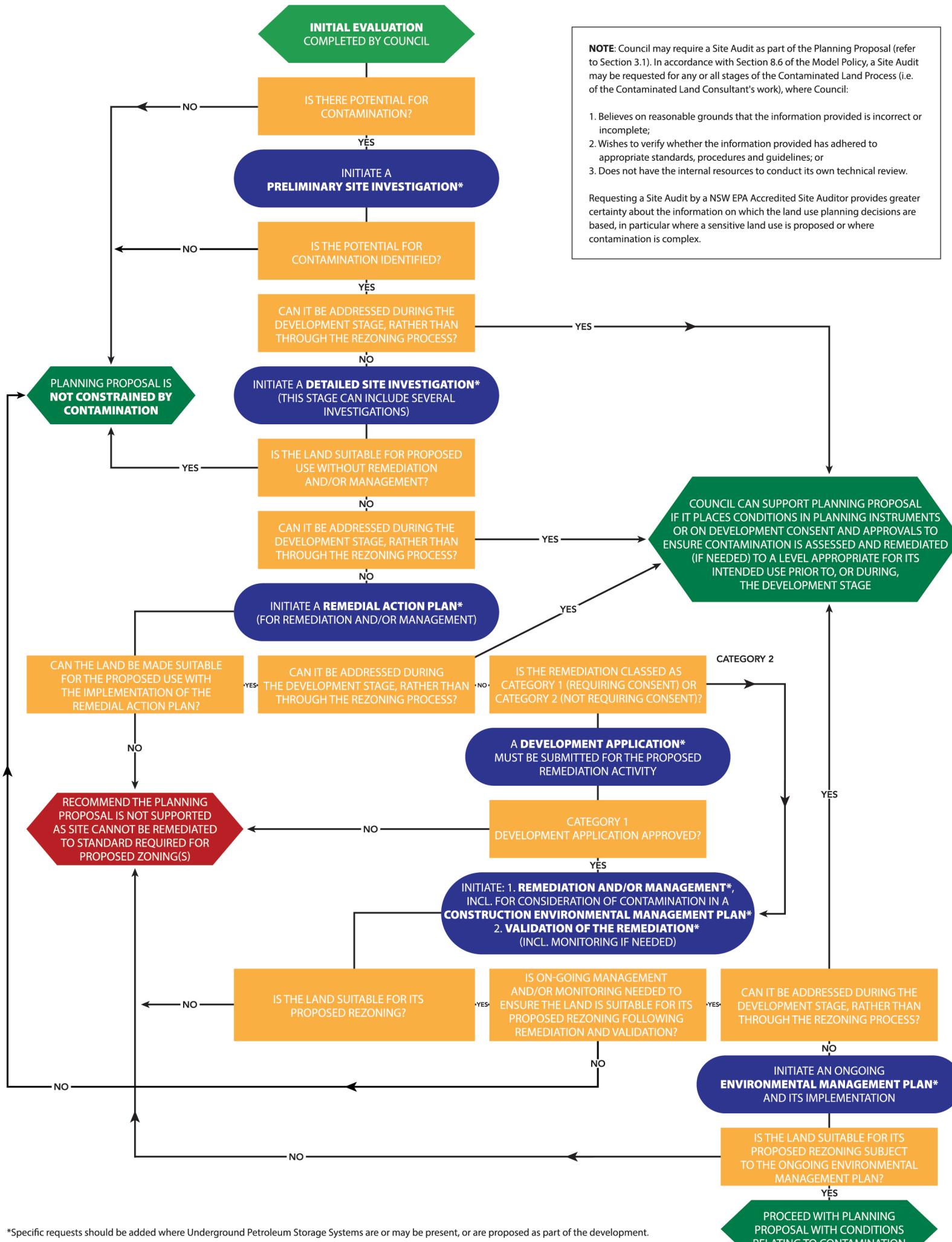


Figure 1. Initiating the Contaminated Land Process through Rezoning Proposals

IS POTENTIAL CONTAMINATION IDENTIFIED?

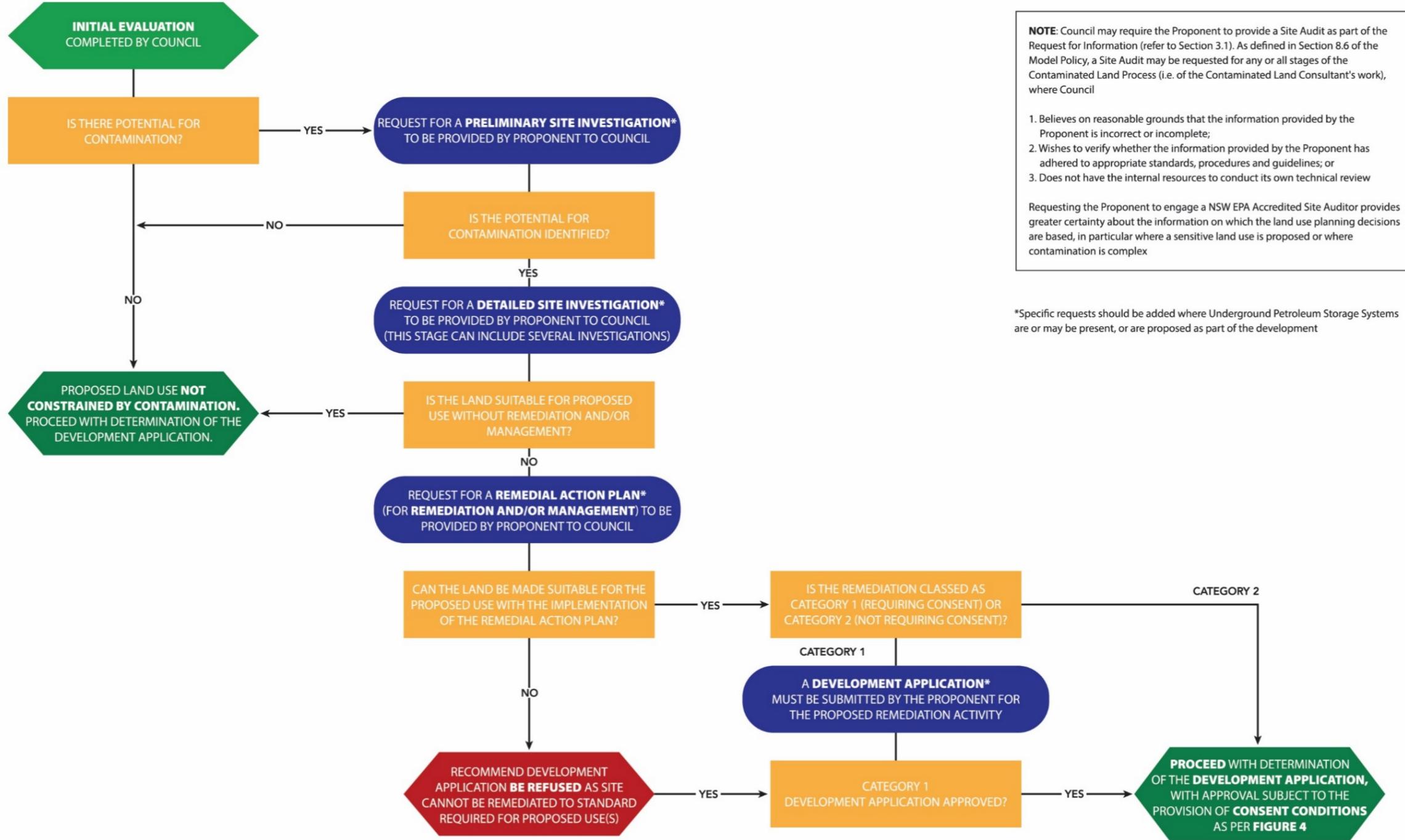


Figure 2. Initiating the Contaminated Land Process through Requests for Information prior to consideration of Approval of a Development Application

DA APPROVAL AND CONSENT CONDITIONS

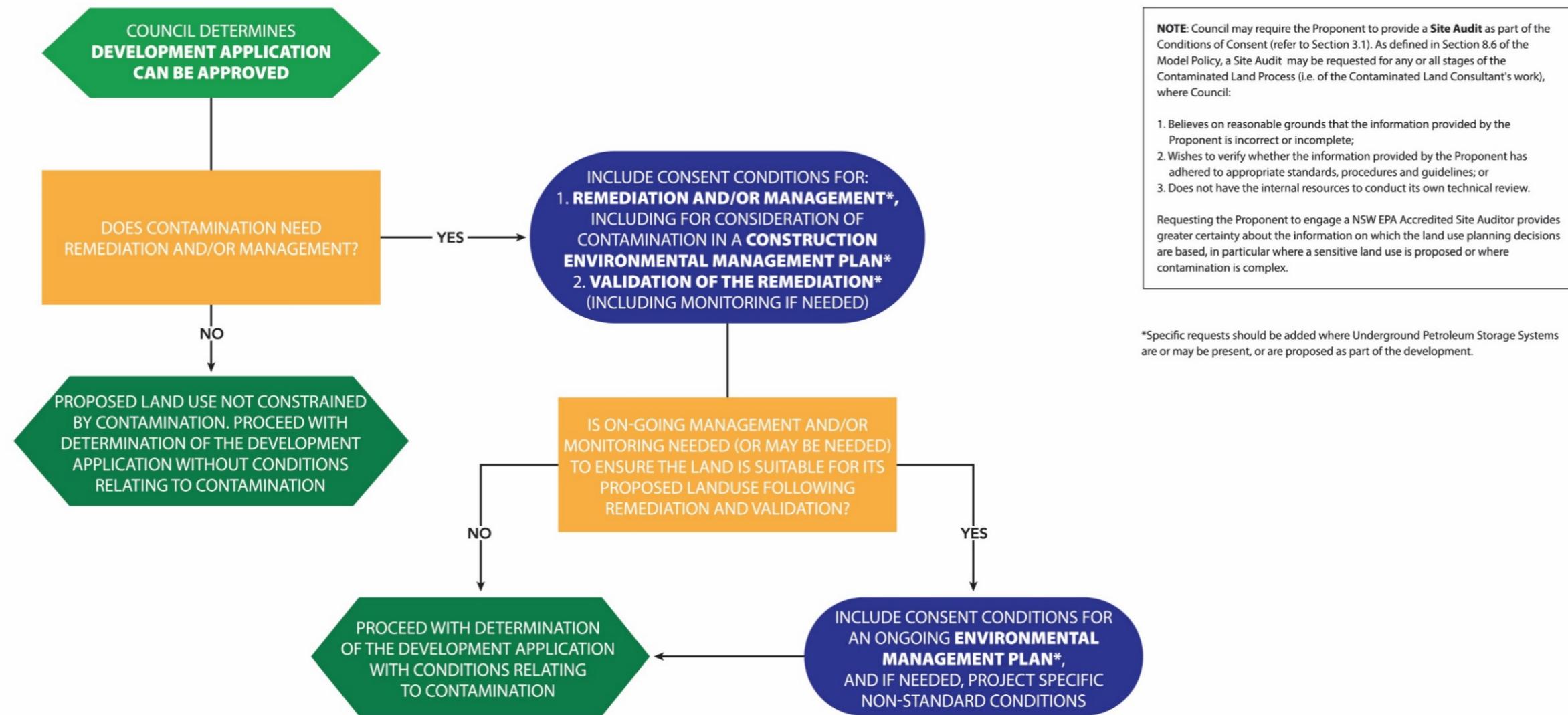


Figure 3. Initiating the Contaminated Land Process through Development Consent Conditions