

APPENDIX 5 Site management provisions for remediation works

Council can impose site management provisions for proposed remediation works. Council will request that these provisions be included in a remediation action plan that is to be lodged to Council prior to commencing these works. Council will require remediation works to be carried out in accordance with the remediation action plan.

The site management provisions listed in Table A5.1 are taken from the *Resilience and Hazards SEPP* and amended to reflect best practice site management, as included in the draft *Contaminated Land Planning Guidelines* and in other Council contaminated land policies.

Remediation work must comply with the requirements of the:

- *CLM Act*
- *Contaminated Land Planning Guidelines*
- *Resilience and Hazards SEPP*
- *POEO Act*

Council will also require the validation report to be lodged with Council within 60 days of the completion of remediation works and, where applicable, prior to the issuance of a subdivision or construction certificate.

Table A5.1: Site management provisions to be included in a remediation action plan

PARAMETER	PROVISION TO BE INCLUDED IN A REMEDIATION ACTION PLAN
Air quality	<p>Emissions of dust, odour and fumes from a remediation site are to be appropriately controlled and in accordance with relevant regulations and guidelines made or approved by the EPA.</p> <p>These may include but are not limited to:</p> <ul style="list-style-type: none"> • ensuring no onsite burning of material • maintaining equipment in a functional manner to minimise exhaust emissions • covering vehicles transporting soil (including contaminated soil) and/or infill onsite or offsite • establishing dust suppression and control measures to minimise windborne emissions of dust, having regard to site-specific wind conditions • monitoring and managing odours, including the use of a hydrocarbon mitigating agent on the impacted areas and materials • covering stockpiles of contaminated soil that remain onsite for more than 24 hours (see 'stockpiles' for additional provisions) • regularly monitoring air quality throughout remediation work.
Bunding	<p>Any areas used for remediation or the stockpiling of construction materials or contaminated soils shall be controlled to contain surface water run-off and run-on and be designed and constructed so as to prevent the leaching of contaminants into the subsurface or groundwater.</p> <p>Locate stockpiles and construction materials away from drainage lines and provide bunding of disturbed areas and excavations to prevent run-off to waterways or stormwater where necessary.</p> <p>All surface water discharges from the bunded areas to Council's stormwater system shall not contain detectable levels of the contaminants of concern and must comply with the relevant EPA and ANZECC standards for water quality.</p> <p>Any discharge must satisfy the provisions of the <i>POEO Act</i>.</p>

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PARAMETER	PROVISION TO BE INCLUDED IN A REMEDIATION ACTION PLAN
Capping or containment of contaminated soil	<p>Capping of contaminated soil should occur only after alternative remediation works have been investigated, particularly in urban zoning or areas identified as future growth in Council's local environment plan or development control plan.</p> <p>Contaminated soil is only permitted to be capped if it does not prevent any permitted use of the land and if it can be demonstrated that there will be no ongoing impacts on human or environmental health.</p> <p>Capping of contaminated soil that exceeds zoning permissible levels is classified as category 1 remediation work and may only be permitted with development consent.</p> <p>The soil investigation levels for urban redevelopment in NSW are contained in <i>National Environment Protection (Assessment of Site Contamination) Measure 1999</i> (as amended).</p> <p>Where the proposed remediation involves the onsite containment of contaminated material, the need for a continuing monitoring program should be assessed by both the applicant's consultants and Council. To ensure that future owners of the site are aware of the contaminated material and any ongoing maintenance and monitoring, Council may impose a consent condition on any subsequent development application for the subject site, requiring a covenant to be registered on the title of the land that gives notice of the existence of onsite containment of the contaminated soil. The covenant may also bind the owners or any future owners to the responsibility of ongoing monitoring and maintenance (as described in an environmental management plan) and any future remediation works required.</p> <p>Records of any maintenance undertaken on the site shall be kept for future reference and provided to Council annually.</p> <p>The cost of preparing the covenant is borne by the applicant.</p>
Consultants	<p>Ensure consultants (or contractors) undertaking the remediation works have the required competencies and qualifications.</p> <p>Remediation work requiring validation by a site auditor (that is, a statutory site audit) must use a site auditor accredited under Part 4 of the <i>CLM Act</i>.</p> <p>Validation of remediation work that is not a statutory site audit is to be undertaken by a consultant with the necessary competencies and qualifications.</p>
Consultation	<p>Written notification to adjoining owners and occupants is to occur at least two days prior to commencing remediation works.</p> <p>This notification is to include:</p> <ul style="list-style-type: none">• the estimated length of remediation work• the hours of remediation work• the contact details of the site manager. <p>Signage visible from the road and adjacent to site access is to display the site manager and remediation contractor contact details for the duration of the works.</p>

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PARAMETER	PROVISION TO BE INCLUDED IN A REMEDIATION ACTION PLAN
<p>Decommissioning of underground petroleum storage systems</p>	<p>The removal of all UPSSs is to be undertaken in accordance with the:</p> <ul style="list-style-type: none"> • <i>UPSS Regulations</i> • SafeWork NSW requirements • <i>Australian Standard AS 4976-2008: The Removal and Disposal of Underground Petroleum Storage Tanks.</i> <p>Decommissioning of an underground petroleum storage tank or system must be undertaken by a duly qualified person who holds a demolition licence from SafeWork NSW and is competent and experienced in the task.</p> <p>Following the removal of an underground petroleum storage tank or system, the site area, which includes bowser lines and fuel lines, shall be assessed, remediated if need be and validated in accordance with the requirements above and with guidelines made or approved by the NSW EPA.</p> <p>All documents must be submitted to Council, including (but not limited to) a validation report (or tank pit validation) prepared in accordance with relevant guidelines made or approved by the EPA.</p>
<p>Erosion and sediment control</p>	<p>An erosion and sediment control plan (ESCP) is to be prepared and submitted to Council for approval prior to commencing remediation works.</p> <p>The ESCP is to be developed with regard to the requirements detailed in Council's <i>Soil and Water Management Policy</i> and Council's <i>Engineering Guidelines and Technical Specifications</i> and must include leachate collection and disposal.</p> <p>Sediment control structures shall be provided to prevent sediment from entering drainage systems, particularly where surfaces are exposed or where soil is stockpiled.</p> <p>All erosion and sediment control measures must be maintained in a functional condition throughout the remediation works.</p> <p>Vehicles are to be cleaned prior to leaving the site.</p> <p>Also see – 'soil and water management' for related provisions.</p>
<p>Hazardous material</p>	<p>Hazardous and industrial wastes arising from the remediation work shall be removed and disposed of in accordance with the requirements of the NSW EPA and SafeWork NSW, together with the:</p> <ul style="list-style-type: none"> • <i>Workplace Health and Safety Act 2011</i> • <i>Workplace Health and Safety Regulation 2017</i> • <i>CLM Act</i> and subordinate regulations • <i>Environmentally Hazardous Chemicals Act 1985</i> and subordinate regulations. <p>Under the <i>POEO Act</i>, the transportation of Schedule 1 hazardous waste is a scheduled activity and thereby required by the EPA to be carried out by a transporter licensed by the NSW EPA.</p> <p>Also see – 'waste' for additional related site management provisions.</p>
<p>Health and safety</p>	<p>All works associated with remediation works must comply with workplace health and safety legislation and other applicable SafeWork NSW requirements.</p> <p>This requires:</p> <ul style="list-style-type: none"> • the preparation of a health and safety plan • site fencing, public safety warning signs and security surveillance (where applicable) to be established for the remediation site.

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PARAMETER	PROVISION TO BE INCLUDED IN A REMEDIATION ACTION PLAN
Hours of work	<p>All remediation work (including the delivery and removal of materials or equipment) shall be limited to the following hours of work (unless through an alternative mutual agreement in writing with Council):</p> <ul style="list-style-type: none">Monday to Saturday – 7.00 am to 5.00 pmSunday and Public Holidays – no remediation work is permitted <p>Note: The hours of work listed above are in accordance with the <i>Exempt and Complying Development Codes SEPP</i>.</p>
Importation of infill	<p>All fill imported to the site shall be validated as virgin excavated natural material as defined in the <i>POEO Act</i> to ensure that it is:</p> <ul style="list-style-type: none">suitable for the proposed land use from a contamination perspectivecompatible with the existing soil characteristics for site drainage purposes. <p>Council may, in certain instances, require the details of the appropriate validation of imported fill material to be submitted with any application for the future development of the site. Hence, all fill imported onto a site is to be validated by one or both of the following methods during remediation works:</p> <ul style="list-style-type: none">Imported fill should be accompanied by documentation from the supplier that certifies that the material is not contaminated, based upon analyses of the material or the known past history of the site where the material is obtained.Sampling and analysis of the fill material should be conducted in accordance with the NSW EPA <i>Sampling Design Guidelines</i> to ensure that the material is not contaminated. <p>Fill should be imported and exported in accordance with the provision of a virgin excavated natural material exemption or an NSW resource recovery order and exemption.</p> <p>Fill is permitted for use provided that it:</p> <ul style="list-style-type: none">is not itself contaminated, particularly with waste material (including asbestos)is weed and pest freeis compatible with the existing soil characteristics so as not to adversely affect site drainage.
Landscaping and rehabilitation	<p>The remediation work site must be stabilised to ensure that no offsite impacts occur on the site after completion. This requires:</p> <ul style="list-style-type: none">the preparation of a landscaping planlandscaping of the site in accordance with the landscape planthe progressive stabilisation and revegetation of disturbed areas in accordance with the landscape plan. <p>There shall be no removal or disturbance to trees or native understorey without prior written consent obtained through Council's tree preservation order process.</p> <p>All trees that will be retained on the site must be suitably protected from damage during remediation works. This includes the provision of protective fencing to protect the root zone of these trees. The fencing must extend, at a minimum, to the drip line of each tree.</p> <p>No stockpiling, storage, excavation, vehicle parking or vehicle movement is to occur within the root zone protection area. Tree protection fencing must remain in place until the end of remediation works.</p> <p>All exposed areas shall be progressively stabilised and revegetated upon the completion of remediation works.</p>

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Noise and vibrations	<p>Any noise and vibrations from the site shall be limited by complying with the NSW EPA's <i>Noise Policy for Industry (2017)</i> and the <i>Interim Construction Noise Guideline</i>.</p> <p>All equipment and machinery shall be operated in an efficient manner to minimise noise from the site on adjoining properties, including (when necessary) ensuring that plant equipment noise is suppressed.</p> <p>The use of any plant or machinery shall not, on any premises, cause vibrations in excess of the relevant NSW EPA guidelines and Australian Standards.</p>
Rodents and vermin	<p>Rodents and vermin are to be adequately controlled and disposed of in an environmentally appropriate manner.</p>
Site access and vehicle use	<p>Vehicle access to the site shall be designated to prevent the tracking of sediment onto public roadways and footpaths. Soil, earth, mud or similar material must be removed from the roadway by sweeping, shovelling or a means other than washing on a daily basis or as required by an appropriate authority. Soil residue from vehicle wheels shall be collected and disposed of in an appropriate manner.</p> <p>All vehicles are to:</p> <ul style="list-style-type: none"> • enter and exit the site in a forward motion • comply with all road rules, including vehicle weight limits • minimise the use of local roads by using state roads where available • be cleaned pre-work and post-work to prevent the movement of weed seeds • have all loads securely covered or sealed to prevent the release of any dust, fumes, soil or liquid emissions during transportation • conduct deliveries of soil, materials, equipment or machinery during the hours of remediation work (see 'hours of work').
Site security and lighting	<p>The site shall be secured to ensure against all unauthorised access by using appropriate fencing.</p> <p>It is recommended that security lighting be used to deter unauthorised access. If security lighting is used, it shall be shielded to protect the amenity of adjoining landowners.</p>
Soil and water management	<p>All remediation works shall be conducted in accordance with a site-specific soil and water management plan prepared in accordance with the requirements of LANDCOM's <i>Managing Urban Stormwater: Soils and Construction</i>.¹</p> <p>The plan should aim to segregate and manage both contaminated and non-contaminated areas in a manner that minimises the potential dispersal of contaminants and any cross-contamination of contaminated and non-contaminated materials. In some cases, standard erosion and sediment control requirements will be inadequate for managing contaminated soils and water.</p> <p>Where remediation work involves the excavation of soil, the person responsible for the remediation work shall consult Council's flood mapping. Where works are proposed to be undertaken within an area identified by Council as having the potential to be impacted by flood waters (that is, inundation), such works shall be undertaken in alignment with the responsive actions for such potential site inundation as described in the site-specific soil and water management plan.</p> <p>A copy of the remediation action plan and the soil and water management plan shall be kept onsite and made available to Council officers on request.</p> <p>Soil and water management measures for remediation work in relation to stockpiles, site access, excavation pump-out, landscaping and rehabilitation, and bunding are discussed elsewhere in this table.</p> <p>See – 'erosion and sediment control' for related provisions.</p>

¹ <https://www.environment.nsw.gov.au/research-and-publications/publications-search/managing-urban-stormwater-soils-and-construction-volume-1-4th-edition>

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<p>Stockpiles</p>	<p>No stockpiles of soil or other materials shall be placed on public land (for example, footpaths, reserves or nature strips).</p> <p>All stockpiles shall be placed away from drainage lines, gutters or stormwater pits or inlets. All stockpiles of soil or other material shall be maintained to prevent dust, odours or seepage. All stockpiles of contaminated soils shall be secured to prevent dust, odour or seepage if being stored for more than 24 hours.</p> <p>Stockpiling of contaminated materials requires special measures to manage the generation of leachate, run-off, vapours, odours and airborne particulates.</p> <p>Store any temporary stockpiles of contaminated soil in a secure area.</p>
<p>Unexpected finds during remediation works</p>	<p>Council is required to be notified of any new information that comes to light during remediation works that has the potential to alter previous conclusions regarding site contamination.</p>
<p>Validation report</p>	<p>The validation report is to be prepared in accordance with relevant guidelines made by the NSW EPA.</p> <p>A copy of the validation report is to be provided to Council within 60 days of completing the remediation works and prior to commencing development works at the site.</p> <p>The validation report is to:</p> <ul style="list-style-type: none"> • contain a copy of any reports or records taken during remediation or following the completion of validation works • contain a validation statement detailing that all works have been undertaken and completed satisfactorily and in accordance with relevant guidelines made or approved by the EPA • demonstrate that the objectives of the remediation action plan have been achieved, any conditions of development consent have been complied with and whether any further remediation work or restrictions on land use are required • provide evidence confirming that all NSW EPA, SafeWork NSW and other regulatory authorities' license conditions, approvals and/or regulatory requirements have been met, including in respect of managing contaminated soil and other waste material generated by the remediation works • identify the need for continued monitoring in situations where clean-up is not feasible or onsite containment has occurred • state the suitability of the site for its current or proposed use. <p>Successful validation is the statistical confirmation that the remediated site complies with the clean-up criteria set for the site.</p> <p>The full cost of the validation is borne by the applicant.</p>
<p>Vertical mixing (on agricultural land)</p>	<p><i>The Guidelines for the Vertical Mixing of Soil on Former Broad-Acre Agricultural Land</i> relates to the remediation of large agriculture properties with low-level but broad-spread contamination.</p> <p>The relevant NSW EPA guidelines are not designed or suitable for use in the remediation of contamination, including lead contamination, on small allotments. Therefore, Council will not support remediation action plans relying on this methodology, and an alternative remediation methodology shall be used for small allotments.</p>

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<p>Waste</p>	<p>If contaminated soil and other waste material generated by the remediation works are to be treated and managed onsite, the treatment and management of each is to be in accordance with relevant guidelines made or approved by the EPA.</p> <p>If contaminated soil and other waste material generated by the remediation works are to be removed from the site, then this must be in accordance with the <i>POEO Act</i> and its waste regulation. This includes:</p> <ul style="list-style-type: none"> • the preparation of a waste management plan • that the waste classification process complies with the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> and is undertaken by an appropriately qualified consultant • record-keeping for waste going to a licensed landfill or a resource recovery facility regarding <ul style="list-style-type: none"> o how the waste is to be treated and transported o evidence that the landfill is licensed to accept this waste • the requirement that transport of the waste to or from a site must be by a licensed waste transport contractor. <p>Any enquiries associated with the offsite disposal of waste from a contaminated site should be referred to the EPA helpline (phone 131 555).</p> <p>If contaminated soil or other waste generated by the remediation works is to be transported to Council's landfill or waste management facility:</p> <ul style="list-style-type: none"> • Council's Waste Management Facility only accepts waste in accordance with its Environment Protection Licence (number XXXX). • Section L5 Waste requires that waste be general solid waste. Analysis of the contaminated soil is to be undertaken to verify that the waste is general solid waste. • All documentation is to be provided to Council's Waste Management Team and approved prior to the waste entering the landfill. <p>See – 'hazardous material' for related site management provisions.</p>
<p>Water quality: dewatering – excavation and groundwater pump-out</p>	<p>Only clean and unpolluted waters are to be discharged to Council's stormwater system or any watercourse. Any discharge must satisfy the provisions of the <i>POEO Act</i>.</p> <p>Prior to any dewatering commencing, a dewatering management plan shall be submitted to Council.</p> <p>All pump-out water must be analysed for concentrations of suspended solids, pH and any contaminants of concern. The analytical results must comply with the relevant NSW EPA and ANZECC standards for the quality of water discharged to stormwater. If necessary, the water shall be treated prior to discharge.</p> <p>If the water quality does not comply with the identified criteria, then it cannot be discharged to stormwater. Alternative arrangements for the disposal of water shall be provided, if necessary (for example, offsite disposal by a licensed liquid waste transporter for treatment or disposal at an appropriate waste treatment or processing facility).</p> <p>Dewatering may require a licence from the NSW Office of Water.</p>
<p>Water quality: groundwater</p>	<p>Any contamination assessment, carried out in accordance with the requirements of the relevant guidelines made or approved by NSW EPA in accordance with the <i>CLM Act</i>, shall address the potential for contamination of groundwater at the site.</p> <p>Any work below the water table may require a licence from the NSW Office of Water. Such works include bores for water supply, testing and monitoring, and any dewatering or extraction.</p> <p>If the groundwater at the site is found to be contaminated, then Council, the NSW Office of Water and the NSW EPA are to be notified.</p>

Note: ANZECC = Australian and New Zealand Environment and Conservation Council; UPSS = underground petroleum storage system; ESCP = erosion and sediment control plan.