



APPENDIX B8

Construction Contaminated Land Management Plan

Woolgoolga to Ballina

Pacific Highway Upgrade

(sections 3 to 11)

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Glossary / Abbreviations

ACS	Asbestos containing soil
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999
CCOs	Chemical control orders
CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
CLMP	Contaminated Land Management Plan
CTD	Cattle Tick Dip
ECS	Environmental Contamination Specialist
EHC Act	<i>Environmentally Hazardous Chemicals Act 1985</i>
EIS	Pacific Highway Upgrade Woolgoolga to Ballina Environmental Impact Statement (December 2012)
EM	Environment Manager
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EWMS	Environmental Work Method Statement
MCoA	NSW Minister for Planning Conditions of Approval
the Minister	NSW Minister for Planning
NEPC Act	<i>National Environment Protection Council Act 1994</i>
NEPM	National Environment Protection Measure
NSW	New South Wales
PC	Pacific Complete
Pesticides Act	<i>Pesticides Act 1999</i>
Plan	Contaminated Land Management Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PPE	Personal Protective Equipment
QA/QC	Quality assurance / Quality control
RAP	Remediation Action Plan
RMS	NSW Roads and Maritime Services
SPIR	Woolgoolga to Ballina Pacific Highway Upgrade Submissions / Preferred Infrastructure Report (November 2013)
SWMS	Safe Work Method Statement

1 Introduction

1.1 Context

This Construction Contaminated Land Management Plan (CLMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the upgrade of Section 3 to Section 11 of the Woolgoolga to Ballina Pacific Highway Upgrade (the Project). Separate CLMPs for Sections 1 and 2 of the upgrade have been developed to cover the works within those sections as they are being delivered by two different contractors on behalf of Roads and Maritime Services (RMS).

There are three tie in projects related to the Project, including the Glenugie Upgrade, Devils Pulpit and Ballina Bypass projects. These tie in projects have been approved separately by the Minister for Planning. Relevant conditions of approval for these projects have been referenced in the Woolgoolga to Ballina CEMP and sub-plans as appropriate.

1.2 Background

The Pacific Highway Upgrade Woolgoolga to Ballina Environmental Impact Statement (EIS) (RMS 2012) assessed the impacts of construction and operation of the Project on contaminated lands. A summary of the EIS findings is provided in Section 4.1 of this Plan.

The EIS proposed the implementation of the mitigation and management measures, including further assessment of the identified sites. The EIS management measures were subsequently updated within the Woolgoolga to Ballina Submissions / Preferred Infrastructure Report (RMS 2013). These management measures, as well as applicable environmental requirements and control measures identified in the Conditions of Approval and relevant RMS documents have been incorporated into this CLMP to manage potential impacts from the disturbance of contaminated land.

1.3 Environmental management systems overview

The CEMP describes the overall system for environmental management. That system forms part of the environmental management framework being delivered by Pacific Complete in partnership with Roads and Maritime.

Management measures identified in this Plan will be incorporated into site or activity specific Environmental Work Method Statements (EWMS) by the contractor.

Contractor EWMS will be developed and signed off by the Pacific Complete Environment Manager prior to commencement of works and construction personnel will be required to undertake works in accordance with the identified mitigation and management measures.

Used together, the CEMP, this CLMP, strategies, procedures and EWMS form management guides that clearly identify required environmental management actions for reference by Project personnel.

2 Purpose and objectives

2.1 Purpose

This CLMP has been prepared to address the requirements of the NSW Minister for Planning's Conditions of Approval (MCoA) for the Project, the mitigation and management measures listed in the Pacific Highway Upgrade Woolgoolga to Ballina Environmental Impact Statement (EIS) (RMS 2012) and in the Submissions / Preferred Infrastructure Report (SPIR) (RMS 2013) and all applicable legislative requirements.

The purpose of this CLMP is to establish a set of best practice procedures for the identification and management of contaminated land if encountered during works undertaken for the Project.

2.2 Objectives

The key objective of this CLMP is to ensure that impacts from the disturbance of contaminated land are minimised and managed within the scope permitted by the Project approval. Specifically:

- Avoid and minimise the environmental and human health risks arising from the disturbance of contaminated land encountered during construction of the Project.
- Follow the guidelines set out in the statutory requirements for managing contaminated land and the transport of contaminated goods.
- No degradation to the receiving environment as a result of disturbance of contaminated land.
- No contamination of soil, air or water as a result of spillages or other impacts arising from construction activities.

2.3 Targets

The following targets have been established for the management of contaminated land impacts during the work:

- Ensure full compliance with the relevant legislative requirements and MCoA.
- Minimise or avoid impacts from contaminated land.
- Follow correct procedure and ensure notification of unexpected discovery of contaminated land.
- Ensure contaminated land management training is provided to all personnel in the form of inductions before they begin work on-site.

3 Environmental requirements

This section describes legislative, regulatory and guidance framework that applies to the work.

3.1 Relevant legislation and guidelines

3.1.1 Legislation

Table 3-1 lists the principal legislation and regulation that applies to contaminated land management for the Project.

Relevant provisions of the legislation are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

Table 3-1 Contaminated land legislation relevant to the project

Legislation	Description	Relevant requirements
Commonwealth		
<i>National Environment Protection Council Act 1994</i> (NEPC Act) and <i>National Environment Protection Measure 1999</i> (ASC NEPM)	The ASC NEPM is made under the NEPC Act and is given effect by individual legislation and guidelines in each state and territory. The ASC NEPM is the national guidance document for the assessment of site contamination in Australia.	The criteria listed in Schedule B of the ASC NEPM are applicable to the assessment of site contamination in NSW and are therefore applicable to the Project.
State (New South Wales)		
<i>Environmental Planning and Assessment Act 1979</i> (EP&A Act)	Development in NSW must be assessed to ensure it complies with relevant planning controls and, according to nature and scale, that they are environmentally and socially sustainable.	The Minister for Planning approved the Project on 24 June 2014. The Project must comply with the MCoA.
<i>Contaminated Land Management Act 1997</i> (CLM Act) and <i>Contaminated Land Management Regulation 2013</i>	Under the CLM Act the NSW EPA regulates contaminated sites where the contamination is significant enough to warrant regulation. There is a duty for landowners to, and persons who have responsibility for contamination to, notify the EPA under s60 of the CLM Act. Notification must be undertaken as soon as practicable after the owner becomes aware of contamination.	The requirements to report contamination to the EPA are set out in <i>Contaminated Sites: Guidelines on the Duty to Report Contamination</i> under the CLM Act. The Project must comply with these requirements.
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	The object of the Act is to achieve the protection, restoration and enhancement of the quality of the NSW environment. The Act repealed and consolidated a number of existing Acts to rationalise, simplify and strengthen the regulatory framework for environmental protection in NSW. General provisions are included in the POEO Act not to pollute waters, to prevent or minimise air pollution, to maintain and operate plant in a proper and efficient manner and to deal with materials in a proper and efficient manner to minimise noise impacts and prevent impacts to air, land and water.	The Project CEMP and sub-plans have been developed to minimise impacts to air, noise, land and water and minimise the potential environmental and human health risk associated with contaminated land.

Legislation	Description	Relevant requirements
Protection of the Environment (Waste) Regulation 2014 (Waste Regulation)	<p>The POEO Act establishes the ability to set various waste management requirements via the Waste Regulation.</p> <p>The Waste Regulation sets out provisions covering:</p> <ul style="list-style-type: none"> • The proximity principle. • Record-keeping requirements, measurement of waste and monitoring for waste facilities. • Tracking of certain waste. • Reporting. • Transportation of waste. • Transportation and management of asbestos waste. • Recycling of consumer packaging. • Classification of waste containing immobilised contaminants. • Miscellaneous topics. 	The Project must comply with the provisions of the Waste Regulation.
<i>Environmentally Hazardous Chemicals Act 1985</i> (EHC Act) and Environmentally Hazardous Chemicals Regulation 2008	<p>The EHC Act sets up the Hazardous Chemicals Advisory Committee. Its functions include advising the EPA on the assessment and control of chemicals that are environmentally hazardous. The EPA may declare substances to be chemical wastes for the purposes of the Act.</p> <p>The EPA may make chemical control orders (CCOs) with respect to assessed chemicals or declared chemical wastes. These CCOs may regulate activities such as the manufacture, processing, conveying, buying, selling or disposal of the chemical or declared waste.</p>	The Project must comply with the procedures for storage, transport, use and disposal of hazardous materials under the Act
<i>Pesticides Act 1999</i> (Pesticides Act) and Pesticides Regulation 2009	The Pesticides Act controls and regulates the use of pesticides in NSW. It prohibits the misuse of pesticides that harms people, property, animals or plants. Under the Act the EPA can issue a person with a clean-up notice, prevention notice and compliance cost notice.	The Project must comply with the regulation of pesticide use under the Act.

3.1.2 Guidelines

Guidelines, specifications and policy documents relevant to contaminated land and this Plan include the following publications:

- NEPM Guidelines for the Assessment of Site Contamination.
- RMS QA Specification G36 – Environmental Protection (Management System).
- RMS Guideline for the Management of Contamination (September 2013)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (National Environment Protection Council, April 2013)
- Waste Classification Guidelines Part 1: Classifying waste (NSW EPA 2014)
- Waste Classification Guidelines Part 2: Immobilisation of waste (NSW EPA 2014)
- Waste Classification Guidelines Part 4: Acid sulfate soils (NSW EPA 2014).

3.2 Minister's Conditions of Approval

The MCoA relevant to this Plan are listed Table 3-2.

Table 3-2 Conditions of Approval relevant to the CLMP

MCoA No.	Condition requirements	Document reference
D25 (d)(vii)	Measures for the handling, treatment and management of contaminated materials.	This Plan
D26 (c)(viii)	Management measure for contaminated material and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction.	This Plan
B37	<p>Prior to the commencement of site preparation and excavation activities, or as otherwise agreed by the Secretary, in areas having a moderate to high risk of contamination, a site audit shall be carried out by a suitably accredited contaminated site auditor. A Site Audit Report is to be prepared by the Site auditor detailing the outcomes of Phase 2 contamination investigations within these areas. The Site Audit Report shall detail, where relevant, whether the land is suitable (for the intended) land use) or can be made suitable through remediation.</p> <p>Where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy, measures to identify, handle and manage potential contaminated soils, materials and groundwater shall be identified in the Site Audit Report and incorporated in the Construction Environmental Management Plan. Where the investigations identify that the site is suitable for the intended operations and that a remediation strategy is required, the Site Audit Report shall include a remediation strategy for addressing the site contamination and how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil or groundwater and be incorporated in to the Construction Environmental Management Plan.</p> <p>Where remediation is required, a Site Audit Statement(s) shall be prepared verifying that the site has been remediated to a standard consistent with the intended land use.</p>	<p>This Plan</p> <p>Site Audit Report</p> <p>Site Audit Statement(s)</p>

4 Existing environment

This section describes the existing environment of the Project, specific to contaminated land. It also summaries previous contaminated land investigations undertaken to date and outlines further investigation required.

4.1 Previous investigations

The Pacific Highway Upgrade Woolgoolga to Ballina EIS (RMS 2012) assessed the impacts of construction and operation of the Project on contaminated lands.

As part of EIS development in 2012 a broad Phase 1 contaminated land assessment was prepared to address the Environmental Assessment Requirements issued by the Department of Planning and Environment. The results of the assessment were included in the EIS.

The Phase 1 contaminated land assessment involved a review of the results of preliminary studies undertaken between 2005 and 2010, a review of contamination databases, and a site inspection of accessible areas of interest to verify locations of potential contamination. An assessment of contamination risks was carried out, taking into consideration the proximity of potentially contaminated areas to the Project boundary, the likelihood of exposure of contamination during construction, and the potential consequences of disturbance and exposure of contaminants.

4.1.1 EIS areas of potential contamination

The following summarises existing potential contaminated land within and adjacent to the Project. The key reference document is Chapter 9 of the EIS (RMS 2012). The Project boundary and potential sites are shown on the sensitive area maps included in Appendix A5 of the CEMP.

The EIS (RMS 2012) identified 63 areas of potential contamination concern within proximity to the Project. They relate to current and historic land uses that have associated contamination risks (i.e. service stations, sawmills, farms, cattle dip sites, landfills, agricultural and forestry uses).

Each land use has typical associated contaminant profiles; however there is a risk of encountering heavy metals, hydrocarbons (and their derivatives); organic compounds associated with pesticide use, asbestos, high nutrients loading, microbiological compounds and sulfuric acid (from acid sulfate soils). There is also a risk of encountering unexploded ordnance due to the alignment covering land used for military training.

Any existing contamination underlying the Project area and associated ancillary facilities has the potential to be exposed or disturbed by construction activities. The highest risk activities would be excavation, earthworks and demolition.

The risk of disturbing any contamination would be highest at proposed road cuttings. At road embankment sites, by contrast, the Project is unlikely to increase the risks associated with any site contamination and the placement of fill would also act as a barrier to future exposure and disturbance of contamination. Similarly, ancillary facilities would generally be established by placing a layer of aggregate or similar material over the ground surface. This overlying aggregate layer would reduce any risks of exposure to, and disturbance of, contamination.

The EIS (RMS 2012) narrowed the 63 areas of potential contamination to 46 areas that are within or immediately adjacent to (less than 10 metres from) the Project boundary, including the boundary of nominated ancillary facilities, and therefore may be disturbed by the Project.

Table 4-1 provides details of those areas of environmental concern which were identified during the EIS / SPIR as representing the highest risk with respect to potential impacts to receptors through release of contamination during construction activities (RMS 2012).

Table 4-1 Areas of potential contamination that may be disturbed by the Project

EIS site #	Site description	Location
Section 3		
24	Former sawmill	Within Project boundary
25	Tucabia landfill, south of Firth Heinz Road	Within Project boundary
27	Property off Upper Coldstream Road, Tucabia	Adjacent to Project boundary
28	Old Maclean Shire Council landfill – Coldstream Road	Within and immediately adjacent to Project boundary
Section 4		
30	RMS stockpile	Within Project boundary
31	Former cattle dip site	Adjacent to Project boundary
33	Cattle dip site	Adjacent to Project boundary
34	Agriculture	Adjacent to Project boundary
35	Cattle dip site	Adjacent to Project boundary
36	Service station	Adjacent to Project boundary
37	Agriculture	Adjacent to Project boundary
38	Former fuel depot	Adjacent to Project boundary
39	Townsend sewage treatment plant	Adjacent to Project boundary
Section 5		
43	Harwood Bridge – signage manufacturer	Adjacent to ancillary facility site 2a
44	Harwood Bridge	Within Project boundary
45	United service station – eastern side of highway	Within Project boundary
46	Mills truck depot – western side of highway	Within Project boundary
47	Mororo Bridge	Within Project boundary
Section 6		
49	Cattle dip site	Adjacent to Project boundary
50	Cattle dip site	Adjacent to Project boundary
51	RMS stockpile	Within Project boundary
Section 7		
52	RMS stockpile	Within Project boundary
53	RMS stockpile	Within Project boundary
54	RMS stockpile	Within Project boundary
55	Old tanks	Adjacent to Project boundary
56	Cattle dip site	Adjacent to Project boundary
57	Cattle dip site	Adjacent to Project boundary
58	RMS stockpile	Within Project boundary
59	Stockpile – south of Serendipity Road	Adjacent to Project boundary
60	Small scale agriculture	Adjacent to Project boundary
61	Stockpile – north of New Italy rest stop	Within Project boundary
Section 8		
63	Garage / junk yard	Adjacent to Project boundary

EIS site #	Site description	Location
64	Electrical substation	Adjacent to Project boundary
65	RMS Woodburn Depot	Adjacent to Project boundary
67	Unknown material / structure	Adjacent to Project boundary
69	Agriculture	Within and adjacent to Project boundary
Section 9		
70	Evans Head Air Weapons Range	Adjacent to Project boundary
71	Agriculture	Adjacent to Project boundary
72	Council Landfill - Broadwater	Within Project boundary
73	Evans Head Air Weapons Range	Adjacent to Project boundary
74 and 75	NSW Sugar Mill Co-Op – Sugar Cane stockpile area and processing plant	Within and adjacent to Project boundary
76 and 78	Quarry, Quarry Road, Broadwater	Within and adjacent to Project boundary
Section 10		
79	General observation – between existing quarries	Adjacent to Project boundary
80	Quarries – northern section of the Project, Old Bagotville Road	Within and adjacent to Project boundary
81	Sewage Treatment Works	Adjacent to ancillary facility site 4
Section 11		
82	Agriculture	Adjacent to Project boundary

Source: Pacific Highway Upgrade Woolgoolga to Ballina EIS (RMS 2012)

4.1.2 Post EIS areas of potential contamination

Subsequent to the EIS, the RMS work depot located within Lot 1 DP230182 on Farlows Lane, Maclean (Section 5) was identified as potentially contaminated land. Coffey Geotechnics Pty Ltd conducted a survey into the presence and likely risks of exposure to hazardous materials, including asbestos materials, of the RMS work depot in 2014.

From the site survey and laboratory analysis results a register of hazardous materials and asbestos materials was produced. Specific control measures were recommended to address land contamination at the site. Reference to these are made in Table 7-1.

4.2 Further investigations

Since receipt of project approval RMS has progressed further site investigations at a number of sites identified during the EIS and SPIR investigations, including the Mills Transport Depot and the United Service Station (both in Section 5).

A number of proposed locations for ancillary facilities and design changes were unable to be assessed due to property restrictions at the time of site investigations, and uncertainty over potential locations for ancillary facilities. A contamination report to meet due diligence has been commissioned for the Mills Transport Depot and a further Phase II study will be undertaken prior to start of construction. Where required, further investigations will be undertaken to understand the potential for contaminated land at these sites and determine the potential impacts from the work and develop recommendations and procedures for

remediation required. The procedure to be followed to assess potential contaminated sites is detailed in Appendix B.

Where further investigations are required the scope of the investigation will be developed and documented as a Sampling and Analysis Plan (including QA/QC requirements) by the contaminated land assessment specialist. Prior to the commencement of investigation works an appropriate EWMS and Safe Work Method Statement (SWMS) would be developed by the contaminated land assessment specialist. The sampling and analysis plan, EWMS and SWMS would be reviewed and approved / endorsed by the Pacific Complete Environment Manager in accordance with the CEMP.

The preferred approach for management of contamination for the Project is to leave contamination that is not migrating off site *in situ*, to minimise the potential for an increase in exposure pathways. Where disturbance to material cannot be avoided and it complies with the requirements of the Excavated Public Road Material Exemption, the material will be used in the road works, in accordance with an approved Remediation Action Plan (RAP).

5 Consultation

Extensive consultation for the Project commenced during the route selection phase and continued during the environmental impact assessment of the concept design. The primary objective of consultation was to keep stakeholders well informed and involved during each stage of Project development.

Consultation will continue throughout the Project with relevant stakeholders and government authorities, applicable to Sections 3 through 11. The outcomes of any consultation will be recorded in Consultation Manager for the project.

6 Environmental aspects and impacts

6.1 Construction activities

Key aspects of the work that could result in disturbance of contaminated land include:

- Pre-construction activities including utility adjustment, site access provisions, property adjustments
- Planned salvage of Aboriginal heritage items
- Clearing of vegetation
- Initial removal of topsoil
- General earthworks particularly during site establishment
- Construction of site compounds and spoil / mulch and / or equipment stockpile areas
- Temporary access roads during construction.
- Bulk Earthworks
- Drilling and Blasting

Refer to Appendix A2 of the CEMP – Aspects and impacts register.

6.2 Contaminated land impacts

Disturbing contaminated land could have the following impacts:

- Mobilisation of surface and subsurface contaminants.
- Migration of contaminants into the surrounding area via leaching, overland flow and/or subsurface flow.
- Mobilisation of groundwater and/or surface water contamination.
- Exposure of contaminants to ecological receptors.
- Exposure of contaminated soils and/or groundwater to human receptors.

The impacts that could result from disturbing different types of contaminated sites are listed in Table 6-1. Chapter 7 provides control measures and requirements to address these potential impacts.

Table 6-1 Potential impacts from disturbing contaminated sites

Site contamination type	Contaminants	Potential impacts
Landfills	<ul style="list-style-type: none"> • Release of landfill gas emissions and toxic gases. • Fine particles/dust from exposed contaminants to become windblown. • Removal of a capping layer may result in greater volumes of leachate being generated. • Leachate leaving the site via overland flow and/or subsurface flow. • Wastes removed and transported to an alternative site that can lawfully accept them. • Odorous materials could impact on adjacent residents. 	<ul style="list-style-type: none"> • Groundwater, surface water, soils and local air quality. • Human health • Local environmental receptors

Site contamination type	Contaminants	Potential impacts
Service stations	<ul style="list-style-type: none"> Emissions to air of potentially contaminative vapours associated with the storage of fuels and oils on site Exposure of contaminated soils and/or contents of underground storage tanks through excavation works. 	<ul style="list-style-type: none"> Air quality and local environmental receptors. Groundwater, surface water and soils.
Stockpiles	<ul style="list-style-type: none"> Potential for contaminated materials contained within the stockpiles to contaminate surrounding soils. 	<ul style="list-style-type: none"> Soils, flora and fauna.
Cattle dip sites and agricultural land uses	<ul style="list-style-type: none"> Location and disturbance of other contaminants associated with agricultural land use, e.g. fuel and oil storage, asbestos. Potential to disperse pesticides, fertilisers and herbicides via dust and wind, especially in areas of high vehicular activity. Groundwater, surface water and soils 	<ul style="list-style-type: none"> Groundwater, surface water, soils and local air quality.
Quarries and industrial land uses	<ul style="list-style-type: none"> Location and disturbance of other contaminants / activities associated with quarry land use, e.g. fuel and chemical storage, stockpiled material, asbestos, chemicals and activities associated with processing, and with machinery and plant. Exposure of contaminated soils and/or contents of underground storage tanks through excavation works 	<ul style="list-style-type: none"> Groundwater, surface water and soils.
Military materials	<ul style="list-style-type: none"> Exposure of unexploded ordinances 	<ul style="list-style-type: none"> Human health Local environmental receptors
Bridges	<ul style="list-style-type: none"> Exposure of lead-contaminated soils (potentially present due to the use of lead-based paints for bridge maintenance). Migration of potential contaminants into surrounding areas via leaching, overland flow and/or subsurface flow. Mobilisation of potential groundwater and/or surface water contamination in the vicinity of the bridges. 	<ul style="list-style-type: none"> Groundwater, surface water and soils.
Demolition of structures / buildings	<ul style="list-style-type: none"> Mobilisation of contaminants within the surface and subsurface. Exposure of contaminants associated with the structure/building fabric (e.g. cement sheeting, insulation materials). 	<ul style="list-style-type: none"> Groundwater, surface water and soils.

Source: Pacific Highway Upgrade Woolgoolga to Ballina EIS (RMS 2012)

7 Environmental control measures

A range of environmental requirements and control measures are identified in the various environmental documents, including additional mitigation measures included in the SPIR, supplementary assessments, the MCoA and relevant RMS documents.

Specific measures and requirements to address impacts from contaminated land are provided in Table 7-1.

Table 7-1 Contaminated land management control measures

ID	Measure / Requirement	When to Implement	Responsibility	Reference
Contaminated land identification				
CL1	<p>Establishing site management objectives</p> <ul style="list-style-type: none"> Define the site management objectives and confirm Confirm the requirement for any further site investigations to meet the site management objectives. 	Pre-construction	Pacific Complete Contractor Contamination specialist	Guideline for The Management of Contamination (RMS 2013)
CL2	<p>Meeting site management objectives using existing data</p> <ul style="list-style-type: none"> Use existing data to confirm that the site is uncontaminated If the data is available, document the evidence and outcomes while additionally continuing to monitor and manage contamination risks throughout the Project <p>Note 1: If the data is unavailable or not absolute then follow CL3.</p>	Pre-construction	Pacific Complete Contractor Contamination specialist	Guideline for The Management of Contamination (RMS 2013)
CL3	<p>Stage 1 Preliminary Site Investigation</p> <p>A Stage 1 Preliminary Site Investigation will be conducted to verify past and present potentially contaminating activities, potential contaminants of concern and the need for further investigation. This will include a review of past highway crashes and spills and the associated contamination risks.</p> <p>Note: Refer to Appendix B of this CLMP for full procedure.</p>	Pre-construction	Pacific Complete Contractor Contamination specialist	Guideline for The Management of Contamination (RMS 2013) SPIR SSW17
CL4	<p>Stage 2 Detailed Site Investigation</p> <p>If necessary, a Stage 2 Detailed Site Investigation will be undertaken to:</p> <ul style="list-style-type: none"> Provide information on the type, nature, extent and concentrations of contamination present, and the corresponding risks to human health and the environment. Examine pathways of contaminant dispersal and exposure, the potential for off-site impacts and the management requirements and options. <p>Note: Refer to Appendix B of this CLMP for full procedure.</p>	Pre-construction	Pacific Complete Contractor Contamination specialist	Guideline for The Management of Contamination (RMS 2013) SPIR SSW18

ID	Measure / Requirement	When to Implement	Responsibility	Reference
CL5	<p>Stage 3 Remedial Action Plan</p> <p>If required, a Stage 3 Remedial Action Plan will be produced, detailing the remediation goals, environmental safeguards, and any necessary approval and licence requirements in accordance with NSW Office of Environment and Heritage guidelines.</p> <p>Note: Refer to Appendix B of this CLMP for full procedure.</p>	Pre-construction	Pacific Complete Contractor Contamination specialist	Guideline for The Management of Contamination (RMS 2013) SPIR SSW19
CL6	<p>Further action is not required</p> <p>Where further assessment indicates that further action is not required, RMS Contaminated Land Management Guideline (2013) will be applied to address any contamination issues and prevent any associated adverse impacts.</p>	Pre-construction	Pacific Complete Contractor Contamination specialist	Guideline for The Management of Contamination (RMS 2013) SPIR SSW20
CL7	<p>In areas identified as having a moderate to high risk of contamination, a site audit shall be carried out by a suitably accredited contaminated site auditor. A Site Audit Report is to be prepared by the site auditor detailing the outcomes of Phase 2 contamination investigations within these areas.</p> <p>The Site Audit Report shall detail, where relevant, whether the land is suitable (for the intended land use) or can be made suitable through remediation.</p> <p>Where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy measures to identify, handle and manage potential contaminated soils, materials and groundwater shall be identified in the Site Audit Report and incorporated into the Construction Environmental Management Plan. Where the investigations identify that the site is suitable for the intended operations and that a remediation strategy is required, the Site Audit Report shall include a remediation strategy for addressing the site contamination, and how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil or groundwater, and be incorporated into the Construction Environmental Management Plan.</p>	Pre-construction	Pacific Complete Contractor Contamination specialist	MCoA B37

ID	Measure / Requirement	When to Implement	Responsibility	Reference
	<p>Where remediation is required, a Site Audit Statement(s) shall be prepared verifying that the site has been remediated to a standard consistent with the intended land use.</p> <p>Note: Terms used in this condition have the same meaning as in the <i>Contaminated Land Management Act 1997</i>.</p>			
Unexpected contamination finds				
CL8	<ul style="list-style-type: none"> • Cease all work activity close to all suspected or actual contaminated land and isolate the affected area from workers and other persons with a physical barrier. • The Environmental Manager shall be notified and a suitably qualified Environmental Contamination Specialist (ECS) contacted to inspect the site. • Immediately notify RMS (Environment Branch) of any suspected or potential contamination exposed during construction work activities as per the RMS Incident Classification and Reporting Procedure. • RMS (Environment Branch) and/or the Environmental Manager may, at its discretion choose to take over the investigation and management of an unexpected contamination find, and directly appoint an NSW EPA accredited contaminated site auditor. • Soil can only be excavated following approval from the ECS. It may be that the ECS requires the material to remain in-situ until an assessment has been carried out. • For any work in identified areas the ECS shall advise as to levels of Personal Protective Equipment (PPE) required. • A specific health and safety plan and Environmental Work Method Statement (EWMS) may be required depending on the extent and magnitude of the contamination. <p>Note: Refer to Appendix A of this CLMP for full procedure</p>	Construction	Contractor RMS Contamination specialist	G36 (Section 4.2.3) Section 60 of the CLM Act

ID	Measure / Requirement	When to Implement	Responsibility	Reference
Specific contaminated land management measures				
CL9	Induction Appropriate induction and management procedures would be implemented as part of the CEMP and CLMP, to minimize the risk from disturbance of a site during construction.	Construction	Contractor Contamination specialist	G36
CL10	Unexploded ordnance Management of military materials should be in accordance with the procedure in Appendix D of this CLMP.	Construction	Pacific Complete Contractor Contamination specialist	SPIR SSW64
CL11	Cattle Tick Dip (CTD) <ul style="list-style-type: none"> • If CTDs are disturbed by construction, further investigation is required. • If the results of site investigation and assessment of risk determines no action necessary, the CTD contaminated site may be left as is. • If the results of site investigation and assessment of risk determines action is necessary, mitigation options include: <ul style="list-style-type: none"> - On-site treatment/remediation to reduce contamination - Capping of contaminated site - Excavation and on-site disposal to a suitable location within the Project area, with appropriate engineered controls (e.g. liner, cap). - Excavation and off-site disposal to an appropriately licensed landfill / monocell disposal facility. - If soils are disposed off-site, then routine testing would be undertaken to assess the appropriate waste classification of the soils according to the EPA guidelines. 	Construction	Contractor Contamination specialist	EA 20.1

ID	Measure / Requirement	When to Implement	Responsibility	Reference
CL12	Storage of potentially contaminated soil (stockpiles) <ul style="list-style-type: none"> All potentially affected spoil will be stockpiled on a bunded, impermeable surface, covered to prevent wind blow and potential erosion. 	Construction	Contractor Contamination specialist	G36
CL13	Validation sampling <ul style="list-style-type: none"> All sampling will be undertaken at an appropriate frequency as approved by the ECS. 	Construction	Contractor Contamination specialist	G36
CL14	Off-site soil disposal of highly contaminated soil <ul style="list-style-type: none"> If soil results greater than the adopted health level criteria, the EPA will be notified. An EPA disposal permit will be required for offsite disposal. Leachate testing will be required before disposal at a licensed receivable facility (of the appropriate level). Personnel will wear appropriate PPE and an ECS will supervise the work. 	Construction	Co Contractor Contamination specialist	G36
CL15	Surface runoff <ul style="list-style-type: none"> Immediately implement any control measures needed to divert surface runoff away from contaminated land and to capture and manage any surface runoff contaminated by exposure to contaminated land. 	Construction	Contractor Contamination specialist	G36
CL16	Demolition of houses <ul style="list-style-type: none"> A hazardous materials buildings assessment will be carried out before the demolition of any structures or buildings to identify the issues of concern and the management requirements. This is required under Clause 1.6 of Australian Standard AS 2601 – 2001 The Demolition of Structures. 	Construction	Contractor Contamination specialist	G36 Australian Standard AS 2601 – 2001 The Demolition of Structures (Clause 1.6) SPIR SSW21

ID	Measure / Requirement	When to Implement	Responsibility	Reference
CL17	<p>Maclean Sub-depot</p> <ul style="list-style-type: none"> Specific control measures provided in Section 4 of the Hazardous Materials Assessment of the RMS Maclean Sub-depot (Lot 1 DP230182) (Coffey Geotechnics Pty Ltd 2014) must be followed for all works undertaken at the Sub-depot site, including at buildings and external areas. 	Construction	Contractor Contamination specialist	Hazardous Materials Assessment of the RMS Maclean Sub-depot (Lot 1 DP230182) (Coffey Geotechnics Pty Ltd 2014)
CL18	<p>Mills Transport Depot – Section 5</p> <ul style="list-style-type: none"> Specific control measures provided in the contamination study for the site must be followed for all works undertaken at the depot site, including at buildings and external areas. 	Construction	Contractor Contamination specialist	Phase 1 and 2 Environmental Site Assessment – Mills Transport Depot and Three Adjoining RMS Lots, Harwood, NSW (Golder Associates 2015)
CL19	<p>United Service Station – Section 5</p> <ul style="list-style-type: none"> Specific control measures provided in any future contamination management reports must be followed for all works undertaken at the service station site, including at buildings and external areas. 	Construction	Contractor Contamination specialist	Not yet available

8 Compliance management

Pacific Complete will manage the environmental performance and compliance of the Contractor by ensuring training is undertaken and through independent inspections and audits and reviewing reports submitted by the Contractor.

8.1 Roles and responsibilities

The organisational structure and overall roles and responsibilities for Pacific Complete are outlined in Section 4.2 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 5 of this Plan.

8.2 Training

All employees, contractors and utility staff working on site will undergo site induction training provided by the Pacific Complete Environment Manager relating to actions to be taken in the event that contaminated land is discovered or suspected.

The induction training will address elements related to heritage management including:

- Existence and requirements of this sub-plan
- Relevant legislation
- Roles and responsibilities for contaminated land management
- Location of identified contained land sites
- Proposed management and protection measures

Toolbox training regarding identification of contaminated land will be regularly provided to maintain awareness of onsite environmental issues. Targeted training will also be provided on practices, controls to avoid pollution incidents from contaminated land and on the rapid response to and reporting of all environmental incidents.

Further details regarding staff induction and training are outlined in Section 5 of the CEMP.

8.2.1 Special briefings and toolbox talks

Regular Toolbox Talks will be conducted by the contractor to reinforce the information provided during induction. Toolbox talks will be reported as part of monthly reporting and will include contamination issues.

8.3 Monitoring and inspections

Inspections of areas with the potential to be contaminated will occur for the duration of the Project. General requirements and responsibilities in relation to monitoring and inspections are documented in Section 8 of the CEMP. Some specific monitoring requirements in relation to some items have been documented in Table 8-1.

Table 8-1 Contaminated land monitoring

Item	Frequency	Applicable standards	Responsibility	Reporting
Monitoring of groundwater	If required, refer to SWMP	Set Out in SWMP	Environmental Manager	As required
If required, sampling of excess soil material	If required, prior to removal of soil material from that site	EPA NSW 2014 Waste Classification Guidelines	Environmental Manager	As required

Item	Frequency	Applicable standards	Responsibility	Reporting
Demolition of houses	At completion of demolition works, prior to commencement of construction at that site	Australian Standard AS 2601 – 2001 The Demolition of Structures (Clause 1.6)	Environmental Manager	As required
Asbestos containing soil	Prior to commencement of construction at that site	Set out in Appendix C of this Plan	Environmental Manager	As required

If this Plan has not been followed or implemented appropriately, as found during an inspection of the site, a non-conformance will be raised. A program of works is to be submitted by the contractor prior to re-commencement of any works on site.

8.3.1 Incident planning and response

Response to incidents will be undertaken as described in Section 7 of the CEMP and in accordance with the CEMP Appendix A6 Environmental incident classification and reporting.

8.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this Plan, MCoA and other relevant approvals, licenses and guidelines.

An audit schedule will be developed for the Project by the Pacific Complete Environment Manager and will include internal and third party external audits which will include this CLMP.

Audit requirements are detailed in Section 8.2 of the CEMP.

8.5 Reporting

Pacific Complete will undertake reporting of contaminated land management in a proactive and timely manner.

The timely and accurate reporting of contaminated land management issues is essential to ensuring that RMS, government agencies and relevant stakeholders are kept well informed.

Reporting requirements and responsibilities are detailed in Section 8.4 of the CEMP.

9 Review and improvement

9.1 Continuous improvement

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvements.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

9.2 CLMP update and amendment

The processes described in Chapter 8 and Chapter 9 of the CEMP may result in the need to update or revise this Plan. This will occur as needed.

Any revisions to the CLMP will be in accordance with the process outlined in Section 1.6 of the CEMP.

A copy of the updated Plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 10.2 of the CEMP.

Appendix A

Unexpected discovery of contaminated lands
procedure

Unexpected discovery of contaminated land procedure

1 Distribution

There are no restrictions on the distribution/circulation of this Procedure.

2 Purpose

This Procedure details the actions to be taken when potential contaminated soil/material is encountered during excavation/construction activities.

3 Induction/Training

All personnel are to be inducted on the identification of potential contaminated soil/material along with this Procedure during the inductions and Toolbox Talks.

4 Scope

This Procedure is applicable to all activities conducted by all Contractors and personnel that have the potential to uncover/encounter contaminated soil/material.

5 Procedure

1. Potential contaminated soil/material encountered during construction activities
If potential contaminated soil/material is encountered during excavation/construction activities: <ul style="list-style-type: none">• STOP ALL WORK in the immediate/affected area.• Immediately notify the PC Environment Manager (EM).• Recommence works in an alternative area where practicable.
2. Undertake a site/area contamination investigation
The G36 Hold Point for Contaminated Land must be implemented, including the relevant requirements in MCoA B37 and the <i>Contaminated Land Management Act 1997</i> . The EM (or delegate) is to assess the situation and if considered necessary, commission a suitably qualified contamination specialist to undertake a contamination investigation in the area of the find as per management measures CL3, CL4 and/or CL5 of Table 7-1 of this CLMP. If necessary, the EM (or delegate) will liaise with the relevant authorities to determine the appropriate management options. The EM (or delegate) (in consultation with specialists) will determine the appropriate management measures to be implemented. This may include leaving contamination undisturbed, capping of contamination, treatment or offsite disposal. If the material is to be disposed of offsite, ensure the waste facility is appropriately licensed. Contaminated material requiring off-site disposal is to be classified in accordance with the <i>Waste Classification Guidelines – Part 1: Classification of Waste, NSW EPA 2014</i> . If the material is determined to be acid sulphate soil or potential acid sulphate soil, the management procedures outlined in the <i>Construction Soil and Water Management Plan</i> are to be followed.
3. Environmental management and work health safety management
Prior to any contamination investigation, management or remediation activities appropriate SWMS and EWMS will be prepared for review and approval by the EM (or delegate).
4. Remedial action
As required under G36 4.2.4 a Remedial Action Plan will be prepared in accordance with the EPA guidelines on contaminated land management and CL5 of Table 7-1 of this CLMP. Relevant EWMS or SWMS will be reviewed and updated when required.
5. Recommence works
Recommence works once remedial works have been implemented. RMS will be required to release the Hold Point prior to recommencing works.

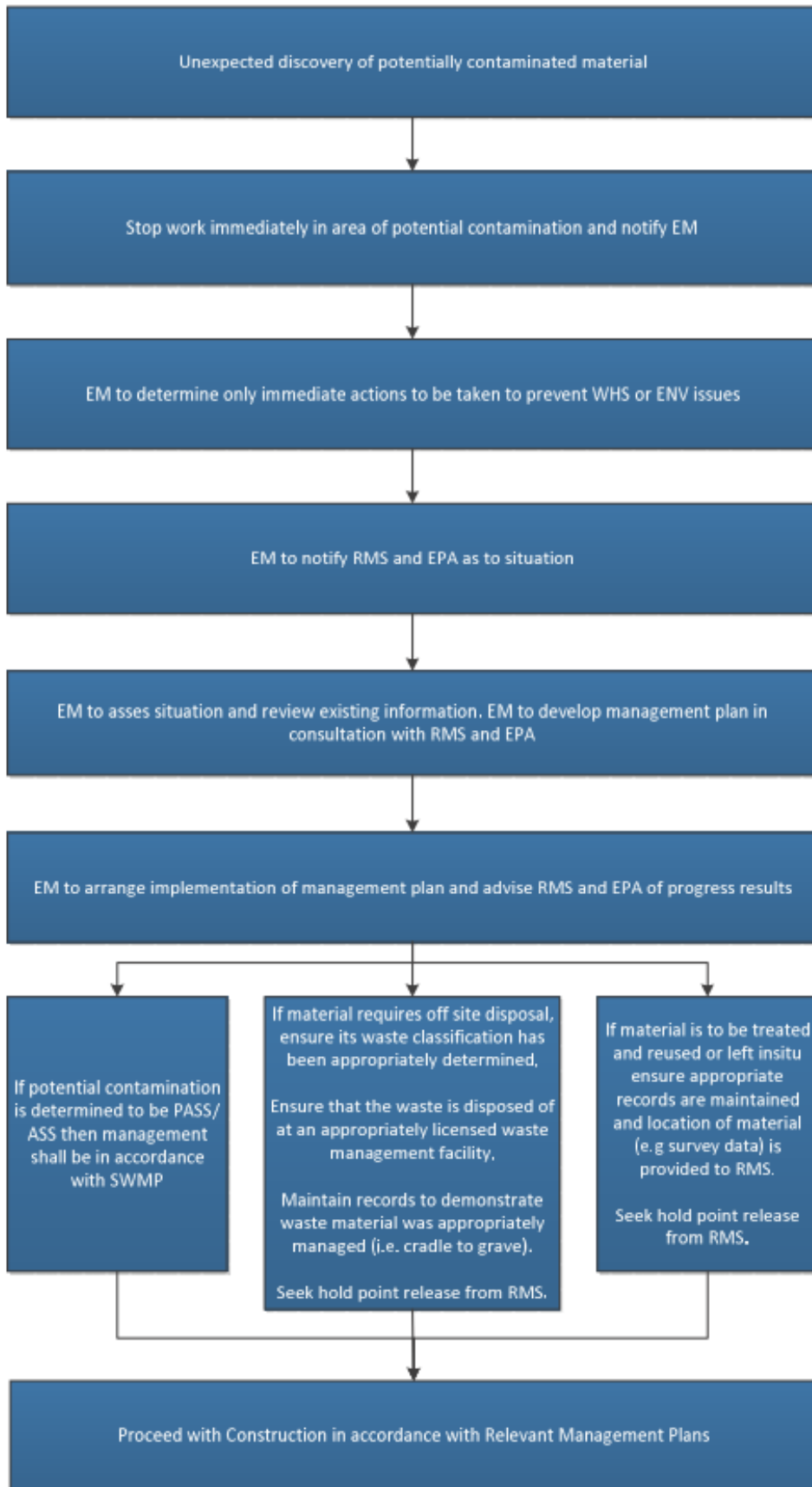


Figure 1: Steps to be taken for unexpected discovery of contaminated land.

Appendix B

Procedure to assess potential contaminated sites

Procedure to assess potential contaminated sites

1 Distribution

There are no restrictions on the distribution/circulation of this Procedure.

2 Purpose

This Procedure details the actions to be taken to assess potential contaminated sites which will be disturbed by the project works.

3 Induction/Training

Appropriate induction and management procedures will be implemented as part of the CLMP, to minimise the risk from disturbance of a site during construction.

4 Scope

This Procedure is applicable to all activities conducted by all Contractors and personnel that have the potential to disturb contaminated soil/material within the work site.

Prior to undertaking any site investigation works, review and consider the need to engage a Site Auditor accredited by the NSW EPA under the *Contaminated Land Management Act 1997* and the requirements of MCoA B37.

5 Procedure

1 Establishing site management requirements
<ul style="list-style-type: none">• Define the site management objectives and confirm• Confirm if the works will disturb any likely contaminated material• Confirm the requirement for any further site investigations to meet the site management objectives.
2 Meeting site management objectives using existing data
<ul style="list-style-type: none">• Use existing data to confirm that the site is uncontaminated• If the data is available, document the evidence and outcomes while additionally continuing to monitor and manage contamination risks throughout the Project <p>Note 1: If the data is unavailable or not absolute then follow step 3.</p>
3 Obtaining further information
Stage 1 Preliminary Site Investigation <ul style="list-style-type: none">• Where necessary, engage a specialist consultant to undertake further investigative work on potentially contaminated land that will be disturbed by the project work• Have the specialist consultant prepare a Stage 1 Preliminary Site Investigation to verify past and present potentially contaminating activities, potential contaminants of concern and the need for further investigation. This will include a review of past land use, spills and crashes and the associated contamination risks. Stage 2 Detailed Site investigation <ul style="list-style-type: none">• If identified in the Stage 1 investigation, have the specialist consultant undertake a Stage 2 Detailed Site Investigation to:<ul style="list-style-type: none">- Provide information on the type, nature, extent and concentrations of contamination present, and the corresponding risks to human health and the environment.- Examine pathways of contaminant dispersal and exposure, the potential for off-site impacts and the management requirements and options• Review the outcome of the investigations confirming whether additional work is needed to meet the site management objectives so as to allow the area to be developed.

<p>4 No additional investigations/action is needed</p> <ul style="list-style-type: none"> • Use the investigation data to document the evidence and outcomes while additionally continuing to monitor and manage contamination risks throughout the Project.
<p>5 Additional investigations/action is needed</p> <ul style="list-style-type: none"> • Consult the results of the investigation with NSW EPA, the local Council and RMS (Environment Branch) • Consult the public as necessary • Engage a specialist contractor to prepare scope for additional investigation and its implementation. • Review the outcomes of the additional investigations to determine appropriate management option for the site. • Consult with NSW EPA, RMS (Environment Branch) and the local Council as to the results and recommendations of the additional investigation as well as the proposed management option for the site.
<p>6 Stage 3 Remediation Action Plan (RAP)</p> <p>Preparation</p> <ul style="list-style-type: none"> • A Stage 3 RAP will be prepared where either a known or unexpected contamination risk has been identified that requires remediation. • The RAP will be prepared to accordance with the Contaminated Land Management Guidelines (NSW EPA 2013) and must include: <ul style="list-style-type: none"> - Testing requirements for any contaminated material prior to its disposal offsite - Validation plan, which must include the area in the immediate vicinity of (both below and adjacent to) the known contamination - Implications of the validation results on the waste classification for material that maybe excavated in the vicinity of the known contamination. • Roads and Maritime will review and approve the RAP. <p>Execution</p> <ul style="list-style-type: none"> • Carry out remediation in accordance with the approved remediation action plan • This will include contamination remediation and the appropriate removal and disposal of waste • Changes to the RAP either before or during its execution will be agreed by the PC Environment Manager.

6 [Additional information regarding the assessment process](#)

This CLMP includes those sites that were identified in the EIS (Roads and Maritime 2012) which involved a broad phase 1 contaminated land assessment. There are currently approximately 46-48 locations.

The following is a description of the implementation of the CLM assessment process in the context of requirements of MCoA B37. The following steps will be followed where relevant for the sites that were identified in the EIS process.

- During detailed design (and prior to construction) Pacific Complete will engage the services of a suitably qualified contaminated land management consultant and a suitably accredited contaminated site auditor.
- The Consultant will review the design at each of the sites identified in Table 4-1 and available contamination information (e.g. EIS findings, industry knowledge for example potential contaminants of concern, the nature of the contamination and its behaviour in the environment and risks posed to human health and/or the environment, the environmental setting of the site itself, land use of the site i.e. highway).
- The Consultant will make a recommendation for each site based on the design and the contamination information available as to whether the site requires a phase 2

contamination investigation or whether no investigation is required given the nature of the design at the site, the likelihood of contamination at the site (and the likely nature of any contamination, should it be present) and the site's proposed future land use (e.g. highway – commercial/industrial)

- The Site Auditor will review consultant's recommendations and provide comment etc. via a **Site Audit Report**.
- For sites that require a phase 2 contamination investigation the assessment criteria will be HSL/HIL D (commercial/industrial criteria). In addition, HSLs for intrusive maintenance workers in shallow trenches and for direct contact will be considered.
- Consultant will prepare phase 2 contamination investigation reports. Consultant's report to include conclusion as to whether the site/land is suitable for the intended use or whether the site/land can be made suitable through remediation.
- For sites deemed suitable for the intended land use and that there is no need for a specific remediation strategy, any relevant measures to identify, handle or manage potential contaminated soils, material and groundwater shall be identified in the Consultant's phase 2 contamination investigation report.
- Site Auditor to review and comment on the consultant's phase 2 contamination investigation report(s) and provide a **Site Audit Report**. For sites deemed suitable for the intended land use the Site Audit Report shall where relevant include any measures to identify, handle or manage potential contaminated soils, materials and groundwater.
- Pacific Complete will incorporate any relevant measures to identify, handle or manage potential contaminated soils, material and groundwater from the Consultants phase 2 contamination investigation report and Site Audit Report for those sites deemed suitable for the intended land use into our CEMP (via the Contaminated Land Management Plan).
- For sites deemed unsuitable for the intended land use the Consultant's phase 2 contamination investigation report is to include a remediation strategy for addressing the site contamination, and how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil or groundwater.
- Site Auditor to review and comment on the consultant's phase 2 contamination investigation report(s) and associated remediation strategy and provide a **Site Audit Report**.
- Consultant to prepare a Remediation Action Plan for sites deemed unsuitable and requiring remediation.
- Site Auditor to review and comment on Remediation Action Plan.
- Where remediation is required, a **Site Audit Statement(s)** shall be prepared verifying that the site has been remediated to a standard consistent with the intended land use. Site Audit Statements to be prepared by Site Auditor.

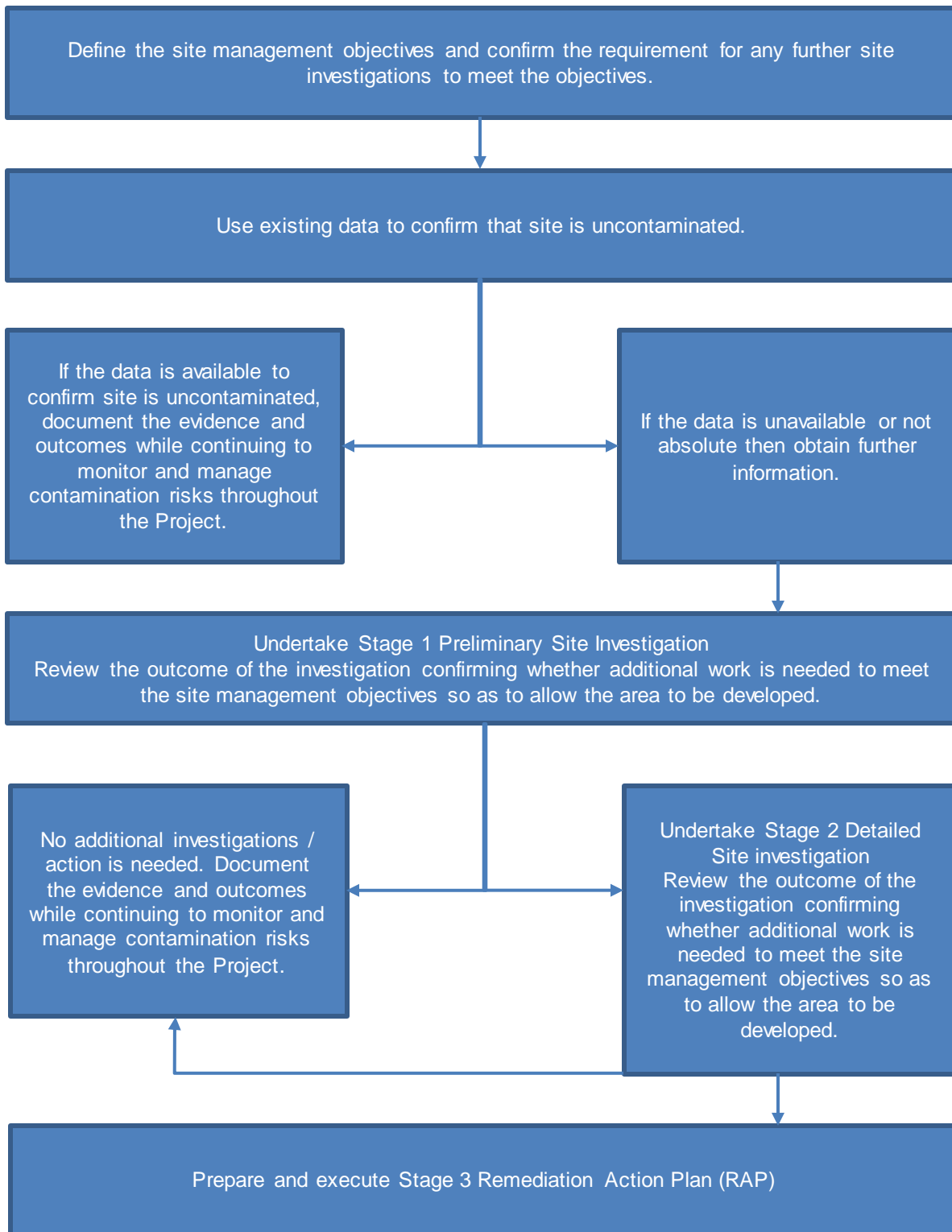


Figure 2: Steps to be taken for assessment of potentially contaminated sites .

Appendix C

Asbestos containing soil management

Potential asbestos containing soil (ACS) contamination management

The presence of asbestos containing materials and/or the extent of any asbestos contamination in subsurface material are known.

Excavation works will be required, as such there is a potential that fragments of ACS will be exposed. The following measures should be put in place to reduce the risk of potential exposure:

- Prior to excavation works all relevant site personnel will undertake a Toolbox Talk to ensure that staff and contractors are adequately trained to recognise environmental aspects and OH&S issues. The toolbox talk will incorporate the activities required to manage contamination issues as detailed in this plan.
- If a fragment of suspected ACS is identified, works in the vicinity of the find will cease and temporary exclusion area identified. The EM will be notified and will determine the appropriate management measures to be implemented.
- Once deemed appropriate by EM (or delegate) a suitably trained person (i.e. a 'competent person') will collect any fragments and place it in a 200 mm polythene bag for later disposal at an appropriate waste facility. A detailed visual inspection of the area will be carried out by the competent person, which will involve wet raking of the areas to a depth of 100mm for any further fragments. If no further fragments are identified, works can continue.
- If several fragments (i.e. less than 10 fragments per square metre), the competent person is to direct the collection of the fragments and place them in a 200 mm polythene bag for later disposal at an appropriate waste facility. A detailed visual inspection of the area will be carried out by the competent person, which will involve wet raking of the areas to a depth of 100mm for any further fragments. If no further fragments are identified, works can continue.
- If suspected ACS continues to be identified during excavation works or a large amount of fragments is identified in a localised area (i.e. above 10 fragments per square metre) and/or if it is thought that any uncovered material might be considered asbestos containing and friable, works will cease and a consultant in occupational hygiene will be engaged to assess the situation and determine an appropriate course of action.
- The occupational hygiene consultant must determine and report:
 - if the asbestos is non-friable or friable
 - the extent of the contamination
 - options for the appropriate remediation of the area on site
- The consultant may recommend that as a precaution during asbestos removal works, continuous asbestos fibre monitoring should be carried out at the perimeter of the area and if deemed necessary by the hygienist, personal exposure asbestos fibre air monitoring for workers in area. The monitoring should be completed daily in accordance with Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003(2005)], April 2005 and How the Safely Remove Asbestos Code of Practice (Safe Work Australia, December 2011).
- Any asbestos finds will be reported by the Contractor to Pacific Complete. The Pacific Complete Environment Manager will report asbestos to Roads and Maritime and EPA in accordance with the Roads and Maritime environmental incident procedure – refer Appendix A5 of the CEMP.

Appendix D

Military materials management

Military materials management

1 Conditions of approval/mitigation commitments

The following conditions of approval and mitigation commitments are addressed in this procedure.

Table D1 Conditions of approval/mitigation measures

Reference	Condition Requirements
SSW64	Consultation will be undertaken with [the Commonwealth] Department of Defence regarding the potential for unexploded ordnance to be encountered east of Broadwater.

2 Legislation, regulation, guidelines and policy

This procedure has been developed by way of referring to the following legislation, regulation, guidelines and policy.

- Defence Instruction General (DI(G)) on Explosive Ordnance Management in Defence - DI(G) LOG 4-1-013 Management of Explosive Ordnance in Defence (Department of Defence, 2006)
- Unexploded Ordnance Management Plan for the Extraction of Wind-Blown Stand from Lot 218 in Deposited Plan 1044608 at Williamstown NSW (Gibson Nominees Pty Ltd, 2011)

3 Work activities

The contractor will be required to prepare an environmental work method statement (EWMS) for each construction and work activity that will involve working in project section 9 (east of Broadwater).

4 Locations

Table D2 describes where this procedure will be applied and the factors that have led to its application in these locations.

Table D2 Locations where the procedure applies

Section	Factors
Section 9	<ul style="list-style-type: none">• Unexploded ordnance due to the alignment covering land used for military training.

5 Review

The procedure will be updated annually or:

- Following a site inspection or pre-work review that highlights an unexpected ordnance risk
- Following any site activity or undertaking where unexpected ordnance is discovered
- Following a change in legislation or permitting
- Following a major change in construction method.

6 Procedure

Table D3 describes the environmental controls that will be implemented to support all work taking place in project section 9 (east of Broadwater).

Table D3 Ordnance management controls

Task	Staging	Responsibility
<p>Risk identification</p> <ul style="list-style-type: none"> • Roads and Maritime/Pacific Complete will consult Department of Defence before starting any work within the limits of the military area east of Broadwater (project section 9) • The consultation will determine if there are any areas where there is an ordnance risk • Despite certain areas not being at risk, Department of Defence (or a nominated sub-contractor) will undertake a 'safeguarding' exercise to confirm if any work activity is at risk of being impacted by explosive ordnance • Work will only take place in areas where there is no risk • Locations where there is a risk will be further assessed by a specialist contractor. • A specialist trained munitions and ordnance contractor will be commissioned for the project. 	<p>Detailed design Pre-construction</p>	<p>Roads and Maritime/ Pacific Complete</p>
<p>No risk areas</p> <ul style="list-style-type: none"> • Despite the areas being cleared by Department of Defence there will be a requirement to implement an expected ordnance management procedure • This procedure must be developed by an ordnance specialist and will include provisions to ensure that certain work activities (such as the use of naked flames, excavation work) are strictly controlled. • All staff working in the wider military area will be trained in basic ordnance recognition and hazards • Any excavation work will be subject to additional clearance and inspection by a qualified specialist • All work to immediately stop if the work disturbs any suspicious areas or items • Area must be immediately marked and evacuated. Department of Defence and the Police must be notified • A trained munitions and ordnance contractor will search the area to confirm the risk and to undertake a wider search to delimit any confirmed risk. 	<p>Pre-construction Construction</p>	<p>Contractor Trained munitions and ordnance contractor</p>
<p>At risk areas</p> <ul style="list-style-type: none"> • Roads and Maritime/Pacific Complete will work with Department of Defence to define and establish the required safe work methods to allow construction to take place in 'at risk' areas • Further more extensive preclearance inspections and checks will be undertaken • If required, a munitions and ordnance contractor will be retained onsite. Alternatively a specialist contractor will be used to undertake various construction work. 	<p>Pre-construction Construction</p>	<p>Roads and Maritime/ Pacific Complete Contractor Trained munitions and ordnance contractor</p>