

Pre-Construction Minor Works Approval Form

Minor Works are defined as any low impact activities that are undertaken prior to the commencement of 'construction' as defined in the project's applicable planning approval. However if Minor Works affect or potentially affect heritage items, threatened species, populations or endangered ecological communities, these works are defined as 'construction' unless otherwise determined by the applicable planning authority.

Minor Works approvals do not remove any obligation to comply with the project's applicable planning approval conditions (including requirements prior to 'any works' commencing) or obtain any other applicable permits, licenses or approvals as necessary.

This application and all supporting information must be submitted to TfNSW/the Environmental Representative as one (1) PDF file at least 10 business days prior to the commencement of the proposed Minor Works.

Part 1: Application	
Contractor:	RPS Pty Ltd
Project:	Sydney Metro – Utility investigations
Application Title: (e.g. Smith St trenching works)	Slit trenching within Central Station
Application Number:	5
Application Date:	23/03/2017 (resubmitted following review on 29 March 2017 & 30 July 2017)
Planning Approval:	Sydney Metro City & Southwest - Chatswood to Sydenham (SSI 15_7400)
<p>Minor Works Categories:</p> <ul style="list-style-type: none"> Highlight as applicable. If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative. 	<p>2 → 11 N/A ABC</p> <ol style="list-style-type: none"> Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation). Treatment of contaminated sites. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. Operation of ancillary facilities that have minimal impact on the environment and community. Minor clearing and relocation of vegetation (including native). Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties. Utility relocation and connections. Maintenance of existing buildings and structures. Archaeological testing under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) or archaeological monitoring undertaken in association with other Minor Works to ensure there is no impact on heritage items. Any other activities that have minimal environmental impact, including construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access.
<p>Planning Authority Determination:</p> <p>Will the proposed works affect or have the potential to affect heritage items, threatened species, populations or endangered ecological communities?</p>	<p>Central Station is State Heritage listed, and as such the investigation works are subject to the attached DP&E and OEH determination that they can proceed (refer to Appendix 2). Works will be in accordance with the conditions set out in the attached determination including a heritage induction for all staff, monitoring of excavation, application of an unexpected finds procedure. In the event that a potential artefact is found the excavation director will be contacted and works around the item stopped until the excavation director clears the site for re-commencement of works.</p>

Part 2: Details

<p>Describe the proposed Minor Works: Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).</p>	<p>Methodology <u>Exposure detection</u></p> <ul style="list-style-type: none"> Confirmation of all locations for slit trenching. Review and finalisation of all approvals and work plans related to slit trenching. <ul style="list-style-type: none"> Excavate using 1 hydro vacuum excavation truck — (maximum pressure of 1600 PSI as per DBYD recommended pressure) to the following dimensions (Width 200mm, Length 5m and Depth 2m) Field verification of existing infrastructure and services Mark out exposed service positions measure and catalogue findings Backfill to approved specification —with a 6 tonne jumping jack pneumatic compactor and vibration wacker plate will be used to ensure compaction Re-instate surface using premium cold mix product (EZ Street or similar) Ensure the work site is clean Traffic control — pack up Soil disposal will take place offsite at an appropriate licences facility and will be fully contained from site to disposal. RPS team leader for utility surveys seconded to Vac Group to work with Works Manager to confirm and re-confirm or relocate utilities for slit trenching as well as be on site to confirm, attribute and assist in survey of exposed assets. RPS Surveyor to attend site as required to survey exposed assets.
<p>Planned Commencement Date:</p>	<p>31st July to 4th August 2017 Works in Central Services Yard</p>
<p>Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors.</p>	<p>There are no local sensitivities other than those within Central Station itself. The works will not impact any trees. Refer to attached ECM (Appendix 1).</p>

Part 3: Environmental Risk Assessment and Management

<p>Prepare an Environmental Risk Assessment (in accordance with the <i>Sydney Metro Risk Management Standard</i>) and an Environmental Control Map for the proposed Minor Works and attach as Appendix 1. If an Environmental Risk Assessment and/or an Environmental Control Map for the proposed Minor Works is/are already contained in existing documentation, attach the relevant section(s) as Appendix 1.</p>	
<p>Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, etc.).</p>	<ul style="list-style-type: none"> ECM (Appendix 1) Excavation Work Plan (Appendix 3), provided to TfNSW previously) □ CEMP (provided to TfNSW separately).

Part 4: Workforce Notification

<p>How will the environmental and community risks and associated mitigation measures of the proposed Minor Works be communicated to the contractor's workforce?</p>	<ul style="list-style-type: none"> Site induction Pre-start meeting Toolbox talks <p>GML will undertake briefings and will be present onsite.</p>
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Part 5: Community Consultation

<p>What community consultation has been undertaken already?</p>	<p>Sydney Trains notification sufficient. These work areas are located in the centre of Central Station site.</p> <p><i>customer service has been notified. RB. not expected to impact community.</i></p>
<p>What community consultation is planned to be undertaken?</p>	<p>Nil.</p>

If drafted already, attach applicable Community Notification as Appendix 3.

Part 6: Contact Details

Nominate contractor's project manager, environmental and communications contact(s).

<p>Name:</p>	Graham Elgie	<p>Position:</p>	Project Manager and communications contact	<p>Phone:</p>	0417 762 066
	Gareth Thomas		Environment contact		0414 228 613

Part 7: Signature

This signature acknowledges that the proposed Minor Works will be undertaken in accordance with this application, have minimal environmental impact and are not defined as 'construction' in accordance with the applicable planning approval.

<p>Name:</p>	Gareth Thomas		
<p>Signature:</p>		<p>Date:</p>	27/03/2017

Determination Page

(TfNSW/Environmental Representative Use Only)

12. Endorsement/Approval

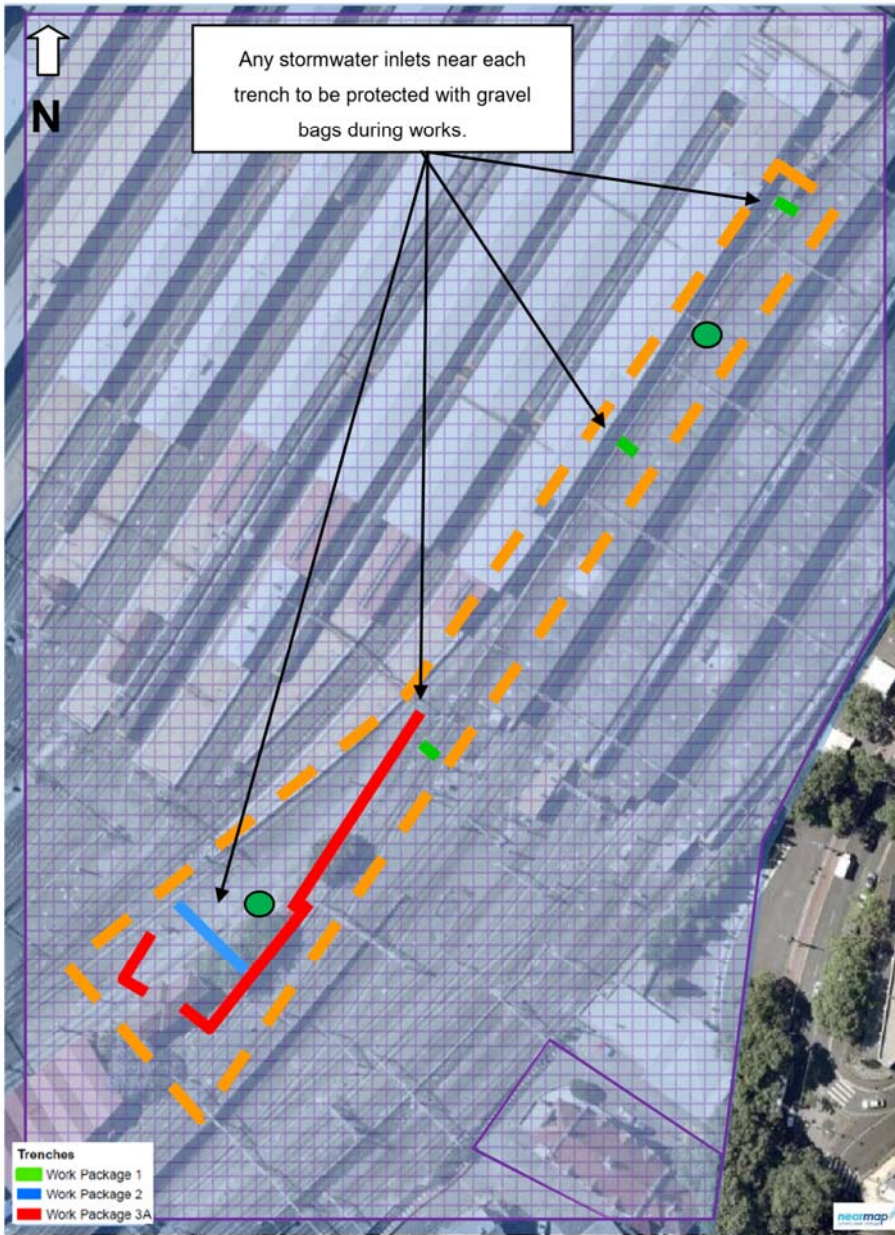
These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

	<p>TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)</p>	<p>TfNSW Principal Manager, Sustainability, Environment & Planning – Approval (required for all applications)</p>	<p>Environmental Representative – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)</p>
<p>Signature:</p>	<p><i>Rob Baird AB</i></p>		

Name:	ROBIN BAIRD	FIL CELONE	Alice Pryke
Date:	31.7.17	31/7/17	30/03/17 31/07/17
Comments:	N/A	Refer ER comments.	<p>Supporting letter attached as Appendix 4 if necessary.</p> <p>Both DPE and OEH have determined that these works can be undertaken outside of the definition of 'construction' under the project planning approval. See attached correspondence dated 02/03/17 03/03/17.</p> <p>31/07/17: ER notes that ER endorsement is not required for these works, however an ER review has undertaken to align with the earlier ER endorsement</p>
Conditions:	N/A		<p>Supporting letter attached as Appendix 4 if necessary.</p> <p>All works are to be undertaken in accordance with:</p> <ol style="list-style-type: none"> 1. Implementation of all mitigation measures detailed in OEH letter dated 02/03/17, as attached 2. Sydney Metro Construction Environmental Management Framework 3. Planning approval SSI 15_7400 4. All other relevant approvals, licences and permits to be obtained prior to works commencing and complied with during works
<input checked="" type="checkbox"/>	Approved (by TfNSW)		
<input checked="" type="checkbox"/>	Endorsed (by Environmental Representative)		
<input type="checkbox"/>	Rejected		

Appendix 1: Works location map (ECM)

ENVIRONMENTAL CONTROL MAP
 SITE NAME: CENTRAL STATION



General Construction Notes

- This control plan is to be read together with the relevant project environmental documentation i.e. CEMP.
- Vehicles to use designated access points.
- Spill kits to be stored at designated points within the site that are readily accessible to the construction team.
- Ensure measures/materials are ready to mitigate for unforeseen erosion during heavy rainfall

Legend

	Site boundary
	Slit trenches
	Local heritage item (LEP)
	State heritage items
	Spill kit

Prepared by:	Valerie Donat	Reviewed & approved by:	
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ENVIRONMENTAL CONTROL MAP

SITE NAME: CENTRAL STATION



STOP WORK REQUIRMENTS	
Aspect	Requirements
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager.
Water discharge	Do not proceed without prior approval from Environmental Manager. The TfNSW form <i>Approval to discharge or reuse water 9TP-FI-160</i> is to be completed for all off site dewatering.
Contamination / Hazardous Materials – Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Contact the Project ER.
Environmental Incident – Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Runoff to Surface Water	Contact the Project Environmental Manager immediately and without delay. Follow incident response guidelines in the CEMP.

CONTACT INFORMATION		
Project Manager	Graham Elgie	0417 762 066
Environmental Manager	Gareth Thomas	0414 228 613
WHS Manager	Graham Elgie	0417 762 066
TfNSW Response Line		1800 775 465
Transport Project Line		1800 684 490
EPA Environmental Line		131 555
Fire and Rescue		000
City of Sydney Council		02 9265 9333
WorkCover		13 10 50
Ministry of Health		(02) 9391 9000
WIRES		1300 094 737
HOURS OF WORK		
Subject to Out of Hours approval.		

Sydney Metro – Integrated Management System (IMS)

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Appendix 2: Heritage documentation



Mr Stuart Hodgson
Program Sustainability Environment & Planning
Sydney Metro Delivery Office
PO Box 588
North Ryde BC NSW 1670

Our ref: SSI 7400

Dear Mr Hodgson

**Sydney Metro City and Southwest – Chatswood to Sydenham (SSI 7400)
Low impact works – potential heritage impact consideration**

Thank you for your letters of 8 February 2017, requesting consideration if certain low impact works at Central Station and Hickson Road, Barangaroo are 'construction'. I also note Ms Nicole William's email of 13 February 2017, further detailing the extent of the proposed works.

The Department has reviewed your request, in consultation with the Office of Environment and Heritage (OEH). Following this review, I have determined that the following low impact activities and investigation works are not 'construction' for the purposes of the definition in the Infrastructure Approval for SSI 7400:

Activities with minimal environmental impact

Installation of four plastic conduits in a 25 m long trench across Eddy Avenue at the northern end of Central Station, including:

- Ground penetrating radar (non-intrusive scanning) to show utility locations;
- Concrete/road cutting;
- Excavation to up to 3m depth;
- Backfill with a stabilised cement/ sand mix; and
- Restoration to the road surface.

Investigation works

Central Station

- Coring into walls of underground tunnels;
- Slit trenching to identify utilities areas within track areas and Sydney Yard; and
- Contamination and geo-tech boreholes within Sydney Yard.


Hickson Road, Barangaroo

- Slit trenching across Hickson Road to identify services.

You are required to implement the mitigation measures set out in your letters of 8 February 2017, Ms William's email of 13 February 2017 and OEH's letter of 2 March 2017. You must also ensure the works are endorsed by the independent Environmental Representative.

If you have any queries, please contact Jonathan Kerr, Post Approvals – Infrastructure at the Department on 02 9274 6337 or by email jonathan.kerr@planning.nsw.gov.au

Yours sincerely

 3-3-17
Stacy Warren
Director
Infrastructure – Post Approvals
as delegate of the Secretary.



Level 6, 10 Valentine Avenue
Parramatta NSW 2150

Locked Bag 5020
Parramatta NSW 2124
DX 8225 PARRAMATTA

Telephone: 61 2 9873 8500
Facsimile: 61 2 9873 8599

heritage@heritage.nsw.gov.au
www.heritage.nsw.gov.au

File No: EF15/20422
Job ID: DOC17/116413
Your Ref:SSI_7400

Ms Jacqui Mcleod
Department of Environment & Planning
GPO Box 39
SYDNEY NSW 2001

Dear Ms Mcleod

RE: Sydney Metro, SSI_7400, consultation with OEH – investigation works at Eddy Avenue and low impact works in heritage areas.

I refer to your email date 17 February 2017 requesting comment on proposed investigation works at Eddy Avenue for the Sydney Metro project and on a proposed change to the definition of low impact works to include limited investigation works in heritage areas.

It is noted that the current definition of low impact investigation works excludes works which potentially affect heritage item or areas, which are then classified as construction. These low impact investigation works comprise:

- Ground penetrating radar (non-intrusive scanning) to show utility locations
- Concrete/road cutting
- Excavation by vacuum (sucker truck)
- Assessment and identification of utilities exposed
- Restoration to existing ground condition

Sydney Metro are seeking DP&E determination that the proposed investigation works at Eddy Avenue and at other Sydney Metro sites can continue outside the definition of 'construction' by applying the following mitigation measures to each site:

- Prior archival recording where necessary (E13)
- An unexpected finds procedure
- An on call excavation director / and full time monitoring (GML consultants)
- Induction at each site by a heritage specialist (GML consultants)
- Sydney Trains consultation (for scope within Central Station)

Based on the advice from Sydney Metro that the low impact investigation works involve and would only occur in previously disturbed ground and ground that will later be impacted by the approved project scope, the proposed change in definition is considered acceptable.

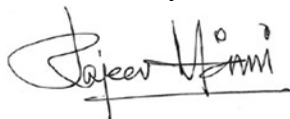
In regards to the proposed works at Eddy Avenue, it is noted that they comprise a 25m section electricity connection from Belmore Park substation to Central Station across Eddy Avenue at the Northern end of Central Station.

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Review of boreholes in the area of the trench show that there is no archaeological potential in this area. The proposed mitigation measures for these works are as outlined above. Based on the limited nature of the works and the lack of heritage impact, the proposed investigation works at Eddy Avenue are considered acceptable.

If you have any questions regarding the above advice, please feel free to contact Senior Team Leader, Archaeology Siobhan Lavelle via email at Siobhan.Lavelle@environment.nsw.gov.au or via phone on 9873 8546.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Rajeev Maini', with a horizontal line underneath.

Rajeev Maini

Manager Conservation Heritage

Division

Office of Environment and Heritage

As Delegate of the Heritage Council of NSW

2 March 2017

Cc: Nicole Williams: Nicole.Williams@transport.nsw.gov.au

Helping the community conserve our heritage

Sydney Metro – Integrated Management System (IMS)

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Appendix 3: Excavation Work Plan



Sydney Metro City & Southwest

Excavation, Spoil, Ballast and Fill Work Plan - Central Slit Trenching

Prepared by:

RPS MANIDIS ROBERTS PTY LTD

Level 13, 255 Pitt Street
Sydney, New South Wales 2000

T: 02 9248 9800
F: 02 9248 9810
E: infrastructure.solutions@rpsgroup.com.au

Prepared by: Gareth Thomas

Prepared for:

TRANSPORT FOR NSW

22 Giffnock Avenue
Macquarie Park NSW 2113

T:
F:
E:
W:

Reviewed: Graham Elgie

Approved: Graham Elgie

Project No.: IS 16167

Version: 0.1

Date: March 2017

– Central Slit Trenching

DOCUMENT STATUS

Version	Purpose of Document	Prepared by	Reviewed by	Review Date
0.1	Draft	G Thomas	G Elgie	
1.1				
1.2				
2.0				

APPROVAL FOR ISSUE

Name		Date
G Elgie		

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– Central Slit Trenching

1 Introduction

1.1 Purpose of this document

The purpose of this excavation work plan is to provide an approach to the management of excavation during utility investigation works within Central Station.

The plan has been designed to ensure best practice and/or appropriate environmental management practices are applied throughout the construction phase of the proposed works.

RPS and its delivery partners Vac Group Operations Pty Ltd and Altus Traffic Control Pty Ltd, will carry out the utility investigations works. Unless otherwise identified, the contractor will be responsible for the ongoing review and implementation of this CEMP and related environmental documents based on detailed construction information.

This plan will be made available to all employees and persons involved in the delivery of the utility investigations, including relevant sub-contractors.

1.2 Environmental management system structure

Sydney Metro CEMF

All contractors engaged will be required to work under the Sydney Metro Environment and Sustainability Management System.

RPS as the lead contractor for the Sydney Metro utility investigation works will produce a CEMP and sub plans in accordance with any EPLs or approvals required.

RPS Construction Environmental Management Plan

This CEMP provides the system to manage and control the environmental aspects of the utility investigations. It provides the overall framework to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. RPS will be responsible for implementing this CEMP and developing supportive documents and registers to assist with the implementation, including:

- Site inspection checklists;
- Non-compliance and corrective action reports;
- Complaints report;
- Environment incident reports; ▪ Environment training registers; and ▪ Monitoring checklists.

An Environmental Management Sub-Plans table for all sites has been prepared to support this plan.

Environmental control maps

Environmental control maps will be prepared to manage the impacts of construction on the environment at the works site. If required, a map will be prepared at a scale that ensures all controls are clearly identified.

The environmental control map will include information such as:

- The worksite layout and boundary, including entry/exit points

- Location of adjoining land-use and nearest noise sensitive receivers
- Location of site offices
- Location of spill containment and clean-up equipment
- Location of worksite waste management facilities
- Hours of work applicable to the worksite (including deliveries and any restrictions on high noise generating activities)
- Document control and approval details
- Location of environmentally sensitive areas (for example, threatened species, critical habitat, contaminated areas and heritage sites (Aboriginal and European))
- Specific environmental management requirements from licenses, approvals or permit conditions
- Key environmental risk issues
- Project specific controls for the key risks identified.

The environmental control map will be developed by the RPS Environment and Planning Manager, and is to be implemented prior to works commencing at the sites.

The RPS Environment and Planning Manager will maintain a register of environmental control plans.

Traffic Control Plans

Due to the nature of the works a Traffic Control Plan for each site is to be prepared to ensure that the risk of road accidents and disruption to surrounding land uses is minimized.

Traffic control plans are to be prepared in consultation with the relevant roads authority as required.

Pollution Incident Response Management Plan

A Pollution Incident Response Management Plan (PIRMP) has been developed and will be implemented, in accordance with the requirements of the POEO Act. See Section 4.

Inspection and incident report templates

Regular site inspections will be undertaken to ensure compliance with relevant legislation. Should any incidents occur, incident reports are to be completed.

Other project approvals/permits

RPS is responsible for the preparation and submission of all planning approvals/permits as required by the works. These may include:

- Exempt development checklist
- CBD Co-ordination office
- Heritage approvals/exemptions
- CBD Coordination Office approvals and notification (via Metro)
- BDA approvals/permits
- Sydney Trains approvals/permits
- Applicable EPLs.

1.3 Revision

A document review process ensures that environmental documentation including this plan is updated as appropriate for the specific works that are occurring on site or in response to environmental incidents. Project description

1.4 Utility investigation activities

Table 1.1 Methodology for utility investigation works (survey and slit trenching)

Stage 1 – Planning and Assessment
<ul style="list-style-type: none"> ▪ Confirmation of project teams, interaction protocols and points of contact; ▪ Commencement and coordination of all approval, consultation, communications and interface requirements;
Stage 2 – Preliminary Investigations
<ul style="list-style-type: none"> ▪ DBYD assessment and review of other documentation ▪ Finalisation of Project Plans and delivery ▪ Schedules ▪ Site Visits ▪ Confirmation and commencement of delivery of required management and other plans.
Stage 3 – Surface Investigations
<ul style="list-style-type: none"> ▪ Surface Detail review, survey and visual identification of features. ▪ Confirmation of survey control. ▪ Compilation and confirmation of all approvals. ▪ Production of aerial sketch maps and other field required documentation – SWMS, Risk Assessments, Environmental Approvals etc. ▪ Production of final works program.
Stage 4 – Subsurface Detection/Survey
<ul style="list-style-type: none"> ▪ Commencement of utility location survey ▪ Survey of all located assets via: <ul style="list-style-type: none"> ▪ Electromagnetic Detection Tracing - 'electromatic wand' to allow for detection of all power and conducting lines, such as copper communication cables and cast iron water and gas mains ▪ Small-scale Ground Penetrating Radar - 'In the field' resolution of non-conducting services such as PVC ducting, optic fibre, asbestos pipes ▪ Large-Scale 3D Ground Penetrating Radar – to allow large scale blanket coverage of area. ▪ Compilation and processing of all required data. ▪ Confirmation of status of all DBYD located information. ▪ Production of initial service plans based on located assets in CAD and other formats. ▪ Review of all plans with client and stakeholders to identify any issues, anomalies as well as to inform and define slit trenching works.
Stage 5 Exposure Detection

- Confirmation of all locations for slit trenching.
- Review and finalisation of all approvals and work plans related to slit trenching.
- Final program submitted and implemented
- Commencement of slit trenching works as follows:
 - Concrete and Asphalt cutting and breaking out if required The concrete is cut using a concrete saw until the subbase is exposed allowing it to be broken and removed. A jack hammer is used cautiously to break the concrete into smaller sections. Once this breaking of concrete is complete the concrete is removed
- Service locate and mark up (via EMI/GPR and water soluble marking paint or chalk)
- Removal of surface material
- Excavate using 1 hydro vacuum excavation truck – (maximum pressure of 1600 PSI as per DBYD recommended pressure) to the following dimensions:
- Field verification of existing infrastructure and services
- Mark out exposed service positions measure and catalogue findings
- Backfill to approved specification – with a 6 tonne jumping jack pneumatic compactor and vibration wacker plate will be used to ensure compaction
- Re-instate surface using premium cold mix product (EZ Street or similar)
- Ensure the work site is clean
- Traffic control – pack up
- Soil disposal will take place offsite at an appropriate licences facility and will be fully contained from site to disposal.
- RPS team leader for utility surveys seconded to Vac Group to work with Works Manager to confirm and reconfirm or relocate utilities for slit trenching as well as be on site to confirm, attribute and assist in survey of exposed assets.
- RPS Surveyor to attend site as required to survey exposed assets.

Stage 6 Quality Assurance & Delivery

- Data processing, integration and coding.
- Preparation of all UDR's and other required documentation
- Review and quality checking of all documentation ▪ Final delivery of all required documentation.

1.5 Spoil, ballast and fill management

Ground disturbance and spoil generation will be minimised through the use of a hydro-vacuum excavation truck. Excavation activities will be as follows.

1. Ballast and other loose material will be removed from the slit trench location using hand tools (shovels and wheel barrows).
2. Slit trench will be excavated via high pressure water jetting with all excavated material removed by vacuum truck.
3. Following service recording the trench will be filled with clean stabilised sand and new ballast placed in the area with hand tools.

All material is sucked into the vacuum tank is contained until disposed of. All material is considered to be potentially contaminated and therefore taken to an appropriately licensed disposal site, as per EPA requirements. The ballast removed from the site will be transported to an appropriately licensed disposal site, as per EPA.

2 Implementation and operation

2.1 Roles and responsibilities

Environment and Planning Manager

The RPS Environment and Planning Manager will:

- Oversee the implementation of all environmental management plans and monitoring programs.
- Advise the project team and TfNSW on its compliance obligations in relation to all approvals, permits and licences.
- Advise the project team of its achievement of all environmental outcomes.
- Recommend reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts.
- Stop work as soon as reasonably practicable if there is likely to be a significant risk of an adverse impact on the environment, until reasonable steps are implemented to avoid such impact, and immediately advise the RPS Project Manager/TfNSW.

Project Manager

The environmental responsibilities of the RPS Project Manager include, but are not limited to:

- Reviewing this plan and related documents prepared for the utility investigations.
- Oversee the implementation of this plan and environmental management plans for the works.
- Liaise with agency stakeholders and provide notification/information where environmental incidents have occurred.
- Monitor the environmental performance of the works in relation to TfNSW requirements through the Compliance Tracking Program.

Wider project team (including sub-contractors)

The environmental responsibilities of the wider project team include, but are not limited to:

- Comply with the relevant requirements of this plan or other environmental management guidance as instructed by the Project Manager.
- Participate in the compulsory project/site specific induction program, toolbox talks and daily pre-start meetings.
- Stop activities where there is an actual or immediate risk of harm to the environment and report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Project Manager or Environment and Planning Manager.

3 Competence, training and awareness

3.1 Purpose

To ensure that this plan is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this plan. The Environment and Planning Manager will coordinate the environmental training. Several forms of environmental training will be provided, including:

- A project site induction, including environmental roles and responsibilities;

- Toolbox talks;
- Pre-start meetings; and
- Environmental awareness training for specific issues.

The Project Environment Manager will maintain a register of all project site inductions and environmental training carried out. Records of attendees at toolboxes will be kept on file.

3.2 Site inductions

All personnel (including sub-contractors) will attend a site induction prior to commencing any work on site.

The site induction will include an environment component and will ensure all personnel are aware of the environmental risks on site, the requirements of the plan and their responsibilities around the implementation of management measures.

The induction will include, but not be limited to, an overview of:

- Conditions of licences, permits and approvals.
- Key issues and responsibilities.
- Working hours.
- Mitigation measures for the control of excavation activities.
- Boundaries, location of exclusion zones, and other constraints.
- Responsibilities under the *Heritage Act 1977* and *National Parks and Wildlife Act 1974*, for example if a potential relic/item is uncovered during construction.
- Incident management, response and reporting requirements.
- A record of all inductions will be maintained by the Project Environment Manager and kept on site.

3.3 Pre-start meetings

The pre-start meeting is a tool for informing the workforce of the upcoming activities, including information relating to the work schedule, safety, environment or other information that may be relevant to the work.

All workers will be required to attend a daily pre-start meeting, prior to commencement of work and sign on to a pre-start meeting attendance sheet.

4 Incidents and emergencies

Note This Section forms the Pollution Incident Response Management Plan for the proposed works.

4.1 Background

Pollution Incident Response Management Plan

The *Protection of the Environment Legislation Amendment Act 2011* (POELA Act) has introduced several changes to improve the way pollution incidents are reported, managed and communicated to the general community. This includes a new requirement (under Part 5.7A of the POELA Act) to prepare, keep, test and implement a pollution incident response management plan.

4.2 Environmental incident

Sydney Metro has defined an environmental incident as:

An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to occur.

Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items or adverse community impacts.

Examples of environmental Incidents:

- Air:
 - Odour that travels beyond the site boundary
 - Dust exceeding reasonable levels without active management measures in place
 - Operation or maintenance of plant in a manner that causes or is likely to cause air pollution
- Water Pollution
 - Discharge of water on or off site in a manner that causes or is likely to cause water pollution
- Noise and Vibration
 - Noise that travels beyond the site boundary as a result of poorly maintained plant or operation of plant in an inefficient manner
- Failure to comply with the approved hours of work
- Land Contamination
 - Cause any substance to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment
 - Spill/deposit material or allow material to be deposited on land in a manner that causes or is likely to cause land pollution
 - Cause contamination of land
 - Dispose of waste in a manner that harms or is likely to harm the environment
- Flora and Fauna
 - Harm or “pick” a threatened species, endangered population or endangered ecological community
 - Damage to vegetation, fauna or habitat including watercourses
- Heritage
 - Damage, disturbance, destruction or works to heritage items/relics
 - Damage, disturbance, or destruction of Aboriginal objects or places

4.3 Classification of environmental incidents

There are three types of environmental incident classification each of which trigger a variety of management actions and/or legislative requirements.

- Class 1 - Irreversible large-scale environmental impact with loss of valued ecosystems
- Class 2 -
 - C2- Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required.
 - C3- Impacts external ecosystem and considerable remediation is required
- Class 3 –
 - C4- Short-term and/or well-contained environmental effects. Minor remedial actions probably required.

- C5- Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries.
- C6- No appreciable changes to environment and/or highly localised event.

4.4 Notifiable events

A notifiable event is *any environmental incident or issue that triggers a specific statutory requirement to notify a regulatory authority*. Some event types are summarised below:

Table 4.2 Notifiable events types

Event type	Legislation		Notification to
Pollution incident	POEO Act 1997	Part 5.7	EPA Pollution Line as soon as practicable after becoming aware of the incident
	POEO (General) Regulation 2009	Section 101	
Land contamination	Contaminated Land Management Act 1997	Section 60(1)	EPA in writing as soon as practicable after becoming aware of the contamination, where required as prescribed in the EPA Guidelines on the Duty to Report Contamination
Discover aboriginal relic	National Parks & Wildlife Act 1974	Section 91	Director General of EPA in writing within a reasonable time after becoming aware
Discover Aboriginal Remains	Commonwealth Aboriginal & Torres Strait Islanders Heritage Protection Act 1984	Section 20	Commonwealth Minister of the Environment in writing as soon as practicable after becoming aware
Discover relic	Heritage Act 1977	Section 146	Heritage Council in writing within a reasonable time after becoming aware.

The Environment and Planning Manager must determine whether an incident or issue is notifiable, with advice from the Manager Environment or Principal Manager, Sustainability, Environment & Planning as required.

Figure 1 provides environmental incident classification and reporting procedures for Sydney Metro projects, that RPS and its sub-contractors is to comply with.

4.5 Incident management and reporting

Section 153F of the POEO Act requires the PIRMP is implemented if a pollution incident occurs. This section provides a detailed description of the actions that will be taken immediately after a pollution incident to reduce or control any pollution.

Category one pollution incident reporting – notification under the POEO Act

All pollution incidents causing or threatening material harm to the environment must be notified to the EPA via the EPA Environment Line (telephone 131 555) in accordance with Section 148 of the POEO Act.

A 'pollution incident' includes a leak, spill or escape of a substance, or circumstances in which this is likely to occur. Material harm is defined under the POEO Act:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial.

- If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.

All pollution incidents causing or threatening material harm to the environment must be notified to each relevant authority in accordance with Section 148 of the POEO Act. For Category one pollution incidents, RPS will immediately (that is promptly and without delay, after they become aware of the incident) notify:

- TfNSW
- EPA
- Ministry of Health.
- WorkCover.
- The relevant local Council.
- Fire and Rescue NSW.

An environment incident report (provided in Appendix E – Sydney Metro template) will be prepared by RPS and provided to TfNSW within two days of the incident occurring, including learnings from the incident and proposed measures to prevent the occurrence of a similar incident.

Within seven days of the incident occurring, TfNSW will provide a detailed incident report and copy of the root cause analysis investigation to the EPA, including the following information in accordance with Section 150 of the amended POEO Act:

- The time, date, nature duration and location of the incident.
- The location of the place where pollution is occurring or is likely to occur.
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known.
- The circumstances in which the incident occurred, including the cause of the incident, if known.
- The action or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.
- Other information prescribed by the regulations.

Category two incident reporting

Category two incidents include:

- Pollution incidents that can be cleaned up without material harm to the environment or people (as per Part 5.7 of the POEO Act).
- A non-conformance with the environmental management system does not result in a category one incident.

For Category two incidents, RPS will immediately notify TfNSW. TfNSW (through RPS) will advise DP&E, Council and EPA of the incident in writing within 2 days.

An environment incident report will be prepared by RPS and provided to TfNSW within one week. TfNSW is to report the incident in to DP&E.

All other incident reporting

For all other incidents (events that occur outside the scope of reasonable controls and measures), RPS will notify TfNSW immediately and any relevant agencies as soon as practicable. Incident will be recorded and appropriate guidelines to be followed.

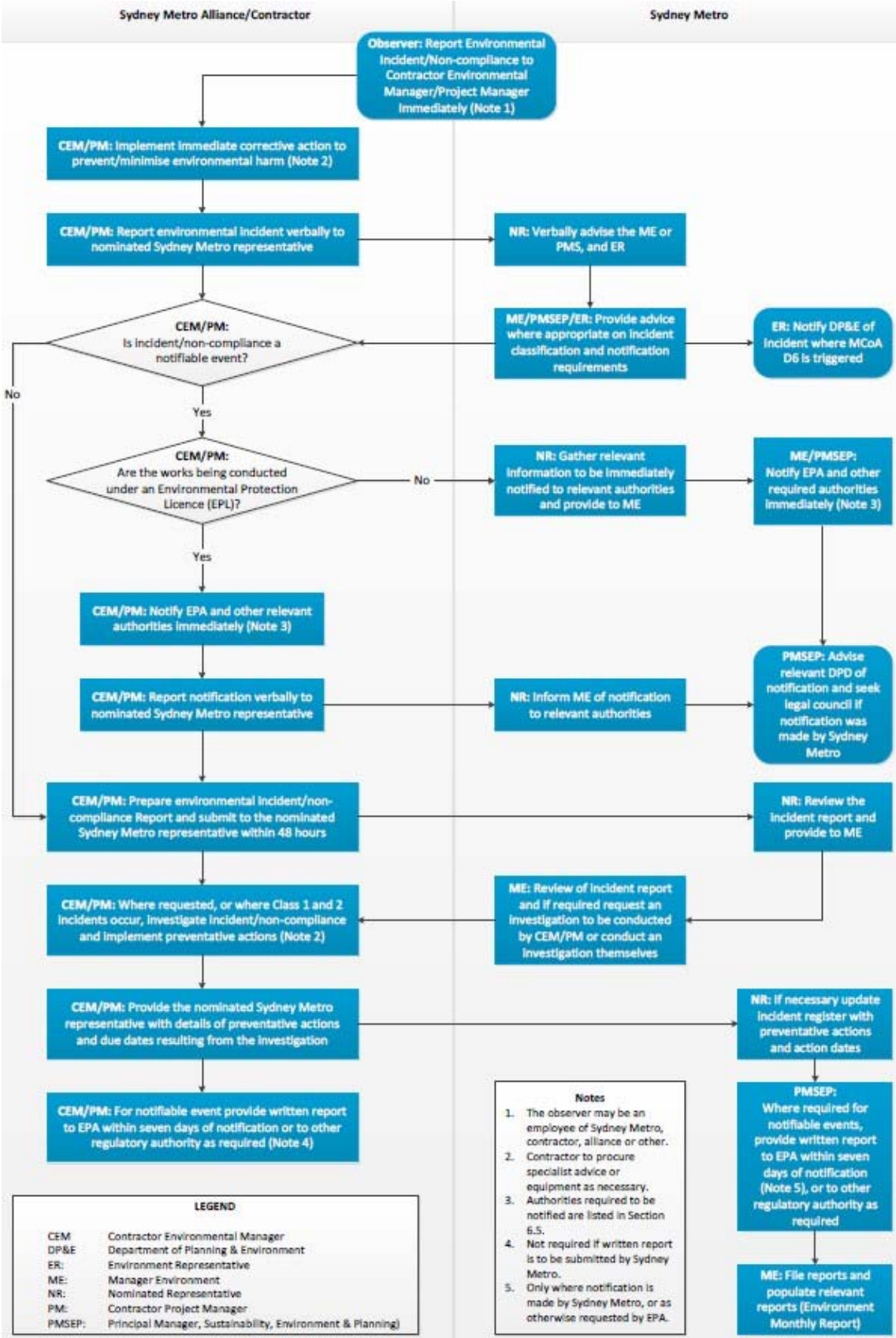
Key contacts for environmental emergencies are provided in Table 4.3.

List of emergency contacts

Table 4.3 Emergency contacts

Contact/Agency	Name	Contact details
RPS Project Manager	Graham Elgie	0437348346
RPS Environment and Planning Manager	Gareth Thomas	0431 545 120
TfNSW	Paul Rogers	0435 106 173
EPA (Pollution incidents)	N/A	131 555
Office of Environment and Heritage	N/A	Main switchboard: (02) 9995 5000
NSW Health	N/A	(02) 9391 9000
NSW Rural Fire Service	N/A	000
Heritage Division OEH	N/A	9873 8500
Work Cover NSW	N/A	131 050
Police	N/A	000 (or 112 from mobiles)
Ambulance	N/A	000
Local council - City of Sydney	N/A	(02) 9265 9333
Local Council – Willoughby	N/A	Phone: 02 9777 1000 After Hours Emergencies: 02 9777 1000

Figure 1 Incident reporting flow chart Sydney Metro procedure



4.6 Incident investigation

All environmental incidents will be investigated. A root cause analysis approach will be adopted to identify the origin of the problem in order to:

- Determine what happened.
- Determine why it happened.
- Identify and implement measures to reduce the likelihood that it will happen again.

The CEMP and environmental management plans will be reviewed by the Environment and Planning Manager after every Category One incident. The Environment and Planning Manager will ensure that any additional measures arising from the incident investigation are incorporated into the relevant plans.

Where TfNSW provides recommendations to address the cause or impact of any incident reported to the EPA, RPS will meet the requirements of the EPA's recommendations, in the timeframe specified, unless otherwise agreed.

Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident.

Any recommended actions to improve existing processes or systems will be managed through the NonConformance Register, as outlined in Section 8.3.

4.7 Emergency response

A project Health and Safety Management Plan has been undertaken for the proposed works. This document is separate from the CEMP. This document describes the systems and processes RPS will use to manage risks associated with undertaking on the project.

This plan will manage risks to a level as low as reasonably practicable and includes strategies to manage and control hazards as they arise during the execution of the contract scope of works. This document applies to all personnel working for and on behalf of RPS, including subcontractors.

4.8 Community notification

Local community stakeholders that may be potentially affected by a pollution incident include nearby residents. In the unlikely event of a pollution incident that could result in impacts to residents, RPS will contact the TfNSW communication manager community for appropriate protocol.

4.9 Staff training

Several forms of environmental training will be provided, including:

- A project site induction, including environmental roles and responsibilities
- Pre-start talks
- EWMS for site activities to which all site personnel will be inducted

4.10 Testing and review

The POEO (General) Regulation 2009 (Clause 98E) states for testing of the PIRMP:

(1) The testing of a plan is to be carried out in such a manner as to ensure that the information included in the plan is accurate and up to date and the plan is capable of being implemented in a workable and effective manner.

(2) Any such test is to be carried out:

- *Routinely at least once every 12 months, and*
- *Within 1 month of any pollution incident occurring in the course of an activity to which the licence relates so as to assess, in the light of that incident, whether the information included in the plan is accurate and up to date and the plan is still capable of being implemented in a workable and effective manner.*

Due the short nature of the proposed works testing of this PIRMP is unlikely.

5 Excavation Requirements

Table 5.1 General requirements

Objective	Environmental action	Timeframe	Monitoring / reporting	Person responsible
General				
To minimise the risk of incidents and complaints and to effectively manage incidents and complaints if they occur.	All project staff and contractors will be inducted on the sensitivities of the work site(s) and relevant safeguards prior to commencement.	Prior construction	Induction records	PM
	TfNSW will be notified immediately of any complaints relating to management of environmental issues.	As required	Incident reports	PM
	To ensure compliance with Section 148 of the <i>Protection of the Environment Operations Act 1997</i> , RPS employees and contractors will inform TfNSW representatives as soon as they become aware of any pollution incidents that have caused or threaten material harm to the environment.	As required	Incident reports	All
Sediment and Erosion Control				
No sedimentation of waterways.	Erosion and sediment control measures will be consistent with those specified in the NSW Government's Blue Book (4th Edition, 2004) on erosion and sediment control.	Site establishment	Weekly checklist	SS / PM
	Establish erosion and sediment control measures before work begins and maintain them in effective working order during works, until the site has been stabilised to prevent on-site erosion and off-site transport of eroded sediments.	Site establishment / Prior to works / During construction	Weekly checklist	SS / PM
	Any sediment/soil transferred onto roadways/footpaths will be swept up at least daily or prior to the onset of rainfall, and reused on site where appropriate.	During construction	Weekly checklist	SS / PM
	In the event of rain developing during works execution, site area will be made secure against soil erosion	During construction	Weekly checklist	SS / PM
	Disturbed areas will be stabilised as soon as possible and in a progressive manner as works are completed.	During construction	Weekly checklist	SS / PM

Minimise tracking of sediment and mud	All vehicles carrying waste materials capable of discharging free liquid will be watertight to prevent leaks and will be checked to confirm the absence of leaks before they leave the site.	During construction	Weekly checklist	SS /PM
Objective	Environmental action	Timeframe	Monitoring / reporting	Person responsible
Water Quality and hydrology				
No pollution of waterways from fuels or chemicals.	A functioning 'spill kit' will be kept on site at all times for clean-up of accidental chemical/fuel spills.	During construction	Weekly checklist	SS /PM
	Equipment will not be used if there are any signs of fuel, oil or hydraulic leaks. Leaks will be repaired immediately or the equipment will be removed from site and replaced with a leak-free item.	During construction	Weekly checklist	SS /PM
Noise and vibration				
Minimise construction noise	OOHW works approval is to be complied with.	During construction	Inductions /Toolbox	EM
	Maintain and operate all equipment efficiently, according to manufacturer's specifications, to reduce adverse noise impacts.	During construction	Weekly checklist	SS /PM
	Turn off plant and equipment when it is not being used.	During construction	Weekly checklist	SS /PM
Air quality				
Minimise dust	Where watering is used to suppress dust, appropriate non-potable water sources will be used where at all possible	During construction	Weekly checklist	SS /PM
	All loads of excavated material, soil, fill and other erodible matter that is transported to or from the work site will be kept covered at all times during transportation.	During construction	Weekly checklist	SS /PM
Heritage				
No damage to known or unknown items of heritage significance	If there are unexpected or unidentified historic finds (of unknown origin or significance) during construction, we will cease work and seek the advice of a qualified archaeologist.	During construction	Weekly checklist	All staff

5.2 Waste disposal requirements

Waste classification for off-site disposal of soil or fill

Waste classifications are required for any excavated soil or fill material which is to be disposed off-site. Soil or fill material to be taken off-site for disposal shall be assessed in accordance with the waste classification guidelines (NSW EPA, 2014). For these works, all spoil is contained within the vacuum truck and is assumed to be contaminated for disposal purposes.

Materials excavated from the site will be tracked from 'cradle to grave', in order to provide detailed and accurate information about the location and quantity of all materials both on and off-site from the time of their excavation until their disposal.

For any truck or bin leaving the site, the following information would be recorded:

- origin of material
- material type
- approximate volume
- truck registration number.

For all soils known or having the potential to contain asbestos, the following applies:

- The POEO Act defines 'asbestos waste' as any waste that contains asbestos, including fragments or fibres. It is understood that as a result, the NSW EPA considers asbestos contaminated soil to be an asbestos waste. In addition, the Protection of the Environment Operations (Waste) Regulation 2005 provides certain requirements for the transportation of asbestos. It is understood that the NSW EPA requires any management of soil containing asbestos waste on or off the site to be at least equal to controls set out by the Regulation.
- All asbestos contaminated soil or fill leaving site will be transported in a leak proof covered vehicle and disposed of at a licensed facility in accordance with waste classification guidelines (NSW EPA, 2014).

Disposal of fragments of ACM

All work shall be carried out in accordance with the NSW Workcover How to Safely Remove Asbestos: Code of Practice, 2011 made under section 274 of the Work Health and Safety Act 2011. Handling and disposal of asbestos waste material should also be carried out in accordance with the POEO Act, Protection of the Environment Operations (Waste) Regulation 2005 and waste classification guidelines (NSW EPA, 2014).

5.3 Asbestos management requirements

Table 5.2 Asbestos management requirements

Activity	Action
Non-ground disturbing activities	<p>All site workers and subcontractors should complete a site induction prior to commencing any maintenance or construction works at the site.</p> <p>No specific controls, site workers to be aware of the contingency plan and unexpected findings protocol in this document.</p>

Ground disturbing activities	<p>For any ground disturbing works the following specific controls are required.</p> <ul style="list-style-type: none"> ■ All site workers and subcontractors should complete a site induction prior to commencing any works at the site. ■ Throughout the duration of any excavation or site works, a suitably competent supervisor should observe ground disturbing works. Appropriate PPE should be on hand if asbestos containing materials detected. Based upon the contaminants of concern at the site, long sleeved shirt, long pants and protective gloves (preferably nitrile gloves, below leather gloves) should be worn when undertaking any works. Where dusty conditions prevail, a fine water spray should be applied during the excavation. A disposable P2 dust mask should also be utilised. ■ If suspected asbestos is identified the unexpected finds protocol should be followed. ■ Good personal hygiene should be implemented by maintenance workers at the site, including:
Activity	Action
	<ul style="list-style-type: none"> ▶ no eating, drinking or smoking during works ▶ avoid contact with soil (wear gloves) ▶ wash hands and clothes after work ▶ wash hands before eating, drinking or smoking. ■ Dust prevention measures should be put into place – if the conditions are windy, this may include dampening of the area prior to and during works.

5.4 Unexpected finds protocol

Management measures and mitigation strategies

Overview

This UFP is aimed at ensuring the health and safety of staff, contractors and visitors with regard to asbestos or potentially containing asbestos in and on the ground. The plan is to be implemented during the works.

The objective of the plan is to describe procedures minimising exposure of all site occupants to possible asbestos materials potentially found in and on the ground through the development and implementation of the management systems outlined herein.

Excavation works within area of potential asbestos contamination

The presence of asbestos contamination in subsurface material is unknown. It is assumed that there is a possibility that asbestos materials will be uncovered during the planned site works. The following measures will be put in place to reduce the risk of potential exposure:

- Prior to ground disturbing works all relevant site personnel will undertake a toolbox session to ensure that staff and contractors are adequately trained to recognise environmental aspects and WHS issues. The toolbox talk will incorporate the activities required to manage contamination issues as detailed in this plan.
- If a fragment of suspected asbestos is identified, 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 100 mm for any further fragments. If no further fragments are identified, works can continue.

- If several fragments are identified (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 100 mm for any further fragments. If no further fragments are identified, works can continue.
- If suspected asbestos 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).