



# Long Term Environmental Management Plan (LTEMP)

238-258 Captain Cook Drive, Kurnell NSW

Prepared for Dicker Data Limited

12 October 2020

Version 3

# Long Term EMP

238-258 Captain Cook Drive, Kurnell NSW



Prepared for Dicker Data Limited

---

**Author:** **Dean Stafford**  
Principal Environmental Scientist

---

**Reviewer & Approver:** **David Jackson**  
Principal Hydrogeologist  
(CEnvP SCP: SC40989)

---

This report has been prepared for Dicker Data Ltd in accordance with the terms and conditions of appointment for proposal P19074 dated 24 July 2019.

Reditus Consulting Pty Ltd (ABN 34 631 168 502) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

---

**Report No:** 19074RP02

---

**Report Date:** 12 October 2020

---

**Revision Text:** Version 3

---



# Table of Contents

<b>Abbreviations .....</b>	<b>i</b>
<b>Executive Summary .....</b>	<b>iii</b>
<b>1. Introduction .....</b>	<b>1</b>
1.1. Background.....	1
1.2. Objectives & Scope of Work.....	1
1.3. LTEMP Audience .....	2
1.4. This LTEMP .....	2
1.5. Legal Enforceability .....	2
<b>2. Site Condition .....</b>	<b>4</b>
2.1. Summary of Residual Contamination .....	4
<b>3. Capping, Cell Design and Construction.....</b>	<b>7</b>
3.1. Former Main Pharmaceutical Concrete Slab.....	7
3.2. Purpose Built Encapsulation Cell .....	7
<b>4. Long Term Environmental Management .....</b>	<b>8</b>
4.1. Long Term Environmental Management Structure and Responsibility .	8
4.2. Communications Protocol.....	9
4.3. Environmental Training and Induction.....	10
4.4. Protection of Site Users .....	11
4.5. Control of Future Maintenance Works.....	11
4.6. Protection of Maintenance Personnel.....	13
<b>5. General Management Activities and Controls .....</b>	<b>15</b>
5.1. Excavation.....	15
5.2. Reinstatement of Capping Layers .....	16
5.3. Stockpiling of Soils .....	17
5.4. Decontamination Procedures.....	18



5.5. Dust Suppression .....	20
5.6. Sediment and Erosion Control .....	20
5.7. Soil Disposal .....	21
5.8. Imported Fill .....	21
5.9. Reporting .....	22
5.10. Unexpected Finds Protocol .....	22
<b>6. Monitoring and Review .....</b>	<b>23</b>
6.1. Outline of the Monitoring Program .....	23
6.2. LTEMP Review and Updates .....	26
<b>7. Summary of Recommendations .....</b>	<b>27</b>
<b>8. Limitations .....</b>	<b>29</b>
<b>9. References .....</b>	<b>31</b>

## **Appendix A - Figures**

## **Appendix B - Asbestos Containment Area Surveys**

## **Appendix C - Site Photos**

## **Appendix D - Induction Register**



## Abbreviations

Abbreviation	Description
°C	Degrees Celsius
ACM	Asbestos-Containing Materials
AF	Asbestos Fines
AHD	Australian Height Datum
AMG	Australian Map Grid
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Groundwater
ASLP	Australian Standard Leaching Procedure
ASS	Acid Sulfate Soils
bgl	below ground level
BH	Borehole
BTEX	Benzene, Toluene, Ethyl-benzene, Xylenes
COC	Chain of Custody
COPC	Constituents of Potential Concern
CSM	Conceptual Site Model
DEC	Department of Environment & Conservation (now EPA)
DECC	Department of Environment & Climate Changed (now EPA)
DECCW	Department of Environment, Climate Change and Water (now EPA)
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DQI	Data Quality Indicator(s)
DQO	Data Quality Objective(s)
EC	Electrical Conductivity
Eh	Redox Potential
EIL	Ecologically-based Investigation Level
ENM	Excavated Natural Material
EMP	Environmental Management Plan
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
FA	Fibrous Asbestos
FB	Field Blank (quality control sample)
GAC	Groundwater Assessment Criteria
GIL	Groundwater Investigation Level(s)
GPR	Ground Penetrating Radar
GSW	General Solid Waste
GSW (Asbestos)	General Solid Waste with Asbestos Waste
Ha	Hectares
HIL	Health-based Investigation Level
HSE	Health Safety and Environment
HSL	Health-based Screening Level
HW	Hazardous Waste
IL	Investigation Level(s)
LCS	Laboratory Control Sample
LNAPL	Light Non-Aqueous Phase Liquid(s)
LOR	Limit of Reporting
LTEMP	Long Term EMP (Operational EMP)
m	Metre
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre



<b>mg/m<sup>3</sup></b>	Milligrams per Cubic Metre
<b>MNA</b>	Monitored Natural Attenuation
<b>MPVE</b>	Multi-phase Vacuum Extraction
<b>MS</b>	Matrix Spike or Mass Spectrometry or Mass Spectra
<b>mS</b>	milliSiemen
<b>MSD</b>	Matrix Spike Duplicate
<b>MTBE</b>	Methyl-tert Butyl Ether
<b>mV</b>	milli-Volts
<b>MW</b>	Monitoring Well
<b>N/A</b>	Not Applicable
<b>NAPL</b>	Non-Aqueous Phase Liquid(s)
<b>NATA</b>	National Association of Testing Laboratories
<b>NEPM</b>	National Environment Protection Measure
<b>OCPs</b>	Organochlorine Pesticides
<b>OPPs</b>	Organophosphorous Pesticides
<b>LNAPL</b>	Light Non-Aqueous Phase Liquid (same as PSH)
<b>PAH</b>	Polycyclic Aromatic Hydrocarbon
<b>PCBs</b>	Polychlorinated Biphenyls
<b>PID</b>	Photo-Ionisation Detector
<b>PQL</b>	Practical Quantitation Limit
<b>PSH</b>	Phase Separated Hydrocarbons
<b>QA</b>	Quality Assurance
<b>QC</b>	Quality Control
<b>HRA</b>	Health Risk Assessment
<b>RAP</b>	Remediation Action Plan
<b>RB</b>	Rinsate Blank (quality control sample)
<b>RPD</b>	Relative Percentage Difference
<b>RSW</b>	Restricted Solid Waste
<b>SAC</b>	Soil Assessment Criteria
<b>SAS</b>	Site Audit Statement
<b>SVOC</b>	Semi-Volatile Organic Compound
<b>SWL</b>	Standing Water Level
<b>TB</b>	Trip Blank
<b>TS</b>	Trip Spike
<b>TBA</b>	To be advised
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TOC</b>	Total Organic Carbon
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>TRH</b>	Total Recoverable Hydrocarbons
<b>UCL</b>	Upper Confidence Level
<b>ug/L</b>	Micrograms per litre
<b>UPSS</b>	Underground Petroleum Storage System
<b>USCS</b>	Unified Soil Classification System
<b>UST</b>	Underground Storage Tank
<b>VOC</b>	Volatile Organic Compound
<b>VENM</b>	Virgin Excavated Natural Material
<b>WHS</b>	Work Health and Safety



## Executive Summary

Reditus Consulting Pty Ltd (Reditus) was engaged by Dicker Data Pty Ltd (Dicker Data) to prepare a long term environmental management plan (LTEMP), also known as an operational environmental management plan, to manage risks associated with encapsulated non-friable (bonded) asbestos containing material (ACM) in soils and adhered to former concrete slabs and encapsulated beneath the Dicker Data Warehouse and Distribution Facility located at 238 – 258 Captain Cook Drive, Kurnell, NSW (the site). See Figure 3, **Appendix A** for the locations of the two encapsulation areas.

Previous investigations (WSP, 2018) identified bonded asbestos contamination in multiple areas of the site. In addition to ACM in soil, bonded ACM fragments were identified adhered to the base of concrete slabs removed during the building demolition works. An Asbestos Assessment was conducted by Reditus (July 2019) to characterise the observed fragments of ACM at the surface of the site. The assessment was limited to the soils where surface fragments were observed at high densities, these areas were around the edges of the main pharmaceutical building slab and the former engineering building footprint and other areas on site. Following these works, a Supplementary Assessment and Site Validation (Reditus 2020) was completed over the remainder of the site. Following the site assessments and remedial works there remained only two locations where asbestos exceeded the commercial/industrial land use criteria and would require encapsulation and ongoing management. These two areas were as follows:

- ACM stuck to existing concrete underneath the former main pharmaceutical building slab (average RL 3.15m AHD) has remained in-situ and capped under clean fill; and
- During removal of the building slabs (i.e former engineering building, fermentation building and chemical building) fragments of ACM were observed to be adhered to the underside of the slabs. The fragments appeared to have been placed between the plastic/liner and the concrete during construction and generally appeared to be in good condition. The pieces of demolished concrete slab and the administration building slab along with ACM emu picked from the site has been encapsulated within a purpose-built cell located at the south eastern portion of the site and capped under clean fill.

Procedures for the mitigation of risks associated with future workers and site users are documented in this LTEMP.

The environmental site assessment report (WSP, 2018) and the Supplementary Assessment and Site Validation (Reditus, 2020) concluded that, based on available information, the site is suitable for commercial/industrial development, provided an appropriate LTEMP is prepared for the two containment areas, and complied with.

The purpose of this LTEMP is to manage the residual risks relating to the presence of bonded asbestos in soil beneath capping material within the two asbestos containment areas at the site only.



# 1. Introduction

## 1.1. Background

Reditus Consulting Pty Ltd (Reditus) was engaged by Dicker Data Pty Ltd (Dicker Data) to prepare a long term environmental management plan (LTEMP), also known as an operational environmental management plan, to manage risks associated with encapsulated non-friable (bonded) asbestos containing material (ACM) in soils and adhered to former concrete slabs encapsulated beneath the Dicker Data Warehouse and Distribution Facility located at 238 – 258 Captain Cook Drive, Kurnell, NSW (the site). See Figure 1, **Appendix A** for property location.

A LTEMP is required to ensure that the capping material covering the ACM impacted material at the site remains intact. This LTEMP has been developed for the site with reference to guidance on LTEMPs provided in the NSW EPA, 2017 Contaminated Sites: Guidelines for the NSW Site Auditor Scheme, 3rd Edition (Section 3.4.6 and 4.3.3).

It should be noted that this LTEMP need only be applied if the soil beneath the site in the two designated areas is disturbed or exposed. The two containment areas are shown in Figure 3, **Appendix A**.

The LTEMP is required to ensure the following:

- Protection of future site users, following development, via ongoing monitoring of site conditions, particularly the integrity of the capping layer above the two designated ACM encapsulation areas; and
- Protection of the health of maintenance staff involved in future subsurface works following development in the two designated ACM encapsulation areas. As owner of the site, Dicker Data is the entity responsible for enforcement of the LTEMP.

## 1.2. Objectives & Scope of Work

The primary objectives of this LTEMP are to:

- Summarise the presence of known contamination within the two encapsulation areas on site (i.e. ACM in soils beneath capping and hardstand);
- Document the site containment infrastructure (capping layer);
- Outline a program for ongoing monitoring of the capping layer; and
- Provide a framework for ongoing environmental management of the site during future disturbance of the designated ACM encapsulation areas.





### 1.3. LTEMP Audience

This LTEMP has been prepared for the site owner, Dicker Data, who are also occupying and responsible for the management of the site.

### 1.4. This LTEMP

This LTEMP is considered passive. Besides regular inspections of the capping of the two ACM encapsulation areas there are no active management requirements that could potentially fail due to a power outage or mechanical malfunction (i.e such as an active exhaust fan or groundwater pumping system). Given the nature of the contamination (asbestos) capped onsite within two encapsulation areas, this LTEMP is to be implemented in perpetuity to ensure the site continues to be suitable for the commercial/industrial use.

Reditus considers that the LTEMP is not included nor required in the DBYD information for the site as the two ACM encapsulation areas (the 'asset') are located within private site boundaries.

### 1.5. Legal Enforceability

In order for the LTEMP to be effective it must be legally enforceable. Reditus understands that the LTEMP will be enforceable as it will need to meet the State Significant Development (SSD) consent conditions, particularly the requirement to meet B37 -39. SSD 8662 consent conditions B37-B39 are presented as follows:

#### Long Term Environmental Management Plan

- B37. Prior to the finalisation of the Site Audit Statement and Site Audit Report, the Applicant must submit a Long Term Environmental Management Plan (LTEMP) for the development to the satisfaction of the Planning Secretary.
- B38. The LTEMP is to:
- (a) address all environmental impacts of the development's construction and operational phases;
  - (b) recommend any systems/controls to be implemented to minimise the potential for any adverse environmental impact(s);
  - (c) incorporate a programme for ongoing monitoring and review to ensure that the LTEMP remains contemporary with relevant environmental standards; and
  - (d) mechanisms to report results to relevant agencies (e.g. Council and EPA).
- B39. Upon completion of the Site Audit Statement and Site Audit Report, the Applicant must:
- (a) implement the approved LTEMP; and
  - (b) provide evidence to the Planning Secretary that the LTEMP is listed on the relevant planning certificate for the land, issued under section 10.7 of the *Environmental Planning and Assessment Act 1979*, for the development.

As described in the SSD conditions above, the LTEMP will be recorded on the relevant planning certificate for the land. The LTEMP will be publicly notified using this method (i.e noted on the Section 10.7 certificate).

Consent condition B38 has been addressed as follows:

- (a) This LTEMP is relevant to the all phases of the development construction and operation and is addressed throughout the document;



- (b) Systems/controls to be implemented to minimise the potential for any adverse environmental impacts is included in Section 4 and 5.
- (c) A programme for ongoing and review to ensure the LTEMP remains contemporary with relevant environmental standards have been included in Section 6.2.
- (d) The mechanisms to report results to relevant agencies are not considered required in this circumstance as the contaminant (asbestos) is not mobile (i.e does not leach) and is being managed passively. In the unlikely circumstance that the integrity of the capping of the two ACM containment areas is compromised, or should additional contamination be identified, the parties listed in Sections 5.10 and 6.1 must be notified.

Stakeholders and potential future purchasers of the site will be notified on the existence of the LTEMP and the obligations for implementing the LTEMP as noted on the Section 10.7 certificate (Environmental Planning and Assessment Act 1979) for the site which is legally required to be provided as part of the contract of sale.



## 2. Site Condition

The location of the site and site layout is shown in Figure 1 and Figure 2, **Appendix A**. A summary of the site identification details are provided in Table 2-1 below.

**Table 2-1: Site Summary Details**

Site Characteristics	Details
<b>Street Address</b>	238 – 258 Captain Cook Drive, Kurnell, NSW
<b>Lot &amp; Deposited Plan</b>	Lot 1 DP 225973 and Lot 2 in DP1088703 identified on Figure 1, <b>Appendix A</b> .
<b>Local Government Area</b>	Sutherland Shire Council
<b>Zoning</b>	'R2 – Low Density residential' as specified in the Auburn Local Environmental Plan 2010
<b>Site Coordinates to the approximate centre of the site (Geographic)</b>	Latitude: -34.023382 Longitude: 151.199402
<b>Current Site Use</b>	Warehouse and Distribution Facility
<b>Site Area</b>	Approximately 17.2 ha

The land uses currently surrounding the site are as follows:

- North: Captain Cook Drive and vacant bush land (Towra Point Nature Reserve);
- East: Dicker Data commercial property;
- South: vacant bush land; and
- West: Britton Maritime Systems commercial property and an unnamed road to Boat Harbour.

### 2.1. Summary of Residual Contamination

Historical reports indicate that the site was developed in 1963 for the manufacturing of healthcare products (notably penicillin and codeine-based products) by Abbott Pharmaceuticals. Abbott Pharmaceuticals ceased production in approximately



2003 and the site has been used predominantly for administrative purposes since this time.

In 2017, WSP prepared a Remediation Action Plan (RAP) for the site that outlined the measures required to assess, remediate and validate the site, so that it is suitable for the continued commercial/industrial land use, in accordance with regulatory and Site Auditor requirements.

An environmental site assessment (ESA) was completed by WSP in January 2018, the findings of which are documented in the report entitled WSP, 2018, Environmental Site Assessment, 238-258 Captain Cook Drive Kurnell, NSW (WSP, 2018). The ESA did not identify contaminants of concern in soil or groundwater at concentrations of concern, except for non-friable (bonded) asbestos containing materials (ACM) in soil. The ACM comprises bonded asbestos fragments in near surface soil across the former operational portion of the site. A higher density distribution of ACM was noted around the concrete slab of the pharmaceutical building and in the area of the former engineering building. In these areas, WSP reported that the ACM was observed to be embedded in the topsoil, rather than laying on the surface. In the area west of the former pharmaceutical building asbestos fragments were noted to depths of 0.9m below ground level (m BGL). Outside of these areas, the depth of fill material was limited to approximately 0.2 m.

In addition to ACM in soil, bonded ACM fragments were identified adhered to the base of concrete slabs removed during the building demolition works. Removal of the ACM fragments from the concrete would increase the potential risk to health and therefore, the main building concrete slab was retained on-site and encapsulated under a cap and managed with a LTEMP.

The ESA report (WSP, 2018) concluded that, based on available information, the site can be made suitable for commercial/industrial development, provided an appropriate LTEMP for management of ACM in soils is prepared and complied with.

An Asbestos Assessment was conducted by Reditus (July 2019) to characterise the observed fibro fragments at the surface of the site. The assessment was limited to the soils where surface fragments were observed at the highest densities being around the edges of the main pharmaceutical building slab and the former engineering building footprint and other areas on site. Following these works, a Supplementary Assessment and Site Validation (Reditus 2020) over the remainder of the site.

Following the site assessments and remedial works there remained only two locations where asbestos exceeded the commercial/industrial land use criteria and would require encapsulation and ongoing management. These two areas were as follows:

- ACM stuck to existing concrete underneath the former main pharmaceutical building slab (average RL 3.15m AHD) has remained in-situ and capped under clean fill; and
- During removal of the building slabs (i.e former engineering building, fermentation building and chemical building) fragments of ACM were observed to be adhered to the underside of the slabs. The fragments appeared to have been placed between the plastic/liner and the concrete during construction and generally appeared to be in good condition. The pieces of demolished concrete slab and the administration building slab along with ACM emu picked from the site has been encapsulated within a



purpose-built cell located at the south eastern portion of the site and capped under clean fill.

Potential risks associated with the ACM contained within the main pharmaceutical building slab and the purpose-built cell (i.e the two encapsulation areas) will be managed through implementation of a LTEMP (this document).



### 3. Capping, Cell Design and Construction

#### 3.1. Former Main Pharmaceutical Concrete Slab

The concrete slab of the former main pharmaceutical building was retained. Bonded asbestos fragments are adhered to the underside of this building slab, likely used as a base for mesh chairs during pouring. The slab was retained and the known asbestos to be managed under a LTEMP. The former main pharmaceutical building is located in the centre of the western half of the site and has an area of approximately 11,331m<sup>2</sup>. Approximately 0.4m of crushed sandstone VENM was used to fill this area for site level raising purposes. This material acts as the capping layer for this asbestos containment area and the former pharmaceutical building slab acts as the marker layer.

Redevelopment of this area of the site includes the establishment of hardstand in the form of buildings, access roads and car parks. As such, ACM in this containment area has been encapsulated via the establishment of clean fill and hardstand.

Average relative levels of the capping material (pre concrete levels) above this containment area are approximately 3.54m AHD.

#### 3.2. Purpose Built Encapsulation Cell

During removal of the building slabs (i.e former engineering building, fermentation building and chemical building) fragments of ACM were observed to be adhered to the underside of the slabs. The fragments appear to have been placed between the plastic/liner and the concrete during construction of the slabs. The pieces of demolished concrete slab and the administration building slab have been encapsulated within a purpose-built cell at the south eastern portion of the site and capped under approximately 0.4m of crushed sandstone VENM. The cell has an area of approximately 1,100m<sup>2</sup> and a volume capacity of approximately 1,300m<sup>3</sup> and is lined with orange geofabric bidim ® marker layer.

Following surface vegetation removal, all observed surface ACM was emu picked from the wider site area during several rounds and encapsulated within the purpose-built cell before being capped under clean fill.

Redevelopment of this area of the site includes the establishment of hardstand in the form of a access roads and a car park. As such, ACM in this containment area has been encapsulated via the establishment of clean fill and hardstand.

Average relative levels of the capping material (pre concrete levels) above this containment area are approximately 3.27m AHD.

Asbestos containment area surveys are provided in **Appendix B**, with photographs in **Appendix C**.



## 4. Long Term Environmental Management

This LTEMP relates to ACM within soils at two containment areas on site. Those being, beneath capping layers within the purpose built cell or beneath the former main pharmaceutical building slab, shown on Figure 3, **Appendix A**.

The management plan has been prepared to ensure that the site remains safe for maintenance workers accessing the subsurface in the designated ACM encapsulation areas, during any maintenance or renovation works by Dicker Data, and other site occupants, by providing role responsibilities and control measures that will support the long term integrity of the capping layer overlying the two asbestos containment areas.

### 4.1. Long Term Environmental Management Structure and Responsibility

This section summarises the various parties who have been allocated a responsibility under this LTEMP. The responsibilities have been allocated according to which party is best placed to manage the requirements. The responsibilities may be delegated where appropriate.

Dicker Data, as owner of the site will manage these responsibilities by including the LTEMP and its requirements in a facilities management tool or similar. Dicker Data are required to ensure its maintenance employees and contractors have read and understood the LTEMP, agree to undertake the relevant obligations within the LTEMP and confirm that they are readily competent to discharge the same obligations.

Roles and responsibilities are summarised in Table 4-1.

**Table 4-1: Responsibilities**

Party	Responsibility of party
Dicker Data	<p>The key responsibility of Dicker Data is to ensure the protection of site users and future maintenance workers. Specifically will:</p> <ol style="list-style-type: none"><li>1. Maintain ultimate responsibility for implementation of the LTEMP;</li><li>2. Review the effectiveness of the LTEMP on a five yearly basis and following any incident or other event that suggests the LTEMP is ineffective;</li><li>3. Implement and communicate improvements and amendments to the LTEMP as needed;</li><li>4. Provide sufficient resources, where needed, to comply with the requirements of this LTEMP; and</li><li>5. Brief the facilities/maintenance employees of the existence of this LTEMP, and their roles within it;</li></ol>



Party	Responsibility of party
Facilities / Maintenance Employees	<p>The facilities/maintenance employees are responsible for successful planning, implementation and completion of maintenance activities in a manner that does not compromise the health of workers or site users:</p> <ol style="list-style-type: none"><li>1. Arrange for routine inspections of the site condition and capping integrity in accordance with Section 6 and ensure remedial measures are implemented, and notified where problems are identified;</li><li>2. Ensure that all maintenance staff conducting works are briefed on the presence of ACM beneath the hardstand within the two encapsulation areas;</li><li>3. Maintain records of maintenance and/or reports related to the site.</li><li>4. Review subcontractor work method statements for compliance with the LTEMP and any other aspects required for the safe completion of works on each site;</li><li>5. Monitor subcontractor compliance with their work method statements and inspect completed work to ensure the capping is restored appropriately upon completion and the integrity of the marker layers and capping layers are not compromised, and /or are restored if compromised; and</li><li>6. Promptly notify any concerns regarding the implementation of this LTEMP to the relevant Dicker Data representative.</li></ol>
Sub-Contractors	<p>All subcontractors have an obligation to carrying out their own work with due diligence. They must:</p> <ol style="list-style-type: none"><li>1. Comply with statutory requirements applicable to their work;</li><li>2. Prepare their Safe Work Method Statements (SWMSs) with reference to this LTEMP;</li><li>3. Have SWMSs reviewed by the facilities/maintenance employees, and amended if necessary prior to starting works;</li><li>4. Abide by their SWMS during all works;</li><li>5. Report any incidents that may result in health or environmental risk arising during, or in connection with, their work;</li><li>6. Implement practical ways to control health and environmental risks.</li></ol>

## 4.2. Communications Protocol

In developing this LTEMP, consultation has been and will continue to be conducted with the following government authorities and key community stakeholders with respect to the implementation and update of this LTEMP and protocols where relevant:

- Department of Planning, Industry and Environment (NSW DPIE).
- Environmental Protection Authority (NSW EPA);
- Sutherland Shire Council;
- The land owner, the site lessee/site operator (if any in the future), and any individual, business, or organisation conducting works at the site, such as consultants, contractors, subcontractors and the like; and
- Workers performing construction and maintenance activities.





The details regarding the site's emergency contacts and response will not be repeated in this document. Refer to the Dicker Data emergency response procedures for further details.

### 4.3. Environmental Training and Induction

Asbestos remains on the site beneath capping in two areas of the site being within a purpose built ACM containment cells or under the remaining former main pharmaceutical concrete slab. If subsurface works are to be undertaken in these two areas, maintenance personnel and any contractors must undertake an environmental awareness induction prior to the commencement of any intrusive works that are likely to involve excavation or penetration of the cap in the subject area of the site. The environmental awareness induction is to be completed by the site Manager and/or the delegated person responsible for implementation of this LTEMP. The awareness induction will cover:

- Outlining the objective and purpose of the works; and
- Contents of the LTEMP and their responsibilities.

The maintenance personnel and/or contractors must be aware that:

- Asbestos above land use criteria is present within soil and concrete located on site in two locations as shown on Figure 3, **Appendix A**.
- An orange geotextile marker layer is wrapped around all sides of the asbestos purpose built cell including between the capping and the asbestos material. The asbestos under the main building slab is buried beneath the capping layer under, and the concrete slab which acts as the marker layer.
- The capping layer comprises compacted crushed sandstone (VENM) used to raise the site levels.
- If excavations extend beneath the geofabric marker layer or the base of the concrete slab, there is a risk of exposing asbestos containing materials.

Photographs of the geofabric marker layers and capping material can be found in **Appendix C**. Survey diagrams are provided in **Appendix B**.

The person conducting the work will use this EMP to prepare their own systems of works including a management plan with specific reference to their relevant work, which will be adhered to for the duration of the works

All works that penetrate capping layers within the two ACM encapsulation areas must be carried out with due consideration of Work Health and Safety legislation related to asbestos, including all requirements of the NSW Work Health and Safety Act 2011 and relevant codes of practice.

Refer to **Appendix D** for the Agreement and Acknowledgement register for the person conducting the work to sign, stating that they fully understand the LTEMP, their responsibilities and that they agree to abide by the provisions of the LTEMP, prior to commencing works onsite



#### **4.4. Protection of Site Users**

Based on the findings of the assessment and validation works carried out at the site, there are no anticipated unacceptable risk to future workers on the developed site as the ACM is contained beneath a barrier (capping layer) preventing asbestos fibres becoming airborne.

Risk could potentially develop if the capping is disturbed or degrades with time (e.g. by erosion). As such, the surface concrete driveway above the asbestos encapsulation cell and the building floor slab above the former main pharmaceutical building slab should be maintained in a healthy state to prevent exposure.

It is important that if disturbed for any reason, the cap is reinstated upon completion of any works so that the site remains suitable for its intended use as a commercial industrial area from a health and safety point of view. It is also important that some form of routine monitoring is carried out to inspect that the cap is not degrading or has not been interfered with over time.

During any excavation works through the cap, contractors are to hold appropriate asbestos licencing and are to manage dust so that no asbestos fibres are released. We recommend air monitoring is implemented in accordance with NOHSC:3003 (2005) and associated guidelines during any excavation works below the capping layer to demonstrate that the risk to site users has been adequately managed and asbestos has not spread to adjacent areas of the site. Refer to Section 6, for further detail on monitoring requirement during excavation.

#### **4.5. Control of Future Maintenance Works**

Before undertaking any subsurface work, all subcontractors will be required to prepare their own Safe Work Method Statements (SWMS). These should reference this LTEMP, including a risk assessment which will be reviewed by the site facilities/maintenance employees.

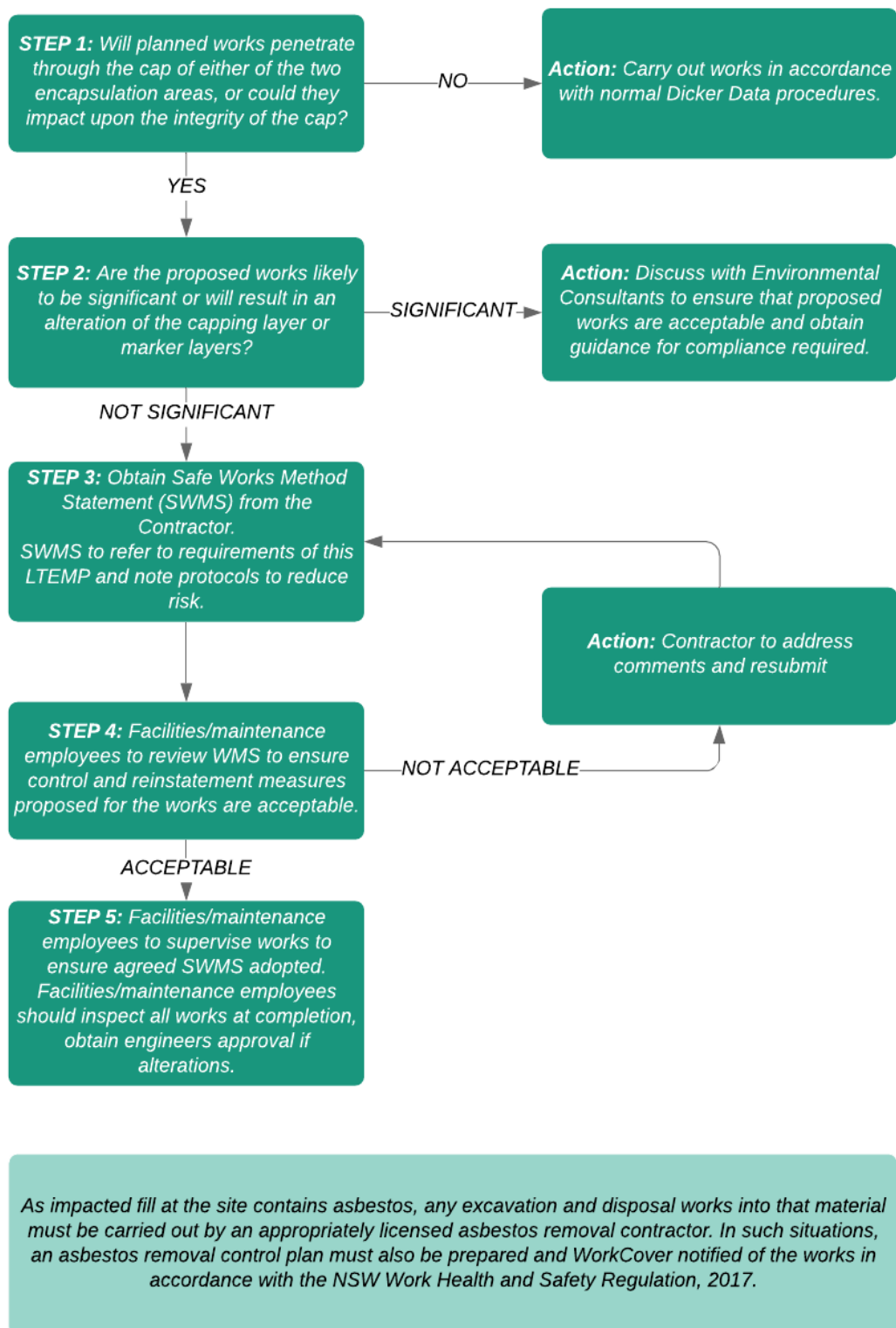
Contractors will be required to prepare an induction process for their works so that the above risks are communicated with all staff involved in maintenance works.

Future maintenance or contract works need to be assessed for the potential to damage or compromise the capping layers or marker layers. Any proposed works should be assessed by Dicker Data for the site using the following flow chart:



Diagram 4-4:

### Flow Chart of Control of Site Workers





## 4.6. Protection of Maintenance Personnel

This section contains provisions relating specifically to asbestos. It is not intended as a full Work Health and Safety (WHS) plan for future works. The contents of this section should be incorporated into any future WHS Plan prepared for the site and enacted through SWMS documents prepared by Dicker Data, contractors and persons conducting business or undertakings (PCBU).

### 4.6.1. General Legislation Requirements For Health and Safety

Any work that is carried out on the site should follow the current occupational health and safety regulations at the time (i.e. NSW Occupational Health and Safety Regulations, 2017) and relevant codes of practice. In particular, relevant health and safety regulations in place for asbestos, should be considered.

A list of examples of work health and safety and environment protection documents relevant to the specific risks for both areas on site, that should be consulted in preparation of intrusive works at each area are included in Table 4-2. If at any time the advice in the codes of practice or legislation conflicts with advice in this LTEMP, then the advice/requirements of the code of practice or legislation prevails over this LTEMP.

**Table 4-2: Relevant legislation and guidance**

Type	Regulator	Title
Legislation	Work Cover NSW	Work Health and Safety Act, 2011. Work Health and Safety Regulation, 2017.
	NSW EPA	Protection of the Environment Operations Act 1997 Contaminated Land Management Act 1997.
Guidelines	NSW EPA and WorkCover	NSW EPA 2014 Waste Classification Guidelines Part 1: Classifying Waste. National Environment Protection Council, 2013 National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013. WorkCover NSW, 2014 Managing Asbestos in or on Soil.
Codes of Practice	SafeWork Australia and WorkCover NSW	SafeWork Australia, 2011 How to Manage Work Health and Safety Risks. SafeWork Australia, 2016 Code of Practice - How to Manage and Control Asbestos in the Workplace. SafeWork Australia, 2016 Code of Practice - How to Safely Remove Asbestos. SafeWork Australia, 2014 Construction Work Code of Practice. WorkCover NSW, 2015 Excavation work code of practice.

It should be noted that this LTEMP and the location of encapsulated asbestos must be documented on the facility's Asbestos Register in order to comply with WHS regulations.



#### 4.6.2. Minimum General Controls

In its undisturbed state, the site is suitable for use as a commercial industrial warehouse. Therefore, in carrying out routine site maintenance works on the surface (such as garden maintenance etc.) there is no increased risk or need for additional health or environment protection controls.

Personal protection equipment (PPE) consistent with a standard construction or maintenance requirement is considered suitable for site workers such as:

- Long sleeved shirts;
- Long pants;
- Gloves;
- Steel capped boots; and
- Eye protection (as necessary).

However, in situations where there is potential for worker exposure to asbestos containing materials, such as during excavation beneath capping layers within the two asbestos containment areas, additional controls must be in place to minimise exposure to workers. Additional controls are to be specified by an appropriately licenced asbestos assessor or removalist, however, additional PPE is likely to include:

- P2 dust mask (working with asbestos impacted fill); and
- Tyvek suit (working with asbestos impacted fill) unless otherwise directed by an occupational hygienist.

#### 4.6.3. Personal Hygiene

During intrusive site works within the two ACM containment areas, personnel should be briefed on the requirements for personal site hygiene as part of the site induction. As with any work where contractors and maintenance staff are accessing soil, staff should be encouraged to avoid hand to mouth and hand to face contact until they have washed (e.g. eating, drinking and/or smoking). Wash water and soap should be available during intrusive site works. Further information regarding the decontamination of personnel and equipment is included below in Section 5.4.

#### 4.6.4. Licenced Asbestos Removal Work for Excavation Beneath the Cap

Any subsurface works beneath the cap within the two ACM encapsulation areas (Figure 3, **Appendix A**) that penetrate the geotextile marker layer must be carried out by an appropriately licensed asbestos removal contractor. In such situations, an asbestos removal control plan must also be prepared and works completed in accordance with the NSW Work Health and Safety Regulation, 2017. See decision flow diagram 4-4 above and refer to Sections 5 and 6 for further information.



## 5. General Management Activities and Controls

The management activities and controls listed herein are generic controls intended to be employed at such times that the two asbestos containment areas on site require ongoing maintenance and repair works, including minor excavation works. They are not intended for implementation during any major excavation, or major development which may occur at the site. Any major construction work should have a project specific Construction Environmental Management Plan (CEMP) prepared and implemented.

The controls relate to impacts present on the two ACM encapsulation areas themselves to the working area boundaries. Controls to prevent the migration of contaminants from the works area have also been included.

To reduce the accidental spread of hazardous substances (asbestos) by workers from the contaminated area (i.e the two ACM encapsulation areas) to the clean area, zones should be delineated on the site where different types of operations will occur, and the flow of personnel among the zones should be controlled. The establishment of work zones will help ensure that: personnel are properly protected against the hazards present where they are working, work activities and contamination are confined to the appropriate areas, and personnel can be located and evacuated in an emergency.

Hazardous work areas should be divided into as many different zones as needed to meet operational and safety objectives. As an example, three frequently used zones are as follows:

- Exclusion Zone, the contaminated area;
- Contamination Reduction Zone, the area where decontamination of personnel and equipment takes place; and
- Support Zone, the uncontaminated area where workers should not be exposed to hazardous conditions.

### 5.1. Excavation

The key risks during excavation works for the site include:

- Damage to engineered capping of the asbestos containment areas; and
- Inadvertent exposure to asbestos containing materials by excavating through capping layers of either of the two asbestos containment areas. To mitigate these risks we recommend the following:
  - If excavation works are planned for the site, contractors are to familiarise themselves with this LTEMP, and the location and depth of the capping layers at the two asbestos containment areas. Having reviewed the LTEMP they are to prepare a safe work method statement demonstrating how they will manage the safety of their staff and their methodology for reinstatement of the Site upon completion of works;
  - If works involve excavation below the engineered capping layer of either of the two asbestos containment areas, then works are to be managed



under NSW WHS legislation and associated codes of practice and completed by an appropriately licenced asbestos assessor or removalist;

- If works are to be conducted elsewhere on the site, outside of the two containment areas, then an unexpected finds protocol (UFP) should be developed and referred to in the event that asbestos or other contaminants of concern are discovered. Aspects that should be included in an UFP are included below in Section 5.9;
- During excavation works in the vicinity of the asbestos containment areas, the exclusion zone, the contamination reduction zone and the support zone will need to be established and the work should be inspected by the facilities/maintenance employees to ensure the nominated controls in the SWMS are being adopted and that the rectification works are to similar specifications of the original design;
- Any soil removed from the site must be subject to waste classification and disposed of to a landfill that is licenced to accept the relevant waste type;
- Any fill materials exhumed at the site must be either disposed of offsite or placed back into the excavation and the surface capping restored;
- Operators should take their time and be well supervised;
- Water should be available throughout the works for moistening work areas to avoid dust generation;
- Cease work in windy conditions or if dust is being generated or if atmospheric conditions reach unsafe levels;
- Require contractors to wear appropriate PPE to protect them from dust inhalation and dermal contact with soils; and
- Ensure good site hygiene practices are maintained (no eating, drinking, smoking in the work area and provide hand wash facilities so workers can wash before having breaks).

## 5.2. Reinstatement of Capping Layers

Following excavations that have disturbed capping layers within the asbestos containment areas, the reinstatement is required to include the following:

- Capping materials must be reinstated to their original survey levels;
- If necessary, provide updated reference levels to ensure that capping thickness requirements have been met;
- Any damage to geotextile marker layers should be repaired prior to reinstatement of the capping layer;
- If following any future site development, the capping is unpaved, any vegetation removed during the excavation should be replaced in order to stabilise the capping material; and
- Provide photographic evidence as a record of capping reinstatement following works.



It is noted that VENM has been used as capping material for the two ACM encapsulation areas. This material can be excavated carefully to the top of the concrete slab (former main pharmaceutical slab encapsulation area) and to the top of the orange marker layer (purpose built cell) and stockpiled and covered separately for later re-use as capping material or re-use elsewhere on the site. Care must be adopted to ensure none of the VENM capping material is mixed with or exposed to the ACM beneath the marker layers. If VENM is exposed to ACM, then this material must be either placed beneath the marker layer at each of the encapsulation areas or appropriately disposed off site in accordance with the NSW EPA (2014) Waste Classification Guidelines and at an appropriately licenced landfill facility.

### 5.3. Stockpiling of Soils

With respect to stockpile formation from either of the two asbestos containment areas, the key risks are as follows:

- Generation of dust that could contain asbestos fibres representing a risk to workers and/or neighbouring land uses;
- Transport and disposal of contaminated soil to other 'clean' portions of the site;
- Washing of impacted soil into local waterways through sediment migration. This would not only represent an environmental and health concern but would also represent a commercial risk through fines or prosecution if allowed to occur;

In order to mitigate these risks we recommend the following:

- Minimise the requirement for stockpiling of soil from the asbestos containment areas. Consider alternatives such as use of lined skip bins or drums;
- Ensure soil stockpiling is supervised by an appropriately licenced asbestos assessor or removalist and air monitoring is conducted in accordance with NOHSC:3003 (2005) and associated guidelines to demonstrate that the risk to site users has been adequately managed;
- Ensure stockpiles or excavated material remain on site until testing has been conducted and a final waste classification can be provided, as to move it prematurely may trigger an offence under the Protection of the Environment Operation Act, 1997 (if material is transported offsite);
- Provide temporary fencing/barricading around stockpiles or skip bins to prevent public access;
- Stockpiles should be formed on medium-density polyethylene (MDPE) plastic sheeting to prevent vertical leaching and so that the stockpile footprints do not require validation upon removal;
- Once a stockpile is formed, the edges of the underlying MDPE should be raised up around the stockpile and pegged into place so that should a significant rainfall event occur, overland flow will be diverted around the stockpile without coming into contact with the contents;





- Stockpiles should then be covered in MDPE plastic sheeting with sufficient overlap that soil does not become exposed at the join (e.g. 0.5 m overlap);
- Plastic sheeting covering the stockpile should extend beyond the base of the stockpile so all water is shed away from the stockpile;
- Stockpiles and bins containing exhumed soil from the asbestos containment areas should be appropriately placarded containing the words 'Danger Asbestos'; and
- A program of daily inspections should be implemented while the stockpile is onsite to ensure the condition of the cover is maintained.

## 5.4. Decontamination Procedures

Decontamination for the following works with either of the two ACM encapsulation areas, workers, PPE and tools used in asbestos removal work is an important process in eliminating or minimising exposure to airborne asbestos fibres, particularly to persons outside the asbestos removal work area. The code of practice lists two types of decontamination procedures that may be used:

**Wet decontamination**, or **wet wiping**, involves the use of damp rags to wipe down contaminated areas. Cleaning rags should only be used once, although they may be re-folded to expose a clean surface. The rags should be used flat and should not be wadded. If a bucket of water is used, the rags should not be re-wetted in the bucket, as this will contaminate the water. Care should be taken to avoid any potential electrical hazards when using this procedure.

**Dry decontamination** should be only used where wet methods are not suitable or pose a risk because of other hazards such as electricity or slipping. Dry decontamination procedures include carefully rolling or folding up and sealing plastic sheeting and/or vacuuming the asbestos work area with an asbestos vacuum cleaner. Large pieces of asbestos debris should be wetted and picked up by hand rather than vacuumed.

### 5.4.1. Decontamination of Tools

All tools used during asbestos removal work should be fully dismantled (where appropriate), cleaned under controlled conditions and decontaminated using either the wet or dry decontamination procedures before they are removed from the removal work area. The method chosen will depend on its practicality, the level of contamination and the presence of any electrical hazards.

If tools cannot be decontaminated in the asbestos removal work area, or are to be reused at another asbestos removal work area, they should be:

- Tagged to indicate asbestos contamination; and
- Double bagged in asbestos labelled bags before removing from the asbestos removal work area.

The bags containing the tools must remain sealed until decontamination or the commencement of the next asbestos maintenance or service task where the



equipment can be taken into the removal work area and reused under full control conditions.

PPE should be worn when opening the bag to clean or reuse the equipment or tools, and decontamination should only be performed in a controlled environment.

In some circumstances it may be better to dispose of contaminated tools and equipment, depending on the level of contamination and the ease of replacement.

#### 5.4.2. Personal Decontamination Procedures

Personal decontamination involves the removal of all visible asbestos dust/residue from PPE. Personal decontamination must be undertaken each time a worker leaves the contamination exclusion zone and at the completion of the asbestos maintenance or service work. Personal decontamination should be done within the asbestos removal work area to avoid recontamination. Personal decontamination should be carried out where a decontamination unit is not necessary such as during minor or small scale removal and maintenance work.

Asbestos-contaminated PPE must not be transported outside the asbestos removal work area except for disposal purposes. Before work clothes and footwear worn during asbestos removal work are removed from the asbestos removal work area for any reason, they should be thoroughly vacuumed with an asbestos vacuum cleaner to remove any asbestos fibres and the footwear should also be wet wiped.

PPE should be used until all contaminated disposable coveralls and clothing has been vacuum cleaned and/or removed and bagged for disposal and personal washing has been completed. Any PPE used while carrying out asbestos removal work must not be taken home by a worker.

Personal hygiene and careful washing are essential. Particular attention should be paid to the hands, fingernails, face and head. Personal Decontamination procedures are included (NSW WorkCover 2011):

- Remove any visible asbestos dust/residue from protective clothing using an asbestos vacuum cleaner or wiping down with damp cloths. Do not reuse or re-soak damp cloths;
- Carefully remove disposable protective clothing and place into bags (RPE must still be worn);
- Place cloths into disposal plastic bags (200µm thick);
- Take disposable coveralls off and place into disposal bags (RPE must still be worn);
- Use damp cloths to wipe down footwear and place cloths into disposal bag;
- Seal all plastic bags with duct tape and place each into a second plastic bag;
- Seal this second plastic bag and label/mark as 'Asbestos Waste';
- Use damp rags to wipe external surfaces of the disposal bags to remove any dust before it is removed from the asbestos removal work area;



- Remove PPE and double bag, seal with duct tape and mark as 'Asbestos Waste';
- Ensure the outside of the bags are decontaminated by using a damp cloth;
- Place the damp cloth into disposable bags; and
- Dispose of asbestos waste at the appropriate waste facility.

## 5.5. Dust Suppression

The objective of dust management is to minimise the potential for asbestos fibres to be released to the atmosphere by excavation works within asbestos containment areas. Works must be conducted in a manner that mitigates dust generation.

Potential sources of dust generation at each containment area include:

- Minor excavation;
- Loading of soil on or off trucks; and
- Wind movement across stockpiled material and exposed soil areas.

In order to mitigate risk from dust generation we recommend the following:

- Undertake regular dust inspections when excavation in the vicinity of either of the two asbestos containment areas is occurring;
- Ensure all exposed soil and any vehicle routes are regularly dampened to minimise dust generation;
- Monitor dust conditions during maintenance works where stockpiles are made, or where bare earth is exposed;
- Plan activities in light of forecast weather conditions and cease working in high wind conditions;
- A hose or other water supply should be available and used to dampen all bare earth; and
- Personnel working in areas during potential dust generating works are to wear the appropriate personal protection equipment (PPE).

## 5.6. Sediment and Erosion Control

It is important that sediment and erosion is controlled during any excavation works. The following provides some guidance for management of sediment sourced from soil excavated from either of the two asbestos containment areas:

Runoff:

- Any drain in the immediate vicinity of excavation works must be blocked or barricaded and silt fencing, sandbags and/or hay bales installed to prevent offsite sediment movement to ensure compliance with the Protection of the Environment Operations Act 1997 (POEO Act), which would come into effect if pollution migrates offsite.



- Runoff water, including that due to rain, which has not been in contact with any contaminated material, is not of concern.
- Any surface water that comes into contact with contaminated soil must be collected and tested prior to disposal or discharge.

#### Maintenance of surrounding roads:

- During the transportation of any soil from site, care must be taken so that soil is not deposited on nearby roads.
- Haul roads out of site are to be maintained in a clean manner at all times.
- Trucks should be loaded on sealed or clean surfaces where possible and covered before leaving site.
- Contractors shall monitor the exit points from site and any evidence of soil being transported offsite on truck tyres must be investigated immediately and corrective actions implemented.

#### Erosion and sediment control structures:

- Stockpiled soil which is awaiting offsite disposal or reinstatement into the excavation should be covered as per Section 5.3.

### 5.7. Soil Disposal

Any soil generated at site which requires disposal should be stockpiled and subsequently classified by an appropriately qualified environmental consultant for disposal. Samples should be collected at a rate of at least one sample per 25m<sup>3</sup>.

A qualified consultant shall prepare a waste classification letter for the receiving waste facility as per the NSW EPA, 2014 Waste Classification Guidelines Part 1: Classifying Waste. Once classified, the material can be disposed of only by appropriately licensed transportation contractors to an appropriately licensed facility.

At all stages appropriate documentation should be maintained including but not limited to:

- Waste classification report;
- Waste consignment documentation; and
- Landfill disposal dockets.

### 5.8. Imported Fill

Only certified landscaping products or virgin excavated natural material (VENM) are to be used as backfill on site.

With respect to VENM, should a certificate of analysis not be available from the source site, it is recommended that an appropriate number of samples (dependant on quantity) of imported fill be collected for validation purposes. As the envisaged quantities would be low Reditus recommends one sample per 250m<sup>3</sup> per source site, with a minimum of three, for homogeneous VENM to be sufficient, along with an assessment of the source site's history.



Testing should include at least the following; total petroleum hydrocarbons (TPH) benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN), polycyclic aromatic hydrocarbons (PAHs) organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs), heavy metals and asbestos.

## 5.9. Reporting

The facilities/maintenance employees should maintain records of subcontractor works including compliance with the LTEMP and evidence of appropriate reinstatement of the capping layer (e.g. a photographic record).

Requirements regarding the monitoring program are outlined in Section 6.

## 5.10. Unexpected Finds Protocol

For any excavation works to be completed outside of the two ACM encapsulation areas, a UFP should be developed, which includes the identification of potential contaminants and a process to manage each find. This should include such aspects as:

- stop work in the immediate area;
- notification of supervisors/site managers immediately;
- establishing the required controls (these may include barricading, fencing, warning signs, covering odorous/volatile materials and asbestos, etc., avoiding leaving materials exposed on the surface, and including erosion and sediment controls as appropriate);
- document the material's characteristics, e.g. location, extent, odours, appearance, etc., and details of the actions undertaken;
- report the finding to the site owner, council, WorkCover, environment regulator (EPA) as required;
- contact appropriately qualified environmental staff/consultant with a description of the material; and
- UFP materials should not be removed or spread across the site without confirmation from an environmental consultant or emergency services as required.

UFPs should be integrated with any contractor emergency response plan. If the unexpected findings present an imminent or immediate hazard, then the emergency response plan is to take precedence over the UFP.



## 6. Monitoring and Review

### 6.1. Outline of the Monitoring Program

#### 6.1.1. Routine Site Inspections

Routine site inspections should be conducted or arranged to be conducted by the facilities/maintenance employees every year or immediately after penetration of the concrete above the two ACM encapsulation areas. This is to ensure that the integrity of the capping layer has not been compromised. The inspections should document the following:

- Condition of hardstand overlying the capping layer of the asbestos containment areas;
- Exposure of the marker layer, indicating that the integrity of the capping layer on the vicinity of the two asbestos containment areas has been compromised; and
- Maintain an ongoing inspection schedule documenting the observations of the inspections noted above.

If, at any time, the capping layer has been compromised and there is risk of exposure of asbestos to the site occupants and the environment, the NSW EPA and Council must be made aware as soon as practicable.

#### 6.1.2. Additional Inspections During and Following Intrusive Site Works

During any planned excavation works on site it is important that appropriate documentation pertaining to the works is reviewed and the works be inspected by the maintenance staff. Where works will penetrate or affect the structure of capping materials, the maintenance staff should also conduct inspections of the works in progress for compliance with the SWMS and inspection of the completed works to ensure that all structures have been appropriately re-instated.

#### 6.1.3. Environmental Records

Environmental records, which will be collated by facilities/maintenance staff shall include the following:

- LTEMP distribution records;
- Training and induction records;
- Environmental incident reports;
- Environmental complaint records;
- Non-conformances and corrective and preventative action reports;
- Inspection checklists/reports (if conducted);
- Accredited asbestos assessor reports including, but not limited to, clearance certificates and asbestos in air monitoring results; and



- Environmental monitoring data and reports (such as waste classification results and site inspection reports).

A summary of recommended monitoring is provided in Table 6-1.



**Table 6-1: Summary of monitoring requirements during scheduled inspections and future works within Asbestos Containment Areas**

Issue	Location	Monitoring Parameter	Monitoring Frequency	Performance Criteria/objective	Documentation
Integrity of the capping layer	illustrated in Figure 3, <b>Appendix A</b>	Visual inspection of the capping layer and geotextile marker integrity where applicable Obtain updated survey levels of capping areas to maintain updated capping thickness during works directly on or adjacent to the capping layer	Routine inspections by maintenance staff During and following any scheduled works	No significant damage / erosions to the capping layers reference levels indicate sufficient capping remains in situ to provide an effective barrier	Performance checklist/report Photographic records Survey data
Asbestos beneath the geotextile and capping layer	Excavation and stockpiling of waste spoil	Excavations and stockpiles or bins are not resulting in dust generation	Daily during any intrusive works	Works in accordance with agreed S WMS	Performance checklist/report
		Public are excluded from the works area			
		Asbestos waste with appropriate signage			
		Sediment migration minimised			
		No reuse of asbestos waste onsite			
		Air monitoring			Air Monitoring results
		Waste disposal – appropriate classification and waste disposal location Sample at a rate of 1/25m <sup>3</sup> of soil.	NSW WorkCover endorsed codes of practice for asbestos removal NSW EPA waste guidelines	WorkCover notification if licensed work. Waste classification report.	Waste tracking documentation.
Imported soil	Site	Certified landscape product or otherwise test to ensure it is VENM	Sample at a rate of 1/25m <sup>3</sup> of soil.	NSW EPA waste guidelines	Landscape product certification or VENM verification report.
Traffic access during future work	Access roads and surrounding streets	No sediment to be spread on or off-site	Daily during any intrusive works	Works in accordance with agreed WMS	Performance checklist/report





## 6.2. LTEMP Review and Updates

This section outlines the process that will be used to review this LTEMP so it remains relevant and up to date.

The LTEMP is a dynamic document which will be reviewed regularly so that it remains consistent with legislation and best practice and site changes over time. A review may be called for by Dicker Data at any time to assess the performance of the LTEMP and to suggest changes. We recommend a review take place at a minimum of every five years to ensure the references to legislation, codes of practice and environmental guidelines and standards remains up to date.

The EMP must be updated in the following circumstances:

1. Change of site owner/site operator; or
2. Changes in LTEMP procedures; or
3. Changes in site use, approved land use or development

Items 2 and 3 must be approved by a suitably qualified and experienced environmental consultant and requires reassessment to ensure consideration is given to the ACM encapsulated material and any changes to the site do not increase the risk of exposure. Updates and revisions to the EMP are the responsibility of the site lessee/site operator and are to be communicated to stakeholders and responsible parties by registered mail or electronic means.

Given the nature of the contaminant (asbestos) capped onsite this LTEMP is required to be continually implemented (in perpetuity). The likelihood that the ACM is removed from the site in the future is considered low and the cessation of this LTEMP is also considered unlikely.



## 7. Summary of Recommendations

The following is a list of recommendations contained in this report. It should be read as a summary only, for detailed background and requirements refer to the section of the relevant section of the report.

ID	Recommendation	Cross Reference
<b>Roles and responsibilities</b>		
1	Dicker Data to provide oversight and ultimate responsibility for implementation of the LTEMP	Section 4.1
2	Once the site is developed the facilities/maintenance employees will plan, implement and monitor contractor works in accordance with the LTEMP requirements. They will also review contractor SWMS prior to works and notify Dicker Data of any incidents.	Section 4.1
3	Subcontractors to prepare SWMS documentation with reference to this LTEMP and conduct their work in accordance with their SWMS. Subcontractors to notify their supervisor of any incidents.	Section 4.1
4	Maintenance staff to conduct routine monitoring required by the LTEMP, conduct field activities in accordance with the LTEMP and report any report data, recommendations and incidents to Dicker Data in a timely manner.	Section 4.1
<b>Risk assessment and training</b>		
5	All contractors to undertake a site-specific risk assessment as part of their SWMS preparation.	Sections 4.1 & 4.2.
6	Once the site is developed the facility / maintenance employees will review contractor risk assessments and proposed works plan in accordance with Diagram 4.4.	Sections 4.1 & 4.2.
7	Contractors are to implement an induction process for their works to communicate risks and mitigation/control measures.	Sections 4.1 & 4.2.
<b>Implementation</b>		
8	Protection of site users by: <ul style="list-style-type: none"> <li>– Fencing off work areas involving excavations through the cap / marker layer at either of the asbestos containment areas;</li> <li>– Covering stockpiles and controlling dust and sediment;</li> <li>– Reinstating the cap/ marker layer upon completion;</li> <li>– Air monitoring for asbestos during excavation work within asbestos containment areas;</li> <li>– Appropriate signage of stockpiles and works areas ("Danger Asbestos");</li> </ul>	Section 4.3



ID	Recommendation	Cross Reference
<b>Roles and responsibilities</b>		
9	Protection of maintenance personnel by: <ul style="list-style-type: none"> <li>– Abiding by any relevant Work Health and Safety and legislation in force.</li> <li>– Minimum PPE of long sleeves and pants, gloves, steel cap boots and eye protection.</li> <li>– If penetrating the cap PPE to increase to P2 dust mask and Tyvek suite.</li> <li>– Staff to adopt good personal hygiene (no eating, drinking or smoking on the worksite).</li> <li>– Excavation work within the asbestos containment areas to be carried out by licensed asbestos removal contractors.</li> <li>– Air monitoring for asbestos fibres for any work conducted within the asbestos containment areas.</li> </ul>	Section 4.5
10	Protection of the environment by: <ul style="list-style-type: none"> <li>– Protecting the mitigation measures during all maintenance/excavation works;</li> <li>– Air monitoring (asbestos) during all excavation works within the asbestos containment areas;</li> <li>– Ensuring dust and sediment are controlled during all excavation/stockpiling works;</li> <li>– Keep haul roads clean and cover loads appropriately;</li> <li>– Waste classification of all spoil to be disposed offsite. Disposal to licensed facilities with records maintained; and</li> <li>– Only import VENM as backfill material, if necessary, provide validation results.</li> </ul>	Section 5
<b>Monitoring requirements</b>		
11	Facilities/maintenance employees to carry out the monitoring (site inspections) in accordance with the LTEMP and advise Dicker Data of any recommendations.	Section 6.1
12	Facilities/maintenance employees to ensure that excavation beneath the two ACM encapsulation areas is conducted under the supervision of an appropriately licensed asbestos assessor or removalist and during contractor works there is appropriate asbestos air monitoring (NOHSC: 3003 (2005)) for excavations within the asbestos containment areas;  Facilities/maintenance employees to implement a program of routine site inspections to assess condition of capping layers in the vicinity of asbestos containment areas; and  Further inspections to be carried out during and following any intrusive maintenance works on the site.	Sections 4.4 & 6.1
<b>Review</b>		
13	Dicker Data to maintain records of the activities onsite and monitoring results. Dicker Data to coordinate LTEMP review as needed to ensure the LTEMP is kept up to date.	Section 6.1.3, 6.2



## 8. Limitations

This report has been prepared in accordance with the scope of services described in the Section 1.2. The report has been prepared for the sole use of the client and has been prepared in accordance with a scope of work agreed by the client.

The report or document does not purport to provide legal advice and any conclusions or recommendations made should not be relied upon as a substitute for such advice.

The report does not constitute a recommendation by Reditus for the client or any other party to engage in any commercial or financial transaction and any decision by the client or other party to engage in such activities is strictly a matter for the client.

The report relies upon data, surveys, measurements and results taken at or under the site at particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the client. Furthermore, the report has been prepared solely for use by the client and Reditus accepts no responsibility for its use by other parties. The client agrees that Reditus' report or associated correspondence will not be used or reproduced in full or in part for promotional purposes and cannot be used or relied upon by any other individual, party, group or company in any prospectus or offering. Any individual, party, group or company seeking to rely this report cannot do so and should seek their own independent advice.

No warranties, express or implied, are made. Subject to the scope of work undertaken, Reditus assessment is limited strictly to identifying typical environmental conditions associated with the subject property based on the scope of work and testing undertaken and does not include and evaluation of the structural conditions of any buildings on the subject property or any other issues that relate to the operation of the site and operational compliance of the site with state or federal laws, guidelines, standards or other industry recommendations or best practice. Scope of work undertaken for assessments are agreed in advance with the client and may not necessarily comply with state or federal laws or industry guidelines for the type of assessment conducted.

The results of this assessment are based upon (if undertaken as part of the scope work) a site inspection conducted by Reditus personnel and/or information from interviews with people who have knowledge of site conditions and/or information provided by regulatory agencies. All conclusions and recommendations regarding the property are the professional opinions of the Reditus personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability have been made, Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project/assessment.

Reditus is not engaged in environmental auditing and/or reporting of any kind for the purpose of advertising sales promoting, or endorsement of any client's interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Reditus assumes no responsibility or liability for errors in any data



obtained from regulatory agencies, statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project.

In relation to the conduct of Asbestos inspections or the preparation of hazardous materials reports Reditus has conducted inspections and the identification of hazardous material within the constraints presented by the property. Whilst efforts are made to access areas not normally accessed during normal use of the site to identify the presence of asbestos or other hazardous material, unless explicitly tested no guarantee can be provided that such material is or is not present.

Reditus' professional opinions are based upon its professional judgment, experience, and training. These opinions are also based upon data derived from the limited testing and analysis described in this report or reports reviewed. It is possible that additional testing and analysis might produce different results and/or different opinions or other opinions. Reditus has limited its investigation(s) to the scope agreed upon with its client. Reditus believes that its opinions are reasonably supported by the testing and analysis that has been undertaken (if any), and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. Other opinions and interpretations may be possible. That standard of care may change and new methods and practices of exploration, testing and analysis may develop in the future, which might produce different results.



## 9. References

- AS/NZS 5667 (1998) Water Quality – Sampling
- ANZECC/ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Paper No 4, Canberra
- Asbestos Clearance certificates issued by WSP based on walkover inspections of site areas in December 2014 and February 2015
- Douglas Partners, Supplementary Acid Sulphate Soil Investigation, Proposed industrial development, 238-258 Captain Cook Drive, Kurnell 2015
- Douglas Partners, Acid Sulphate Soil Management Plan, Proposed industrial development, 238-258 Captain Cook Drive, Kurnell 2015a
- Environmental Earth Sciences, Soil Sampling and investigations 238-258 Captain Cook Drive Kurnell NSW dated October 2012
- ERM, Site Validation Report – Filter Cake Area, Abbott Australasia Pty Ltd, Captain Cook Drive, Kurnell NSW, June 2003 JBS Environmental Supplementary Investigations 260 Captain Cook Drive Kurnell NSW dated September 2005
- National Environment Protection Council, 1999, National Environment Protection Measure (NEPM) as amended in 2013 – Assessment of Site Contamination
- NSW Environment Protection Authority, 1995, Sampling Design Guidelines
- NSW Department of Infrastructure, Planning and Natural Resources (DIPNR) (2004) Guideline for the Preparation of Environmental Management Plans.
- NSW EPA (2017) Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (3<sup>rd</sup> edition).
- NSW DEC (2007) Guidelines for Assessment and Management of Groundwater Contamination. NSW DEC, Sydney
- NSW EPA, 2014, General Waste Exemption for Excavated Natural Material
- NSW EPA, 2014, Waste Classification Guidelines Part 1: Classifying Waste
- NSW Government (1997) Protection of the Environment Operations Act 1997.
- NSW Government (1997) Contaminated Land Management Act 1997.
- NSW EPA (2020) Consultants Reporting on Contaminated Land.
- NSW OEH, Sydney Planik, 2015, Land Use Summary of 238-258 Captain Cook Drive, Kurnell (Lot 2 DP 1088703 and Lot 1 DP 225973)
- P. Clifton & Associates, Inspection of Waste Material and Waste Water Sample Analysis, 238 – 258 Captain Cook Drive, Kurnell, NSW, 2017
- Reditus (July 2019) Supplementary Onsite VENM Stockpile Assessment 238-258 Captain Cook Drive, Kurnell
- Reditus (July 2019) Asbestos in Soil Assessment 238-258 Captain Cook Drive, Kurnell



SafeWork Australia (2016) Code of Practice - How to Manage and Control Asbestos in the Workplace. SafeWork Australia (2016) Code of Practice - How to Safely Remove Asbestos.

SafeWork Australia (2014) Code of Practice - Construction Work. SafeWork Australia (2015) Code of Practice - Excavation Work.

State Environmental Planning Policy No 55 – Remediation of Land

WorkCover NSW (2011) How to Manage Work Health and Safety Risks.

WorkCover NSW (2014) Managing Asbestos in or on Soil.

WSP, 2017, Summary Report 238-258 Captain Cook Drive Kurnell, NSW

WSP, 2018, Environmental Site Assessment, 238-258 Captain Cook Drive Kurnell, NSW

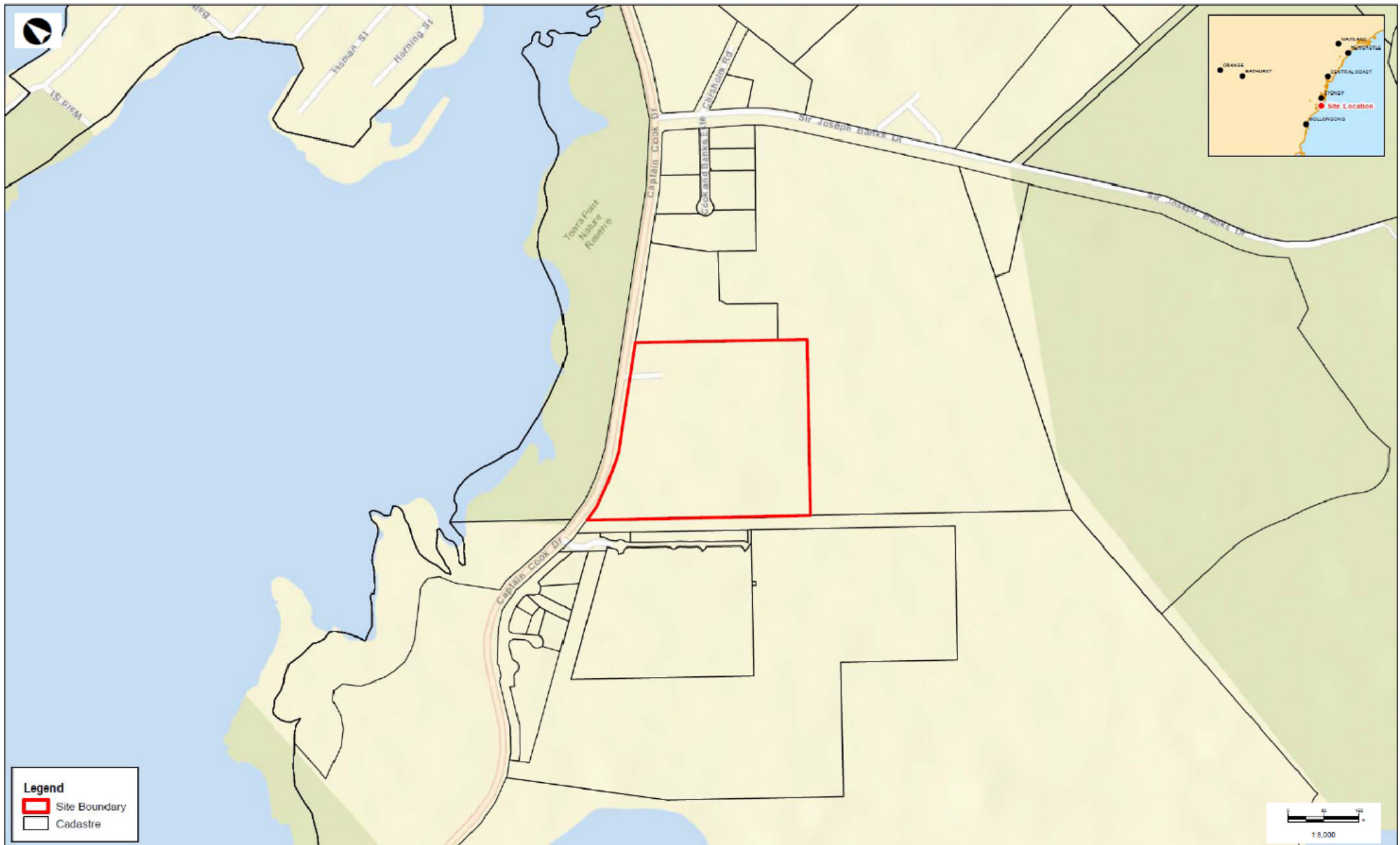
WSP Environmental Pty Ltd, 2008, Environmental status review 238-258 Captain Cook Drive Kurnell NSW

WSP, 2015, Sampling in targeted areas, collected in October 2015 on behalf of Mr Kerry Lowe of Kurnell Developments, as part of compiling data on the status of the site at that point in time.

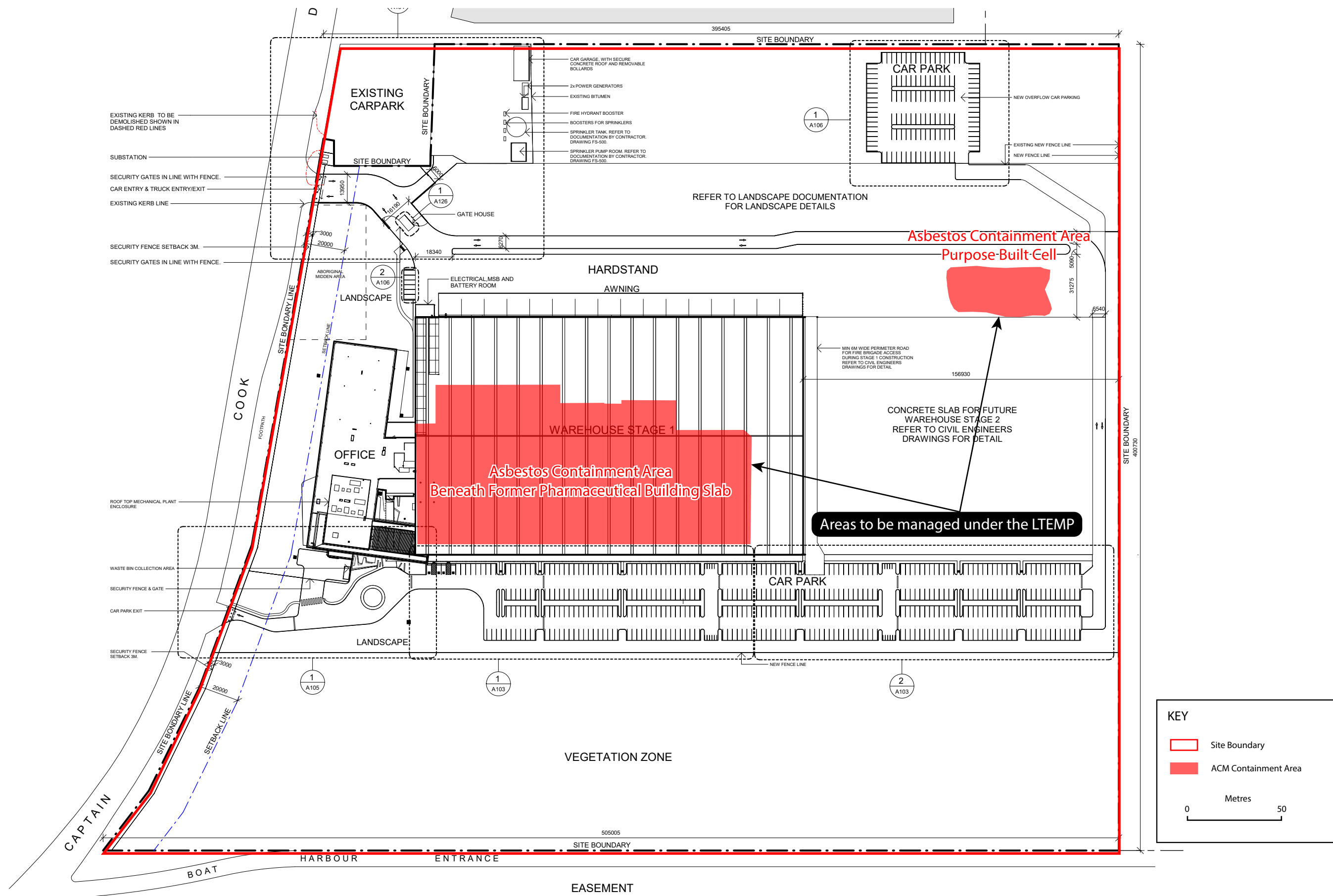


# Appendix A - Figures











## Appendix B – Asbestos Containment Area Surveys

Our Ref: W17145

SKETCH REPORT OF EXISTING SLAB COORDINATES  
IN GDA 94 DATUM SURVEYED JANUARY 2018  
LOT 2 D.P 1088703  
REPORT DATE 12-02-2020

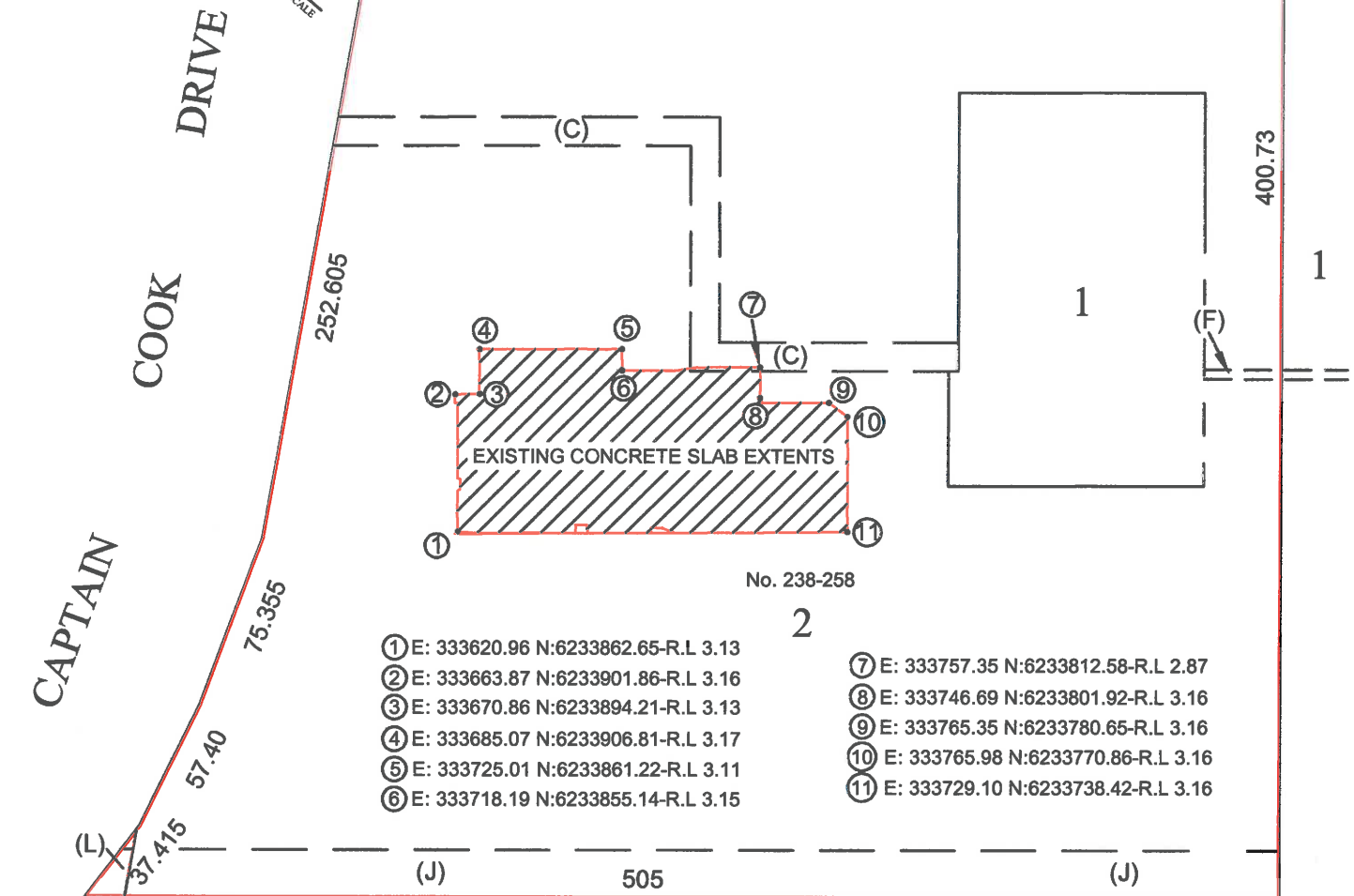
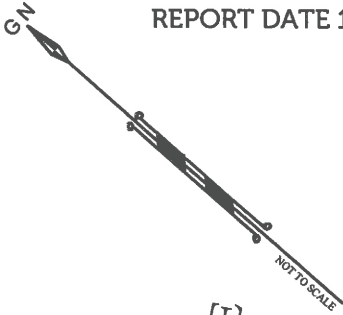


MASTERS SURVEYING  
ABN 57 605 342 176

116 Corrimal St  
Wollongong NSW 2500

PO Box 547  
Wollongong NSW 2520

P 02 4228 9911

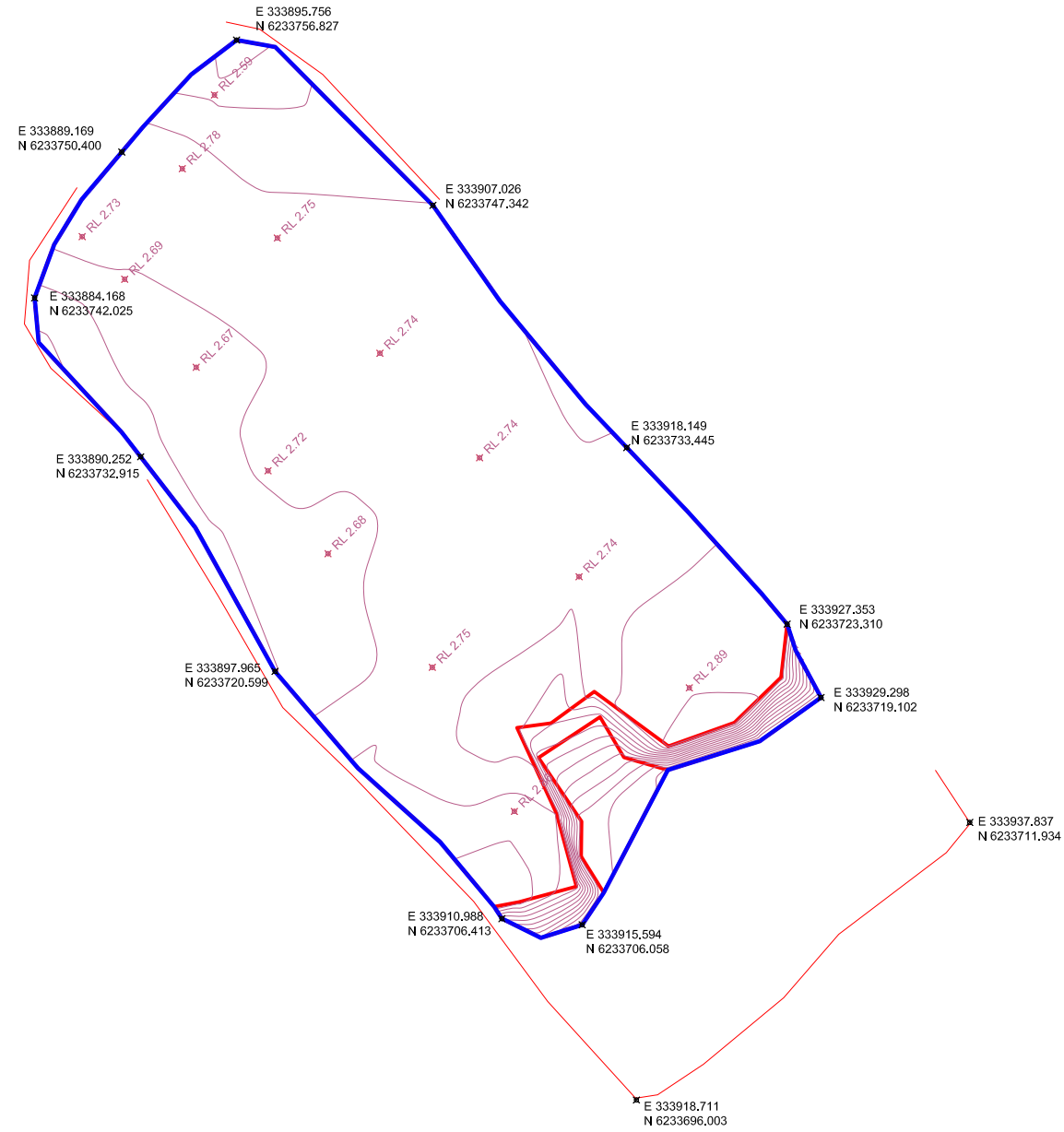


- ① E: 333620.96 N:6233862.65-R.L 3.13
- ② E: 333663.87 N:6233901.86-R.L 3.16
- ③ E: 333670.86 N:6233894.21-R.L 3.13
- ④ E: 333685.07 N:6233906.81-R.L 3.17
- ⑤ E: 333725.01 N:6233861.22-R.L 3.11
- ⑥ E: 333718.19 N:6233855.14-R.L 3.15

- ⑦ E: 333757.35 N:6233812.58-R.L 2.87
- ⑧ E: 333746.69 N:6233801.92-R.L 3.16
- ⑨ E: 333765.35 N:6233780.65-R.L 3.16
- ⑩ E: 333765.98 N:6233770.86-R.L 3.16
- ⑪ E: 333729.10 N:6233738.42-R.L 3.16

- (F) EASEMENT TO DRAIN SEWAGE 4 WIDE & VARIABLE( D.P 732257)
- (L) EASEMENT FOR TRANSMISSION LINE (J808759)
- (J) EASEMENT TO DRAIN WATER 20 WIDE ( D.P 732257)
- (C) RIGHT OF CARRIAGEWAY AND EASEMENT FOR SERVICES  
12.19 WIDE ( D.P 225973)

*[Signature]*  
SURVEYOR REGISTERED UNDER THE SURVEYING  
AND SPATIAL INFORMATION ACT 2002.



**BORROW PIT CONTAMINATED**  
 LAYER PICKUP 19-8-19  
 CUT = 0 Cu.m.  
 FILL = 1,306 Cu.m.

No bulking or compaction  
 factors have been applied

Volume calculations of observations by  
 Results Based Surveying having been  
 checked and verified in relation to the  
 boundary as highlighted in blue (1101 sq m).

*Andrew Korompay*

**ANDREW KOROMPAY ID No.114**  
 Surveyor Registered under The Surveying Act, 2002.



RESULTS BASED SURVEYING

48 GLEN AVE  
 Randwick 2031

Phone: 0448873032  
 Web www.ResultsBasedSurveying.com.au

Drawn	R. CELINSKI
Date	23/9/19
Hor Datum	MGA94
Vert Datum	AHD
Scale	1: 400
2.0	ADDED CO-ORDINATES 23/9/19
1.0	First Issue 11/9/19
Rev	Description Date

Drawing Title	BURROW PIT FILL VOLUME
Project Name	KURNELL
Location	CAPTAIN COOK DRIVE, KURNELL

Job Ref	19136
Drawing No	02
Client	ABSOLUTE CONTRACTING



## Appendix C – Site Photos

**Client Name**  
 Dicker Data Ltd

**Site Location**  
 238-258 Captain Cook Drive, Kurnell NSW

**Project No.**  
 19074

Photo No.	Date
1	18 Oct 2019
<b>Description:</b> VENM being unloaded onto main pharmaceutical slab for capping.	



Photo No.	Date
2	27 Jul 2019
<b>Description:</b> Excavation of encapsulation cell at the south eastern end of the site.	





**Client Name**  
 Dicker Data Ltd

**Site Location**  
 238-258 Captain Cook Drive, Kurnell NSW

**Project No.**  
 19074

Photo No.	Date
3	28 Aug 2019

**Description:** Cell filled with concrete and emu picked ACM. Lined with orange bidim marker layer and temporarily fenced with barrier fencing.




Photo No.	Date
4	18 Oct 2019

**Description:** First lift of VENM being rolled onto surface to raise site levels and providing capping layer.



<b>Client Name</b> Dicker Data Ltd	<b>Site Location</b> 238-258 Captain Cook Drive, Kurnell NSW	<b>Project No.</b> 19074
---------------------------------------	---	-----------------------------

<b>Photo No.</b> 5	<b>Date</b> 12 Nov 2019	
<b>Description:</b> Near final level after VENM placed and rolled over majority of site.		



## Appendix D – Induction Register

Site owners/site operators have the authority to stop field activities at this site if any activity is not performed in accordance with the requirements of the Long Term Environmental Management Plan. Persons performing work and are required to sign the Agreement and Acknowledgment Sheet prior to conducting field activities at this site.

**AGREEMENT AND ACKNOWLEDGMENT SHEET**

- 1. I have read and fully understand the LTEMP and my responsibilities
- 2. I agree to abide by the provisions of the LTEMP.

Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No:
Name:	Name:
Company:	Company:
Mobile Ph. No:	Mobile Ph. No: