dwp

design worldwide partnership

19th May 2020

The Planning Secretary
Department of Planning, Industry & Environment
320 Pitt Street
Sydney, NSW 2000

Attention: Megan Fu
Project: Nihon University Newcastle Campus - SSD 9787
Re: Conditions of Consent C12

Dear Megan,

Reference is made to SSD 9787 Conditions of Consent C12 in relation to the Construction Waste Management Sub-Plan [CWMSP] requirements for the development and our correspondence dated 22nd January 2020.

Please find attached the updated Construction Waste Management Sub-Plan [CWMSP] prepared by Built Pty Ltd addressing items raised in the corrective actions and recommendations section of the GHD Independent Environmental Audit 01.

Should you require further clarification on the updated CWMSP please feel free to contact either Katherine Daunt or Edward Clode at dwp Australia Pty.

Yours sincerely,

Edward Clode
Design Director
Registered Architect – NSW ARBN 4100
Email: edward.c@dwp.com
File: 17-0347_A-d01-20_let
Encl.: Built Nihon University Construction Waste Management Sub-Plan Rev 02


# Construction Waste Management Sub Plan

# Nihon University Newcastle Campus

9 Church Street

Newcastle

NSW 2300

## Revision History

| Revision | Date | Description | Author |
|---|---|---|---|
| 01 | 16/01/2020 | Submission to NSW Dept. Planning | Ben Moss - BUILT |
| 02 | 11/05/2020 | Amendments made as required by GHD Independent Environmental Audit 01 – Corrective Actions & Recommendations | Ben Moss - BUILT |

## Distribution

| Revision | Organisation | Submission | Copies |
|---|---|---|---|
| 01 | Dwp Newcastle | For Submission to NSW DPIE | 1 |
| | Dix Gardner Group | For Information | |
| 02 | Dwp Newcastle | For Submission to NSW DPIE | 1 |
| | Dix Gardner Group | For Information | |
| | GHD Newcastle | For Information | |

**Contents**

# 1.0 Introduction

The Construction Waste Management Sub Plan has been prepared by Built as required by SSD-9787 Development Consent Condition C12 and to demonstrate compliance with the City of Newcastle's relevant objectives and controls of Section 7.08 Waste Management of Newcastle DCP 2012 and the Waste Management Technical Manual. The plan has been specifically prepared for the Nihon University Newcastle Campus Project and will be implemented throughout the demolition and construction phases of the project.

## 1.1 Existing Site

The site is located at 9 Church Street, Newcastle, NSW 2300 (refer to figure below). The site comprises of approximately 5,191m$^2$ land area, which prior to works, was occupied by the former Newcastle Courthouse (state heritage listed), Administration Building, and Supreme Court Building.


Figure 1: Site Location - 9 Church St, Newcastle, NSW 2300 (SIX Maps)

## 1.2 Project Summary

The project consists of the complete demolition of two existing three storey buildings, site remediation (including the management of any resultant contamination, mine workings and archaeological findings), the restoration and refurbishment of the retained and state heritage listed Newcastle Courthouse building and the construction of two new four storey buildings comprising student accommodation in the eastern building and teaching space\carpark in the western building.

## 1.3 Context

The Construction Waste Management Sub Plan (CWMSP) forms part of Built's Health, Safety & Environmental (HSE) Management Plan and project-specific Construction Environmental Management Plan (CEMP). The CWMSP has been prepared by Built to address the relevant requirements of the following consent documentation and project environmental studies:

- SSD-9787 Development Consent (SSD)
- Environmental Impact Statement (EIS) - City Plan dated May 2019
- Asbestos Materials Report – Napier Blakely dated 2008
- Asbestos Materials Pre-Demolition Survey Report – ADE Consulting Group dated 2019
- Review of Environmental Factors – Metiri Consultants dated August 2019
- Remediation Action Plan (R.004.Rev1) – Douglas Partners dated April 2020
- GreenStar Design & As-Built Submission Guidelines v1.2

## 1.4 Purpose

This plan describes the waste management aspects of the project, which will need to be managed within the constraints imposed by legislative, regulatory and contractual requirements, so that the desired project outcomes are achieved.

The CWMSP defines:

- Regulatory framework related to waste management during construction;
- Roles and responsibilities for waste management during construction;
- Relevant performance measures and criteria;
- Specific performance indicators to be used to judge the performance of and guide the implementation of the development and waste management measures;
- The management measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
- A program to monitor and report on the environmental performance of the development and effectiveness of the implemented management measures;
- Details of the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations;
- Removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines.

For the purposes of this plan, waste includes:

- Hazardous materials including Asbestos Containing Materials (ACM) and contaminated soils/materials;
- Fill and natural materials (soil, vegetation, etc.);
- Construction, building and demolition waste, such as bricks, concrete, plasterboard, timber and metal, etc.;
- Domestic (Office and general) waste generated by site construction personnel during site works.

## 1.5 Objectives

The objectives of the Construction Waste Management Sub Plan are to:

- Encourage minimisation of waste generated by the project and maximisation of resource recovery through targeting over 90% waste diversion from landfill;
- Minimise impacts from the site on the environment and on public health and safety throughout the development;
- Maximise the protection of workers and the public, especially during the removal of hazardous materials and site remediation works;
- Establish best practice waste management strategies and procedures throughout demolition and construction of the development. This encompasses on-site management and offsite disposal including transport and waste tracking/traceability;
- Render the site safe for the proposed land use and substantially reduce potential exposure pathways to contaminants.

# 2.0 Key Construction Waste Management Contacts

**Person responsible for the preparing the CWMSP**

| | |
|---|---|
| Name | Benjamin Moss |
| Title | Project Manager |
| Company Name | Built Pty Ltd |
| Contact Number | 0401 088 850 |

**Person in control of the project**

| | |
|---|---|
| Name | Rob McLaughlin |
| Title | Construction Manager |
| Company Name | Built Pty Ltd |
| Contact Number | 0478 597 116 |

**24 HOUR CONTACT: Person in control of the site and implementing the CWMSP**

| | |
|---|---|
| Name | Leif Aleksic |
| Title | Site Manager |
| Company Name | Built Pty Ltd |
| **24 Hour Contact Number** | 0439 913 387 |

**Demolition subcontractor and licenced asbestos removalist**

| | |
|---|---|
| Name | Steven Fam |
| Title | Project Manager |
| Company Name | Drumderg Services Pty Ltd |
| Contact Number | 0499 223 202 |

**Waste collection and processing subcontractor**

| | |
|---|---|
| Name | Samm Laughton |
| Title | Customer Service Administrator |
| Company Name | Central Waste Station |
| Contact Number | 1800 180 180 |

# 3.0 Regulatory Framework

## 3.1 Legislative Requirements

Section 4.0 of the CEMP provides a comprehensive table of legislative environmental requirements applicable to the project.

The legislative requirements and best practice guidelines applying to the management of waste throughout construction are referenced below.

- Contaminated Land Management Act 1997
- Dangerous Goods (Road and Rail Transport) Act 2008
- Dangerous Goods Regulation 2014
- Environmental Planning & Assessment Act 1979
- Environmental Planning & Assessment Regulation 2000
- Newcastle Development Control Plan 2012
- Newcastle Local Environmental Plan 2012
- Protection of the Environment Operations Act 1997 & Amendment Act 2006 (POEO Act), s 116, s 142, s 143, 144-146
- Protection of the Environment Operations (Waste) Regulation 2014
- State Environmental Planning Policy No. 55 – Remediation of Land
- Work Health and Safety Act 2011
- Work Health and Safety Regulation 2017

## 3.2 Codes and Standards

- AS2601:2001 – The Demolition of Structures
- EPA Waste Classification Guidelines Part 1: Classifying Waste 2014
- SafeWork NSW Code of Practice: Demolition Work (2019)
- SafeWork NSW Code of Practice: How to Manage and Control Asbestos in the Workplace (2019)
- SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2019)
- SafeWork NSW Code of Practice: How to Manage Health and Safety Risks (2019)
- SafeWork NSW information guide on the safe management of synthetic mineral fibres (SMF) glass wool and rockwool

## 3.3 Development Consent Conditions

Table 1 lists the SSD development consent conditions applicable to waste management during construction, including those specifically relevant to demolition and site remediation works.

Please note that consent conditions related to construction vehicles/plant/equipment used for demolition, construction and the transport of waste are covered under the CTPMSP.

**Table 1: SSD-9787 conditions for construction waste management**

| Condition No. | Condition |
|---|---|
| A1 | **Obligation to Minimise Harm to the Environment**<br>In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and, if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development. |
| A18 – A20 | **Site Contamination**<br>• Additional site investigations of both the soil and groundwater profile must be undertaken in accordance with A18 (a) to (g).<br>• The additional site investigation report must be reviewed by the NSW EPA Accredited Site Auditor and an updated Remediation Action Plan (RAP) approved by the Auditor and submitted to the Planning Secretary.<br>• Remediation works approved as part of the development must be carried out in accordance with the RAP approved by the NSW EPA Accredited Site Auditor. |
| A23 | **Monitoring and Environmental Audits**<br>Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act.<br>This includes conditions in respect of incident notification, reporting and response, non-compliance notification, Site audit report and independent auditing. |
| A25 | **Compliance**<br>The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development. |
| D2 | **Operation of Plant and Equipment**<br>All construction plant and equipment used on site must be maintained in a proper and efficient condition and operated in a proper and efficient manner. |
| D3 | **Demolition**<br>Demolition work must comply with the demolition work plans required by Australian Standard AS 2601-2001 The demolition of structures (Standards Australia, 2001) and endorsed by a suitably qualified person as required by Condition C5. |
| D4 – D7 | **Construction Hours**<br>Construction, including the delivery of materials to and from the site, may only be carried out between the hours as prescribed within Condition D4 and in accordance with D5, D6 & D7. |
| D8 | **Implementation of Management Plans** |

| Condition No. | Condition |
|---|---|
| | The Applicant must carry out the construction of the development in accordance with the most recent version of the approved CEMP (including Sub-Plans) and ACHMP. |
| D11 | **No Obstruction of Public Way**<br>The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances. |
| D19 & D20 | **Air Quality**<br>The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.<br>During construction, the Applicant must ensure that:<br>a) exposed surfaces and stockpiles are suppressed by regular watering;<br>b) all trucks entering or leaving the site with loads have their loads covered;<br>c) trucks associated with the development do not track dirt onto the public road network;<br>d) public roads used by these trucks are kept clean; and<br>e) land stabilisation works are carried out progressively on site to minimise exposed surfaces. |
| D22 | **Imported Soil**<br>The Applicant must;<br>a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;<br>b) keep accurate records of the volume and type of fill to be used; and<br>c) make these records available to the Certifier upon request. |
| D23 | **Disposal of Seepage and Stormwater**<br>Adequate provisions must be made to collect and discharge stormwater drainage during construction of the building to the satisfaction of the principal Certifier. The prior written approval of Council must be obtained to connect or discharge site stormwater to Council's stormwater drainage system or street gutter. |
| D26-D28 | **Waste Storage and Processing**<br>• All waste generated during construction must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.<br>• All waste generated during construction must be assess, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).<br>• The Applicant must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse. |
| E30 | **Site Contamination (Validation)**<br>The Applicant must prepare a Validation Report, where required by the remediation action plan approved by a NSW EPA Accredited Site Auditor pursuant to condition A19, for the development. The Validation Report must:<br>(a) be prepared by a Certified Contaminated Land Consultant;<br>(b) be submitted to the Site Auditor, the Planning Secretary and the Certifier for information within one month after the completion of remediation works; and<br>(c) be prepared in accordance with the remediation action plan approved by a NSW EPA Accredited Site Auditor pursuant to condition A19. |

| Condition No. | Condition |
|---|---|
| **AN8** | **SafeWork Requirements**<br>To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by unauthorised personnel, and work must be conducted at all times in accordance with relevant SafeWork requirements. |
| **AN10** | **Handling of Asbestos**<br>The Applicant must consult with SafeWork NSW concerning the handling of any asbestos waste that may be encountered during construction. The requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 – 'Transportation and management of asbestos waste' must also be complied with. |

# 4.0 Roles & Responsibilities

The following roles and responsibilities for construction waste management are listed in Table 2 below.

**Table 2: Waste management roles and responsibilities**

| Role | Responsibilities |
|---|---|
| **Site Operation** | |
| **Site Manager** / Foremen<br>**Leif Aleksic** | • Ensuring that waste is progressively recycled at the nominated C&D waste recycling target in accordance with this Plan (90%)<br>• Ensuring that Duty of Care documentation is obtained and maintained in the site file (e.g. copy of waste transporters licence, waste collection receipts, waste transport certificates)<br>• Undertaking site walks to monitor implementation of the CWMSP and take feedback from contractors on what is and isn't working.<br>• Engagement and education of all personnel on CWMSP at induction.<br>• Updates to the Plan and Building Management approvals<br>• Maintaining site records of waste types and approximate quantities collected from site<br>• Carrying out a daily inspection to ensure the worksite is left in a rubbish free state and designated waste storage areas are secure and maintained.<br>• Ensure concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse |
| **Waste Reduction (on-site)** | |
| **All Contractors & Built Site Management** | • Ensure any imported soil materials or the like are approved in writing by Built & EPA prior to importing to site.<br>• Minimise the generation of waste through accurate procurement of materials, daily management of materials, and appropriate planning of work activities.<br>• Minimise waste through appropriate behaviour on site to store and use materials thoughtfully and reuse materials where appropriate.<br>• Provide Feedback on what is/isn't working.<br>• Ensure C&D waste is segregated where possible.<br>• Contractors are to use the designated bins on site and not dispose of any materials except within designated bins on-site |
| **Waste Sorting (off-site)** | |
| • Demolition Contractor - Drumderg Services Pty Ltd<br>• Waste Contractor – Central Waste Station<br>• All subcontractors | • The demolition contractor shall be responsible for collecting C&D waste, both separated on site and in comingled bins and delivering to C&D waste recyclers for off-site sorting and recycling.<br>• The waste contractor shall be responsible for collecting C&D waste in comingled bins and separating wastes into recyclable streams at end collection point.<br>• All subcontractors removing waste off-site must notify Built during their Pre-Commencement Meeting, or prior to removal, for review and approval.<br>• All waste must be assessed, classified and managed in accordance with EPA Waste Classification Guidelines Part 1: Classifying Waste. |
| **Waste Collection & Management** | |
| • Waste Contractor – Central Waste Station<br>• Subcontractors (as required) | • Supply of bins, according to agreed approach & ongoing site requirements<br>• Collection & disposal of waste, as agreed & according to ongoing site requirements<br>• Weighing and sorting of all wastes generated on site for disposal off site<br>• Ensuring that the waste collected is managed in accordance with the relevant legislation and the identified wastes are re-used, recycled or recovered<br>• Maintain accurate site records of all imported and exported materials. |

| | |
|---|---|
| | • Submit monthly waste reports and validation documentation to Built (weighbridge dockets, receipts, consignment notices, certificates, etc.) |
| **Internal Reporting** | |
| Built Project Manager – Benjamin Moss | • Tracking of waste generated<br>• Monthly Project Control Group waste reporting to the Client.<br>• End of project waste data report to confirm total percentage recycled / reused and sent to landfill for Green Star As-Built submission.<br>• Preparation of final waste report for the site<br>• Submission of all required waste and site remediation records to Douglas Partners & the NSW EPA Accredited Site Auditor. |
| **External Reporting** | |
| a) Douglas Partners<br>b) Occupational Hygienist / Environmental Consultant | a) Prepare and submit a Validation Report in accordance with Conditions A19 and E30<br>b) Prepare and submit a hazardous material clearance certificates & report at completion of demolition works. |

# 5.0 Waste Strategies and Procedures

## 5.1 Waste Management Principles

1. **Avoid waste**
    - Prioritise waste avoidance where possible through improved design and project planning, reuse, repair, and sharing of products and services.
2. **Improve resource recovery**
    - Improved waste material identification, collection systems and processes for recycling through the engagement of an accredited waste processing contractor such as Central Waste Station.
3. **Increased use of recycled material**
    - Encourage and support the use of recycled materials and products containing recycled content where possible throughout the design, procurement and construction phases of the project.
4. **Better manage material flows**
    - Aim to reduce the use of plastics and packaging by consolidating deliveries, specifying waste management requirements during procurement, and reusing packaging materials if possible.
    - Manage and regulate the use / disposal of hazardous chemicals and wastes to minimise environmental and human health impacts.
    - Reduce organic waste by avoiding generation where possible and supporting diversion away from landfill.
5. **Improve waste management information**
    - Encourage and implement a regular project reporting regime to collect detailed and accurate information for material flows, wastes and resource recovery.
    - Waste management training shall form part of the pre-commencement meeting, site induction, and regular site meetings to ensure contractors and site visitors are aware of the materials on site (including hazardous materials), waste disposal requirements and on-site waste facilities.
    - Adherence to Built's HSE Management System, CEMP and CWMSP requirements stipulated in contracts with sub-contractors.
    - All works involving the removal of hazardous waste materials must be undertaken by appropriately licenced and qualified subcontractors.
    - All waste materials shall be collected and segregated according to material type and/or classification prior to placement in waste bins located onsite and/or removal from site to achieve maximum reuse, recovery, and recycling percentages.

- All waste generated during construction must be assessed, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).
- All waste shall be collected and transported by an appropriately licenced and accredited waste removal contractor, Central Waste Station, who shall transport the waste to their off-site sorting facilities at 8 Styles St, Kurri Kurri NSW 2327 where thorough separation of waste will occur.
- All waste either stored or removed from site shall be securely contained, covered and/or lightly wetted (where applicable) to ensure no spillage, dust and/or air pollution.
- Should unexpected contaminated materials be identified, workers are instructed to stop work immediately and seek advice from the Site Manager on how to proceed. Actions are to be in accordance with the Built's Construction Environmental Management Plan.
- At the sorting facilities, waste material shall be segregated for recycling or re-use.

## 5.2 Waste Management Hierarchy

Waste management for the project is to be prioritised by adopting a waste management hierarchy as shown in Table 3 (noting existence and requirement for separation of hazardous material on the job).

**Table 3: Waste management hierarchy**

| Waste Management Type | Description |
|---|---|
| **Avoidance** | Waste avoidance through prevention or reduction of waste generation. Waste avoidance is best achieved through better design and procurement choices. |
| **Reuse** | Waste reuse, without substantially changing the form of waste |
| **Recycle** | Waste recycling through the treatment of waste that is no longer usable in its current form to produce new products. |
| **Energy recovery** | Energy recovery through thermal treatment of residual waste materials and from green waste processing. |
| **Disposal** | Waste disposal, in a manner that causes the least harm to the natural environment |

Minimising waste involves identifying the demolition and construction wastes types and streams to be generated and working with sub-contractors and suppliers to minimise these streams.

- **Design:** To minimise waste generation on site the project team has designed elements of the building that reduce the likelihood of waste generation during construction. All steelwork and façade systems have been designed to be prefabricated systems so that there are no wastes generated on site from the installation. Concrete pours have been calculated in revit to avoid half loads being required.
- **Suppliers & Packaging:** Negotiation with suppliers to reduce the extent of packaging of materials, equipment, and furniture items and a take back policy for relevant packaging so that it can be reused

within their services. This includes cardboard, bubble wrap and other plastics that are used to protect materials in storage and transportation.

**Storage:** Appropriate storage, protection and management of materials on site to minimise the risk of damage and eliminating the need to replace materials and generate waste.

## 5.3 Anticipated C&D Waste Types

Section 13.0 of the CEMP contains detailed information on waste classification and validation.

Table 4 presents the anticipated waste types that will be generated during the project and describes how each will be managed on-site, collected and the waste management outcome ranked from the most to least preferred.

Note that some waste types have multiple management outcomes dependent on additional assessment of material suitability at the processing facilities.

Built and Central Waste Station strongly encourages and supports the 'Most Preferred' waste management outcomes wherever possible.

**Table 4: Anticipated C&D waste types**

| Waste Type | On-site Management | Collection Method | Waste Management Outcome<br>Most Preferred ... Least Preferred | | | | |
|---|---|---|---|---|---|---|---|
| | | | Avoid / Reduce | Re-use | Recycle | Recover (energy from waste) | Treat &/or Dispose |
| Plasterboard | Commingled for separation off-site | General waste vehicle | | | ■ | ■ | |
| Cardboard | Re-used or Commingled for separation offsite | General waste vehicle | ■ | ■ | ■ | | |
| Metals | Re-used or Segregated onsite | General waste vehicle | | ■ | ■ | | |
| Timber | Re-used or Commingled for separation off-site | General waste vehicle | | ■ | ■ | | |
| Plastic / PVC | Commingled for separation off-site | General waste vehicle | ■ | ■ | ■ | ■ | ■ |
| Paper | Segregate on-site and bundled | Dedicated cardboard/paper collection vehicle | ■ | ■ | ■ | | |
| Concrete / Brick | Re-used or Commingled for separation off-site | General waste vehicle | | ■ | ■ | | |
| Residual | Commingled for separation off-site | General waste vehicle | | | ■ | ■ | ■ |
| Glass | Segregated on-site | General waste vehicle | | ■ | ■ | ■ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Soils (VENM / ENM) | Re-used or Segregated on-site | Truck & Dog | | | | | |
| Asphalt | Segregated on-site | General waste vehicle | | | | | |
| General Waste | Commingled for separation off-site | General waste vehicle | | | | | |
| Vegetation/Green Waste | Mulched on-site for recycling off-site if suitable | | | | | | |
| Hazardous Waste (ACM, Liquids, Soils) | Segregated & contained on-site in accordance with regulatory requirements | Dedicated hazardous waste vehicle | | | | | |

Notes
1. Waste collected in "general waste" bins are sorted at a resource recovery facility using mechanical and manual sorting techniques that remove wastes such as plasterboard, timber, metal, cardboard and plastic for recycling.

2. Residual waste refers to waste types other than plasterboard, timber, metal, pallets, plastic, cardboard, paper and hazardous waste.

3. Waste Management Definitions:
*Re-use* means the activity of using waste materials in their current form (i.e. not altering their chemical or physical state)
*Recycling,* means the activity of processing waste materials to form new products
*Recovery* means the activity of processing waste materials for the purpose of recovering energy (e.g. incineration)
*Disposal,* means the activity of depositing waste materials in landfill

Table 5 represents the estimated C&D waste type quantities and designated destinations for the wastes expected to be generated on site.

**Table 5: Estimated C&D quantities and designated destinations**

| Expected Waste Types | Estimated Tonnes Generated (kg) | How reused / recycled | | Final Destination |
|---|---|---|---|---|
| | | On-site | Off-site | |
| Plasterboard | 52,000kg | No | Yes | Central Waste Station, Kurri Kurri |
| Cardboard/Paper | 2,000kg | Yes | Yes | Re-used onsite for wrapping/protection or office use<br>Central Waste Station, Kurri Kurri |
| Metal | 325,000kg | Yes | Yes | Re-used onsite where possible<br>Central Waste Station, Kurri Kurri<br>Sell & Parker, Carrington |
| Timber | 145,000kg | Yes | Yes | Re-used onsite if suitable.<br>Central Waste Station, Kurri Kurri |
| Plastic / PVC | 8,000kg | No | Yes | Central Waste Station, Kurri Kurri |
| General Waste | 30,000kg | No | Yes | Central Waste Station, Kurri Kurri |
| Concrete/Bricks | 310,000kg | Yes | Yes | Re-use onsite if suitable<br>Central Waste Station, Kurri Kurri<br>Boral Recycling, Kooragang / Eraring |
| Asphalt | 40,000kg | No | Yes | Central Waste Station, Kurri Kurri |
| Glass | 26,000kg | No | Yes | Central Waste Station, Kurri Kurri |

| Expected Waste Types | Estimated Tonnes Generated (kg) | How reused / recycled | | Final Destination |
|---|---|---|---|---|
| | | On-site | Off-site | |
| Soils/fines | 10,000kg | Yes | Yes | Reused or recycled in the manufacture of recycled soil<br>Suez - Newline Road Landfill, Raymond Terrace |
| Residual | 35,000kg | No | Yes | Central Waste Station, Kurri Kurri<br>Suez - Newline Road Landfill, Raymond Terrace<br>Summer Hill Waste Management Centre |
| Vegetation/Green Waste | 10,000kg | No | Yes | Central Waste Station, Kurri Kurri<br>Summer Hill Waste Management Centre |
| Hazardous (ACM, Contaminated Soils, Liquids) | 3,800,000kg | No | No | Disposed according to regulatory requirements, environmental consultant advice and EMP.<br>Suez - Newline Road Landfill, Raymond Terrace |

## 5.4 Waste Management Procedures

During the demolition & construction phase of the development, waste management procedures will be in accordance with the procedure below.

- **On-Site Management:** Waste materials shall be classified (EPA Guidelines) and contained in appropriate storage vessels applicable to the nature of the material or stockpiled in an approved area for subsequent disposal. Light materials and litter are likely to blow away shall be held and transported in covered containers.

- **Transport:** Transportation of waste from site shall be in appropriately maintained vehicles with load safely secured and covered to prevent spillage, loss of waste and the emission of dust, mist and/or odours.

- **Disposal:** To ensure the waste is disposed correctly, waste shall be sorted or classified correctly (minimise mixing of waste). As there are specific legislative requirements for transporting, handling and disposing of some waste types (including but not limited to asbestos, PCBs, scheduled chemical waste, dangerous goods, soil from 132kV trenches, tyres, radioactive and clinical waste.) Such waste is required to comply with licensing, waste tracking, record keeping and reporting requirements.

- **Licencing, Traceability and Reporting:**
  - Prior to disposal of waste ensure the waste facility is appropriately licensed to accept the waste.
  - For specified types of waste, on disposal obtain consignment approval for liquid and hazardous wastes from the waste facility.
  - Ensure any storage facility is appropriately licensed to store the waste.
  - Ensure the transporter is appropriately licensed to transport the waste.
  - Retain completed waste transport certificates and comply with record keeping requirements.
  - Comply with client reporting requirements including monthly waste reports and validation submissions to environmental consultants.

- Disposal activities of specific waste shall be tracked and monitored via Inspection Test Plans (similar to those developed for Quality related activities). The client or EPA (or equivalent) may require or impose "Hold Points" or "Witness Points" for verification of disposal prior to progressing onto next stage of works.

Additional information on waste management procedures can be found in the Asbestos Management Plan and Demolition Methodology prepared by Drumderg Services.

# 6.0 Demolition and Hazardous Waste Plans

Built has engaged Drumderg Services Pty Ltd to complete the demolition and site enabling works at Nihon University. Drumderg, a qualified and experienced demolition and remediation contractor, holds the following licences and accreditations:

- Unrestricted Demolition Licence: AD212145
- Hazardous Materials (Class A): AD212584
- ISO 14001 Environmental Management
- AS/NZS 4801 OHS Management
- ISO 9001 Quality Management

Prior to commencing works onsite, Drumderg submitted Management Plans to BUILT for review and approval. Both Built and Drumderg consulted with SafeWork NSW through a meeting and site walk at Nihon University on 17th January 2020. The Management Plans and Methodology listed below were discussed.

- Environmental Management Plan;
- Asbestos Management Plan (AMP) & Asbestos Materials Pre-Demolition Report (ADE Consulting);
- Demolition Methodology Plan (DMP)

***A copy of the AMP and DMP are attached in Appendix A and Appendix B respectively.***

The AMP outlines:

- Drumderg Services Roles & Responsibilities
- Management of Asbestos Process
- Control Measures
- Waste Removal / Disposal
- Clearance / Completion Details

The DMP outlines:

- Preliminaries & Documentation
- Site Pre-Clean
- Remediation of HAZMAT
- Enabling Works & Soft Strip Demolition
- Demolition
- Completion

Demolition work plans/drawings have been prepared and issued by the Architect, dwp Australia, 'For Construction'. The Demolition Plans are attached in **Appendix C.**

## 6.1 Contaminated Soils

Site remediation works for contaminated soils will be in accordance with the Remediation Action Plan (R.004.Rev1) prepared by Douglas Partners dated April 2020 and accepted by the NSW EPA Accredited Site Auditor.

The selected option for site remediation is on-site management (capping), however, any excess contaminated materials which cannot be accommodated beneath capping must be disposed of to an appropriately licensed landfill or re-used on another site under a general or specific resource recovery exemption (where possible).

Excess materials should be assessed for beneficial off-site re-use or recycling (where possible) in order to minimise disposal costs. Any materials which require off-site disposal must be classified, transported and managed in accordance with NSW EPA requirements.

Please refer to CEMP Section 10.0 for additional information regarding the RAP.

The Test Location Plan and Concept Schematic for Proposed Capping Strategy prepared by Douglas Partners is attached in **Appendix D.**

# 7.0 Construction Waste Management Control Measures

Table 6 below outlines the construction waste management control measures that will be implemented on the project to ensure compliance with the requirements outlines in the relevant project environmental studies (Section 1.3) and regulatory framework (Section 3.0) to mitigate potential harm to the environment and human health and safety.

**Table 6: Construction waste management control measures**

| Reference | Details of management measure | Implementation | | Responsibility |
|---|---|---|---|---|
| **Implemented throughout works** | | **PC[1]** | **C[2]** | |
| WMM01 | Prepare and implement the required CEMP and Sub-Plans prior to works commencing in accordance with the EIS, RAP, and Conditions C7, C8, C11 | ✓ | ✓ | Project Manager |
| WMM02 | Additional site investigations of both the soil and groundwater profile to be completed and remediation works to be carried out in accordance with the RAP by Douglas Partners pursuant to Conditions A18 – A20 | ✓ | ✓ | Douglas Partners<br>Project Manager<br>Site Manager<br>Sub-contractors |
| WMM03 | Built personnel, subcontractors and suppliers will always be issued a copy of the current CEMP and Sub-Plans and instructed to comply with the requirements. | ✓ | ✓ | Project Manager<br>HSE Officer<br>Sub-contractors |
| WMM04 | Ensure permits, where applicable, have been received and are current prior to commencing works.<br>Includes consultation with SafeWork NSW, EPA, and other Authorities required for demolition, construction and management of waste on and off-site in accordance with Condition A8 | ✓ | ✓ | Project Manager<br>Site Manager<br>Sub-contractors |
| WMM05 | All personnel including drivers will be required to complete a site induction / DCC that includes key information on the CWMSP & CTPMSP. Inductions require copies to be taken of appropriate licences and qualifications. | ✓ | ✓ | Site Manager<br>HSE Officer |
| WMM06 | All waste must be classified and validated by an Occupational Hygienist and Geotechnical Engineer prior to removal from site and disposed of in accordance with NSW EPA Guidelines | ✓ | ✓ | Douglas Partners<br>Site Manager<br>Sub-contractors |
| WMM07 | Exposed surfaces and stockpiles materials must be suppressed by watering.<br>Contaminated material stockpiles must be demarcated and lightly wetted or covered with geotextile or similar cover | | ✓ | Foremen<br>Sub-contractors |
| WMM08 | Ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the | | ✓ | Site Manager<br>Foreman |

| Reference | Details of management measure | Implementation | | Responsibility |
|---|---|---|---|---|
| **Implemented throughout works** | | **PC[1]** | **C[2]** | |
| | construction hours of work outlined under condition D4. | | | |
| WMM09 | Plant & equipment used for demolition, site remediation and waste management shall be maintained in a proper and efficient condition in accordance with Condition D2.<br>Plant and equipment are inspected upon delivery and throughout the duration onsite. | ✓ | ✓ | Foremen<br>HSE Officer<br>Sub-contractors |
| WMM10 | Regular inspections and monitoring to ensure Demolition (including removal of hazardous materials) is completed in accordance with the Methodology and Plans required under Conditions C5 & D3. | | ✓ | Project Manager<br>Site Manager<br>Foremen<br>HSE Officer |
| WMM11 | All works and vehicle deliveries to and from the site will be restricted to the approved hours in accordance with Condition D4 to D7 | ✓ | ✓ | Site Manager<br>Foremen<br>Sub-contractor |
| WMM12 | Instruction will be given to personnel and regular inspections completed to ensure the Public Way is not obstructed at any time in accordance with D11 | ✓ | ✓ | Foremen<br>HSE Officer |
| WMM13 | Regular inspections of vehicles entering or leaving site to ensure loads are secured and controlled (covered and/or wetted) and wheels/chassis are clean of soils and material. | | ✓ | Foremen<br>Traffic Controllers |
| WMM14 | Stormwater management and control will be implemented and maintained in accordance with the ESCP and regularly inspected.<br>No discharge of stormwater is permitted without consultation and approval from City of Newcastle. | ✓ | ✓ | Site Manager<br>Foremen<br>HSE Officer |
| WMM15 | Secure and designated waste storage areas / skip bins will be implemented onsite. These will be regularly inspected and collected to minimise waste build up. | | ✓ | Site Manager<br>Foremen |
| WMM16 | Concrete waste and rinse water will be collected onsite using dedicated washout trays and disposed offsite in accordance with regulatory requirements. | | ✓ | Site Manager<br>Foremen<br>Sub-contractors |
| WMM17 | Housekeeping & site cleanliness will be regularly reinforced onsite through toolbox talks. | ✓ | ✓ | Foremen<br>HSE Officer |
| WMM18 | Built will implement the community liaison plan and complaints response procedure for anything related to this sub-plan. | ✓ | ✓ | Project Manager |
| WMM19 | Site records including truck logs, waste tracking and consignment notices maintained onsite. | | ✓ | Foremen |

| Reference | Details of management measure | Implementation | | Responsibility |
|---|---|---|---|---|
| **Implemented throughout works** | | **PC[1]** | **C[2]** | |
| | | | | Sub-contractors |
| WMM20 | Regular monitoring / audits of site records to ensure waste traceability and verification. | | ✓ | Project Manager<br>Site Manager |
| WMM21 | Air monitoring to be implemented onsite during removal of ACM. Monitoring records to be maintained onsite. | ✓ | ✓ | Site Manager<br>Sub-contractors |
| WMM22 | Areas subject to removal of hazardous materials are to be contained and restricted to qualified / licenced personnel only. | ✓ | ✓ | Foremen<br>HSE Officer |
| WMM23 | All imported materials or materials to remain onsite must be validated by Douglas Partners prior to delivery to or re-use onsite | ✓ | ✓ | Site Manager<br>Foremen |
| WMM24 | Regular inspections of site remediation and capping works by Douglas Partners as part of validation for materials re-used (capped) onsite | | ✓ | Site Manager<br>Douglas Partners |

***(1) Pre-construction – note that this may refer to prior to commencement of specific activities rather than prior to the commencement of all construction works.***

***(2) Construction***

# 8.0 Construction Waste Management Monitoring

Condition A23 - As defined under Division 9.4 of Part 9 of the EP&A Act; for the purposes of this Division, *monitoring* of a project is the monitoring of the carrying out of the project to provide data on compliance with the approval of the project or on the project's environmental impact.

To ensure compliance with the regulatory framework, Built will undertake regular inspection, monitoring, and audit activities onsite. These activities will provide data on compliance with the regulatory framework and consent conditions related to waste management, demolition, and site remediation.

**Table 7: Construction waste management monitoring activities**

| Activity | Requirements | Frequency, reporting, and responsibility |
|---|---|---|
| **Supervisor Inspection;**<br>of the site or specific work areas/elements to ensure management measures are implemented as required | • Review of documents prior to inspection (e.g. management plans, Permits, SSD Conditions).<br>• Visual inspection of the site or specific work area/elements to assess if required measures are implemented and maintained.<br>• Visual check of site records, logbooks, licences, etc.<br>• Provide a summary of inspection:<br>– Common checks<br>– Activities or items reviewed<br>– Observations<br>– Compliances / Non-Compliances<br>• Report any high potential hazards<br>• Attach photographic evidence and copies of any site records viewed<br>• Issue any actions arising with appropriate due date for rectification | **Frequency:**<br>Weekly<br>**Reporting:**<br>Records are automatically uploaded to Built.Safe and maintained onsite.<br>**Responsibility:**<br>Project Manager<br>Site Manager<br>Foreman |
| **Monitoring;**<br>of construction activities on-site to assess compliance with development approvals, permits, management plans, procedures and measures | • Identify activity to be monitored (e.g. site remediation, demolition works)<br>• Review and reference applicable documents:<br>- SWMS<br>- Permits<br>- Site records<br>- Management plans<br>- Methodology documents<br>• Provide a summary of monitoring:<br>- Observations<br>- Discussions<br>- Work practices | **Frequency:**<br>Minimum monthly per responsible person and as required<br>**Reporting:**<br>Records are automatically uploaded to Built.Safe and maintained onsite.<br>**Responsibility:**<br>Project Manager<br>Site Manager<br>Foreman |

| Activity | Requirements | Frequency, reporting, and responsibility |
|---|---|---|
| | - Compliance / Non-compliance<br>• Identify if work was required to be stopped<br>• Report any high potential hazards identified, the responsible trade and/or process, and the situation<br>• Log attendance of other personnel involved<br>• Attach photographic evidence and copies of any records<br>• If applicable, issue actions with appropriate due date for rectification | |
| **Plant Inspection;**<br><br>To check plant is fit for use prior to being permitted for use on-site | • Verify and record the following:<br>– Plant type<br>– Make and model<br>– Plant identification number<br>– Built identification / induction number<br>– Contact details for the person responsible for plant<br>– Date of the last service and/or inspection<br>– Date of the next service and/or inspection<br>• Visually inspect and record copies of the following:<br>– No visible leaks<br>– Recorded faults are rectified<br>– Operators Manual<br>– Last service report<br>– Plant risk assessment<br>– Operators inspection logbook<br>• Assign status of plant<br>– Registered and on-site<br>– Rejected and locked out<br>– Off-site<br>• If applicable, issue appropriate actions. | **Frequency:**<br>As required<br>**Reporting:**<br>Records are automatically uploaded to Built.Safe and maintained onsite<br>**Responsibility:**<br>Site Manager<br>Foreman<br>HSE Officer |
| **Truck / Vehicle Logs** | Log maintained at vehicle gates and completed for each vehicle entry/exit from the site.<br>Log information includes:<br>– Date | **Frequency:**<br>Daily log<br>**Reporting:** |

| Activity | Requirements | Frequency, reporting, and responsibility |
|---|---|---|
| | – Time<br>– Registration<br>– Company<br>– Driver Name<br>– Vehicle Type<br>– Load Type<br>– Load Covered<br>– Truck Washed (free of debris)<br>– Checked By<br>– Comments | Submitted to Built weekly and records maintained onsite.<br>**Responsibility:**<br>Foreman<br>Traffic Controller |
| **Monthly Reporting**<br>To ensure accurate and detailed waste management records are being maintained for compliance and validation purposes | • Site Records<br>– Subcontractors to submit site records to Built<br>– Collate waste management site records<br>– Consultant Inspection Reports received and actions (if any) closed out<br>• Monthly Status Reports<br>– Subcontractors to submit required monthly waste reports to Built (if applicable)<br>– Central Waste Station to submit monthly Resource Recovery report to Built. | **Frequency:**<br>Monthly<br>**Reporting:**<br>Site records maintained onsite and submitted to Environmental Consultant for validation.<br>Monthly Waste Reports are attached to the monthly Project Control Group Report and uploaded to Built.Safe<br>**Responsibility:**<br>Project Manager<br>Foremen |
| Site Validation Inspections | • Site inspection by Douglas Partners to inspect the progress of site remediation works involving the on-site management (capping) of contaminated soils.<br>• Any actions raised to be closed out by Built and the relevant subcontractor. | **Frequency:**<br>As required by DP<br>**Reporting:**<br>Site records maintained onsite by Built and submitted to Environmental Consultant for validation.<br>Site inspection report to be prepared by DP and submitted to Built.<br>**Responsibility:**<br>Project Manager<br>Foremen<br>Douglas Partners |

# APPENDICES

## Appendix A – Drumderg Services Asbestos Management Plan

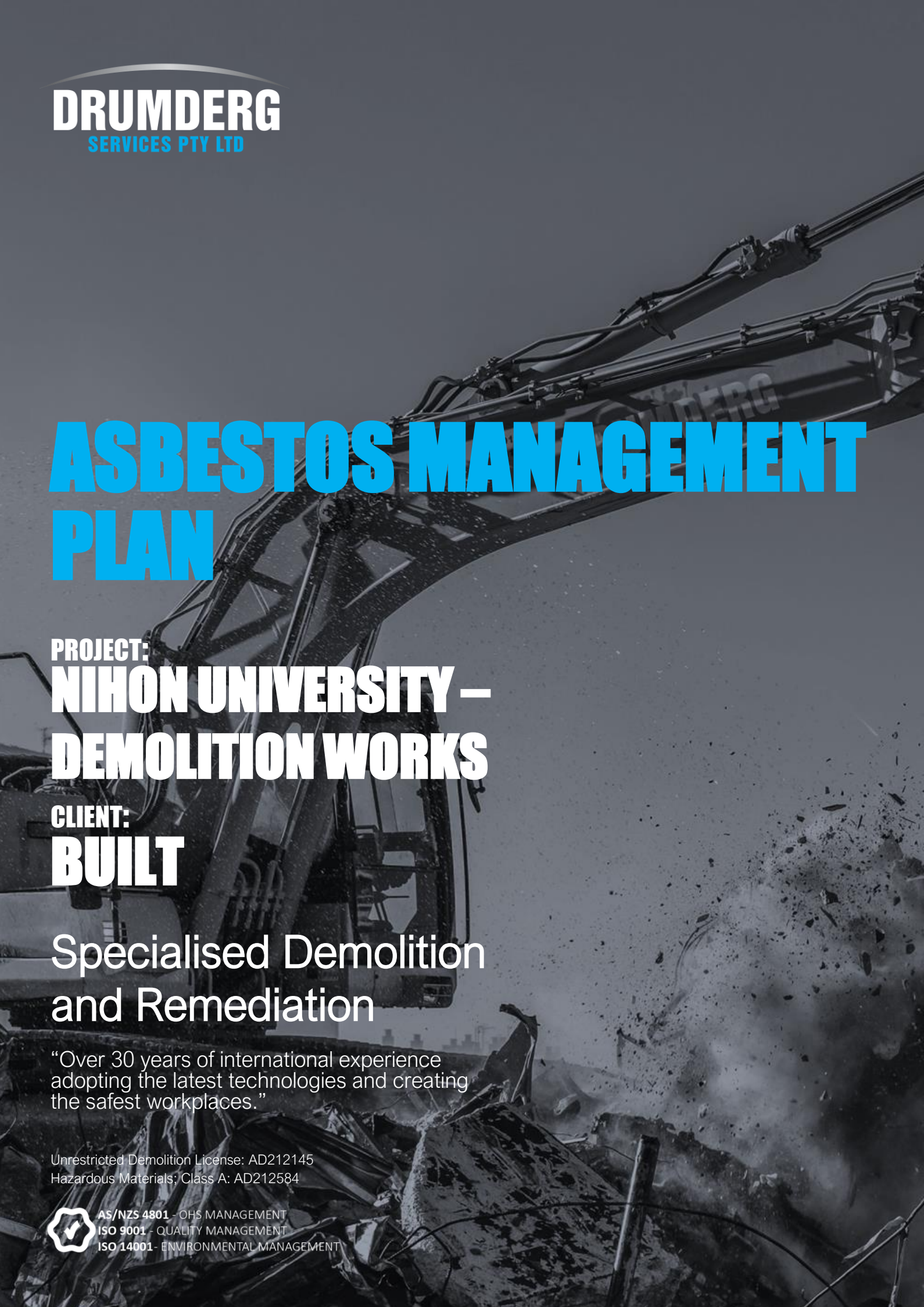
## Appendix B – Demolition Methodology Plan

## Appendix C – Architectural Demolition Plans

## Appendix D – Test Location Plan & Capping Strategy

# APPENDIX A – Drumderg Services Asbestos Management Plan

DRUMDERG
SERVICES PTY LTD



# ASBESTOS MANAGEMENT PLAN

**PROJECT:**
## NIHON UNIVERSITY – DEMOLITION WORKS

**CLIENT:**
## BUILT

Specialised Demolition and Remediation

"Over 30 years of international experience adopting the latest technologies and creating the safest workplaces."

Unrestricted Demolition License: AD212145
Hazardous Materials; Class A: AD212584

**AS/NZS 4801** - OHS MANAGEMENT
**ISO 9001** - QUALITY MANAGEMENT
**ISO 14001** - ENVIRONMENTAL MANAGEMENT

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REVISION REGISTER

| REVISION No. | DATE | DETAILS | CREATED BY | APPROVED BY |
|---|---|---|---|---|
| 0 | 15/01/2020 | FOR REVIEW SUBMISSION | DANIEL RESTREPO | MICHELLE CLIFFORD |

## 1. PURPOSE

To safely remove asbestos containing material without putting at risk worker(s), the public or the environment.

This Asbestos Management Plan is to ensure that all workers concerned with asbestos removal work have the formal training, supervision and instruction along with the understanding and risks associated with handling and contact with asbestos containing material.

That all asbestos removal work is supervised by a competent person approved by WorkCover NSW to supervise such work.

## 2. LEGISLATION REQUIREMENTS

Works for this project are undertaken pursuant to the New South Wales legislation namely:

- Work Health and Safety Act 2011;
- Work Health and Safety Regulation 2017;
- Demolition Work Code of Practice – Aug 2019;
- How to Safely Remove Asbestos Code of Practice;
- How to Manage and Control Asbestos in the Workplace Code of Practice;
- How to Manage Health and Safety Risks Code of Practice;
- Managing Risks of Plant in the Workplace Code of Practice;
- Managing Risks of Falls at the Workplace Code of Practice;
- Confined Space Code of Practice;
- Excavation Work Code of Practice;
- First Aid Code of Practice;
- Managing the Work Environment and Facilities Code of Practice;
- Mobile Crane Code of Practice;
- Labelling Workplace Hazardous Chemicals Code of Practice;
- AS NZS 2601 -2001 Demolition of Structures
- AS 1319-1994 and amendment No. 1 "Safety Signs for the Occupational Environment";
- AS 1715-2009 "Selection, Use and Maintenance of Respiratory Protective Devices";
- AS 1716-2012 "Respiratory Protective Devices";
- Contaminated Land Management Act 1997;
- Dangerous Goods (Road and Rail Transport) Act 2008;
- Environmentally Hazardous Chemicals Act 1985;
- Ozone Protection Act 1989;
- Waste Avoidance and Resource Recovery Act 2001;

## 3. ASBESTOS MANAGEMENT PLAN APPROVAL

This Asbestos management plan must be approved by a BUILT representative prior to implementation.

## 4. DEFINITIONS MEANING OF KEY WORDS

### NOTIFICATION

The regulator must be notified in the prescribed manner of the prescribed work pursuant to WHS Regulation 466 being a minimum of 5 days' notice prior to work commencing.

## AIRBORNE ASBESTOS
Means any fibres of asbestos small enough to become airborne. For the purposes of monitoring airborne asbestos fibres, only respirable fibres are counted.

## ASBESTOS
Means the asbestos form varieties of mineral silicates belonging to the serpentine or amphibole groups of rock forming minerals, including actinolite asbestos, grunerite (or amosite) asbestos (brown), anthophyllite asbestos, chrysotile asbestos (white), crocidolite asbestos (blue) and tremolite asbestos or a mixture of any of these.

## ASBESTOS CONTAINING MATERIAL (ACM)
Means any material or thing that, as part of its design, contains asbestos.

## ASBESTOS-CONTAMINATED DUST OR DEBRIS (ACD)
Means dust or debris that has settled within a workplace and is (or is assumed to be) contaminated with asbestos.

## ASBESTOS-RELATED WORK
Means work involving asbestos (other than asbestos removal work to which Part 8.7 of the NSW WHS Regulation applies) that is permitted under the exceptions set out in regulation 419(3), (4) and (5).

## ASBESTOS REMOVALIST
Means a person conducting a business or undertaking who carries out asbestos removal work.

## ASBESTOS REMOVAL WORK MEANS

- work involving the removal of asbestos or ACM
- Class A asbestos removal work or Class B asbestos removal work as outlined in Part 8.10 of the WHS Regulation.

## COMPETENT PERSON
Relation to carrying out clearance inspections under the WHS Regulation 473 means a person who has acquired through training or experience the knowledge and skills of relevant asbestos removal industry practice and holds a certification in relation to the specified VET course for asbestos assessor work or a tertiary qualification in occupational health and safety, occupational hygiene, science, building, construction or environmental health.

For all other purposes, competent person means a person who has acquired through training, qualification or experience, the knowledge and skills to carry out the task.

## EXPOSURE STANDARD
Means asbestos as a respirable fibre level of 0.1 fibres/ml of air measured in a person's breathing zone and expressed as a time weighted average fibre concentration calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with:

- the Membrane Filter Method;
- a method determined by the relevant regulator;

### GHS
Means Globally Harmonised System of Classification and Labelling of Chemicals.

### HEALTH MONITORING
Pursuant to NSW Regulation 435, the company will undertake health of the worker (s) prior to work commencing. Worker (s) will be informed of the health monitoring and the records retained for 40 years. The health monitoring will be undertaken at no cost the worker (s).

### LICENSED ASBESTOS ASSESSOR
Means a person who holds an asbestos assessor licence.

### LICENSED ASBESTOS REMOVALIST
Means a person conducting a business or undertaking who is licensed under the NSW WHS Regulation to carry out Class A or Class B asbestos removal work.

### NATURALLY OCCURRING ASBESTOS (NOA)
Means the natural geological occurrence of asbestos minerals found in association with geological deposits including rock, sediment or soil.

### NON-FRIABLE ASBESTOS
Means material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound.

### RESPIRABLE ASBESTOS
Means an asbestos fibre that:

- is less than 3 micron metres (µm) wide;
- more than 5 micron metres (µm) long;
- has a length to width ratio of more than 3:1;

# 5 SCOPE OF WORKS
The Scope of Work includes:

- Removal of identified Asbestos and hazardous material as per the provided Hazardous Material Register
    - ASBESTOS MATERIAL REPORT – THE NEWCASTLE COURTHOUSE - NAPIER & BLAKELY - AUG 2008 (2005_Asbestos Materials Report - Napier _ Blakeley Aug 2008)

# 6 PROJECT ROLES
## 6.1 PROJECT MANAGEMENT

| Name | Assigned Role | Contact Number |
|---|---|---|
| STEVEN FAM | Project Manager | 0449 163 056 |
| MARK BISHOP | Site Manager | 0490363309 |
| MICHELLE CLIFFORD | OHS Manager | 0452 562 279 |
| JACK ROXBURGH | Environmental Manager | 0402 597 656 |
| DANIEL RESTREPO | Project Administration | 0432 544 937 |

Have responsibility for all matters related to HSE for the project and are also responsible for:

- ensuring an asbestos register is available and updated as required;
- ensuring the risk to workers and the public are as low as reasonably practical;
- implementing a safety and health management system for the site;
- organise formal training for workers so they are competent to perform their duties;
- adequate planning, organisation, leadership and control of operations;
- regulator approved supervision and control of operations on each shift at the site;
- regular monitoring and assessment of the asbestos removal process to ensure it complies with the Code of Practice;
- site inspections to ensure the undertakings don't impact on the public and neighbours;
- total management of all operations, workers;
- assurance the project is in line with the Asbestos Management Plan and statutory requirements as well as being updated as required and made available to all lawful person;
- liaison with the client in contractual matters and meeting with public or authorities in matters relating to the project;
- assurance that any worker, who is engaged on the site, is aware of their responsibilities under the WHS legislation, Regulation and statutory requirements;
- participation in the planning design stages of the asbestos removal;
- a high level of safety awareness at all times;
- assurance that safe plant is provided and maintained;
- assist in the identification and preparation of JHA's;
- review of safety reports and inspections and initiating corrective action;
- participation in incident investigations;
- participation in tool box talks;
- monitoring of compliance on site;

## 6.2 ASBESTOS SUPERVISOR

| Name | Assigned Role | Contact Number |
|---|---|---|
| STEVE KLUS | Asbestos Removal Supervisor | 0439 902 744 |

Is responsible for:

- the running of the asbestos removal area as defined, with direct authority over all workers and;
- the implementation of this Non Friable Asbestos Management Plan and the Quality programme;
- Implementing the company Management Systems and observing all WHS legislation and asbestos and Code of Practice;
- ensuring that all tasks are conducted in a manner that is safe and without risk to workers health and safety and the public;
- providing advice and assistance on WHS to all workers;
- participation in the planning and design stages of the activities;
- actioning reports and carrying out workplace inspections;
- preparing and participating in safety meetings and safety programs;
- facilitate the preparation of SWMS;
- participate in incident investigations;

### 6.3 PROJECT TEAM

Are responsible for:

- ensure all lifts are conducted in a safe manner;
- ensure that all works are conducted in a manner that is safe and without risk to themselves and other workers health and the public;
- participate in safety meetings and safety programs;
- participate in Risk Assessment
- preparation of SWMS with team members;
- participate in incident investigations if required;
- operate hand held tools when required in a safe manner;
- operate plant in a safe manner;
- stimulate WHS compliance within the team environment;

## 7 MANAGEMENT OF ASBESTOS PROCESS

### 7.1 GENERAL

The company is responsible for providing instruction and training its workers. It will also maintain records of the training workers undertake.

Health monitoring records will stored and retained for 40 years by the company pursuant to Management System Manual which prescribes the method for recording, storage and disposal.

Training will also be provided to the worker(s) on the correct use and maintenance of respirators.

### 7.2 DEFINING THE WORK AREA

In determining the distance between barriers and the asbestos removal area, the following shall be considered:

- condition of the non-friable asbestos;
- activity around the asbestos removal area (for example, other workers, visitors, neighbours, the public) to determine the risk of exposure to other people;
- the method of asbestos removal;
- any existing barriers (walls, doors);
- the quantity of asbestos to be removed;
- the type of barrier used (for example, hoarding or tape);

For works that do not extend beyond a localised part of the building, the work area will be sealed off from the rest of the building by 200 Micrometre (mm) polythene sheeting, supported as necessary with appropriate light weight frames or scaffolding.

Where the room or the whole building can be evacuated, the work area will consist of that room or that building, with windows and other openings appropriately sealed off.

The company will ensure that the work area be defined by barrier, rope or rail, and by appropriately and prominently placed signs indicating that it is an asbestos work area.

Where asbestos removal is in the open air, ropes will be placed around the entire work area at a distance of not less than ten metres from the work face. Air monitoring will be carried out as required by the Work Health and Safety (Asbestos Regulations).

All workers entering the work area will comply with requirements to wear respiratory protection, and clean their footwear upon exit from the area, even if work is not proceeding. If work is actually proceeding and it is suspected that dust levels inside the work area exceed the prescribed maximum levels, any worker entering the work area at that time will also comply with the full decontamination procedure.

## 7.3 NOTIFICATION OF HIGH RISK

The company will notify WorkCover as prescribed (Notification Form 65) of the undertaking, but not less than 5 days' notice prior to work commencing.

In the event that air monitoring reports detect that a higher than prescribed limit is recorded all work will stop and the source of the fugitive respirable particulates emanating from the work area reported to WorkCover.

Work will only recommence when the source is identified, and corrective action implemented and verified.

## 7.4 PLANT PERFORMANCE

The company will ensure that materials and plant will function to their intended purposes and specifications.

All plant will be maintained in proper working order. Evidence of regular maintenance of plant will be produced at the commencement of the works.

Asbestos vacuum cleaners shall comply with the Class H requirements in Australian Standard AS/NZS 60335.2.69 Industrial vacuum cleaners or its equivalent.

Asbestos vacuum cleaners shall not be used on wet materials or surfaces. Attachments with brushes should not be used as they are difficult to decontaminate.

Filters for these vacuum cleaners shall conform to the requirements of AS 4260-1997 High efficiency particulate air (HEPA) filters – Classification, construction and performance or its equivalent.

Household vacuum cleaners must never be used where asbestos is or may be present, even if they have a HEPA filter.

Asbestos vacuum cleaners can only be used for collecting small pieces of asbestos dust and debris. Larger pieces should be picked up and placed in suitable waste containers and should never be broken into smaller sizes for vacuuming.

## 7.5 ENCLOSURE OF WORK AREA

Heavy duty polythene 200 mm sheeting will be utilised for all enclosures or its functional equivalent.
200 µm polythene sheeting is acceptable on floors, for change rooms and for areas both inside and outside buildings.

Where the working area forms only part of the building, it will be enclosed or isolated from the rest of the building by polythene sheeting supported where large areas are involved, by

lightweight partitions or scaffolding.

Every effort will be made to seal off all places where the work area communicates to the outside environment or the rest of the building, for example, windows, ducts, wall cavities, conduits etc.

Air locks will be provided at entry points to the work area, designed or employed such that there is always a barrier to direct airflow between the two areas.

### 7.6 ELECTRICAL AND LIGHTING INSTALLATION

Temporary construction wiring will be installed meeting the requirements AS NZ 3000- 200 Wiring Rules, and AS NZS 3012:2010 Electrical installations - Construction and demolition sites. The electrical installation will be fitted with and approved residual current device (RCD).

Where smoke or thermal detector heads are encountered in the work area, the company will engage a specialist subcontractor to remove the heads and isolate circuits as required.

On completion of the asbestos removal, the heads will be replaced and reactivate the system and tested.

The company will obtain and provide a test certificate certifying that the heads have been tested and are operational. The certificate will be provided to the customer on completion.

### 7.7 DECONTAMINATION PROCEDURES

Clear delineation must be defined between the dirty area and clean area. Prior to entering the clean area all workers must remove their Cat 3 Type 5 HAZMAT suits and P2 Masks and dispose of them as asbestos waste.

### 7.8 FIRE EXITS

Proposed emergency and fire exit arrangements will be presented in written and/or graphic format and will form part of the induction criteria along with being posted in the site amenities.

An a call over the two way radio will be placed in case of an emergency

## 8 EMERGENCIES

In the event of a fire or the need to provide instant emergency aid for seriously injured or sick worker, decontamination procedures may be waived.

### 8.1 PROTECTIVE CLOTHING

Protective clothing will be provided and worn as set out in the “How to Safely Remove Asbestos” Code of Practice, namely but not limited to the following:

- protective clothing will be worn at all times by worker(s) within a removal area irrespective of the type of asbestos being removed or about to be removed;
- the coverall will be of a suitable standard to prevent tearing or penetration of asbestos fibres so far as is practicable.
- disposable coveralls rated type 5, category 3 (prEN ISO 13982–1) or equivalent would meet this standard;
- they will be one size too big, as this will help prevent ripping at the seams;
- fitted with hood and cuffs;

- if cuffs are loose, they are sealed with tape;
- coverall legs are worn over footwear as tucking them in lets the dust in;
- the fitted hood is worn over the respirator straps;
- waterproof, tight fitting gloves and over shoes/boots will be worn by worker undertaking the wet removal of asbestos;

## 8.2 RESPIRATORY PROTECTION

The company will only use equipment approved by the appropriate authority, before commencement of work.

Respirators will be stored separately from other clothing and in a clean area not subjected to asbestos contamination.

All workers engaged in asbestos removal work must wear an approved respirator conforming to the requirements of A.S.1715 and A.S.1716. Respirators will be labelled clearly with the workers name, issued for worker(s) use only.

Workers will receive detailed instruction from the supervisor or hygienist on the correct method of using the respirator and on the importance of correct facial fit.

During asbestos removal, respirators used at the workface will be of the positive pressure, full face.

During masking up, and removal of polythene sheeting at the end of the work, all workers involved will wear, as a minimum, half face respirators fitted with approved filters.

Respirators will be decontaminated by vacuuming and washing as specified for protective clothing.

Workers with beards, extensive facial stubble or other extensive facial hair will not be protected properly by filter half-face respirators, which require a good facial seal. Such workers will use a continuous flow, positive pressure, full face respirator.

Workers requiring the use of prescription spectacles may not be able to use full face respirators due to the loss of seal around the spectacle arms. If the spectacles cannot be modified in such a way that they do not need the support of the ears, such workers cannot use full face respirators they will be accommodated by appropriate air supply hoods.

## 8.3 NOISE CONTROL

The company will take all practicable precautions to minimise noise resulting from work activities. Plant will be fitted with noise suppressors and used so that noise in public areas is minimised and complies with the WHS Regulation clause 56 Part 4,

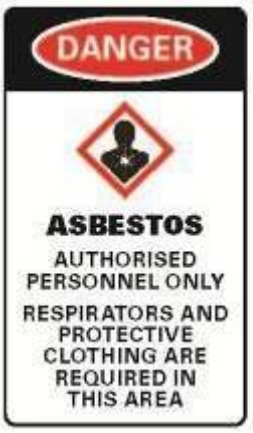
- (a) LAeq,8h of 85 dB(A), or
- (b) LC,peak of 140 dB(C) EPA Noise Control Guidelines.

## 8.4 SIGNS BARRIERS AND LABELS

The work area will be defined and delineated by barriers and by appropriately placed asbestos signs.

Labels used to identify asbestos containing materials will comply with AS 1216- 2006: Class labels for dangerous goods.
Signs will conform to the Australian Standard 1319 – "Safety Signs for the Occupational Environment".


**Label 1:** Sample asbestos waste bag.




**Sign 1:** Sample asbestos removal area.

## 8.5 REGULAR INSPECTION OF PLANT AND ENCLOSURE

The company will inspect the extraction ventilation plant, polythene sheeting enclosing the work area, airlocks and the sealing of ducts, vents and all other aspects of the working area etc. at regular intervals throughout the asbestos removal process.

Particular note will be made of any possibility that the work enclosure is no longer operating under negative pressure, such an indication being the billowing outwards of polythene at any point.

Where visual examination of the enclosure or any items of plant indicate that asbestos dust may be escaping from the enclosure to an extent that the prescribed limit may be exceeded, asbestos removal work will be stopped immediately until such defects are remedied.

Following such incident, the Supervisor will arrange for further air monitoring is undertaken in the potentially affected area or areas.

## 8.6 WASTE REMOVAL DISPOSAL

Asbestos waste will not be allowed to accumulate excessively within the work area. It will be bagged or placed in appropriate receptacles as the work proceeds.

Controlled wetting of waste will be employed to reduce asbestos dust emission during bag sealing or in case of subsequent rupture of the bag.
Solid asbestos waste will be collected in heavy duty 200 µm thick polythene bags of maximum size 1200mm in length x 900mm. The bags will be labelled with an appropriate warning label to the affect that the bag contains asbestos.
Bags which have contained asbestos material will not be re-used.

Bags marked for asbestos waste will not be used for any other purpose.

Bags will be twisted tightly, folded over and the neck secured in the folded position with adhesive tape or other effective method. The external surfaces will be cleaned to remove any adhering dust before the bags are removed from the work area.

Hard and sharp asbestos waste such as AC sheet may not be suitable for disposal in a polythene bag. In this case, a solid waste bin lined with plastic is suitable.

The bags, once removed from the work area, will be either:

- Placed in a lockable solid waste bin or skip which will be locked when the work has been completed pending removal; or
- Removed from site by an approved Department of Natural Resources licensed carrier;
- Asbestos waste will not be stored on site other than for awaiting for transportation to a lawful landfill site;
- Asbestos waste will be transported by an EPA licensed contractor to an approved disposal facility in a manner which will prevent the liberation of asbestos dust into the atmosphere;
- Records will be kept of the asbestos waste along with tracking number for audit purposes;

## 8.7 UNEXPECTED FINDS

In the event that during, after completion of the asbestos removal stage, and/or after a clearance certificated has been provided, suspected asbestos material is found and it is not encompassed within the provided hazmat register/report and scope of works, below procedures to be followed.

- Worker/s to stop work, advise any other personnel working in the affected area, and notify the supervisor promptly.
- Supervisor to assess the nature of the material, including its location, extent, visual description, type of material and visually inspect any areas that may also be affected.
- Supervisor to stop all works in the affected areas, create an exclusion zone, barricade and sign the area, and communicate all other site personnel, site managers and client of findings and exclusion zone.
- Providing the nature of the material, site supervisor to assess:
    - If the unexpected find can be classified as a ‘minor find’ such as the extent of the find being minimal (e.g. single or very minimal fragments), Drumderg’s qualified asbestos supervisor/removalist to assess the area and produce a removal methodology applying best practice to remove of suspected materials as assumed Asbestos Containing Material, always. Further procedures as per management plan.
    - If the unexpected find is classified as a ‘major find’ (e.g. , the site supervisor to maintain the exclusion zone, cease of all works around the area, and request for a third-party Licenced Asbestos Assessor to investigate, test and produce a report regarding the nature of the material. In the case the material results are found to contain asbestos, further removal procedures as per management plan.

## 8.8 CLEANING UP

After the asbestos removal has been completed, the asbestos working area will be cleaned by washing and/or vacuum cleaning. This process may need to be repeated several times to ensure complete removal.

Where the asbestos work area is immediately adjacent to an area occupied by other worker (s), and where polythene sheeting or similar material has been used to separate the work area from

the other work environment, the Supervisor will arrange for an air monitoring to be carried out inside the working area prior to removing this outer protective enclosure.

The final layer of polythene enclosing the work area in the situation as described will not be taken down until air monitoring confirms that the dust levels are below the prescribed levels.

In all cases, the layer of polythene forming the inner surface of the enclosed work area will be sprayed with a PVA or similar emulsion to ensure that any loose asbestos fibre adhering loosely to the plastic film is firmly adhered prior to rolling the plastic up.

Protective polythene sheeting or any similar materials used for dust control will be treated as asbestos waste and disposed of in the approved manner. Scaffolding will be washed and/or vacuumed at the completion of the clean-up process.

The ropes and warning signs will not be removed until the area has been cleaned and a satisfactory dust count obtained.

Adjacent areas and other parts of the building which may have been affected by asbestos dust will be examined and cleaned as required, such that there is no longer any visible film of asbestos dust on any surfaces, nor any obvious loose asbestos debris.

The Contractor will ensure that all plant which has remained in the working area during the asbestos removal work, whether protected by polythene sheeting or not, is left asbestos-free at the end of the work.

A visual inspection will occur prior to clearance air sampling and should be performed with the work enclosure intact. If airborne asbestos dust levels exceed 0.01 fibres/ml, another visual inspection will be made after re-cleaning is undertaken.

## 9 CLEARANCE TO RE-OCCUPY PREMISES

After the cleaning has been completed as described in the preceding clauses, the Supervisor will arrange for a Licensed Hygienist to carry out air monitoring to ensure that dust levels are below the prescribed maximum levels.

The work will not be considered completed until the air quality has returned to the pre-asbestos removal state, nor until a visual inspection by the Supervisor has indicated that the area has been cleaned satisfactorily.

## 10 PRESCRIBED MAXIMUM DUST LEVELS (ACTION LEVELS)

The maximum fibre concentration for preliminary and final clearances will not exceed 0.01 fibres per millilitre (f/ml).

The maximum fibre concentration for all other air monitoring situations will not exceed 0.01 f/ml. Readings above 0.05 f/ml will result in a compulsory shut down, pending investigation.

# 11 CLEARANCE INSPECTION DETAILS SECTION (A)

For Class A licence, an independent licensed asbestos assessor must carry out the clearance inspection and complete an asbestos removal clearance certificate if satisfied that the area is safe to reoccupy.

| Clients details | |
|---|---|
| Name of client: | |
| Client contact details: | |
| **Removal work details** | |
| Date removal work carried out | |
| Site address where removal work is being carried out: | |
| Details of the specific asbestos removal work area(s): | |
| Name of licensed asbestos removalist: | |
| Name and contact details of licensed asbestos removalist supervisor (if different to removalist): | |
| **Inspection details** | |
| Date of clearance inspection: | |
| Time of clearance inspection: | |

## 11.1 PAPER WORK SECTION (B)

| | Yes | No |
|---|---|---|
| Do you have a copy of the asbestos removal management plan | | |
| Do you have a copy of the notification form? | | |
| Is the removal work consistent with the management plan and the notification form? (e.g. use of enclosures, decontamination facilities, waste facilities) | | |

## 11.2 VISUAL INSPECTION SECTION (C)

| | Yes | No |
|---|---|---|
| Inspection of the specific area detailed in Section A found no visible asbestos remaining as a result of the asbestos removal work carried out. | | |
| Is air monitoring required (if no, proceed to Section E) | | |
| Can the area be reoccupied? | | |
| Has additional information been attached? (e.g. photos, drawings, plans) | | |

## 11.3 AIR MONITORING SECTION (D)

| | Yes | No |
|---|---|---|
| Inspection of the specific area detailed in Section A found no visible asbestos remaining as a result of the asbestos removal work carried out. | | |
| Is air monitoring required (if no, proceed to Section E) | | |
| Can the area be reoccupied? | | |
| Has additional information been attached? (e.g. photos, drawings, plans) | | |

## 11.4 CLEARANCE CERTIFICATE DECLARATION

I declare that:

- the former enclosure, asbestos removal work area and the surrounding area are free from any visible asbestos,
- the transit route and waste routes are free from any asbestos,
- all asbestos in the scope of the removal work has been removed and any known asbestos is intact,

…… ……

Signature of licensed asbestos assessor/competent person.

assessor licence number (if applicable

……

Name of licensed asbestos assessor /competent person

## 12 ASBESTOS REMOVAL LICENCE (CLASS A)

NSW GOVERNMENT | SafeWork NSW

# FRIABLE ASBESTOS REMOVAL LICENCE

Issued under the *Work Health and Safety Regulation 2011 (NSW)*.This licence is not transferable.

| | |
|---|---|
| **Licence:** | AD212584 |
| **Licence period:** | From: 17/01/2017 To: 16/01/2022 |
| **Licence holder name:** | Drumderg Services Pty Ltd ATF Drumderg Services Unit Trust |
| **ABN:** | |
| **ACN:** | 602 063 516 |
| **Address:** | 8 Styles St<br>KURRI KURRI NSW 2327 |

**Description of the work that can be undertaken under this licence**

- All friable asbestos removal work
- All non-friable asbestos removal work

**Licence holder obligations**

A nominated supervisor must be present at the site whenever licenced friable asbestos removal work is being carried out and readily available to attend the site when licenced non friable asbestos removal work is carried out.

This licence must be available for inspections at all times.

All licenced asbestos removal work is to be notified to SafeWork NSW at least five days prior to the work commencing.

The licence holder must notify SafeWork NSW in writing of any changes to the licence or supervisor details within 14 days.

SW08029 1015

000001

# 13 ASBESTOS REMOVAL NOTIFICATION

NSW GOVERNMENT SafeWork NSW

*Work Health and Safety Act 2011* (WHS Act)
*Work Health and Safety Regulation 2017* (WHS Regulation)

## Notice of intent to remove non-friable asbestos

**Notification number:** 940R-00263769-01 **Date of notice:** 13/01/2020 **Notification status:** Accepted

### LICENCE DETAILS

Asbestos removal licence number: 212584 Expiry date: 16/01/2022
Licence holder name: Drumderg Services Pty Ltd ATF Drumderg Services Unit Trust
Class(es): Class A / ASA/ Class B / ASB
Registered business name: Drumderg Services Pty Ltd ATF Drumderg Services Unit Trust
A.B.N:
Daytime contact number: 0452562279

### WORK/ SITE DETAILS

Proposed work start date: 18/01/2020 Proposed work finish date: 31/08/2020
Site name: Nihon University
Site address: 9 Church Street Newcastle NSW 2300
Site owner: Built Telephone: 283324111
Approximate quantity of asbestos: (square metres) 352
Detail location of asbestos on site: Ceiling, Flooring

Details of removal including method used to enclose the removal area: Fencing, Barriers, Signage, Water, PVA, 200 µm plastic, Class H asbestos vacuum cleaners,

### CLEARANCE CERTIFICATE PROVIDER

Competent person: Telephone:
Licensed asbestos assessor: Cameron Mitchell Number: Safework Telephone: 0450603362

### SUPERVISOR/ WORKER DETAILS

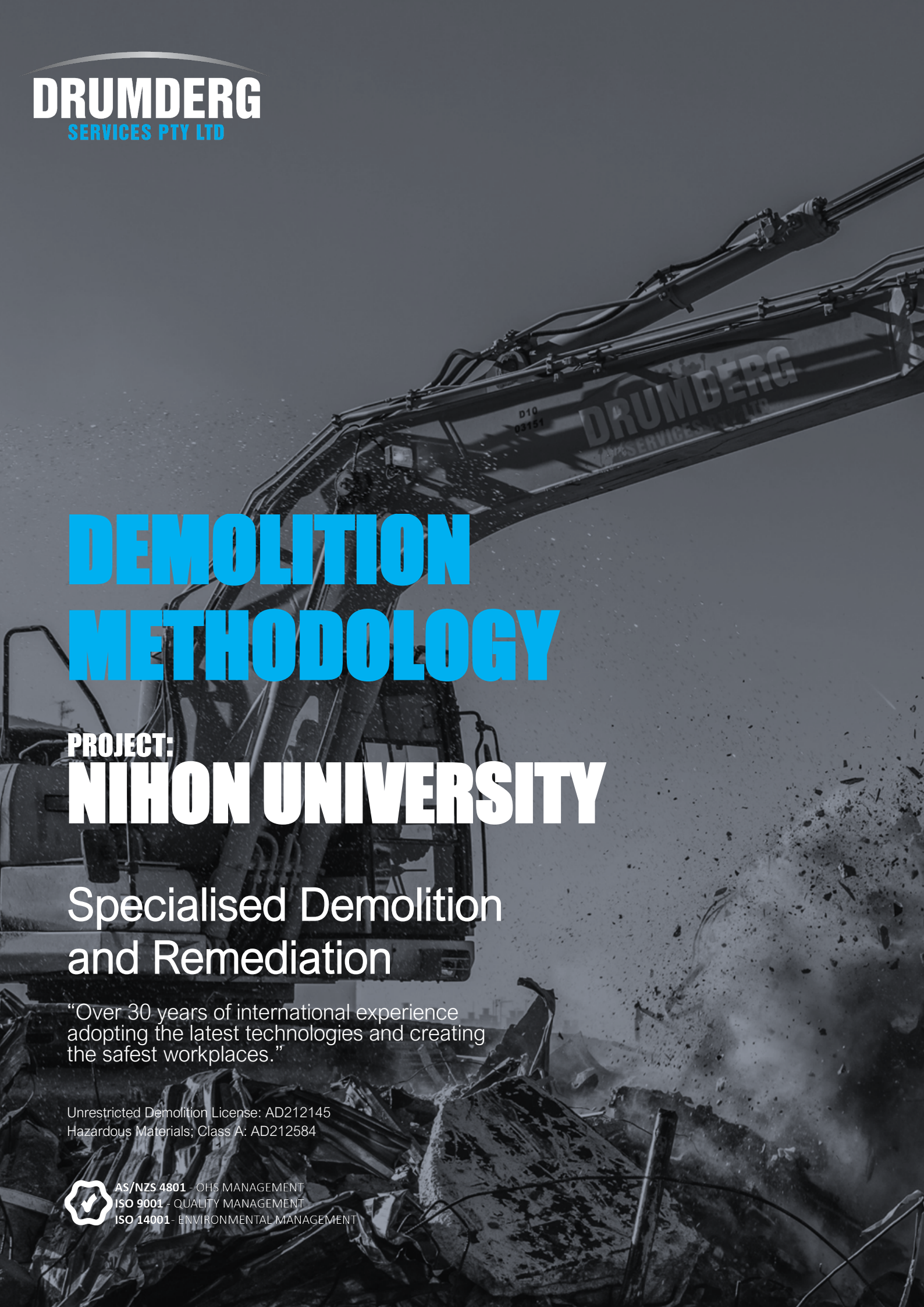
Number of workers for this removal work: 5
Number of workers who have successfully completed relevant competency unit: 5

| Supervisor | DOB | Competency | Telephone |
|---|---|---|---|
| MR Steve Klus | 05/11/1958 | ASA ASB | 0439902744 |

All work is to be carried out in accordance with the *Work Health and Safety Regulation 2017* and the associated codes of practice.
This notification to remove asbestos is required by clause 466 of the *Work Health and Safety Regulation 2017*.
See Section 268 of the *Work Health and Safety Act 2011* for offences relating to the giving of false or misleading information under the Act or the Regulation.

# APPENDIX B – Demolition Methodology Plan

DRUMDERG
SERVICES PTY LTD




# DEMOLITION METHODOLOGY

## PROJECT:
# NIHON UNIVERSITY

## Specialised Demolition and Remediation

"Over 30 years of international experience adopting the latest technologies and creating the safest workplaces."

Unrestricted Demolition License: AD212145
Hazardous Materials; Class A: AD212584

**AS/NZS 4801** - OHS MANAGEMENT
**ISO 9001** - QUALITY MANAGEMENT
**ISO 14001** - ENVIRONMENTAL MANAGEMENT

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REVISION REGISTER

| REVISION No. | DATE | DETAILS |
|---|---|---|
| 0 | 09/01/2020 | INITIAL SUBMISSION |
| 1 | 15/01/2020 | DETAILED REVIEW |
| 2 | 19/02/2020 | BUILDING METHODOLOGY UPDATE |
| 3 | 13/03/2020 | BUILDING METHODOLOGY UPDATE |
| 4 | 25/03/20 | DEMOLITION SEQUENCING UPDATE BUILDING C |

# 1. PROJECT DETAILS

## 1.1. OVERVIEW

Drumderg Services is to undertake the Demolition and associated hazmat removal works for the Nihon University project, located at the former Newcastle courthouse, on 9 Church St.

## 1.2. PROJECT OBJECTIVE

The complete down to ground demolition of existing courthouse Building A (Eastern building) and Building C (Western building), and the internal technical demolition and detailed soft strip of heritage court house building B (centre building), including associated works such as removal of hazardous materials where affected, complete strip of soft structure, separation and segregation of materials to achieve the high recycling rates.

## 1.3. CODES AND STANDARDS

Demolition and associated works within this package are to be carried out in accordance with the following legislation, codes and standards:

- Work Health and Safety Act 2011
- Work Health and Safety Regulations 2017 – Reg 270,141
- The Protection of the Environment Operations Act 1997
- National Parks and Wildlife Act 1974
- Australian Standard 2601-2001 – The Demolition of Structures.
- Australian Standard 2436-2010 Guide to noise control and demolition sites
- SafeWork NSW Code of Practice Demolition Work 2019
- SafeWork NSW Code of Practice How to manage work Health and Safety Risks 2019
- SafeWork NSW Code of Practice How to Safely Remove Asbestos 2019
- SafeWork NSW Code of Practice Hazardous Manual Tasks 2019
- Code of Practice for the Management and Control of Asbestos in the Work Place 2019
- SafeWork NSW Code of Practice Managing The Risks Of Plant In The Workplace 2019
- Australian Standards 2294 Operator Protective Devices
- SafeWork NSW Demolition Licencing
- SafeWork NSW Friable & Non-Friable Asbestos Removal Licencing

## 1.4. SITE DESCRIPTION

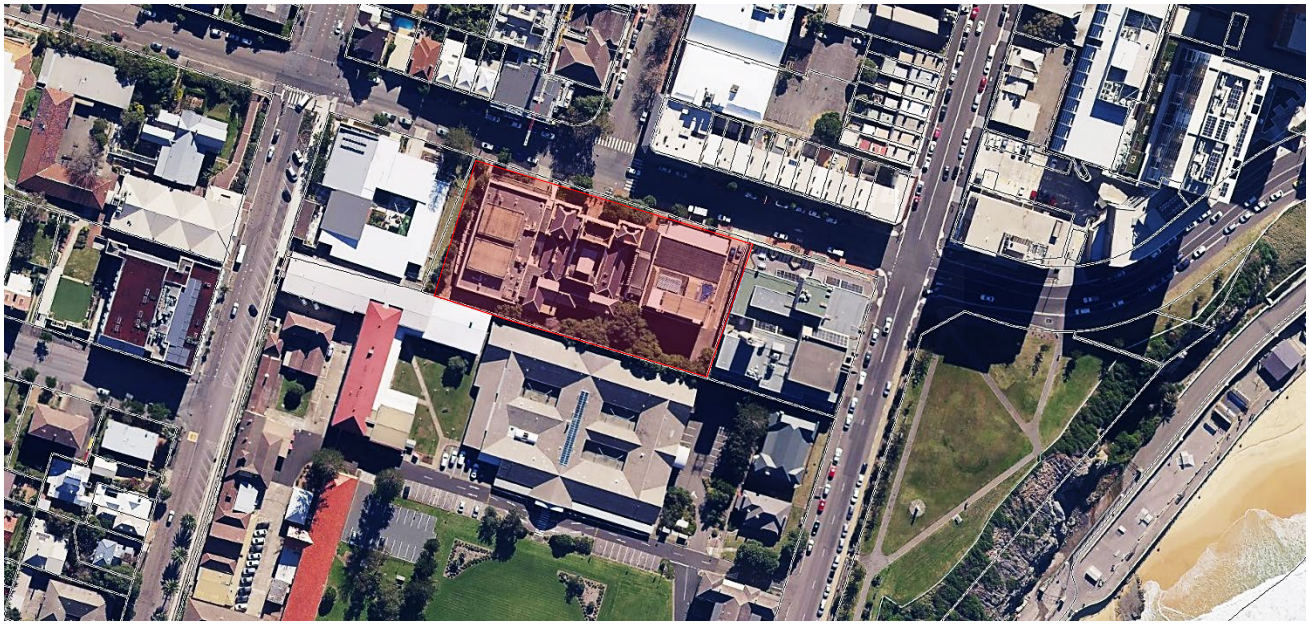


Fig. 1 – 9 Church St, Newcastle

Located at 9 Church St, Newcastle, the site's main access point for plant and equipment is located at the Eastern driveway accessing an open parking area behind building A & B, which will also serve as the main area of establishment.

### 1.5. GENERAL WORKS SCOPE

The general demolition works include:

- Removal of all trees on site by qualified arborist
- Hazardous material removal from building A & C
- Removal of hazardous material from affected demolition/soft strip areas of building B
- Complete soft strip of Building A and C
- Detailed soft strip of Building B, in accordance with heritage documentation
- Demolition of structures Infront of buildings A and C's front facades (ramp/stairs & entry building) to facilitate installation of scaffolding.
- Complete down to ground demolition of building A, including dismantling and separation of link building to B, and sectioned demolition of tunnel.
- Complete down to ground demolition of building C, including dismantling and separation of link building to B
- Technical demolition of internal areas of building B, including creating openings through masonry walls throughout, sectioned demolition of slabs.
- Separation of materials, removal, carting and recycling/disposal of all demolished materials.

# 2. DEMOLITION METHODOLOGY

### 2.1 PRELIMINARIES & DOCUMENTATION

1. Submittal of notifications to SafeWork NSW.
    a. Demolition work under Drumderg Licence
    b. Asbestos Removal Work under Drumderg Licence
2. Submittal of asbestos works notification to adjacent property owners.
3. Submittal of the following documents to client for review:
    a. OHS, Environmental and Quality Management Plans
    b. Safe Work Method Statements
    c. Public protection/hoarding plan

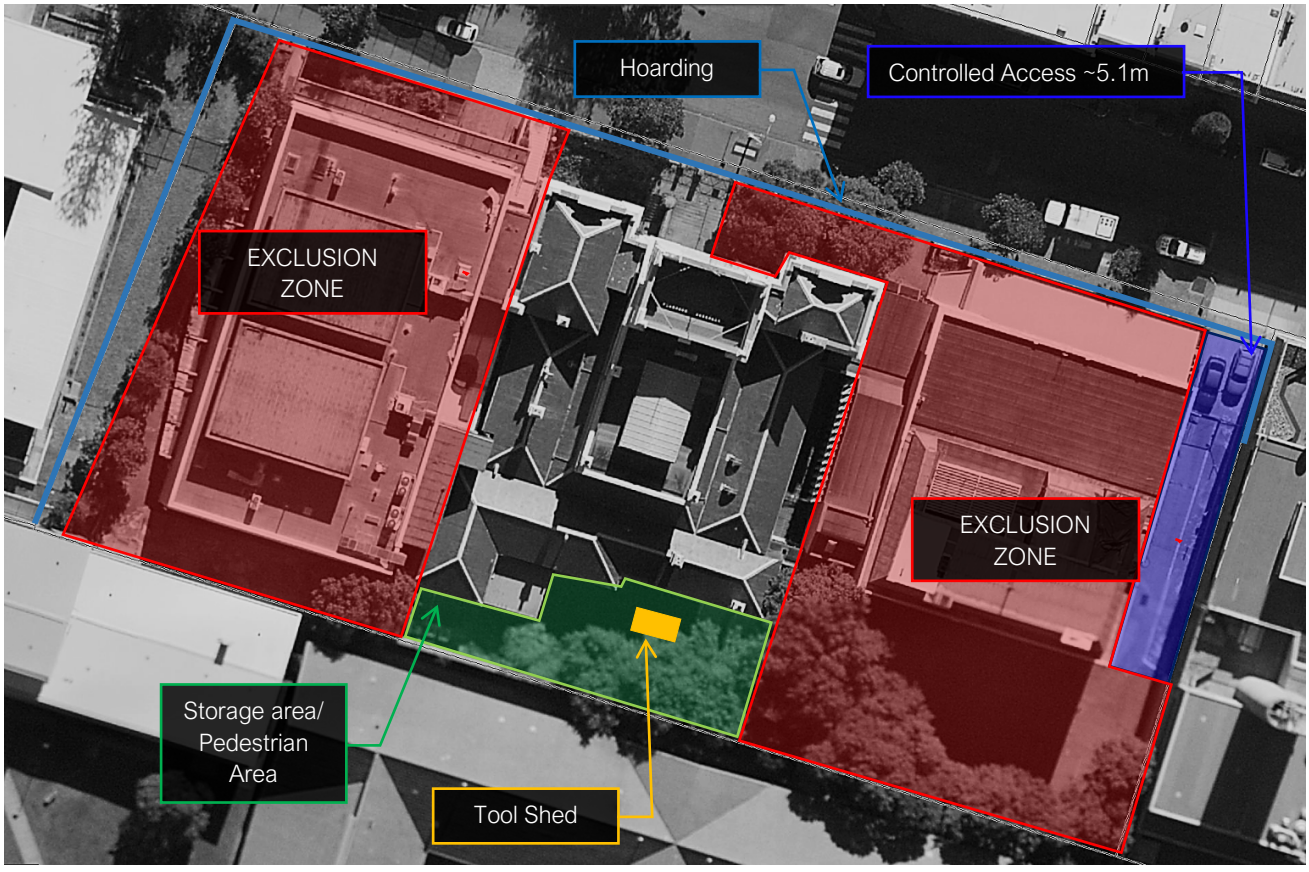
### 2.2 SITE ESTABLISHMENT

1. Inspection and allocation of:
    a. Access points
        i. Ensure access points provide appropriate clearance to mobilise plant and equipment.
            1. Existing Eastern access/egress driveway has an existing width clearance of approximately 6.37 metres (neighbouring wall to Building A wall).
                a. Initial soft strip stage will have full clearance of the driveway.
                b. Hard demolition stage's scaffolding width across this face of building A will occupy approximately 1.1 – 1.2m, with a remaining adequate clearance for truck access of 5 metres. With further clearance created as demolition of Building A progresses.
                c. 1.23 metre wide lowered path and retaining wall adjacent to driveway to act as barrier to scaffold. Concrete barricades to be positioned at southern section where lowered path /retaining brick wall ends as to prevent scaffold damage from turning trucks/plant.
        ii. Maintain appropriate traffic control measures during mobilisation as per traffic control plan.
    b. Plant, equipment and works area allocation
    c. Exclusion zones
    d. Site Signage
    e. Erosion and Dust controls
        i. Dust Control - Booster pump to be connected to the ring main with static and mobile nozzle point to ensure dust is managed adequately
        ii. Site and nearby kerb drains to be protected with combination of aggregate bags and geofabric to prevent ingress of excessive silt
        iii. Installation of sediment fencing where ground level falls towards drain points/road.
    f. Decommissioning/degassing of mechanical equipment

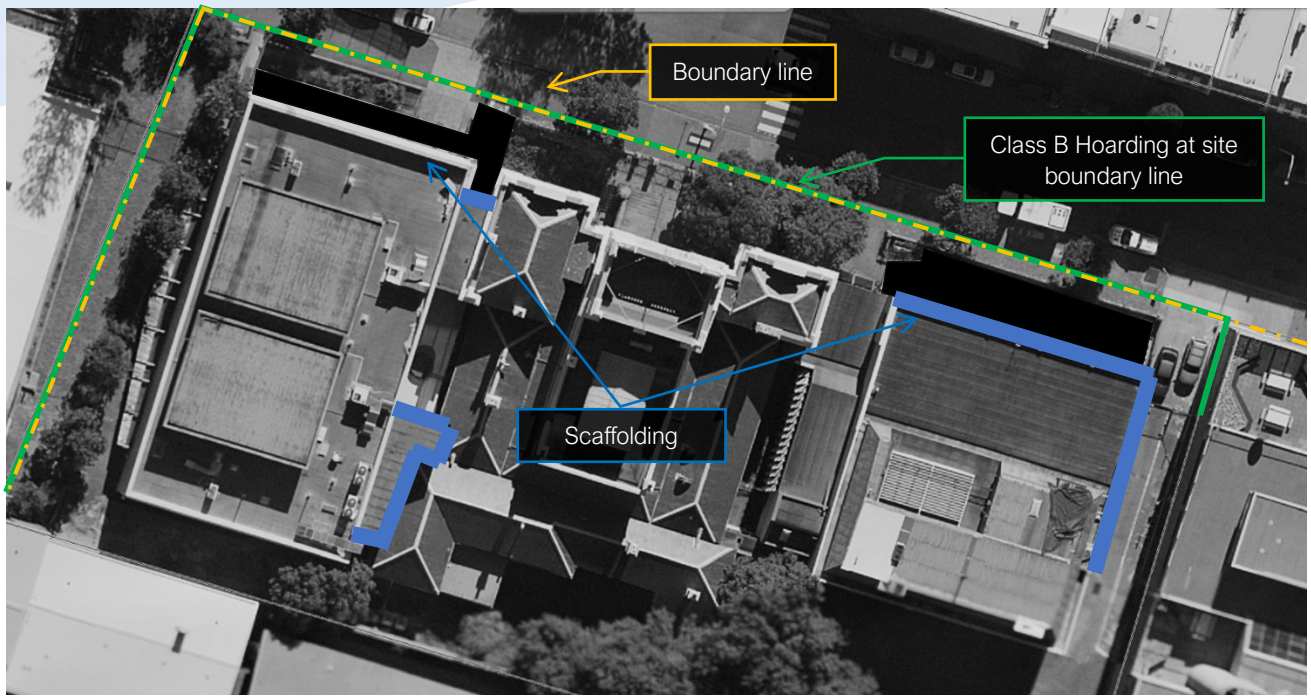
i. Drumderg to approach a qualified subcontractor to degas and dispose of ozone depleting substances in accordance with the Ozone Protection and Synthetic Greenhouse Gas Management Act of 1989, prior to mobilisation.

2. Creation and submission of dilapidation reports to affected parties and client.
3. Mobilisation
    a. All trees and vegetation to be removed by a qualified arborist prior to mobilisation, as to create as much clearance as possible for establishment and plant/equipment movements on site.
    b. Drumderg Supervisor will ensure all staff are inducted, and briefed on this methodology, SWMS, Safety, Quality and Environmental management plans, and emergency plans with key staff holding responsibilities.
    c. Staff will then be issued PPE and verified before the pre-start briefing, and as per individual task requirements.
    d. Management personnel to set up and communicate exclusion zones with Built and other site sub-contractors, as to designate a controlled demolition area by preventing unauthorised access by physical means.
    e. Plant and equipment such as demolition excavators, attachments, posi-tracks, tool shed, etc. will then be brought onto site.
    f. Safety warning and information signage will then be displayed on the perimeter fencing and at the demolition zone entry points detailing hazard information and PPE requirements.
    g. The Site Supervisor to confirm all Service Isolation certificates per building provided by Built, and information of live services and ensure they are sufficiently protected or isolated prior to commencing soft strip and demolition.
    h. Erosion and sedimentation controls towards public areas to be implemented prior to disturbance of ground and building materials.

4. Site establishment as per the following plan:



5. Erection of scaffolding across building faces adjacent to public/neighbouring areas, as per Australian Standard 2601-2001 – The Demolition of Structures. Scaffold as per following illustrations.




## 2.3 SITE PRE-CLEAN

1. Any items to be retained or heritage items will be removed and/or protected and/or stored, as per their individual requirements, prior to commencement of demolition and remediation works.
2. The entirety of the site is to be completely cleared of any loose waste material and disposed of.
    a. This is a requirement prior to the commencement of hazardous waste material removal, as to avoid cross-contamination.
3. All material will be separated, segregated, placed into hook-lift bins and transported to a local facility for recycling.
4. Any non-recyclable material or hazardous waste to be disposed of as per local regulations and transported to a licensed waste facility.
5. Disposal dockets for recycled material, landfill, and hazardous material will be retained and provided to the client.

## 2.4 REMEDIATION OF HAZMAT

Prior to any structure disruptive works, all hazardous materials, including asbestos, lead paints, etc., as per the Napier & Blakeley's Asbestos Materials Report, are to be removed and disposed of in accordance with local regulations, the NSW Work Health & Safety Act 2011, and SafeWork NSW.

Removal works will only start on approval of the asbestos removal notification by SafeWork (approximately 7 days from notification), and once council and neighbouring properties have been notified of the works 5 working days prior.

1. Management controls will be set in place during the asbestos removal works as well as throughout the project in the case of newly identified hazardous materials.
2. Once the surrounding areas have been entirely cleared, all hazardous material removal work areas will be delineated, barricaded and signed.
3. Air monitoring will be set up by the hygienist within the surrounding work areas for both asbestos and lead.
4. Once air monitoring is setup and both the supervisor and hygienist have cleared the commencement of removal, the hazardous materials will be removed in such way that the entirety of the item is kept as unbothered as possible.
5. The remediation crew will load out all asbestos material into double plastic lined (200 µm thick minimum) Hook Lift roll-on bins.
    a. Bins to be placed as close as site access allows to the asbestos removal work area.
6. The ACM will be transported to the designated waste facility.
    a. All hazardous material transportation and disposal is tracked as per EPA requirements. Consignments and disposal dockets will be kept for Drumderg's and Built's records.
7. At the completion of the hazardous waste removal, Drumderg will approach an independent Licenced Asbestos Assessor to inspect the site and issues a clearance report per building, ensuring the site has been completely cleared of such materials.

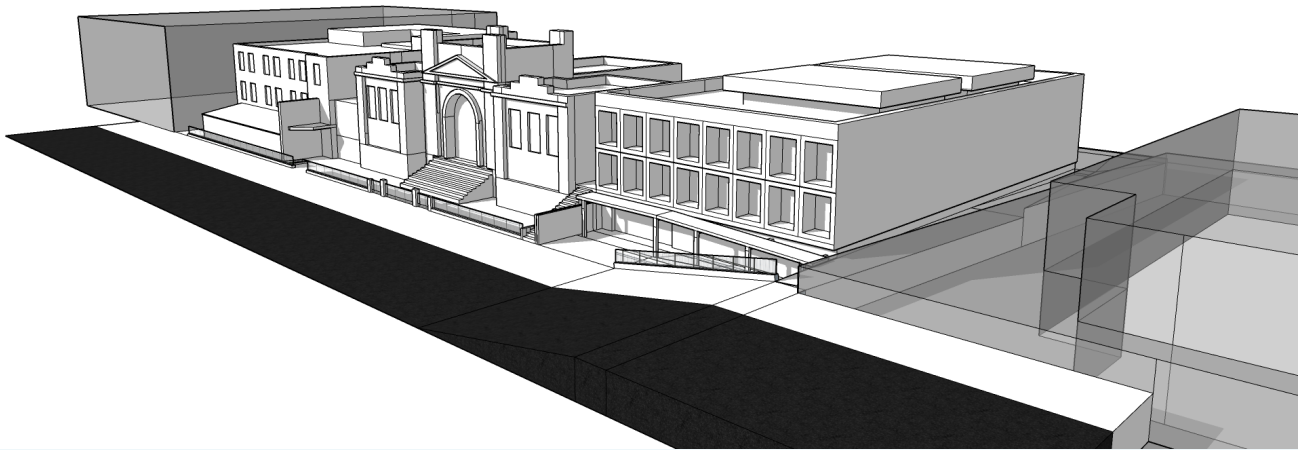
## 2.5 ENABLING WORKS & SOFT STRIP

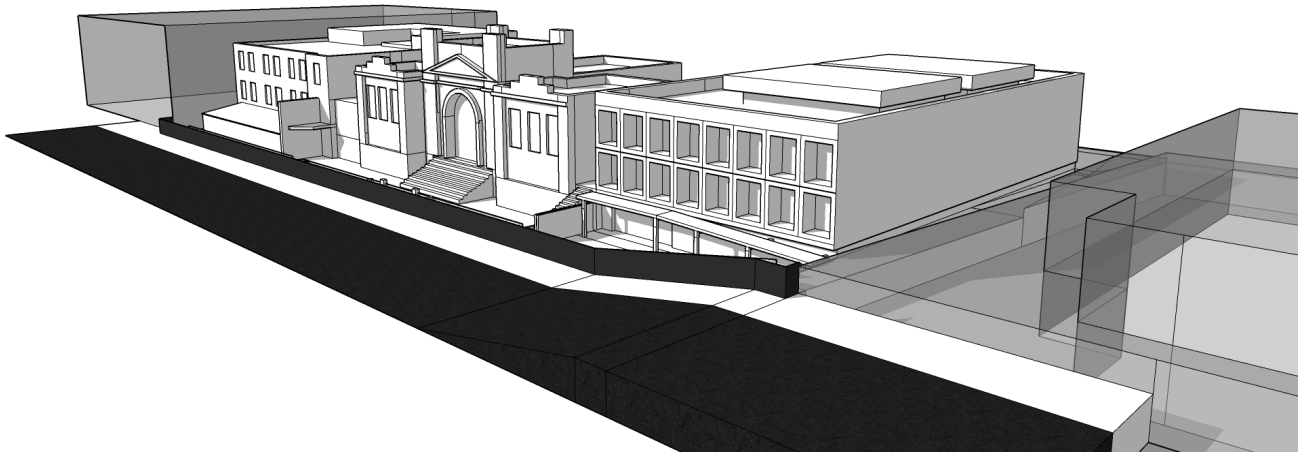
All demolition works will be performed in accordance with Australian Standard 2601:2001 – The Demolition of Structures and SafeWork NSW Demolition of Structures Code of Practice (2019).

- All plant operators and personnel will follow set out procedures to ensure all activities involving demolition are followed up as per Drumderg's and industry standards and practices.
- Hard demolition will follow a sequence where it facilitates for all hard material to be demolished within a safe area, as to prevent fall of material towards hoardings, public areas, or neighbouring properties.
- All high risk demolition areas, such as structures joined to heritage court building, are to be controlled by a high risk crew, including installation of protection systems and hand dismantling/demolition where required as to control such risks.
- Acoustic protection to neighbouring properties has been designed into demolition works methodology through the ruling out of vibrating and noisy works, such as the use of hammer excavator attachments, to the use of shears and pulverisers instead for breaking down of concrete structure, drastically minimising all noise and vibration.

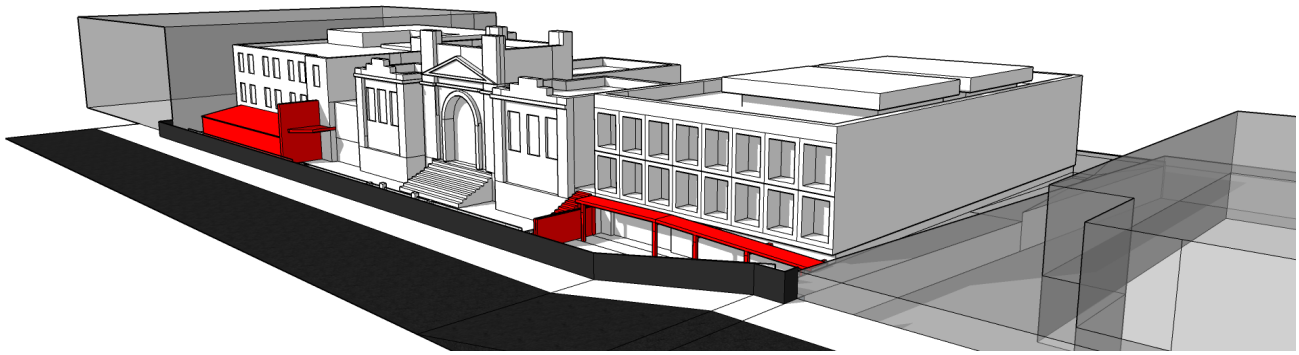
### HOARDING/PUBLIC PROTECTION WORKS

1. Class A hoarding installation (by Built) prior to commencement.

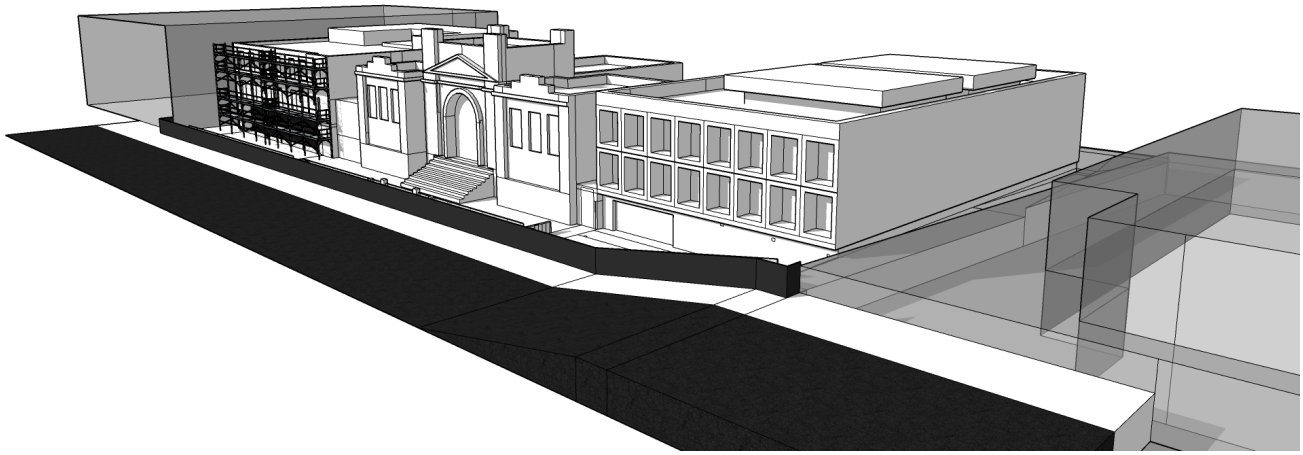




2. In concurrence with the internal strip-out of buildings, building A's 1 storey entrance area and building C's ramp are to be demolished initially, as to allow space for scaffolding across building front faces,

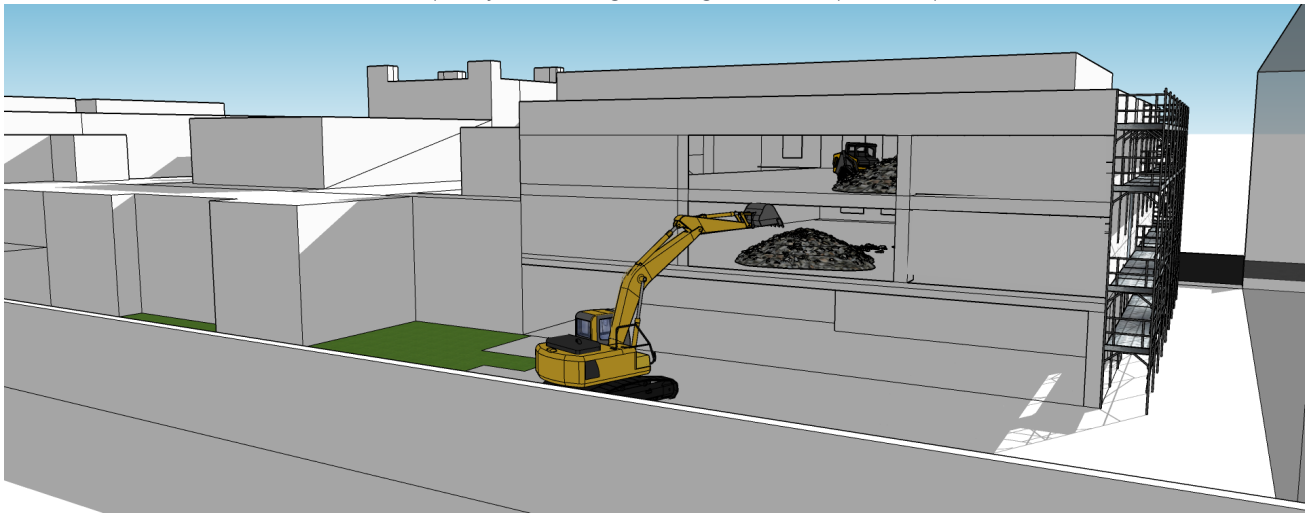


3. Installation of scaffolding on demolition and clearance of front structures. Soft Strip and enabling works building A & C buildings to continue throughout installation works.
    a. Refer to Public Protection / Hoarding Methodology provided for reference to AS2601.
    b. Scaffold protection to building C revised (13/03/20). In accordance with AS2601, given the installation of class B hoarding across the entire front length of the site, acting as protection system to public areas, scaffolding to front face of building is no longer necessary. Scaffolding to Western face of building not necessary given planned installation of site fencing across actual property line beyond existing retaining wall, providing safe distance clearance in respect to building height from ground level to neighbouring property.



## BUILDING A – SOFT STRIP & ENABLING WORKS

1. Asbestos and soft strip works will be carried out concurrently with clear exclusion and working zones in place to separate both operations. Once clearance has been provided by the hygienist for areas containing hazardous materials within each building, Drumderg will proceed with the removal of non-structural materials in those areas in building A. Soft strip will commence on Level 2, then Level 3, Level 1 and finally the roof
    a. Prioritisation of material separation to achieve maximum recycling efforts.
2. As to facilitate removal of material and maintain a continuous loadout method, all soft stripped material within building A to be pushed to the southern section of each floor, facilitated by posi-track and 1.7 tonne excavator (approved maximum slab loads by structural engineer. Documentation transmitted to Built as becomes available).
3. Infill brick walls located at the back of building A to be demolished by 25t excavator to facilitate a material 'drop-zone'. All material to be separated and placed directly into large hook bins.
    a. Live edge protection
        i. An exclusion zone will be set in place and communicated across all site personnel during and after demolition of infill brick walls.
            1. All personnel installing edge protection to be harnessed and hold working at heights ticket.
        ii. Edge protection will be installed in place in the form of steel beams, across entire span between columns. Temporary works design and sign off will be provided prior to commencement.



## BUILDING C – SOFT STRIP

1. Asbestos and soft strip works will be carried out concurrently with clear exclusion and working zones in place to separate both operations. Once clearance has been provided by the hygienist for areas containing hazardous materials within each building, Drumderg will proceed with the removal of non-structural materials in those areas in building A. Soft strip sequence Basement - Level 1 - Level 2 - Roof. If possible floors can be stripped concurrently.
2. Openings to building C to be created to the North-East section of building,
    a. Sections of Internal single brick wall and header panels to be demolished with 0.8t excavator as to facilitate dismantling of the façade panels. The façade panels will then be removed externally using the Kobelco 23t excavator.

    b. Live edge protection
        i. An exclusion zone will be set in place and communicated across all site personnel during and after demolition of infill brick walls.
            1. All personnel installing edge protection to be harnessed and hold working at heights ticket.
        ii. Edge protection will be installed in place in the form of steel beams, across entire span between columns. Temporary works design and sign off will be provided prior to commencement.
    c. Openings to facilitate a 'drop-zone' for all soft stripped materials.
        i. Large hook bins to be placed directly below. All material to be pushed out by combination of posi-track and mini excavator.

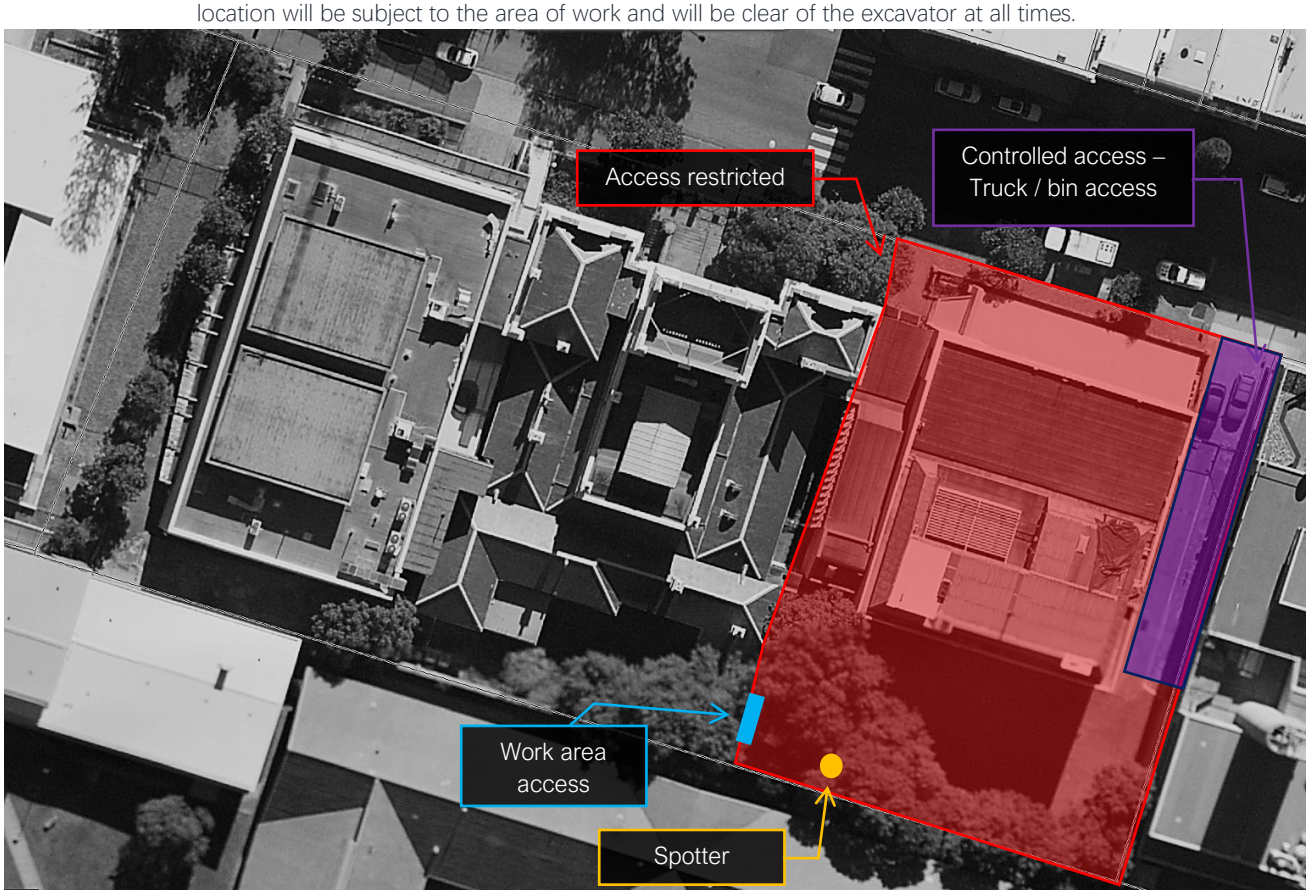
3. A 5 tonne excavator to facilitate removal of timber panelling and all soft strip within high court rooms.
4. 1.7 tonne excavator, alongside posi-track, to facilitate soft strip across all other sections and levels of this building.

5. Certification of slab loads by structural engineer for use of aforementioned plant to be provided to Built prior to mobilisation of machinery into building.

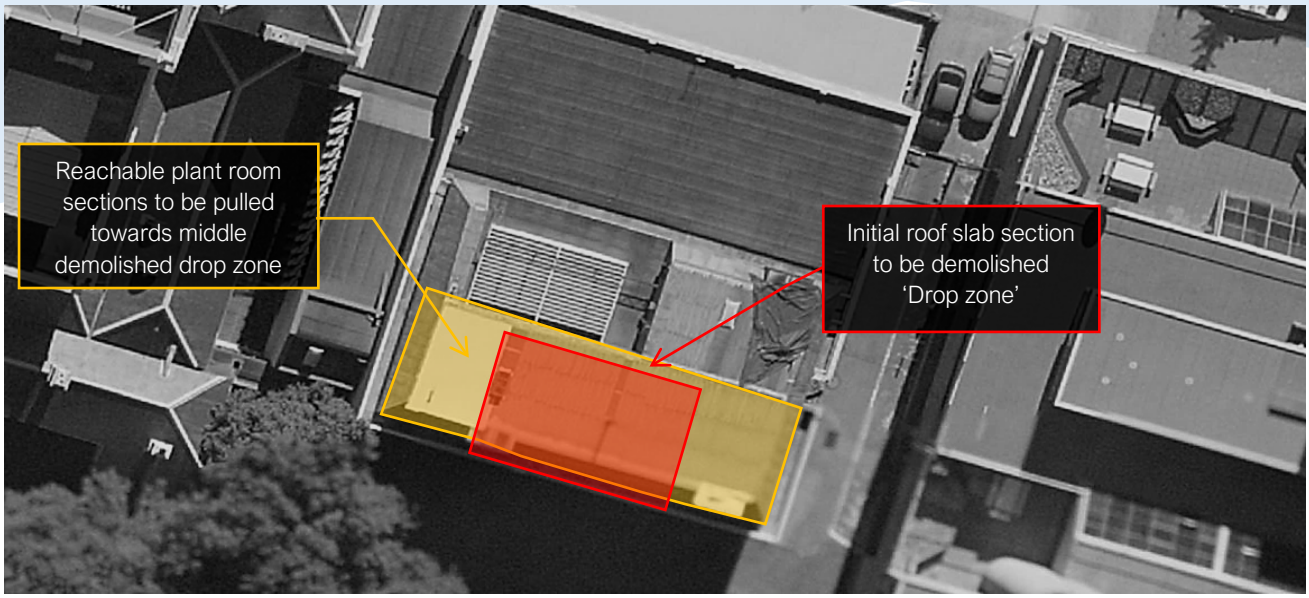
## 2.6 DEMOLITION

### BUILDING A – HARD DEMOLITION

1. Exclusion zone to be set up as per below plan.
    a. The Spotter will be inside the exclusion zone assisting with the hose to the machine and managing the exclusion zone and works coordination with excavator operator assisted with 2-way radios. The spotter location will be subject to the area of work and will be clear of the excavator at all times.




2. Hard demolition works to be carried out with 35 tonne excavator with concrete shears attachment, including
3. All infill brick walls at the back of building to be demolished towards the inside of the building and removed from the floors to prevent debris build up.
4. Parapet wall, roof slab and columns from three middle bays to be gradually demolished as to assist removal of plant room above, by reaching and pulling material towards 2nd floor slab, to control fall of materials and facilitate the separation of material into respective stockpiles on ground level.




5. Once middle roof bays and reachable plant room materials have been cleared, excavator to proceed with demolition of south Eastern corner initially, and then proceed to Western corner


6. Hard demolition to proceed with second floor slab and columns below in a East to West sequence.
    a. Progressive loadout of material to be carried out as to maintain a clear ground/work area to continue with works.
7. Once second floor bays have been demolished and material cleared, demolition to proceed with 1st floor slabs and columns below in a East to West direction.


8. The remainder of the building to follow the same principal of demolishing slabs and columns in a per-bay sequence, Clearing top levels first and working down to ground level.
    a. Scaffolding to each bay section (full height) on driveway side to be dismantled in stages as demolition progresses.
9. Ground slab and hardstands to remain until both buildings A and C have been demolished, as to facilitate maintaining a clean work area.

NOTE: The supervisor can change the sequence on consultation with the excavator driver as work progresses.

## A-B LINK BUILDING– HARD DEMOLITION

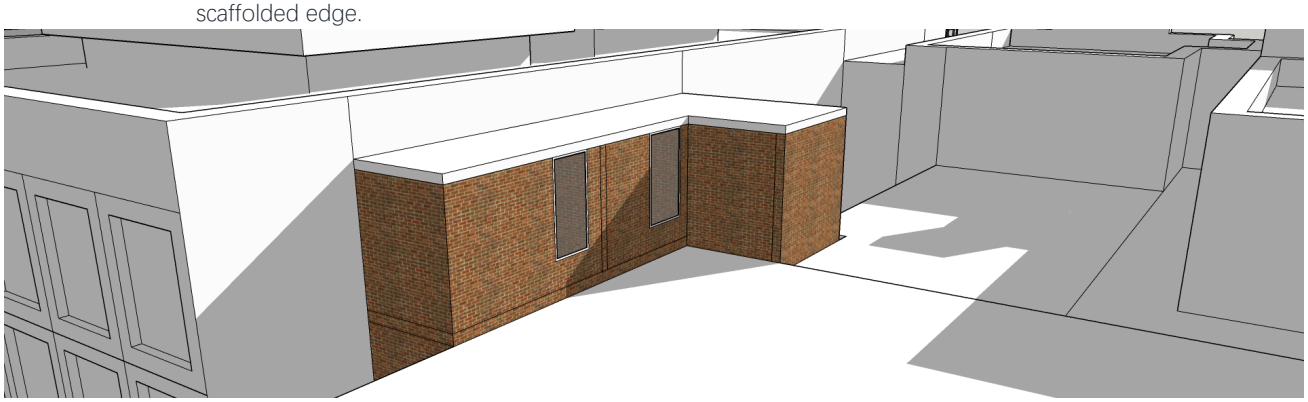
1. Heritage building windows adjoining link building to be protected with plywood across of affected faces.
2. Manual dismantling of window frames, steel louvres, ceilings, railings, etc.
3. Slab and other structural connections from Building A to building B 'Link Building' to be separated from building B
    a. Connected slabs to be saw cut to create a separation of approximately 100mm between slabs, as to facilitate a technical and careful demolition once excavator reaches this area.
    b. The link frame will be hot cut to separate the steel elements from building B under a hot works permit.
    c. Other structures, /timber roof frame to be seperated manually and carefully from building B.
        i. Dismantling works to steel structure to be undertaken by the 23t excavator with a grab attachment.
4. Excavator hard demolition to commence from the back of the link building in concurrence with the demolition sequence of the back bays of building A (refer to BUILDING A – HARD DEMOLITION item 5, 6 & 7).

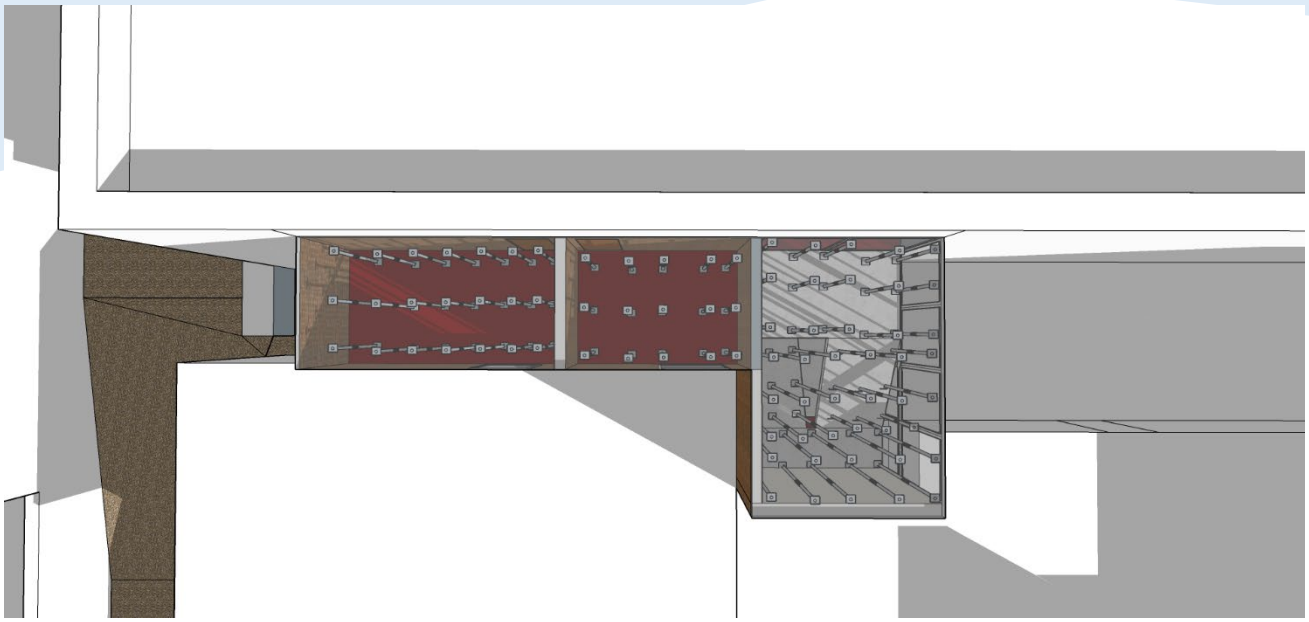
## C-B LINK BUILDING– HARD DEMOLITION

1. Heritage building walls adjoining link building to be protected with plywood across entirety of affected faces.
2. Manual dismantling of window frames, ceilings, etc.
3. Erection of scaffolding around perimeter of southern link structure as to prevent fall of material onto heritage building.
    a. Scaffolding to be erected on top of existing Heritage building roof, utilising plywood to protect roof lining.

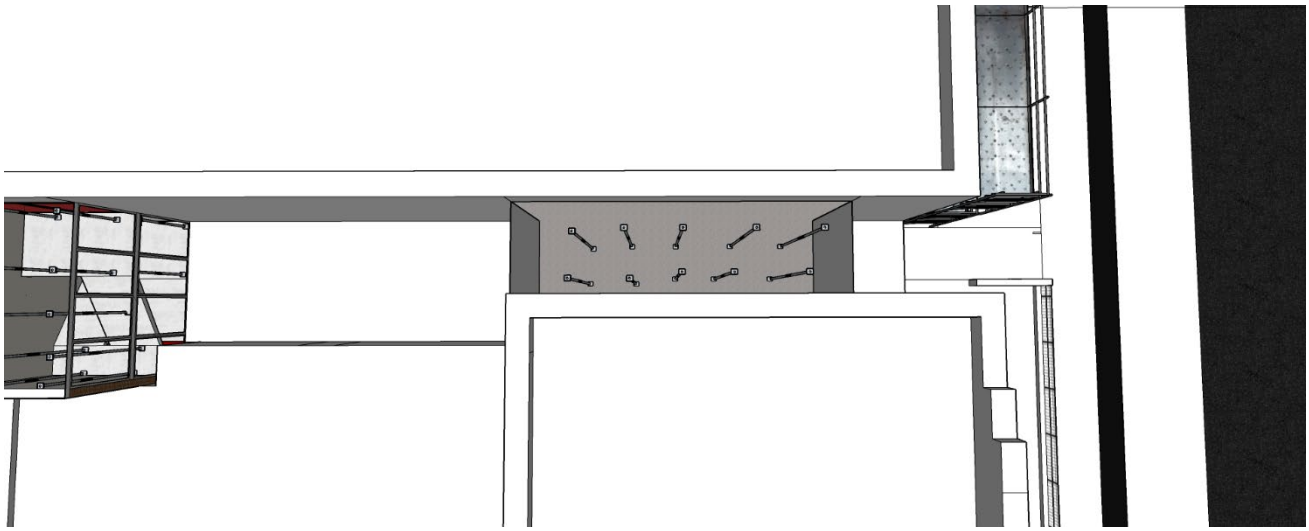
i. Scaffolding design to be certified by structural engineer, including review and certification of integrity of Building B roof


4. Acrow props to be installed below roof slab of link buildings, as to control fall of material and facilitate use of Brokk (remote controlled demolition machine).
    a. Brokk to be lifted onto roof slab, using hammer to break concrete in a sequence that moves away from scaffolded edge.



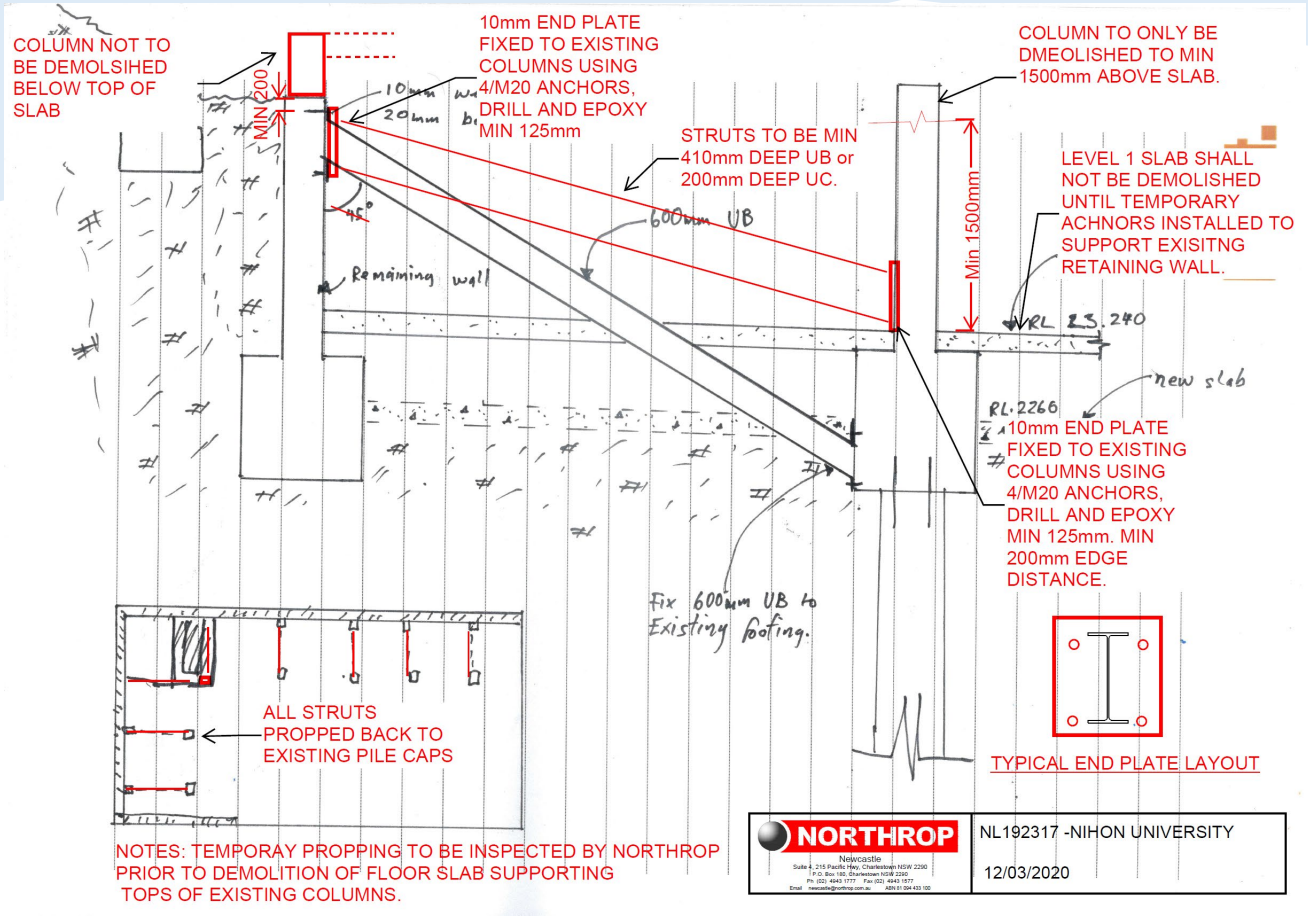


5. Acrow props to also be installed from 1st level up to roof slab of northern section of link building.



## BUILDING C – TEMPORARY WORKS

The retaining wall to the south and west elevation is to be retained throughout the demolition of building C with the installation of steel props as per the sketch below. The design and engineering sign offs will be undertaken by Built's Engineer with the fabrication and install by Drumderg.

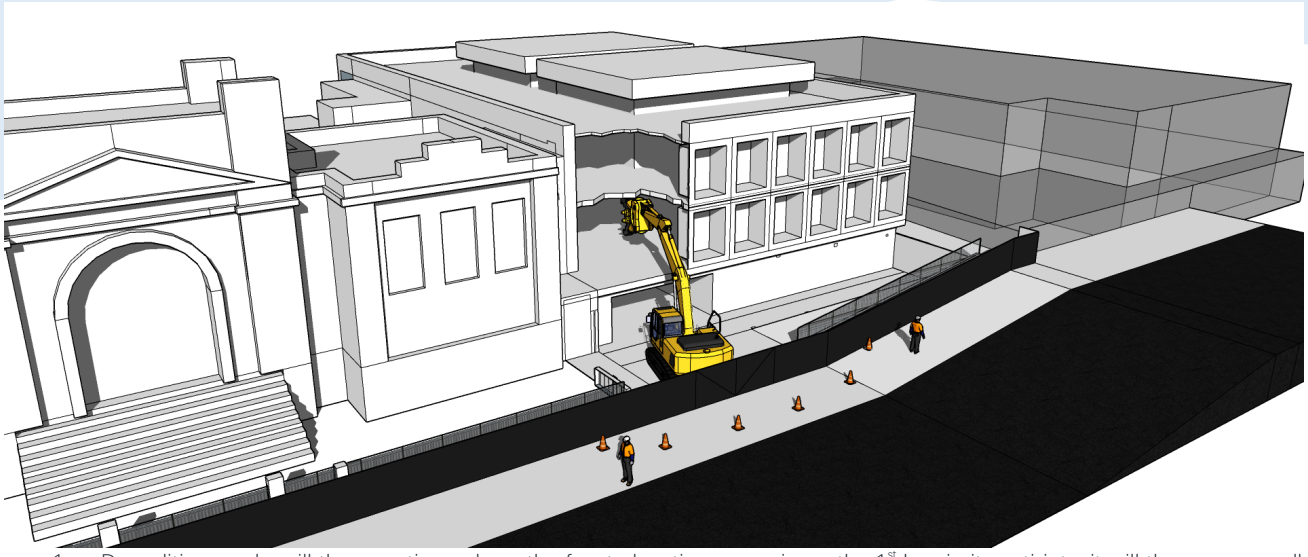



## BUILDING C – HARD DEMOLITION

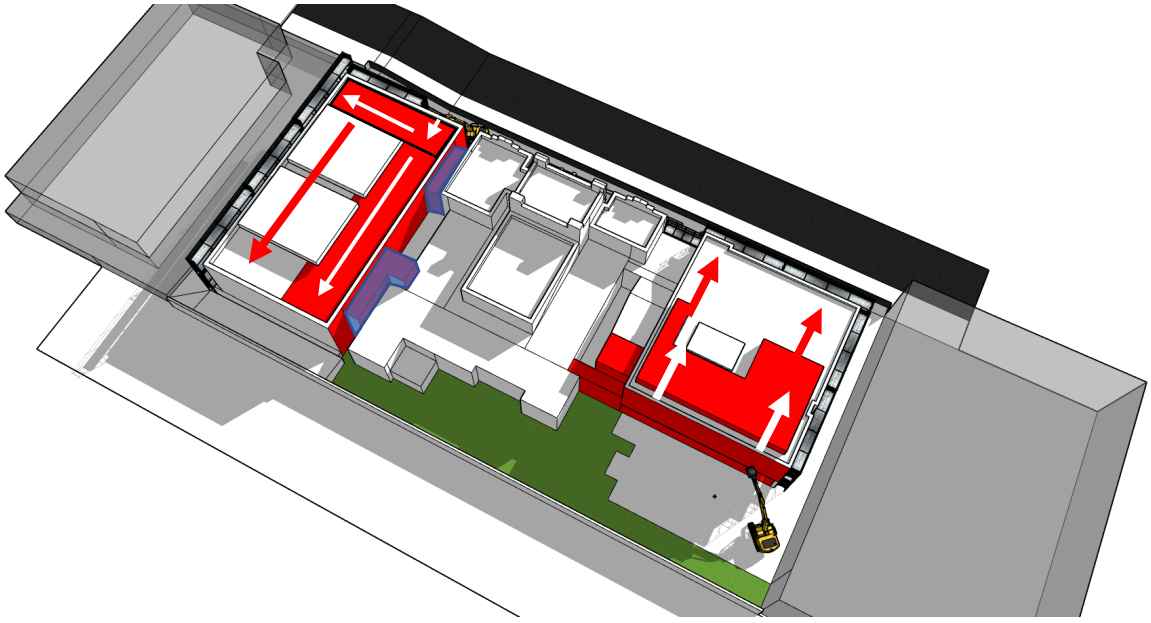
1. Demolition to commence from front openings created, demolishing entire bay initially as to create sufficient space for the excavator to carry out the bulk hard demolition works.

a. Section to be initially demolished as per below illustrations

b. Spotters on footpath adjacent to the work area to control works as to ensure safety of public spaces.



1. Demolition works will then continue along the front elevation removing a the 1st bay in its entirety, it will then remove all bays along the west elevation towards south of the building, as to create a safe work area between Building C and heritage building. The low-level slabs and structure of the link building (highlighted in blue below) that remains after the separation will not be removed until there is sufficient space to undertake works from a knuckle boom.
    a. All hard rubble to be piled into below ground car park as to maintain a stable platform through demolition of above ground structure.
    b. All hard rubble material to be loaded out once the structure has been demolished and enough access is created to load out material.



HARD DEMOLITION SEQUENCE – BUILDING A & C

2. The link slabs and shared walls to building B will be demolished from a knuckle boom using hand powered tools once there is clear separation from the demolition of building C.

## BUILDING B HERITAGE BUILDING – SOFT STRIP & DEMOLITION

1. Internal strip of heritage building, including hard demolition of wall openings and slabs to be carried out on completion of demolition of both buildings as to create safe access for strip out and load out of materials.
    a. ITPs to be carried out for each room as per each room soft strip and demolition requirements.
    b. Crash decks to be erected against suspended slabs to be removed. Broken down manually.
        i. Material to be progressively cleared towards access areas
    c. Ground floor slabs to be saw cut and demolished by mini excavator where access allows.
    d. Wall openings to be saw cut and propped as per engineered requirements
        ii. Cutting and propping methodology TBC on structural engineers confirmation per area.

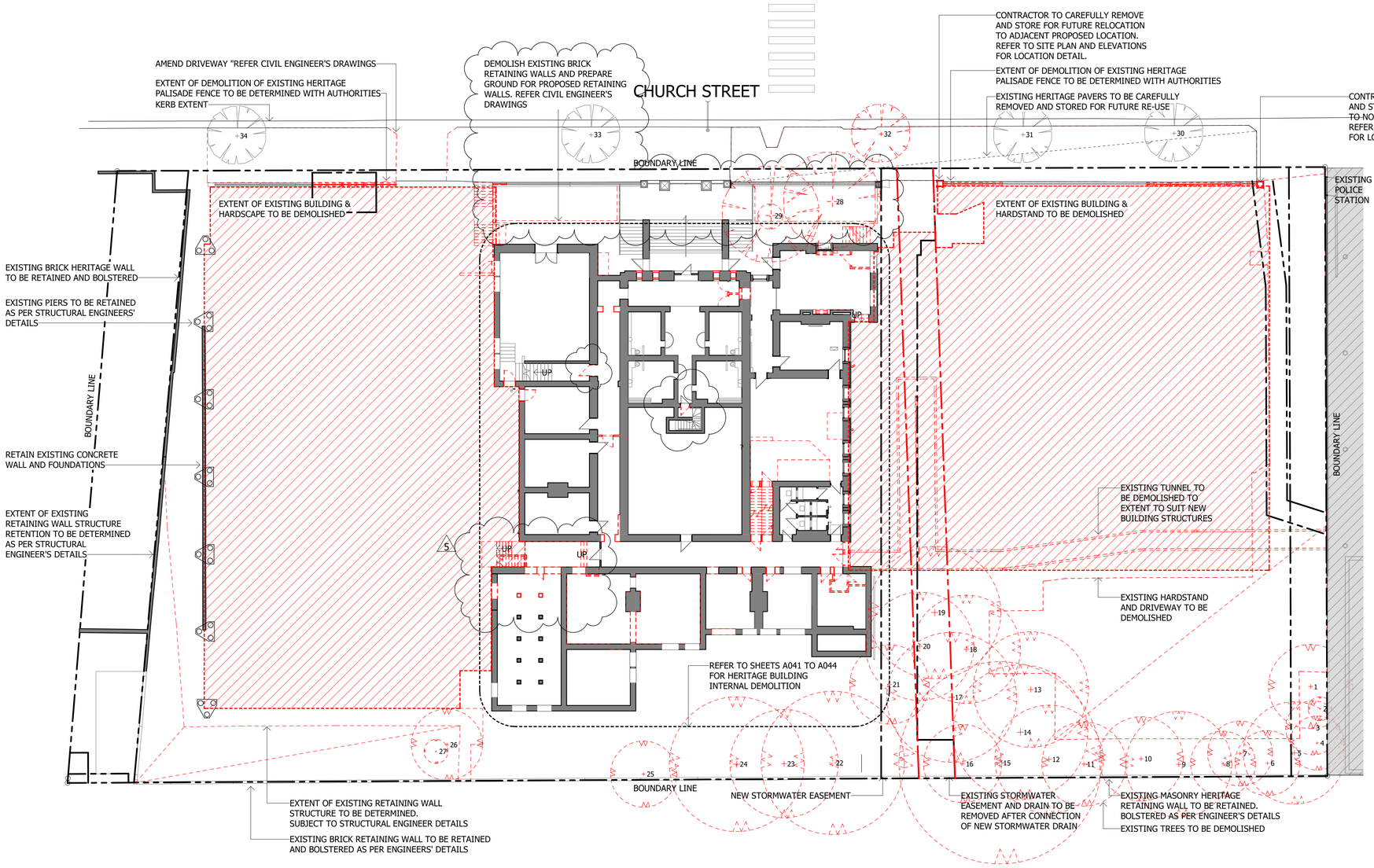
1. Drumderg to generate task specific methodology / Safe System of Work documentation prior to commencement works of each opening.

2. All waste to be placed onto its material specific assigned area and/or waste containers, while maintaining a clear work area for site movements and loadout works across the Eastern driveway.
3. Scaffolding to be dismantled in stages as demolition progresses
4. All waste to be separated to maximise recovery of resources.
5. Demolition to proceed from high risk sections to lower risk demolition areas, as to follow a sequence that allows complete clearance for movements and reach away from the heritage building during the bulk demolition of the buildings.
    a. A technical demolition crew, including supervisor and engineer to monitor and control high risk areas.
6. Ground surfaces and to be removed in concurrence with building demolitions.
7. Excavation up to 1 metre across the whole site to be carried out on completion of demolition works.
8. All site paths and waste removal areas to be kept clear of any rubble, as to maintain a safe site.
9. A recyclability report will be created and provided on completion.
    a. All other non-recyclable waste and hazardous materials will be transported to a local waste management/landfill facility.
    b. Disposal dockets and documentation for recycled material, landfill, and hazardous material will be retained and provided to the client.

## 2.7 COMPLETION

1. Ensure all demolished materials have all been cleaned up and transported off-site to respective recycling/waste facility, and site left in adequate condition.
2. Ensure any stored items have been claimed by the client.
3. Ensure any arising issues have been resolved and closed.
4. Capture of photographic evidence of protected items / neighbouring structures near working areas.
5. Demobilise and remove all plant, equipment, amenities, offices and any other item brought to site by Drumderg

# APPENDIX C – Architectural Demolition Plans




Notes



Verify all dimensions and levels on site and report any discrepancies to dwp for direction prior to the commencement of work.

Drawings are to be read in conjunction with all other contract documents.

Use figured dimensions only. Do not scale from drawings. dwp cannot guarantee the accuracy of content and format for copies of drawings issued electronically. The completion of the Issue Details Checked and Authorised section is confirmation of the status of the drawing. The drawing shall not be used for construction unless endorsed 'For Construction' and authorised for issue.



## DEMOLITION LEGEND

EXTENT OF DEMOLITION OF EXISTING BUILDING AND HARDSTAND

EXISTING TREES TO BE DEMOLISHED

**FOR CONSTRUCTION**

**FOR USE DURING CONSTRUCTION**

| Issue | Description | Date | Chk | Auth |
|---|---|---|---|---|
| 5 | ISSUE FOR COORDINATION | 19.03.20 | KD | BW |
| 4 | ISSUE FOR COORDINATION | 27.02.20 | KD | BW |
| 3 | ISSUE FOR CONSTRUCTION | 12.02.20 | KD | BW |
| 2 | ISSUE FOR REVIEW | 19.12.19 | KD | MR |
| 1 | ISSUE FOR REVIEW | 12.12.19 | KD | MR |

Architect/ Designer
dwp
www.dwp.com

Client / Project Architect
Azusa Sekkei Co Ltd
AZUSA SEKKEI
Architects, Engineers & Consultants

Project
NEWCASTLE COURTHOUSE

Location
1 Church St
Newcastle, NSW, 2300

Project Number
17-0347

Drawing
DEMOLITION PLAN
SITE

Scale (A1)
1 : 200

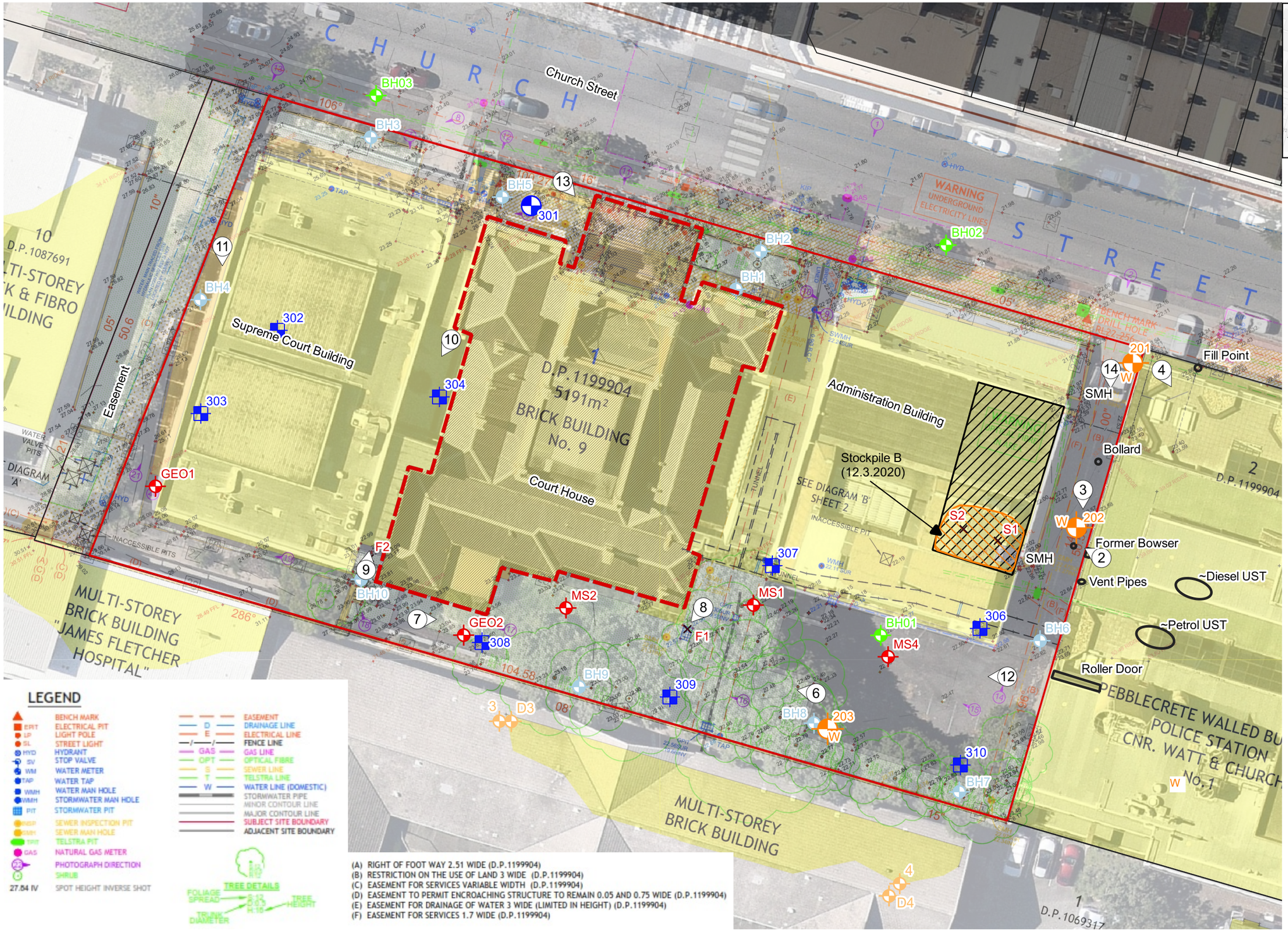
Date Printed
19/03/2020 4:19:25 PM

Drawing Number
A030

Issue
5

File Name: BIM 360://17-0347_Newcastle Courthouse/17-0347_NEWCASTLE COURTHOUSE_CENTRAL_R2019.rvt

# APPENDIX D – Test Location Plan & Capping Strategy




0 10 20 30 40 m

Drawing adapted from Nearmap Image dated 22.10.2019, plan by ADW Johnson ref 239815-DET-001-A dated 10.09.2018, and plan by Prensa ref 55499 Figures, Figure 2, Rev 1 dated 07.10.2016.

## Legend

- Approximate Stockpile Area
- Approximate Excavation Area
- Environmental Pit Location Post-Demolition (DP)
- Environmental Bore Location Post-Demolition (DP)
- Environmental Bore Location Pre-Demolition (DP)
- W Environmental Well Location
- Geotechnical Test Location Pre-Demolition (DP)
- Previous Test Locations (Prensa 2016)
- Previous Test Locations (Cardno 2018)
- Site Boundary
- Proposed Buildings Structures to be Retained
- × Approximate Location of Material Sample Grab Sample
- Approximate Figure & Orientation Location

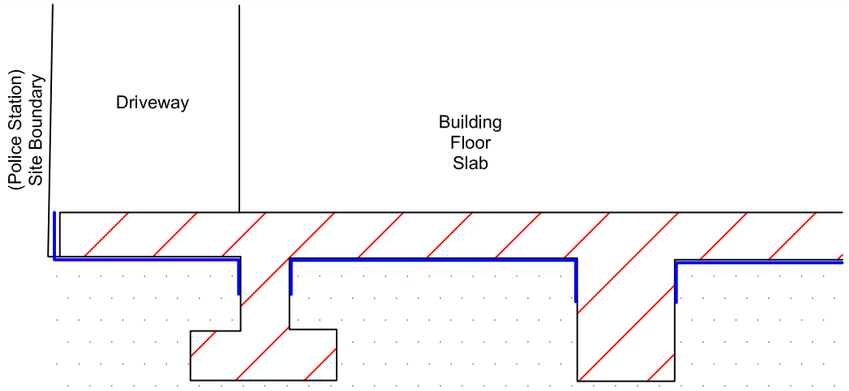
**Douglas Partners**
Geotechnics / Environment / Groundwater

| | | | |
|---|---|---|---|
| CLIENT: | Nihon Daigaku Australia Newcastle Pty Ltd | | |
| OFFICE: | Newcastle | DRAWN BY: | PLH |
| SCALE: | 1:400 @ A3 | DATE: | 18.March.2020 |

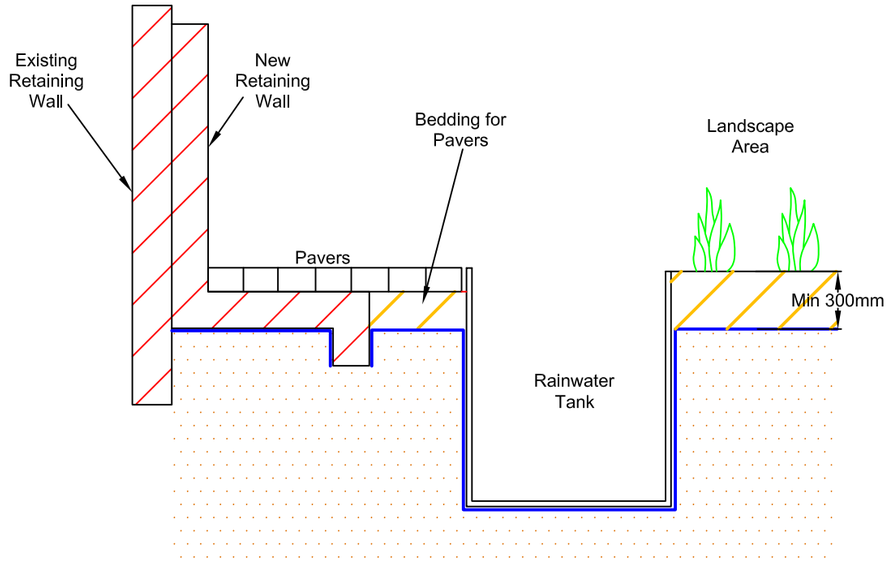
TITLE: **Test Location Plan**
**Proposed Nihon University**
**9 Church Street, Newcastle**

N

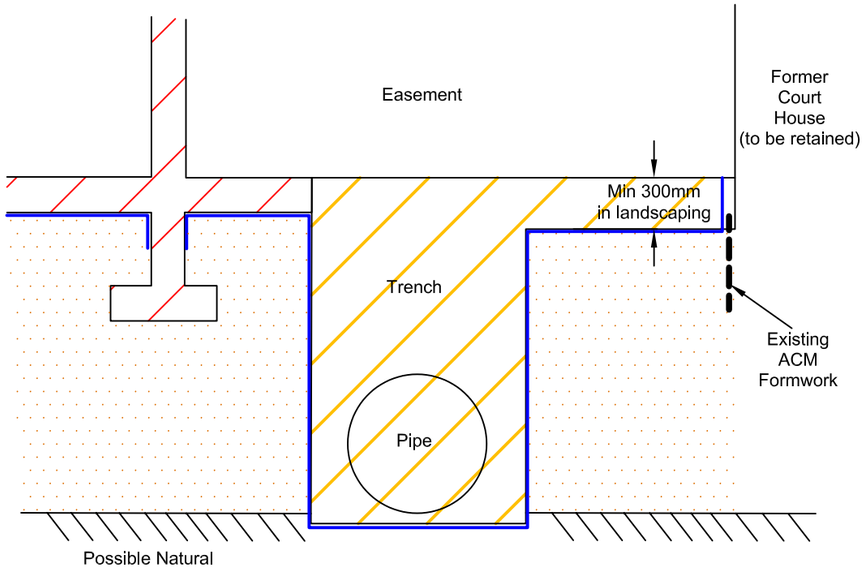
| | |
|---|---|
| PROJECT No: | 91667.02 |
| DRAWING No: | 1 |
| REVISION: | 2 |



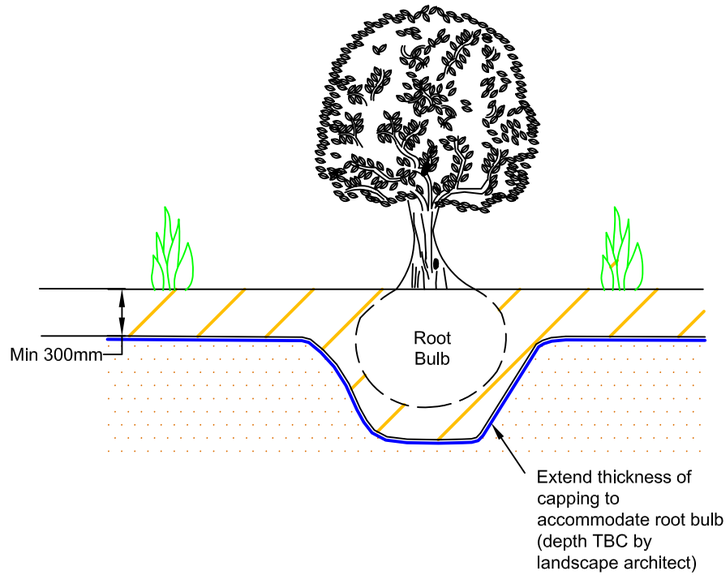

Proposed Driveway / Building Slab




Proposed Retaining Wall / Water Tank / Landscaping Area




Stormwater Easement




Proposed Trees / Deep Rooted Vegetation

## LEGEND

VENM, ENM or relevant RRO/RRE material utilised as 'clean' capping. Minimum 300mm in landscape areas. Increased thickness to accommodate vegetation root bulbs where required (TBC by landscape architect). Thickness to engineers specification for pavements (ie bedding for pavers).

Marker / separation layer. Hi-visibility orange geofabric (Bidum A34 or similar). Plastic can be used beneath concrete pavements / slabs as al alternative.

Concrete slab / pavement

Potential ACM impacted filling

Refer to RAP for details (91667.02.R.004.Rev1)

| | | | |
|---|---|---|---|
| Douglas Partners Geotechnics / Environment / Groundwater | CLIENT: Nihon Daigaku Australia Newcastle Pty Ltd | TITLE: **Concept Schematic for Proposed Capping Strategy** | PROJECT No: 91667.02 |
| | OFFICE: Newcastle / DRAWN BY: PLH | **Proposed Nihon University** | DRAWING No: 2 |
| | SCALE: NTS / DATE: 23.04.2020 | **9 Church Street, Newcastle** | REVISION: 0 |